॥ सा विद्या या विमुक्तये ॥

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ,
'ज्ञानतीर्थ', विष्णुपुरी, नांदेड - ४३१ ६०६ (महाराष्ट्र राज्य) भारत
SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED
'Dnyanteerth', Vishnupuri, Nanded - 431 606 (Maharashtra State) INDIA
Established on 17th September, 1994, Recognized By the UGC U/s 2(f) and 12(B), NAAC Re-accredited with 'B++' grade
website: srtmun.ac.in

Academic-1 (BOS) Section

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शैक्षणिक वर्ष २०२४-२५ पासून लागू केलेल्या मानवविज्ञान विद्याशाखे अंतर्गत राष्ट्रीय शैक्षणिक धोरणानुसार पदवी स्तरावरील प्रथम वर्षाच्या सुधारित (दुरुस्ती) अभ्यासक्रमा बाबत....

प रि प त्र क

संदर्भ:- १. जा.क्र.शै-१/एनईपी२०२०/विषयपत्रिका/२०२४-२५/१०६ दिनांक १०/०६/२०२३

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, संदर्भीय परिपत्रकान्वये दिनांक १५ मे २०२४ रोजी संपन्न झालेल्या मा. विद्यापरिषदेच्या विषय क्र. १६/५६-२०२३ अन्वये मान्यता दिल्यानुसार मानवविज्ञान विद्याशाखे अंतर्गत राष्ट्रीय शैक्षणिक धोरणानुसार अभ्यासक्रम शैक्षणिक वर्ष २०२४-२५ पासून लागू करण्यात आलेले आहेत. तथापी वरील संदर्भीय परिपत्रका अन्वये प्रकाशित केलेल्या अभ्यासक्रमामध्ये अभ्यासमंडळांनी किरकोळ दुरुस्ती करून सुधारित अभ्यासक्रम सादर केला आहे. त्यानुसार खालील दुरुस्तीयुक्त सुधारित अभ्यासक्रम लागू करण्यात येत आहेत.

01	B. A. I year – Geography and Applied Geography (Affiliated College)
02	B. A. I year - Sociology (Affiliated College)

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी, ही विनंती.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.:शैक्षणिक-१/परिपत्रक/एनईपीअंतर्गतदुरुस्ती/मानवविज्ञान/
२०२४-२५/९८०

आपली विश्वासू

डॉ. सरिता लोमटकर
सहाय्यक कुलसचिव

दिनांक : २७.०७.२०२४

प्रत माहिती व पुढील कार्यवाहीस्तव :
१) मा. अधिष्ठाता, मानवविज्ञान विद्याशाखा, प्रस्तुत विद्यापीठ.
२) मा. सचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
३) मा. प्राचार्य, सर्व संबंधित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) सिस्टम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ. यांना देवून कळविण्यात येते की, सदरील परिपत्रक विद्यापीठाच्या संकेतस्थळावर प्रसिध्द करण्यात यावे.

Head
Department of Geography
L.B.C.Arts & Science College Chavhanvadi
(Barhali)Tq.Mukhed Dist.Nanded (M.S)

Principal
Late Bhimrao Chavan Art's &
Science College Chavanwadi(Barahali)
Tq.Mukhed Dist.Nanded

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED-431606



(Structure and Syllabus of Four Years Multidisciplinary Degree Program with Multiple Entry and Exit Option)

UNDER GRADUATE PROGRAMME OF HUMINATIES

Major in_DSC GEOGRAPHY

Under the Faculty of Humanities

Effective from Academic year2024–2025
(As per NEP-2020)

Principal
Late Bhimrao Chavan Art's &
Science College Chavanwadi(Barahali)
Tq.Mukhed Dist.Nanded

Forward by the Dean, Faculty of Humanities...

National Education Policy 2020 has been announced on 29.07.2020. NEP 2020 proposes anew and forward-looking vision for India's Higher Education System through quality universities and colleges. Its key is in the curriculum and its practical implementation.

The curriculum must be exciting, relevant, and regularly updated to align with the latest knowledge requirements and meet specified learning outcomes. High-quality pedagogy is necessary to impart the curricular material to students successfully; pedagogical practices determine the learning experiences provided to students, thus directly influencing learning outcomes. The assessment methods must be scientific, designed to improve learning continuously test the knowledge application.

The university's proper framing and development of syllabi will result in the upbringing and nourishment of multidisciplinary and holistic citizens. Emphasis is on outcome-based learning. Every course has well-defined objectives and outcomes. The assessment guidelines also provide clarity and precision to the vision behind prescribing the particular course content.

NEP foresees more vibrant, socially engaged, cooperative communities and a happier, cohesive, cultured, productive, innovative, progressive, and prosperous nation. The introduction of Research Methodology and ethics will widen the vision and broaden the perspectives of the learners.

Introducing Case Studies and Field Projects has created a unique opportunity for the higher education institute to bridge the gap between the academia, industry and the community NEP believes effective learning requires a comprehensive approach that involves an appropriate curriculum, engaging pedagogy, continuous formative assessment, and adequate student support.

We are sure that the Graduate centres of this university and its affiliated colleges will implement the course effectively and successfully, resulting in a healthy and more creative academic ambience.

Prof.Dr.Parag Arun Khadke
Dean, Faculty of Humanities,
Swami Ramanand Teerth Marathwada University, Nanded.

Principal
Late Bhimrao Chavan Art's &
Science College Chavanwadi(Barahali)
Tq.Mukhed Dist.Nanded

From The Desk of Chairman, Board of Studies in the Subject of Geography and Applied Geography

Preamble:

Geography is the study of places on Earth and their relationship with each other. Often the study of geography begins with one's home community and expands as a person gains greater experience. Thus, geography provides a conceptual link for children between home, school, and the world beyond.

Geography is one of the oldest earth sciences and its roots date back in the works of the early Greek scholars. The word 'geography' was first used by the Greek scholar Eratosthenes in the third century B.C. Geo "Earth" and Graphy "to describe" literal meaning of geography is to describe about the earth's surfaces. In other words, "Geography is largely the study of the interaction of all physical and human phenomena and landscapes created by such interactions." It is about how, why, and where human and natural activities occur and how these activities are interconnected.

Today the discipline is not only concerned with descriptions but also with analysis as well as prediction. Geographers study how people interact with the environment and with each other from place to place and they classify Earth into regions in order to draw generalizations about the complex world in which we live. Because it deals with where and how people live, geography is rich in material that relates to international understanding, multi-cultural concerns, and environmental education. The tools of geography help us understand places. To teach this subject at graduate and undergraduate level has become challenge for all the geography teachers due emerging new trends in this field. Geography helps student learn about the world knowing something about where places are and what they are like is important.

Geography contributes to international understanding the world's economies are increasingly linked into an international network of trade and exchange. If our competitors know more about us than we do about them, they have an advantage in serving our markets and negotiating trade agreements, and we are place data disadvantage in reaching their markets. Well-planned geography education at all grade levels will help to make us more aware of other countries and cultures and

Prepare our students to take their place in the world. Geography and citizenship Knowledge of geography helps us be better citizens. Through geography, we learn to locate important events. We can understand the relationship between geography and national or international policies and we can use geographical knowledge to make informed decisions regarding the best use of the nation's resources.

Finally, Geographically informed students will be effective leaders for our country.

As the Chairman board of Studies in Geography, Swami Ramanand Teerth Marathwada University,

Principal
Late Bhimrao Chavan Art's &
Science College Chavanwadi(Barahali)
Tq.Mukhed Dist.Nanded

Nanded happy to state here that the programme objectives have been finalized in the meeting of all the members Board of Studies.

- To meet need and Importance of Geography at the present time.
- To preparethestudentstoenhancetheirabilitiestodeveloptheinnovativeapproach.
- To cultivate the life skills with the help of Geography.
- To enable the students for the better understanding of Geography.
- Togeneratetheinterestofstudentstocontributetoexpandtheirresearchskills.

Apart from the above objectives, the affiliated institute can add their own. As the Chairman of the Board of Studies, I strongly believe that, the framed syllabus willed finitely meet the need of the students at present.

Dr.Apparao A.Kalgapure
Chairman, Board of Studies of Geography and Applied Geography
Swami Ramanand Teerth Marathwada University,Nanded.

Principal
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Tq.Mukhed Dist.Nanded

Swami Ramanand Teerth Marathwada University, Nanded

Members of the Board of Studies in the subject of

Geography and Applied Geography

Under the faculty of Humanities

Sr. No	*Name of the Member*	*Designation*	*Address*	*Contact No.*
1	Dr.Apparao Annarao Kalgapure	*Chairman*	Shri.Havgiswami College,Udgir	9420215804
2	Dr.Avinash Sopanrao Kadam	*Member*	School of Earth Science (S.R.T.M. University, Nanded)	9975834724
3	Dr.Parag Arun Khadke	*Member*	School of Earth Science(S.R.T.M. University, Nanded)	9028774190
4	Dr.Bhagwat Namdev Pastapure	*Member*	Indira Gandhi Sr.College, Cidco Nanded	9403512340
5	Dr.Hanmant Dadarao Wagalgave	*Member*	Shivneri Mahavidyalaya, ShirurAnantpal	9673656114
6	Dr.Sadanand Hariba Gone	*Member*	Ujwal Gramin Mahavidyalaya, Ghonsi	9822145010
7	Dr.Bhagwan Prabhakarrao Shendge	*Member*	B.Raghunath Mahavidyalaya, Parbhani	9158443555
8	Dr.Nitin Trimbakrao Deshmukh	*Member*	Mahatma Gandhi Mahavidyalaya, A.Pur	9423705446
9		*Vacant*		
10	Dr.Vishnudas Ram Rathod	*Member*	Vasantrao Naik College,Vasarani, Nanded	9423139319
11	Dr.B.Shrinaesh	*Member*	Osmania University, Hyderabad	9849269355
12	Dr.Anand Vijaykumar Walankikar	*Member*	V.D.M .College, Degloor	9422185102
13	Dr.Rajeshwar Balaji Kotalwar	*Member*	Rajiv Gandhi Mahavidyalaya,Mudkhed	9404760581
Invites Member				
14	Dr.Manjunath Prakash Manakari	*Member*	M.U.Mahavidyalaya,Udgir	7588874988
15	Prof.B.R. Gurude	*Member*	S.T. Mahavidyalaya, Parbhani	9423440652
As per MUPAu/s40(2)(d)(E) invite Member				
16	Lamdade Kalpana Sitaram	*Member*	C/o Indira Gandhi Sr.College, Nanded	
17	Shaikh Rufidabasri Shaikh Munir	*Member*	C/o Late Baburao Patil College, Hingoli	

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities (Example-1Three Optional)

Structure for Four Year Multidisciplinary Degree Program with Multiple Entry and Exit

Subject: DSC (Major)/DSM (Minor)

Year & Level	Semester	Optional-1	Optional-2	Optional-3	Generic Elective (GE) (Select from Basket 3 of *(Faculties other than Humanities)*	Vocational &Skill Enhancement Course	Ability Enhancement Course (AEC) (Basket4) Value Education Courses(VEC/ Indian Knowledge System(IKS) (Basket5) *(Common across all faculties)*	Field Work /Project/Internship/ OJT/Apprenticeship / Case Study Or Co-curricular Courses(CC) (Basket6forCC) *(Common across all faculties)*	Credits	T Cr
1	2	3	4	5	6	7	8	9	10	1
1 (4.5)	I	HGEOCT1101 (2Cr) *Introduction to Physical Geography* HGEOCP1102 (2Cr) *Practical Geography* 4Credits	HXXXCT1101(2 Cr)HXXXCT1102(2Cr) 4Credits	HXXXCT1101 (2 Cr)HXXXCT1102(2Cr) 4Credits	HGEOGE1101 *Disaster Management* 2Credits	HGEOSC1101 *Introduction to Maps* 2Credits	AECENG1101(2 Cr)AECXXX1102 (2Cr) *(Hin, Mar, Kan. Pal, Urd. San. Etc.)* IKS1101(2Cr) 6Credits		22	
	II	HGEOCT1151 (2Cr) *Introduction to Human Geography* HGEOCP1152 (2 Cr) *Practical Geography* 4Credits	HXXXCT1151(2 Cr)HXXXCT1152(2Cr) 4Credits	HXXXCT1151 (2 Cr)HXXXCT1152(2Cr) 4Credits	HGEOGE1151 *Tourism Geography* 2Credits	HGEOSC1151 *Soil testing and Analysis* 2Credits	AECENG1151(2Cr) AECXXX1151 (2 Cr) *(Hin, Mar, Kan. Pal, Urd. San. Etc.)* VECCOI1151 (2 Cr) *Constitution of India* 6 Credits		22	
	Cum. Cr.	08	08	08	04	04	12	00	44	

Exit option: UG Certificate in Opt 1, Opt 2 and Opt 3 on completion of 44 credits and additional 4 credits from NSQF/Internship

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2 (5.0)	III	Major31 (4Cr) Major 32 (4Cr) 8 Credits	Minor31 2Credits		GE/OE3 (2Cr) GE/OE4 (2Cr) 4Credits	SEC3 2Credits	AEC2(2Cr) 2Credits	FP 1(2Cr) CC3(2Cr) *(NCC/NSS/Sports/ Culture/Health Wellness/Yoga Education/Fitness)* 4Credits	22
	IV	Major 41 (4Cr) Major 42 (4Cr) 8 Credits	Minor41 2Credits		GE/OE5 (2Cr) 2Credits	VSC1 2Credits	MIL2(2Cr) *(Hin, Mar, Kan, Pal etc)* VEC2(2Cr) *Environmental Studies* 4Credits	FP 2(2Cr) CC4(2Cr) *(any one of NCC/NSS/Sports/Culture/Health Wellness/Yoga Education /Fitness)* 4Credits	22
	Cum. Cr.	24	12	08	10	6+2=08	14	12	44
Exit option: UG Diploma in MajorDSCand MinorDSM on completion of 88 credits and additional 4 credits NSQF/Internship in DSC									
3 (5.5)	V	Major51 (4Cr) Major52 (4Cr) Major53 (4Cr) 12Credits	Major 1 4 Credits	-----	---	------	VSC1 4Credits	------	FP3(2Cr) (FP/CS) 2Credits	22
	VI	Major61 (4Cr) Major62 (4Cr) Major63 (2Cr) Major64 (IKS2Cr) 12Credits	Major E2 4Credits	--	-----	--	VSC2 2Credits	----	OJT(4Cr) 4Credits	22
	Cum. Cr.	48+8=56		12	08	10	6+8=14	14	18	44
Exit option: Bachelor of Humanities with Major in DSC and Minor in DSM									

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4 (6.0)	VII	Major71(4Cr) Major72(4Cr) Major73(4Cr) Major74(2Cr) 14Credits	Major1 4 Credits	*Research Methodology* RM1 4Credits		--	--	--	--	22	
	VIII	Major81(4 Cr) Major82 (4Cr) Major83 (4Cr) Major84 (2Cr) 14Credits	MajorE 2 4 Credits	--		--	--	--	OJT(4Cr) 4Credits	22	
	Cum Cr	Honors:76+16=92		12+RM-04	08	10	(V-08+S-06) 14	(AEC-8 + VEC-4 +IKS-2)14	(CC-08+FP/CS-06+OJT-04+OJT4) 22	44	176
Exit option: Bachelor of Humanities with Major in DSC (Honors) and Minor in DSM											
4 (6.0)	VII	Major71(4 Cr) Major72 (4Cr) Major73 (2Cr) 10Credits	MajorE 1 4Credits	*Research Methodology* RM1 4Credits		--	--	--	*ResearchProject* RP71(4Cr)	22	
	VIII	Major81(4 Cr) Major82 (4Cr) Major83 (2Cr) 10Credits	MajorE 1 4Credits	--		--	--	--	*ResearchProject* RP81(8Cr)	22	
Exit option: Bachelor of Humanities with Major in DSC (With Research) and Minor in DSM										44	
Total Credits		Major–68+16		12+ RM-04	08	GE/OE-10	(V-08+S-06) 14	(AEC-8+VEC-4 +IKS-2)14	(CC-08+FP/CS-06+OJT-04+RP-12) 30		176

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Abbreviations:

1. **DSC:** Department/Discipline Specific Core(Major)
2. **DSE:** Department/Discipline Specific Elective(Major)
3. **DSM:** Discipline Specific Minor
4. **GE/OE:** Generic/Open Elective
5. **VSEC:** Vocational Skill and Skill Enhancement Course
6. **VSC:** Vocational Skill Courses
7. **SEC:** Skill Enhancement Courses
8. **AEC:** Ability Enhancement courses
9. **MIL:** Modern Indian languages
10. **IKS:** Indian Knowledge System
11. **VEC:** Value Education Courses
12. **OJT:** On Job Training:(Internship/Apprenticeship)
13. **FP:** Field Projects
14. **CEP:** Community Engagement and Service
15. **CC:** Co-Curricular Courses
16. **RM:** Research Methodology
17. **RP:** Research Project/Dissertation

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Faculty of Humanities

General Guidelines for course structure:

1) The Major subject is the discipline or subject of the main focus and the degree will be awarded in that discipline/subject.
2) Credit sand curriculum for optional subjects are same in the first year.
3) In the first year students should choose three different subjects as optional subject in the same faculty.
4) From the second-year curriculum of major and minor subject is the different and student have to select major and minor fror three optional subjects.
5) Generic /Open Elective is to be chosen compulsorily from faculty other than that of the Major. (Select from Basket)
6) Vocational and Skill Enhancement Courses(VSEC or VSC and SEC)are related to Major Course(DSC)
7) Ability Enhancement Courses (AEC):
    a) English language may be offered Sem.I for 2 Credits and sem.III for 2 Cr. In AEC
    b) Second languages may be offered Sem.II for 2 Credits and sem.IV for 2Cr.in MIL
8) Column No.8 and 9 is common for all faculties.
9) Curriculum of VEC, COI, IKS and CCC will provide by university.

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Assigning Codes to the Courses Alphanumeric, TEN Character Coding AAAAAXXXX

1) First (A) Letter indicate Faculty: H –Humanities **S**-Science; **C**–Commerce, & Management, **I**-Interdisciplinary Studies and **D**–Distance/External mode.

2) Next Three Letters (XXX) indicates Subject (e.g. GEO-Geography, ECO–Economics, PHY–Physics, COM–Commerce, CMP–Computer Sci)etc.

3) Fifth and Sixth Letter indicate nature of the course:(e.g. **CT**–CoreTheory,**CP**–CorePractical,**MT**–MinorTheory,**MP**–MinorPractical,**ET**–ElectiveTheory ,**EP**–Elective Practical,**FP**–FieldProject,**FW**–FieldWork,**OJ**–OnJobtraining,**GE**-Generic/open Elective (Internship/Apprenticeship),**IN**–Internship, **CS**–Case Study, **VC:** Vocational Skill Courses, **SC:** Skill Enhancement Courses, **AEC:** Ability Enhancement courses, **VEC:** Value Education Courses, **MIL:** Modern Indian languages, **IKS:** Indian Knowledge System, **CCC:** Co-Curricular Courses/Community Engagement and Service, **RM:** Research Methodology.etc.)

4) Seventh Character or First Number indicate the Centre (**1**-forAffiliated colleges, **2**-Main Campus, **3**-Model Degree College,**4**-Sub-centre Latur, **5**-Sub-centre Parbhani)

5) Eighth Character or second number indicate-Year of Study.E.g.**1**-First year, **2**-Second year.etc.

6) Last Two Numbers indicate Course Number

e.g.**HGEOCT1101**–Faculty of Humanities(**H**) Geography (**GEO**) subject Core Theory (**CT**) Course offered in First Semester in affiliated colleges (**1101**)

Sr.No	UG/PG	Semester	Affiliated Colleges	Main Campus	Model Degree College	Sub-center Latur	Sub-center Parbhani	Kinwat Sub-Centre
1	First Year	Semester I	1101 to 1150	2101 to 2150	3101 to 3150	4101 to 4150	5101 to 5150	6101 to 6150
2		Semester II	1151 to 1199	2151 to 2199	3151 to 3199	4151 to 4199	5151 to 5199	6151 to 6199
3	Second Year	Semester III	1201 to 1250	2201 to 2250	3201 to 3250	4201 to 4250	5201 to 5250	6201 to 6250
4		Semester IV	1251 to 1299	251 to 2299	3251 to 3299	4251 to 4299	5251 to 5299	6251 to 6299
5	Third Year	Semester V	1301 to 1350	2301 to 2350	3301 to 3350	4301 to 4350	5301 to 5350	6301 to 6350
6		Semester VI	1351 to 1399	2351 to 2399	3351 to 3399	4351 to 4399	5351 to 5399	6351 to 6399
7	Fourth Year	Semester VII	1401 to 1450	2401 to 2450	3401 to 3450	4401 to 4450	5401 to 5450	6401 to 6450
8		Semester VIII	1451 to 1499	2451 to 2499	3451 to 3499	4451 to 4499	5451 to 5499	6451 to 6499
9	Fifth Year	Semester IX	1501 to 1550	2501 to 2550	3501 to 3550	4501 to 4550	5501 to 5550	6501 to 6550
10		Semester X	1551 to 1599	2551 to 2599	3551 to 3599	4551 to 4599	5551 to 5599	6551 to 6593

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Faculty of Humanities. Major in GEOGRAPHY

Basket1:Major/Minor (Optional) course for Semester I and II(C): Each of 02 Credits

Semester	BOS proposing Minor (eg.)	Details of Major/Minor Course(M)	
		CODE	Title of the Course
Semester I	1.BOS in GEO	HGEOCT1101	Introduction To Physical Geography
		HGEOCP1102	Practical Geography
Semester II	2.BOS in GEO	HGEOCT1151	Introduction To Human Geography
		HGEOCP1152	Practical Geography
	3.etc.		

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Basket3:Generic/Open Elective Course(GE)

Each BOS will suggest Generic Elective Courses (minimum one and maximum four) for semester I and II

		CODE	Title of the Course
Sem-I	BOS in GEO	HGEOGE1101	Disaster Management
Sem-II	BOS in GEO	HGEOGE1151	Tourism Geography

Note: *GE is to be chosen compulsory from faculty other than that of the Major.*

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Basket4: Languages (AEC and MIL) (Each of 02 Credits for Sem.I and II)

Semester	Name of the Languages	Details of Second Language(L2)	
		CODE	Title of the Course (Paper)
Semester I	English(AEC)	AECENG1101	----------
	(Marathi, Hindi Urdu Kannada Palietc.)	AECXXX1101 AECXXX1101 etc.	---------- ----------
Semester II	English(AEC)	AECENG1151	----------
	(Marathi, Hindi, Urdu, Kannada Pali Etc.)	AECXXX1151 AECXXX1151 etc	---------- ---------- ---------- ---------- ----------

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Basket 5: Indian Knowledge System *(02 Credits)*

(Each BOS will suggest minimum one paper with curriculum of Indian Knowledge System for semester I)

Semester	Details of Elective Course(s)	
	CODE	**Title of the Course**
Semester I	**IKS1101**	**Indian Knowledge System**

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(Common across faulty, Curriculum will provide by University.)

Basket6: Co-curricular Courses/Community Engagement Services (CC) *(02 Credits)*

Semester	*Details of Elective Course (CC)*	
	CODE	***Title of the Corse***
Semester I	**CCCNSS1101**	----------
	CCCNCC1101	----------
	CCCCUL1101	----------
	CCCSPO1101	----------
	CCCYOG1101	
	CCCFIT1101	----------
	etc	----------
Semester II	**CCCNSS1151**	----------
	CCCNCC1151	----------
	CCCCUL1151	----------
	CCCSPO1151	
	CCCYOG1151	----------
	CCCFIT1151	----------
	etc	----------

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Faculty of Humanities. **Major in GEOGRAPHY**

Under Graduate First Year Programme, Semester I *(Level4.5)*

Teaching Scheme

	Course Code	Course Name	Credits Assigned			Teaching Scheme (Hrs./week 1Hr.=60M.)	
			Theory	Practical	Total	Theory	Practical
Optional 1,2,3	HGEOCT1101	Introduction to Physical Geography	02		**02**	02	
	HGEOCP1102	Practical Geography	-	02	**02**		04
Generic Electives	HGEOGE1101	Disaster Management	02		**02**	02	
Vocational & Skill Enhancement Course	HGEOSC1101	Introduction to Maps	-	02	**02**	-	04
Ability Enhancement Course/Languages	AECENG1101	Compulsory English	02		**02**	02	
Indian Knowledge System(IKS)	IKS1101	IKS Select from **Basket5**	02	-	**02**	02	
Co-curricular Courses/Community Engagement Services(CC) (Basket6)	CCCXXX1101	Anyone of NCC/NSS /Sports/ Culture /Health Wellness/Yoga Education/Fitness	-	-	-	-	-
Total Credits			**08**	**04**	**12**	**08**	**08**

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Faculty of Humanities. Major in GEOGRAPHY

Under Graduate First Year Programme, Semester II *(Level 4.5) Teaching Scheme*

	Course Code	Course Name	Credits Assigned			Teaching Scheme (Hrs./ week1Hr.=60M.)	
			Theory	Practical	Total	Theory	Practical
Optional 1,2,3	HGEOCT1151	Introduction to Human Geography	02		02	02	
	HGEOCP1152	Practical Geography		02	02		04
Generic Electives	HGEOGE1151	Tourism Geography	02		02	02	
Vocational & Skill Enhancement Course	HGEOSC1151	Soil Testing and Analysis	-	02	02	-	04
Ability Enhancement Course/Languages	AECXXX1151	Languages----------	02		02	02	
Value Education Course (VEC)	VECCOI1151	**Constitution of India**	02		02	02	
Co-curricular Courses/ Community Engagement Services (CC) (Basket6)	CCCXXX1151	Anyone of NCC/NSS /Sports/ Culture /Health Wellness/Yoga Education/Fitness	-	-	-	-	-
Total Credits			**08**	**04**	**12**	**08**	**08**

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Faculty of Humanities. **Major in GEOGRAPHY**

Under Graduate First Year Programme, Semester I *(Level 4.5)*

Examination Scheme

[20% Continuous Assessment (*CA*) and 80% End Semester Examination (*ESE*)]

Subject(1)	Course Code (2)	Course Name(3)	Theory					Total Col.(6+7)/ (09)
			Continuous Assessment(CA)				ESE	
			Test-I (4)	Test II(5)	Assignment (6)	Avg of T1+T2+ Assi. /3 (7)	Total (8)	
Optional 1,2,3	HGEOCT1101	Introduction to Physical Geography	10	10	10	10	40	50
	HGEOCP1102	Practical Geography	10	10	10	10	40	50
Generic Electives	HGEOGE1101	Disaster Management	10	10	10	10	40	50
Vocational & Skill Enhancement Course	HGEOSC1101	Introduction to Maps	10	10	10	10	40	50
Ability Enhancement Course/Languages	AECENG1101	Compulsory English	10	10	10	10	40	50
Indian Knowledge System(IKS)	IKS1101	Indian Knowledge System (Select from **Basket 5)**	10	10	10	10	40	50
Co-curricular Courses/Community Engagement Services(CC) (Basket6)	CCCXXX1101	Any one of NCC/NSS /Sports/ Culture /Health Wellness/Yoga Education /Fitness	--	--	--	--	--	--
			--	--	--	--	--	50

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Faculty of Humanities. **Major in GEOGRAPHY**

Under Graduate First Year Programme, Semester II (Level 4.5)

Examination Scheme

[20% Continuous Assessment (*CA*) and 80% End Semester Examination (*ESE*)]

Subject (1)	Course Code (2)	Course Name(3)	Theory					Total Col(7+8)] (9)
			Continuous Assessment (CA)				ESE	
			Test I (4)	Test II(5)	Assignment (6)	Avg of T1+T2+Assi. /3 (7)	Total (8)	
Optional1,2,3	HGEOCT1151	Introduction to Human Geography	10	10	10	10	40	50
	HGEOCP1151	Practical Geography	10	10	10	10	40	50
Generic Electives	HGEOGE1151	Tourism Geography	10	10	10	10	40	50
Vocational & Skill Enhancement Course	HGEOSC1151	Soil Testing and Analysis	10	10	10	10	40	50
Ability Enhancement Course/Languages	AECXXX1151	Languages---------	10	10	10	10	40	50
Value Education Course(VEC)	IKSCOI1151	**Constitution of India**	10	10	10	10	40	50
Co-curricular Courses/Community Engagement Services (CC) (Basket6)	CCCXXX1151	Anyone of NCC/NSS /Sports/Culture/Health Wellness /Yoga Education/Fitness	--	--	--	--	--	--
			--	--	--	--	--	50

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Faculty of Humanities. Major in GEOGRAPHY

Under Graduate First Year Programme, Semester I

Course Structure: *Optional1,2,3-Teaching Scheme*

(for 2 credits)

Course Code	Course Name (Paper Title)	Teaching Scheme(Hrs.)		Credits Assigned		
		Theory	CA	Theory	CA	Total
HGEOCT1101	Introduction to Physical Geography	30	---	02	---	02
HGEOCP1102	Practical Geography	60	---	02	---	02

(for 2 credits)

Course Code	Course Name (Paper Title)	Teaching Scheme(Hrs.)		Credits Assigned		
		Theory	CA	Theory	CA	Total
HGEOGE1101	Disaster Management	30	---	02	--	02

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Optional1,2,3- Assessment Scheme

Course Code(2)	Course Name (3)		Theory				Total Col(7+8)
			CA			ESE (8)	
		Test I(4)	Test II(5)	Assignment (6)	Avg of T1+T2+Assi. /3(7)		
HGEOCT1151	Introduction to Physical Geography	10	10	10	10	40	50
HGEOCP1151	Practical Geography	10	10	10	10	40	50

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Under the Faculty of Humanities

SYLLABUS

GEOGRAPHY

B.A./B.Sc. FIRST YEAR
(UNDER GRADUATION)

SEMESTER PATTERN

SEMESTER FIRST

Effective from Academic year 2024-2025 As per NEP-2020

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities in Geography

Under Graduate FirstYear Programme, Semester First

Paper Code: **HGEOCT1101,**Title: **Introduction to Physical Geography**

Curriculum Details

Pre-requisites:

1) Books, Maps, Globe, Models
2) ICT

Course Objectives:

1) To introduce the concepts of physical geography.
2) To study of the solar system and earth and its characteristics.
3) To know the formation of continents, oceans and land forms.

Course Outcomes:

After completion of course students will be able to:

1) Define the physical geography and its importance
2) Know the solar system, its structure and functions
3) Understand the conceptual and dynamics of land form developments.

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Faculty of Humanities in Geography

PaperCode:**HGEOCT1101**,Title: **Introduction to Physical Geography**

Curriculum Details : (for 2 Credits)

Module No.	Unit No.	Name of Topic	Hours Required to cover the contents 1Hr.=60Min.
1.0		**Introduction**	
	1.1	Definition, Nature and Scope of Physical Geography	08
	1.2	Branches of Physical Geography	
	1.3	Importance of Study of Physical Geography	
2.0		**Solar System**	
	2.1	Origin of Solar System (Nebular Theory of Laplace, Tidal Theory of Jean and Jeffrey)	08
	2.2	Arrangement of Planets in the Solar System	
	2.3	Lunar and Solar Eclipse	
3.0		**Formation of Oceans and Continents**	
	3.1	Continental Drift Theory	07
	3.2	Plate Tectonic Theory	
	3.3	Arthurs Homes Convectional Current Theory	
4.0		**Landforms and Exogamic Forces**	
	4.1	First Order–Ocean and Continents	07
	4.2	Second Order–Mountain, Plateau, Plain and Their Types	
	4.3	Exogamic Force s: River Land forms (Erosion, Transportation and Deposition)	
		Total	30

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Suggested Readings:

1. Clyton.K.(1986):'Earth Crust' Adus Brooks London.
2. Davis W.M.(1909):'Geographical Essay' Ginnia Co. New York.
3. Garland G.D.(1966):'Continental Drift' Uni. of Toronto Press-Canada.
4. Goh Chengleong (2018):Certificate Physical and Human Geography, Oxford University Press, New Delhi.
5. Majid Hussain(2001):'Principals of Physical Geography', Rawat Publication, Jaipur.
6. Monkhouse (1951):'Principle of Physical Geography', McGraw Hill Pub. New York.
7. Savinder Singh (1998):'Physical Geography' Prayag Pub. Allahabad.
8. Steers J.A .(1958):'Earth Crust'Adus Brooks London
9. Strahler A.N.(1968):'Physical Geography', EasternP.Ltd.New Delhi
10. Tikka R.N. (1998):'Physical Geography', Kedar Nath Ram Nath & Co.Meerut
11. WegnerA. (1924):'The Origin of Continents and Oceans' Mathen & Co. Ltd. London.
12. बी.एस. चौहान, अलका गौतम (2000), भौतिक भूगोल, रस्तोगी प्रकाशन, शिवाजी रोड, मेरठ
13. दाते व सौ.दाते (1992) प्राकृतिक भूगोल, विद्या प्रकाशन, नागपूर.
14. डॉ.सुरेश फुले (2002) भूरूपशास्त्र, विद्याभारती प्रकाशन, लातूर.
15. प्राचार्य डॉ. सदानंद गोने, डॉ.सी.बी. लोंढे, प्रा.एम.आर. नांगरे, डॉ.पी.बी. गोने (2021) भूरुपशास्त्र : ज्योतीकिरण प्रकाशन, पुणे.
16. शेटे, फुले, शहापूरकर (1997) प्राकृतिक भूगोल. अभिजीत पब्लिकेशन, लातूर.
17. चौधरी व चव्हाण (2015) प्राकृतिक भूगोल, विद्याभारती प्रकाशन,नागपूर.
18. कोलते, भोरे, पौराणिक, कुबडे (2003) भूगोलाची मूलतत्वे, विद्याभारती प्रकाशन, नागपूर.
19. डॉ.विट्ठल घारपुरे (2001) प्राकृतिक भूगोलाची मूलतत्वे, पिंपळापुरे अँड कंपनी पब्लिशर्स, नागपूर.
20. डॉ.व्ही.टी. नाईक, प्रा.बी.आर.गुरुडे, प्रा.पी.डी.राठोड (2010):प्राकृतिक भूगोलाची ओळख आणि मूलतत्त्वे, कैलास पब्लिकेशन, औरंगपुरा, औरंगाबाद.
21. डॉ.हरिदास राठोड, प्रा.दिलीप भोगे, प्रा.संजीव आष्टुरे (2013), प्राकृतिक भूगोलाची ओळख भाग-1, अरुणा प्रकाशन, लातूर

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities in Geography

Under Graduate First Year Programme, Semester First

PaperCode:**HGEOCP1102,** Title: **Practical Geography**

Curriculum Details

Pre-requisites:

1) Books, Maps, Globe, Models
2) ICT

Course Objectives:

1) To know the skill of human adaptation to nature
2) To understand man environment relationship
3) To understand the human capabilities to modify the environmental conditions.

Course Outcomes:

The students will be able to

1) Strengthen the man and environment relationship
2) Work on human capability to adopt the environment conditions
3) Use the concept to human geography for creating new knowledge

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Faculty of Humanities in Geography (DSC)

PaperCode:**HGEOCP1102,** Title : **Practical Geography**

Curriculum Details: (for 2 Credits)

Module No.	Unit No.	Name of Topic	Hours Required to cover the contents 1Hr.=60Min.
1.0		**Introduction to Maps and Scales**	
	1.1	Map: Meaning, Types and Uses	15
	1.2	Representation of Scale i. Verbal/Statement ii. Numerical/RF iii. Linear/Graphical	
	1.3	**Conversion of Scale** Verbal to Numerical and Numerical to Verbal	
2.0		**Construction of Scale**	
	2.1	Simple Scale	15
	2.2	Time and Distance Scale	
	2.3	Diagonal Scale	
3.0		**Methods of Showing Relief and Landforms**	
	3.1	Relief: Hachures, Layer Tint, Spot Height, Bench Mark, Trigonometric Point and Contours	15
	3.2	Landforms: Conical Hill, Plateau, Ridge, Cliff 'V' and 'U' Shaped Valley	
	3.3	Types of Slopes	
4.0		**Study of Survey of India Maps, Enlargement and Reduction of Map**	
	4.1	Conventional Signs and Symbols.	15
	4.2	Interpretation of Physical and Human Features a. Relief, Drainage and Vegetation, b. Settlements, Transportation and Communication	
	4.3	Enlargement and Reduction of Map by Square Method	
		Total	**60**

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Suggested Readings:

1. Khan,S.A.(1998):Text Book of Practical Geography, New Delhi.
2. Mishra, R.P.& Ramesh,A.(1986):Fundamentals of Cartography, Macmillon Co. New Delhi.
3. Monkhouse, F.J. & Wilkinson, H.R.(1994): Maps and Diagrams, Landon.
4. Singh R.L.& Dutt P.K.(1997):Elements of Practical Geography, Kalyani Publication, New Delhi.
5. जे.पी. शर्मा (2007) प्रात्यक्षिक भूगोल, रस्तोगी प्रकाशन, मेरठ
6. डॉ.अजय कुंभार (2003) प्रात्यक्षिक भूगोल, सुमेरु प्रकाशन, डोंबिवली
7. डॉ.डी.आर. अहिरराव, प्रा.इ.के. करंजखेले (2010) प्रात्यक्षिक भूगोल, सुदर्शन प्रकाशन, गंगापूर रोड, नाशिक
8. प्राचार्य डॉ.सदानंद गोणे, डॉ.ए.ए. काळगापुरे, डॉ.पी.पी. गोने (2023), प्रात्यक्षिक भूगोल, युगप्रवर्तक प्रकाशन, बाभळगाव
9. डॉ.नागतोडे व लांजेवार (2009) नकाशाशास्त्र व प्रात्यक्षिक भूगोल, पिंपळापुरे अॅड पब्लिशर्स, नागपूर
10. डॉ.कनकुरे, डॉ.मानकरी, रमेश मुगावे (2012), प्रात्यक्षिक भूगोल, अरुणा प्रकाशन, लातूर

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Swami Ramanand Teerth Marathwada University, Nanded
***Faculty of Humanities.*Major in Geography**
Under Graduate First Year Programme, Semester First

Paper Code:**HGEOGE1101**,Title: **Disaster Management (*GE*)**

Curriculum Details: (for 2 Credits)

Pre-requisites:

i. Aerial Photographs and Satellite Imageries
ii. Field visit and ICT

Course Objectives:

1. Understanding the basic concepts of disaster management
2. Detailed analysis about the different types of disasters
3. Evaluating the role of institutional frameworks to mitigate the disasters

Course Outcomes

After the completion of course, the students will have able to,

1. Gain a perspective of disasters and various dimensions of disaster management
2. Have comprehensive knowledge of various natural and manmade disasters
3. Examine the response and mitigation measures of disasters

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities in Geography

Paper Code:**HGEOGE1101,** Title: **Disaster Management(GE)**

Curriculum Details: (for2Credits)

Module No.	Unit No.	Name of Topic	Hours Required to cover the contents 1Hr.=60Min.
1.0		**Introduction**	
	1.1	Meaning, Nature and Types of Disaster	08
	1.2	DisasterManagementAct-2005, Government of India.	
	1.3	Yokohama Strategy-1994, Functions of Centre, State and District Disaster Management Departments	
2.0		**Disaster Management**	
	2.1	Pre-Disaster Management	08
	2.2	During Disaster Management	
	2.3	Post Disaster Management,	
3.0		**Role of Agencies and Media in Disaster Management**	
	3.1	The Role of Various Departments in Disaster Management-ISRO, Police, Revenue, Fire, PWD, Irrigation, School & Colleges, Health, Z.P., Municipal council, Corporation and Village.	07
	3.2	TheRoleofMediainDisasterManagement:SocialMedia,Print Media,ElectronicMedia	
	3.3	All India Radio and Government	
4.0		**Natural Disaster and its Management in India**	
	4.1	Earthquake & Tsunami-Causes, Effects, Management	07
	4.2	Flood-Distribution, Causes, Effects, Management	
	4.3	Famine-Distribution, Causes, Effects, Management	
		Total	**30**

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Suggested Readings:

1. P.P.Marathe(2006):PracticalDisasterManagement,DiamondPublication,Pune
2. Dr. Akhilesh K.Pande (2010):Disaster Management, Damini Garg for Murari Lal & Sons, New Delhi.
3. Anu Kapur (2011):Disaster in India: Studies of Grim Reality, Rawat Publication,Jaipur.
4. R.B.Singh (2006): Natural Hazards and Disaster Management (Vulnerability and Mitigation),Rawat Publication, Jaipur.
5. K.C.Samal,S. Meher,N. Panigrahi and S.Mohanty (2005):State, NGOs and Disaster Management, Rawat Publication,Jaipur.
6. Paranjape H.K: The Bhopal's Gas Disaster : A Chronology of Principle Events in the Bhopal Gas Disaster Litigation, Janta.
7. ArabindaSamanta(1997):CycloneHazards&Community.ResponseincoastalWest Bengal, Sameeksha Trust Publication.
8. भावे व्ही.एन. (1962) आरोग्यशास्त्र, विद्यार्थी प्रकाशन, पुणे
9. डॉ.आर.जी. पाटील, नैसर्गिक आपत्ती आणि व्यवस्थापन, ओम इंटरप्रायझेस, पुणे, मार्च 2001
10. बोंडे अरविंद (1989), व्यवसाय व्यवस्थापन प्रक्रिया, विद्या प्रकाशन, नागपूर
11. दासपुत्रे घनश्याम भगवंत (1986), वनश्री आणि वनविज्ञान, कॉन्टिनेंटल प्रकाशन, पुणे
12. मसलेकर आनंद, वन व्यवस्थापन, कॉन्टिनेंटल प्रकाशन, पुणे
13. सोलामन आर.जी. (1951), आरोग्य आणि दिर्घायुष्य, ओरिएंटल वॉचमन पब्लिकेशन हाऊस, सॅलिसबरी पार्क, पुणे
14. पाटील पी.टी., मुळे अडसूळ (1998) पर्यावरण भूगोल, सप्रेम प्रकाशन, कोल्हापूर
15. रांगणेकर शरू (1998) भारतीय व्यवस्थापकांच्या अद्भूत दुनियेत, पॉप्युलर प्रकाशन, मुंबई

Websites

https://www.ndma.gov.inhttps://www.nidm.gov.inhttp://www.en.m.
wikipedia.orghttp://www.ndmindia.nic.inhttp://www.aidmi.orghttp:/
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Faculty of Humanities in Geography

Under Graduate First Year Programme, Semester First

PaperCode:**HGEOSC1101** Title: **Introduction to Maps*(SC)***

Curriculum Details: (for 2 Credits)

Pre-requisites:

1) Books, Maps, Globe, Models
2) Field Visit, ICT

Course Objectives:

1) To know the history of map making
2) To identify physical and human features on maps
3) Significance of maps in geographical studies

Course Outcomes:

Students will be able to

1) Read and understand the maps
2) Make use of maps for navigation purpose
3) Decipher land forms using contours

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Faculty of Humanities in Geography

Skill Enhancement Courses (SEC)

Paper Code: HGEOSC1101, Title: Introduction to Maps (*SEC*)

Curriculum Details: (for 2 Credits)

Module No.	Unit No.	Name of Topic	Hours Required to cover the contents1Hr.=60Min.
1.0		**Introduction to Maps**	
	1.1	Definition	**15**
	1.2	History of Mapping and Surveying.	
	1.3	Kinds and Steps in Surveying.	
2.0		**Types of Maps**	
	2.1	Classification of Maps	**15**
	2.2	Scale and its types	
	2.3	Uses of Maps	
3.0		**Information of Maps**	
	3.1	Linear and Areal Information	**15**
	3.2	Symbolic and Written Information	
	3.3	Relief Representation-Contour, Hachures	
4.0		**Working with Maps**	
	4.1	Identification of Physical and Human features.	**15**
	4.2	Distance Measurement	
	4.3	Contour Tracing and Cross Section	
		Total	**60**

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Suggested Readings:

1. Khan, S.A.(1998):Text Book of Practical Geography, New Delhi.
2. Mishra, R.P. & Ramesh, A.(1986):Fundamentals of Cartography, Macmillon Co. New Delhi.
3. Monkhouse, F.J. & Wilkinson, H.R. (1994): Maps and Diagrams, Landon.
4. Singh R.L. & Dutt P.K. (1997):Elements of Practical Geography, Kalyani Publication, New Delhi.
5. शर्मा जे.पी. (2013) प्रात्यक्षिक भूगोल, रस्तोगी प्रकाशन, मेरठ
6. डॉ.अर्जुन कुंभार (2003) प्रात्यक्षिक भूगोल. सुमेरू प्रकाशन, डोंबिवली
7. डॉ.अहिरराव, प्रा.इ.के. करंजखेले, प्रात्यक्षिक भूगोल, सुदर्शन प्रकाशन, गंगापूर रोड, नाशिक
8. डॉ.नागतोडे व लांजेवार (2009), नकाशास्त्रीय प्रात्यक्षिक भूगोल, पिंपळापुरे अँड कंपनी पब्लिशर्स, नागपूर
9. डॉ.कनकुरे, डॉ.मानकरी, रमेश मुगावे (2012) प्रात्यक्षिक भूगोल, अरुणा प्रकाशन, लातूर
10. पी.एल. मिश्रा (2013), प्रयोगात्मक भूगोल, विश्वभारती पब्लिकेशन्स, दरियागंज, नई दिल्ली

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Swami Ramanand Teerth Marathwada University, Nanded

Under the Faculty of Humanities

SYLLABUS

GEOGRAPHY

B.A./B.Sc. FIRST YEAR
(UNDER GRADUATION)

SEMESTER PATTERN

SEMESTER SECOND

Effective from Academic year 2024-2025 As per NEP-2020

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Swami Ramanand Teerth Marathwada University, Nanded
Faculty of Humanities in Geography

Under Graduate First Year Programme, Semester Second

PaperCode:**HGEOCT1151,** Title: **Introduction to Human Geography**

Curriculum Details

Pre-requisites:

1) Books, Maps, Globe, Models
2) ICT

Course Objectives:

1) To know the skills of human adaptation to nature
2) To understand man environment relationship
3) To understand the human capabilities to modify the environment conditions

Course Outcomes:

The students will be able to

1) Strengthen the man and environment relationship
2) Work on human capability to adopt the environment conditions
3) Use the concept of human geography for creating new knowledge

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities in Geography

Under Graduate First Year Programme, Semester Second

Paper Code:**HGEOCT1151**,Title:**Introduction to Human Geography**

Curriculum Details: (for 2 Credits)

Module No.	Unit No.	Name of Topic	Hours Required to cover the contents 1 Hr.=60Min.
1.0		**Introduction**	
	1.1	Definition, Nature and Scope of Human Geography	08
	1.2	Branches of Human Geography	
	1.3	Importance of Study of Human Geography	
2.0		**Human Economic Activities**	
	2.1	Primary Activities	08
	2.2	Secondary Activities	
	2.3	Tertiary Activities and Quaternary Activities	
3.0		**Concepts in Human Geography**	
	3.1	Environmentalism or Determinism	07
	3.2	Possibilism	
	3.3	Stop and Go Determinism	
4.0		**Human Adaptations to Environment**	
	4.1	Cold Region-Eskimo	07
	4.2	Hot Region-Bushmen	
	4.3	Tribes in India-Gond, Naga, Toda and Bhill	
		Total	**30**

Principal
Late Bhimrao Chavan Art's &
Science College Chavanwadi/Parabali
Ta.Mukhed Dist.N.

Suggested Readings:

1. Mc Bride, P.J.(1996):Human Geography Systems, Patterns and Change, Nelson, UK and Canada.
2. De Blij,H.J.(1993):HumanGeography-Culture,SocietyandSpace,JohnWiley,New York.1996
3. Husain Majid (1994):Human Geography, Rawat Publications, Jaipur.
4. Perpillou, A.V.(1986):Human Geography. Wiley, New York.
5. शेटे, फुले, शहापूरकर (1998), मानवी भूगोल, अभिजीत पब्लिकेशन, लातूर
6. माजीद हुसेन (2007), मानव भूगोल, रावत पब्लिकेशन, जयपूर
7. जाधव, शहापूरकर, गजरे (2009), मानवी भूगोल, अरुणा प्रकाशन, लातूर
8. डॉ.संजीव कोळपे, डॉ.विश्वराज चिमणगुंडे, डॉ.भगवान शेंडगे (2014), मानवी भूगोल, अरुणा पब्लिकेशन, लातूर
9. डॉ.कौशिक (1998) मानवी भूगोल, रस्तोगी पब्लिकेशन, मेरठ
10. डॉ.विठ्ठल घारपुरे (2000), मानवी भूगोल, पिंपळापुरे पब्लिकेशन, नागपूर

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities in Geography

Under Graduate First Year Programme, Semester Second

PaperCode:**HGEOCP1152** Title: **Practical Geography**

Curriculum Details

Pre-requisites:

1) Books, Maps, Globe, Models
2) ICT

Course Objectives:

1) To make known to the students' different cartographical methods.
2) To give the skills for representation of two-and three-dimensional diagrams of economic data.
3) To develop skills to prepare distributional maps

Course outcomes:

Students will be able to:

1) Draw the different cartographical diagram store presents the geographical data.
2) Draw the techniques and skills of two-and three-dimensional diagrams for representation of economic data.
3) Develop skills of data representation using distributional maps

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities in Geography (DSC)

Under Graduate First Year Programme, Semester Second

Paper Code:**HGEOCP1152** Title: **Practical Geography**

Curriculum Details: (for 2 Credits)

Module No.	Unit No.	Name of Topic	Hours Required to cover the contents 1Hr.=60Min.
1.0		**Two Dimensional Diagrams**	
	1.1	Wheel Diagram	15
	1.2	Divided Rectangle	
	1.3	Proportional Squares	
2.0		**Three Dimensional Diagrams**	
	2.1	Cube Diagram	15
	2.2	Proportional Spheres	
	2.3	Block Piles	
3.0		**Distributional Maps**	
	3.1	Isopleth Maps	15
	3.2	Choropleth Maps	
	3.3	Dot Maps	
4.0		**Located Diagrams**	
	4.1	Square Diagrams	15
	4.2	Circle Diagrams	
	4.3	Pictorial Diagrams	
		Total	**60**

Principal
Late Bhimrao Chavan Art's &
Science College Chavanwadi(Barahali)
Tq.Mukhed Dist.Nanded

Suggested Readings:

1. Khan, Z.A.(1998):Text Book of Practical Geography Concept, New Delhi.
2. Lawarence, G.R.P.(1968):Cartography Methods, Methuen London.
3. Mishra, R.P. & Ramesh A.(1986):Fundaments of Cartography, McMillan Co.New Delhi.
4. Monkhouse,F.J.& Wilkinson,H.R.(1994):Maps and Diagrams, London.
5. Sarkar, A.K.(1997): Practical Geography A Systematic Approach, Orient Longman, Calcutta.
6. Singh,R.L & Dutt P.K.(1997): Elements of Practical Geography, Kalyani Publication, New Delhi.
7. Gopal Singh(1998):Map Work and Practical Geography Vikas Publishing House, Noida
8. Raj Singh, Raghunandan Singh(1960):Map Work and Practical Geography, Central Book depot, Allahabad
9. Robinson A.H.(1995): Elements of Cartography, Wiley,
10. Erwin Raisz(1948): General Cartography, McGraw Hill Book Co.
11. जे.पी. शर्मा (2007), प्रात्यक्षिक भूगोल, रस्तोगी प्रकाशन, मेरठ
12. डॉ.डी.आर. अहिरराव, प्रा.इ.के. करंजखेले (2010). प्रात्यक्षिक भूगोल, सुदर्शन प्रकाशन, गंगापूर रोड, नाशिक
13. डॉ.नागतोडे व लांजेवार (2009), नकाशाशास्त्र व प्रात्यक्षिक भूगोल, पिंपळापुरे अँड कंपनी पब्लिशर्स, नागपूर
14. डॉ.कनकुरे, डॉ.मानकरी, रमेश मुगावे (2012), प्रात्यक्षिक भूगोल, अरुणा प्रकाशन, लातूर
15. हरीलाल यादव (2010) प्रयोगात्मक भूगोल, विद्या प्रकाशन, नागपूर
16. जयकुमार मगर (2010) प्रात्यक्षिक भूगोल
17. डॉ.शिंदे एस.बी. (2002), नकाशाशास्त्र, फडके प्रकाशन, कोल्हापूर.

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Swami Ramanand Teerth Marathwada University, Nanded

***Faculty of Humanities* in Geography**

Under Graduate First Year Programme, Semester Second

Paper Code:**HGEOGE1151,**

Title: **Tourism Geography *(GE)***

Curriculum Details

Pre-requisites:

1) Maps and Tourist Books
2) Field visit and ICT

Course Objectives:

1) To have the basic knowledge of tourism and its significance.
2) To study the behavioral aspects of tourists in tourist places.
3) To understand the various dimensions of geography of tourism

Course Outcomes:

After the completion of course, the students will have able to:

1) Equip with basic understanding of nature and scope, trends and patterns of various types of tourisms.
2) Have sound knowledge on geographical, environmental and socio-cultural aspects of tourism in India.
3) Apply the principles of Geo-tourism and analyze the prospects and problems associated with tourism.

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities in Geography (DSC)
PaperCode:HGEOGE1151,Title:Tourism Geography (*GE*)

Curriculum Details:(for2 Credits)

Module No.	Unit No.	Name of Topic	Hours Required to cover the contents 1 Hr.=60Min.
1.0		**Introduction to Tourism Geography**	
	1.1	Definition, Nature, Scope and Significance of Tourism Geography	08
	1.2	Types of Tourists and Tourism.	
	1.3	Environmental Laws.	
2.0		**Communication Skills in Tourism and Visit to Tourist Places**	
	2.1	Communication Skills (Oral and Written).	08
	2.2	Techniques of Advertisement.	
	2.3	Behavioural Study of Host and Guest of Tourist Centers.	
3.0		**Infrastructure of Tourism and Ancillary Services**	
	3.1	Accommodation	07
	3.2	Transportation	
	3.3	Travel Agencies and Tour Guide	
4.0		**Planning of Tourism**	
	4.1	Need of Planning and Elements of Planning	07
	4.2	Levels of Planning	
	4.3	Model of the Tourism planning	
		Total	**30**

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Science College Chavanwadi(Barahali)
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Suggested Readings:

1. Bhatia,A.K.(1983):TourismDevelopment.SterlingPublishersPtv.Ltd.,Benglor.
2. Gharpure Vitthal (2001): Geography of Tourism, Pimpalapure and Co. Publication, Nagpur.
3. Khatib K.A.: Geography of Tourism, Mehta Publications, Kolhapur.
4. Bhatiya, A.K.(1991): 'International Tourism-Fundamental and Practices', New Delhi.
5. Hunter Cand Green H (1995):'Tourism and the Environmental: A sustainable relationship', Rutledge London.
6. LeaJ.(1988):'TourismandDevelopmentinthethirdworld',RutledgeLondon.
7. Williams, Stephen(1998):'Tourism Geography', Rutledge Contemporary Human Geography, London.
8. SharmaVinod (2015):PrachiAtlas of India & World,Prachi Pub.New Delhi.
9. Mangnale S.K and Manakari M.P,(2019):Paryatan Bhugol,Aruna Prakashan, Latur.
10. प्राचार्य डॉ.सदानंद गोने, डॉ.बाळासाहेब चकोर, डॉ.पी.बी. गोने (2021), पर्यटन भूगोलशास्त्र, अक्षरवेध प्रकाशन, पुणे
11. डॉ.विजय बावीसकर, प्रो.दादासाहेब भट्टेवाल (2019), पर्यटन भूगोल, प्रशांत पब्लिकेशन
12. डॉ.दिलीप ज्ञानेश्वर मुळूक डॉ.अजय हरिभाऊ मुसमाडे, डॉ.अजय बबन डोके, डॉ.ज्योतरामचंद्र कांत मोरे (2022), पर्यटन भूगोल, निराली प्रकाशन, पुणे
13. चतुर्भूज मेमोरिया, डॉ.कोमल सिंग, पर्यटन का भूगोल (2016), एस.बी.पी.डी. पब्लिकेशन
14. हरीश कुमार खत्री (2019) पर्यटन भूगोल, कैलास पुस्तक सदन, भोपाळ

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities in Geography

Under Graduate First Year Programme, Semester Second

PaperCode:**HGEOSC1151**,Title:**Soil Testing and Analysis (*SC*)**

Curriculum Details

Pre-requisites:

1) Book Map, Instruments
2) Field visit and ICT

Course Objectives:

1) To have knowledge of soil testing
2) To know types of soil and their formation
3) To know the methods of soil sampling

Course Outcomes:

After the completion of course, the students will have able to

1) Test the Soil and its utilities for agriculture purpose
2) Assess the nutritional deficiencies of the soil
3) Know the significance of soil conservation

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities in Geography (SC)

PaperCode:**HGEOSC1151** Title: **Soil Testing and Analysis (*SC*)**

Curriculum Details: (for 2 Credits)

Module No.	Unit No.	Name of Topic	Hours Required to cover the contents 1Hr.=30Min.
1.0		**Introduction to Soil**	
	1.1	Definition Scope and Composition of Soil	15
	1.2	Factors of Affecting Soil Formation	
	1.3	Types of Soil	
2.0		**Process of Soil Testing**	
	2.1	Introduction to Soil Testing	15
	2.2	Scientific Methods of Soil Testing	
	2.3	Utility of Soil Testing	
3.0		**Soil Testing and Biological Cycle**	
	3.1	Importance of Soil Testing	15
	3.2	Components of Soil	
	3.3	Biogeochemical Cycle (Any Two) i)Carbon Cycle ii)Nitrogen Cycle iii)Phosphorous Cycle iv)Sulphur Cycle	
4.0		**Soil Pollution and Conservation**	
	4.1	Causes of Soil pollution	15
	4.2	Degradation of Soil	
	4.3	Importance of Soil Conservation	
		Total	**60**

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Suggested Readings:

1. Backman,H.OandBrady,N.C.(1960):Thenatureandpropertiesofsoil,McMillanNewYork.
2. Bennet, Hugh H.: The Geography of soils, McGraw Hill, New York.
3. ClarkG.R.(1957):Study of the soil in the field. Oxford University Press, Oxford.
4. Govinda Rajan,S.V.and Gopala Rao,H.G.(1978): Studies on soil of India,Vikas Publication New Delhi.
5. Partiram, Brajendra N.S., Azad Thakur & T. Ramesh (1960): Soil Testing and Analysis(Plant, Water& Pesticide Residues), Published by new India Publishing Agency, New Delhi.
6. F.J. Stevenson & M Acole(2015):Cycle of Soil, Published by Wiley India, Delhi.
7. Rajendra Prasad,James F. Power(2014):Soil fertility management for sustainable Agriculture, Special India Edition.
8. U.Thapa & P. Tripathy (2010): Organic farming in India (Problems & Prospects), Agrotech Publication Academy Udaipur.
9. https://ublic.wmo.int/en/our-mandate/focus-areas/natural-hazards-and-disaster-
10. डॉ.रामकुमार वर्मा (2017), मृदा भूगोल, अर्जुन पब्लिशिंग हाऊस, दरियागंज, नई दिल्ली

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Guidelines for Course Assessment:

A. Continuous Assessment (CA) (20% of the Maximum Marks):

This will form 20% of the Maximum Marks and will be carried out throughout the semester. It may be done by conducting **Two Tests and one Assignment.** Average of marks scored in these two tests and one assignment of a theory paper will make CA.

B. End Semester Assessment (80% of the Maximum Marks):

(For illustration we have considered a paper of 02 credits, 50 marks and need to be modified depending upon credits of individual paper)

1. **ESE Question paper will consists of 6 questions. Each of 10 marks for 2 Cr.pattern and 15 marksfor3 Cr. pattern. (BOS may change scheme of marking.)**
2. **There will be 4-5 sub questions in QuestionNo.1**
3. **QuestionNo.1 will be compulsory and shall be based on entire syllabus.**

2. **Students are required to solve a total of 4 Questions.**

4.**Studentsneed to solve ANY THREE of the remaining Five Question (Q.2toQ.6) and shall be based on entire syllabus.**

C. Assessment of Term Work/Tutorial/Fieldworks:

At least 06 test / assignments covering entire syllabus must be given during the 'classwise tutorial'. The assignments should be students' centric and attempts be made to make assignments more meaningful, interesting and innovative.

Term work assessment must be based on overall performance of the student with every assignment graded time to time. The grades be converted to marks as per 'credit and grading system' manual and should be added and averaged.

D. Assessment of Community Engagement Services:

Students have freedom to take more than one CES/CC courses, however, marks of the best performing CES/CC be considered for final assessment. Assessment of the CES/CC courses be done by the respective course coordinators depending on the performance of the student and his participation in the international, national, state, university, college level events or camps, wherever applicable. In other cases performance of a student be assessed depending on his/her regularity, participation in the regular activities in the semester.

Note:Number of lectures required to cover syllabus of a course depend on number of credits assigned to it. For example, for a two credits course, 30 lectures each of one hour duration are assigned, while that for a three credits course 45 lectures.

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities in Geography (DSC)

Under Graduate First Year Programme, Semester First/Second

Theory Question Paper Pattern (2 Credits)
with effective from2024-25

Time:2 Hrs. Marks:40

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i) Question No.1will be compulsory and shall be based on entire syllabus.

ii) Students are required to solve a total of 4 Questions.

iii) Students need to solve ANY THREE of the remaining Five Question (Q.2 to Q.6) and shall be based on entire syllabus.

Q.	1)	Write a short answer	10
		a.	
		b.	
		c.	
		d.	
Q.	2)	Descriptive Questions	10
Q.	3)	Descriptive Questions	10
Q.	4)	Descriptive Questions	10
Q.	5)	Descriptive Questions	10
Q.	6)	Descriptive Questions	10

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Swami Ramanand Teerth Marathwada University, Nanded
Faculty of Humanities in Geography (DSC)
Under Graduate First Year Programme, Semester First/Second
Paper Code:**HGEOCP1102** Title: **Practical Geography**

End of Semester Examination (ESE)
Practical Question Paper Pattern (2 Credits)
with effective from 2024-25

Time:3Hrs. Marks:40

Q.1)	a. Map: Meaning, Types and Uses/Conversion of Scale (anyone)	04
	b. Construction of Scale (anyone)	06
Q.2)	a. Write short notes on methods of showing relief feature (Any two)	04
	b. Representation of Landforms by Contour/Types of Slopes (Any two)	06
Q.3)	a. Conventional Signs and Symbols (any four)	04
	b. Interpretation of Toposheet /Enlargement and Reduction of Map	06
Q.4)	Journal and Viva-voce.	10

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Faculty of Humanities in Geography(DSC)
Under Graduate First Year Programme, Semester First/Second
PaperCode:**HGEOCP1152** Title: **Practical Geography**

End of Semester Examination (ESE)
Practical Question Paper Pattern
(2Credits)With effective from 2024-25

Time:3Hrs. Marks:40

Q.1)	a.Two Dimensional Diagram	06
	b. Three Dimensional Diagram	08
Q.2)	Distributional Maps (A map should be used)	
	a.Anyone Diagram	04
	a.Anyone Diagram	04
Q.3)	Located Diagrams(A map should be used)	
	a.Anyone Diagram	04
	b.Anyone Diagram	04
Q.4)	Journal and Viva-voce.	10

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॥ सा विद्या या विमुक्तये ॥

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

'ज्ञानतीर्थ', विष्णुपुरी, नांदेड - ४३१ ६०६ (महाराष्ट्र राज्य) भारत

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

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Established on 17th September, 1994, Recognized By the UGC U/s 2(f) and 12(B), NAAC Re-accredited with 'B++' grade

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शैक्षणिक वर्ष २०२४–२५ पासून लागू केलेल्या मानवविज्ञान विद्याशाखे अंतर्गत राष्ट्रीय शैक्षणिक धोरणानुसार पदवी स्तरावरील प्रथम वर्षाच्या सुधारित (दुरूस्ती) अभ्यासक्रमा बाबत...

प रि प त्र क

संदर्भ:– जा.क्र.शै–१/एनईपी/पदवीअभ्यासक्रम/२०२४–२५/१२० दिनांक १९/०६/२०२४

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, संदर्भीय परिपत्रकान्वये दिनांक १५ मे २०२४ रोजी संपन्न झालेल्या मा.विद्यापरिषदेच्या विषय क्र. १६/५१–२०२४ अन्वये मान्यता दिल्यानुसार मानवविज्ञान विद्याशाखे अंतर्गत राष्ट्रीय शैक्षणिक धोरणानुसार पदवी प्रथम वर्षाचे अभ्यासक्रम शैक्षणिक वर्ष २०२४–२५ पासून लागू करण्यात आलेले आहेत.

तथापी वरील संदर्भीय परिपत्रका अन्वये प्रकाशित केलेल्या अभ्यासक्रमामध्ये अभ्यासमंडळानी किरकोळ दुरूस्ती करून सुधारित अभ्यासक्रम सादर केला आहे. त्यानुसार खालील दुरूस्तीसह सुधारित अभ्यासक्रम लागू करण्यात येत आहेत.

01	B.A. I Year- Sociology (NMD College Hingoli)

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी, ही विनंती.

डॉ. सरिता लोमटवार
सहा.कुलसचिव
शैक्षणिक (१–अभ्यासमंडळ) विभाग

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.:शै–१/एनईपी/पदवीअभ्यासक्रम/२०२४–२५/२४३
दिनांक २२.०८.२०२४

प्रत - १) मा. अधिष्ठाता, मानवविज्ञान विद्याशाखा, प्रस्तुत विद्यापीठ
२) मा. संचालक, परीक्षा व मूल्यमापन मंडळ, प्रस्तुत विद्यापीठ
३) मा. प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ
४) मा. संचालक, सर्व संकुले परिसर व उपपरिसर, प्रस्तुत विद्यापीठ
५) मा. प्राचार्य, न्यू मॉडल डिग्री कॉलेज हिंगोली.
६) सिस्टीम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ, यांना देवून कळविण्यात येते की, सदर परिपत्रक संकेतस्थळावर प्रसिध्द करण्यात यावे.

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SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED-431606

NEW MODEL DEGREE COLLEGE, HINGOLI

स्वामी रामानंद तीर्थ
मराठवाडा विद्यापीठ, नांदेड.

(Structure and Syllabus of Four Years Multidisciplinary Degree Program with Multiple Entry and Exit Option)

UNDER GRADUATE PROGRAMME OF HUMANITIES

Major in DSC Sociology

B.A. First Year Revised Syllabus

(Effective from Academic year 2024 – 2025)

Under the Faculty of Humanities

(Effective from Academic year 2023 – 2024)

(As per NEP-2020)

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Forward by the Dean, Faculty of Humanities

From the Desk of Dean:

NEP 2020 proposes a new and forward-looking vision for India's Higher Education System through quality universities and colleges. Its key is in the curriculum and its practical implementation.

The curriculum must be exciting, relevant, and regularly updated to align with the latest knowledge requirements and meet specified learning outcomes. High-quality pedagogy is necessary to impart the curricular material to students successfully; pedagogical practices determine the learning experiences provided to students, thus directly influencing learning outcomes. The assessment methods must be scientific, designed to improve learning continuously test the knowledge application.

The university's proper framing and development of syllabi will result in the upbringing and nourishment of multidisciplinary and holistic citizens. Emphasis is on outcome-based learning. Every course has well-defined objectives and outcomes. The assessment guidelines also provide clarity and precision to the vision behind prescribing the particular course content.

NEP foresees more vibrant, socially engaged, cooperative communities and a happier, cohesive, cultured, productive, innovative, progressive, and prosperous nation. The introduction of Research Methodology and ethics will widen the vision and broaden the perspectives of the learners.

Introducing Case Studies and Field Projects has created a unique opportunity for the higher education institute to bridge the gap between the academia, industry and the community NEP believes effective learning requires a comprehensive approach that involves an appropriate curriculum, engaging pedagogy, continuous formative assessment, and adequate student support.

We are sure that the Postgraduate centres of this university and its affiliated colleges will implement the course effectively and successfully, resulting in a healthy and more creative academic ambience.

Dr. Parag Khadke, IC/ Dean, Faculty of Humanities,
Swami Ramanand Teerth Marathwada University, Nanded.

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From Desk of Chairman, Board of Studies of the Subject Sociology

Preamble :

National Education Policy 2020 (NEP-2020), which aims at equipping students with knowledge, skills, values, leadership, qualities and initiates them for lifelong learning. Higher education is dynamic process and characterized to enhance the existing skill, interest understandings and progress of learners.

In higher education, humanities plays a crucial role in preserving past accomplishments, providing insight into our present world, and equipping students with the tools image the future. The humanities foster critical thinking, analysis, and interpretation of complex ideas and information. The study of humanities enables foster social justice and equality. Through studying sociology, individuals can understand our social world, human behavior, and the formation of relationship, sociology offers the scientific study of various aspects of society and it's functioning. It equips individuals with the ability to observe and understand their social environment, and physical environment, culture, interactions and their impact on others. Additionally, sociology contributes to creating responsible citizen who can find solutions to community problems and establish their relationship with society. The field of sociology have been also offers various career pathways within society.

This curriculum is helpful to make the students able to acquire the knowledge about its different streams like, Rural sociology, Tribal sociology, Medical sociology, Political sociology, Gender equality, Social movements, Social Psychology, and Anthropology. The curriculum of sociology is organized in systematic manner to facilities students to have an understanding of social ideas, terms and terminologies, theories, ideologies, institutions, policies, systems, process and behavior, as well as groups, classes, government laws and government scheme for every person which are bedrock of human society. The contents enrich students writing, communication, data analysis skill and also develop knowledge about current, future and past social events across the world.

I, Dr. Narayan T. Kamble , Chairman Board of Studies in Sociology, New Model Degree College, Hingoli. Swami Ramanand Theerth Marathwada University Nanded, happy to state here that, program Educational objectivities were finalized as meeting where more than 10 members form different institutions were attend, who were either Head or their representatives of Sociology Department. I also thankful to Dr. Deepak Dharwadkar and Mr. Amol Awchar both are Invitees for meeting they contribute ,' Lions share.' The program Educational objectives finalized for Undergraduate in sociology are listed bellows:

Program Objective in Sociology

1. To understand the importance of concepts and research techniques in sociology.
2. To families the students with the basic ideas thoughts and theories in sociology.
3. To help them to understand the importance and make discussion among sociology and help them to understand the importance of in the regional, national and global contest.
4. To help them to understand the government schemes, policies and laws of their functioning and relate them to the social realities of Global scenario.
5. To equip them to critically relate the theoretical aspects of sociology to the Socio-Political, Socio Economic and social facts of present Era.

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Program Learning Outcomes in Sociology

At the end of successful completion of the course, the students will able to:

1. To acquire domain interdisciplinary knowledge through discipline of Sociology.
2. Study and analyze sociological contest from critical and constructive prospective.
3. Have a better understanding of working of various social institutions (including NGO-None Government Organization) and relate this functioning to the greater cause of nation building as a Responsible citizen.
4. Assess how to global, national and regional development affect society.
5. To achieve critical thinking and development the ability to make logical/rational interference about Socio-Economic, Socio-Political, Socio-Educational and social issues, on the basis of comparative and contemporary social discourses in India and Global.
6. Thinking about National and International issues, involving state having various ideologies and historical contest.
7. Pursue Higher Education such as Post Graduate studies and research in Sociology and other Interdisciplinary areas to provide qualitative insights to create a better world.

Conclusion:

The BOS (Board of Studies) proper framing and development of syllabi will result in the upbringing and nourishment of multidisciplinary and holistic citizens, Emphasis is on outcomes been learning. Course has well-defined objectives and outcomes.

Course focuses more, socially engaged, cooperative communities and happier, cultured, productive, innovative, progressive and prosperous nation. The introduction of Research Methodology and ethics will widen the vision and broaden the perspective of the learners.

Course introducing Case Studies and Field Projects has created unique opportunity for higher education institute to bridge the gap between the academia, institution, industry, and community. Course believe effective earning requires a comprehensive approach that involves an appropriate curriculum, engaging continuous formative assessment, and adequate student support.

In addition to above more program educational objectives of their may be added by affiliated Institute.

In addition to program Educational objectives, for course undergraduate program, objective and expected outcomes based education. I believe strongly that small step taken in right direction will definitely in providing quality education to the stakeholders.

Dr. Narayan T. Kamble,
Chairman, Board of studies in Sociology (NMDC) Hingoli.
Swami Ramanand Teerth Marathwada University,Nanded.

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Members of the Board of Studies in the subject of Sociology

Under the faculty of Humanities

Sr. No	Name of the Member	Designation	Address with mail id	Contact No.
1	Dr. N. T. Kamble	*Chairman*	Swami Vivekanand College, Shirur Tajband, Dist. Latur.	9921153159
2	Dr. Jayashree Ambewadikar	*Member*	Central University Of Gujarat, Sector 29 Gandhi Nagar, Gujrat State.	
3	Dr. Manohar Yerkalwar	*Member*	IGNT University, Amarkantak, Dist. Anuppur, Madya Pradesh State.	
4	Dr. Deepak Bhoye	*Member*	Veer Narmad South Gujrat University, Surat, Gujrat State.	
5	Dr. Rahul Bhagat	*Member*	Birjubai Rice Mill Khed Bharampuri, Dist. Chandrapur.	9834988337
6	Dr. Sanjay Kolekar	*Member*	Savitribai Phule Pune University , Pune.	9850029079
7	Dr. Bhavare Priyadarshan	*Member*	Badrinarayan Barwale College, Jalna, Tq.& Dist. Jalana.	9405913297
8	Dr. P.S Deshmukh	*Member*	Bhai Kisanrao Deshmukh College, Chakur, Dist. Latur.	
9	Dr. Vinod Jadhav	*Member*	Master Deenanath Mangeshkar College, Auradshahajani, Dist. Latur.	
10	Dr. Dipak Sadashive	*Member*	Samrat Ashok Garments Ambewadi, Jalna Dist. Jalana.	
11	Dr.Rajesh Kamble	*Member*	Birjubai Rice Mill Khed Bhrampuri, Dist.Chandrapur.	
	Invitees Member			
1	Dr. Deepak Dharwadkar	*Member*	Toshniwal Mahavidyalay, Sengaon.	9130007444
2	Mr. Amol Awchar	*Member*	New Model Degree College, Hingoli.	9623091370

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Swami Ramanand Teerth Marathwada University, Nanded

NEW MODEL DEGREE COLLEGE, HINGOLI

Faculty of Humanities

Structure for Four Year Multidisciplinary Degree Program with Multiple Entry and Exit

Subject: DSC (Major) / DSM (Minor)

Year& Level	Sem.	Optional- I	Optional-2	Optional-3	Generic Elective (GE) (Select From Basket 3 Of Faculties Other than Humanities)	Vocational and Skill Enhancement Course	Ability Enhancement Course (AEC) (Basket 4) /Value Education Course (VEC)/Indian Knowledge System (IKS) (Basket 5) (Common across Faculty)	Field Work/Project/Internship / OJT Apprenticeship/Case Study Or Co-Curricular Courses (CC) (Basket 6 for CC) Common Across Faculty	Credits	Total Credits
1	2	3	4	5	6	7	8	9	10	11
I (4.5)	I	HSOCCT3101 (2 Cr) Introduction to Sociology HSOCCT3102 (2 Cr) New Changes in Social Institutions 4 Credits	HXXXCT3101 (2 Cr) HXXXCT3102 (2 Cr)	HXXXCT3101 (2 Cr) HXXXCT3102 (2 Cr)	HSOCGE3101 (2 Cr) Indian Rural Sociology 2 Credits	HSOCSC3101 (2Cr) Personality Development 2 Credits	AECENG3101 (2 Cr) AECENG3101 [Hnd,Mar,kan,Pal] (2Cr) IKSXXX3101 (2 Cr) 6 Credits		22	
	II	HSOCCT3151 (2Cr) Basic Concept in Sociology HSOCCT3152 (2 Cr) Contemporary Social Institutions 4 Credits	HXXXCT3151 (2 Cr) HXXXCT3152 (2 Cr)	HXXXCT3101 (2 Cr) HXXXCT3102 (2 Cr)	HSOCGE3151 (2 Cr) Health and Society	HSOCSC3151 (2 Cr) NGO Management and Social Development (2 Cr)	AECXXX3151 (2Cr) (HID/MAR/KAN/PAL/ Etc.) VECCOI3151 (2 Cr) Constitution Of India (6 Cr)		22	
	Total	08	08	08	04	04	08	00	44	

Exit Option: UG Certificate in Opt.-1, Opt. Opt.-2 and Opt.- 3 On Completion Of 44 credits and Additional 4 Credits core NSQF Course /Internship

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Abbreviations:

1) **DSC:** Department/Discipline Specific Core (Major)
2) **DSE:** Department/Discipline Specific Elective (Major)
3) **DSM:** Discipline Specific Minor
4) **GE/OE:** Generic/Open Elective
5) **VSEC:** Vocational Skill and Skill Enhancement Course
6) **VSC:** Vocational Skill Courses
7) **SEC:** Skill Enhancement Courses
8) **AEC:** Ability Enhancement courses
9) **MIL:** Modern Indian languages
10) **IKS:** Indian Knowledge System
11) **VEC:** Value Education Courses
12) **OJT:** On Job Training: (Internship/Apprenticeship)
13) **FP:** Field Projects
14) **CEP:** Community Engagement and Service
15) **CC:** Co-Curricular Courses
16) **RM:** Research Methodology
17) **RP:** Research Project/Dissertation

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Swami Ramanand Teerth Marathwada University, Nanded
Faculty of Humanities

General Guidelines for course structure:

1. The Major subject is the discipline or subject of the main focus and the degree will be awarded in that discipline/subject.
2. Credits and curriculum of Major and Minor subject is same in the first year
3. In the first year Students should choose two different subject as a Major and Minor in same faculty).
4. From the Second year curriculum of Major and Minor subject is the different.
5. Generic /Open Elective is to be chosen compulsorily from faculty other than that of the Major. (Select from Basket)
6. Vocational and Skill Enhancement Courses (VSEC or VSC and SEC) are related to Major Course (DSC)
7. Ability Enhancement Courses (AEC) :
    a) English language may be offered Sem. I for 2 Credits and sem. III for 2 Cr. in AEC
    b) Second languages may be offered Sem. II for 2 Credits and sem. IV for 2 Cr. in AEC
8. Column No. 7and 8 is common for all faculties.
9. Curriculum of VEC, CI, IKS and CC will provide by university.

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Swami Ramanand Teerth Marathwada University, Nanded
NEW MODEL DEGREE COLLEGE,HINGOLI

Faculty of Humanities. Minor in Sociology

Basket 1: Major/ Minor course For Semester I & II (C) : Each of 02 Credits

Semester	BOS proposing Major Optional Subjects	Details of Minor Course (M)	
		CODE	Title of the Corse
Semester I	BOS in Sociology	HSOCCT3101 (2 Cr)	Introduction to Sociology
		HSOCCT3102 (2 Cr)	New Changes in Social Institutions
Semester II	BOS in Sociology	HSOCCT3151 (2 Cr)	Basic Concept in Sociology
	BOS in Sociology	HSOCCT3152 (2 Cr)	Contemporary Social Institutions

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NEW MODEL DEGREE COLLEGE, HINGOLI

Faculty of Humanities **Major in Sociology**

Basket 2 : Generic Elective Courses (GE) Semester I and II (C) Each of 02 Credits

Semester	BOS proposing GE	Code	Title of the Corse
Semester I	BOS in Sociology	HSOCG111	Indian Rural Sociology
Semester II	BOS in Sociology	HSOCG161	Health and Society

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NEW MODEL DEGREE COLLEGE,HINGOLI

Faculty of Humanities. **Major in Sociology**

Under Graduate First Year Programme, Semester I ***(Level 4.5)***

Teaching Sheme

	Course Code	Course Name	Credits Assigned			Teaching Scheme (Hrs./ week 1Hrs. 60M.)	
			Theory	Practical	Total	Theory	Practical
Optional Subject-1	HSOCCT3101	Introduction to Sociology	02		02	02	
	HSOCCT3102	New Changes in Social Institutions	02		02	02	
Optional Subject-2	HXXXCT3101	-	02		02	02	
	HXXXCT3102	-	02		02	02	
Optional Subject-3	HXXXCT3101	-	02		02	02	
	HXXXCT3102	-	02		02	02	
Generic Electives	HSOCGE3101	Indian Rural Sociology	02		02	02	
Vocational & Skill Enhancement Course	HSOCSC3101	Personality Development	02		02	02	
Ability Enhancement Course/Languages	AECENG3101	Compulsory English	02		02	02	
	AECXXX3101	Hin,Mar,Kan,Pal,Urd,San,Etc.	02		02	02	
Indian Knowledge System (IKS)	IKSXXX3101	IKS-1 (Select From Basket-5)	02		02	02	
Co- Curricular Course/Community Engagement Services(CC) Basket-6	-	-	-	-	-	-	
Total Credits			22		22	22	

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Swami Ramanand Teerth Marathwada University, Nanded

NEW MODEL DEGREE COLLEGE,HINGOLI

Faculty of Humanities, Major in Sociology

Under Graduate First Year Programme, Semester II *(Level 4.5)*

Teaching Scheme

	Course Code	Course Name	Credits Assigned			Teaching Scheme (1Hrs./ week. 1Hrs = 60M.)	
			Theory	Practical	Total	Theory	Practical
Optional Subjects-1	HSOCCT3151	Basic Concept in Sociology	02		02	02	
	HSOCCT3152	Contemporary Social Institutions	02		02	02	
Optional Subjects-2	HXXXCT3151	-	02		02	02	
	HXXXCT3152	-	02		02	02	
Optional Subjects-3	HXXXCT3101	-	02		02	02	
	HXXXCT3102	-	02		02	02	
Generic Electives	HSOCGE3151	Health and society	02		02	02	
Vocational & Skill Enhancement Course	HSOCSC3151	NGO Management and Social Development	02		02	02	
Ability Enhancement Enhancement Course Language	AECENG3151	(Compulsory English)	02		02	02	
	AECXXX3151	(XX: Hin, Mar, Kan, Pal Etc.)	02		02	02	
Value Education Course (VEC)	VECCOI3151	Constitution Of India	02		02	02	
Community Engagement Service (CEC) Basket - 6			--	-	-	--	
Total Credits			22	-	22	22	

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Swami Ramanand Teerth Marathwada University, Nanded

NEW MODEL DEGREE COLLEGE, HINGOLI

Faculty of Humanities Major in Sociology

Under Graduate First Year Programme, Semester I *(Level4.5*

Examination Scheme

[20% Continuous Assessment (*CA)* and 80% End Semester Examination (*ESE*)]

Subject	Course Code	Course Name	Theory					Total Col (6+7)
			Continuous Assessment (CA)				ESE	
			Test I	Test II	Assignment	Avg of T1+T2+Assi /3	Total	
1	2	3	4	5	6	7	8	9
Optional Subject-1	HSOCCT3101	Introduction to Sociology	10	10	10	10	40	50
	HSOCCT3102	New Changes in Social Institutions	10	10	10	10	40	50
Optional Subject-2	HXXXCT3101	-	10	10	10	10	40	50
	HXXXCT3102	-	10	10	10	10	40	50
Optional Sujects-3	HXXXCT3101	-	10	10	10	10	40	50
	HXXXCT3102	-	10	10	10	10	40	50
Generic Electives	HSOCGE3101	Indian Rural Sociology	10	10	10	10	40	50
Vocational & Skill Enhancement Course	HSOCSC3101	Personality Development	10	10	10	10	40	50
Ability Enhancement Course / Languages	AECENG3101	Compulsory English	10	10	10	10	40	50
	AECXXX3151	(XX: Hin,Mar,Kan,Pal,Etc.)	10	10	10	10	40	50
Indian Knowledge System	IKSXXX3101	IKS-1 (Select From Basket-5)	10	10	10	10	40	50
Co- Curricular Course/ Community Engagement Services(CC) Basket-6	-	-	-	-	-	-	-	
			-	-	-	110	440	550

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NEW MODEL DEGREE COLLEGE, HINGOLI

Faculty of Humanities, in Sociology

Under Graduat First Year Programme, Semester II *(Level4.5)*

Examination Scheme

[20% Continuous Assessment (*CA)* and 80% End Semester Examination (*ESE*)]

Subject	Course Code	Course Name	Theory					Total Col (7+8)
			Continuous Assessment(CA)				ESE	
			Test I	Test II	Assignment	Avg. of T1+T2+Assi. /3	Total	
1	1111112	3	4	5	6	7	8	9
Optional Subject -1	HSOCCT3151	Basic Concept in Sociology	10	10	10	10	40	50
	HSOCCT3152	Contemporary Social Institutions	10	10	10	10	40	50
Optional Subject-2	HXXXCT3151	-	10	10	10	10	40	50
	HXXXCT3152	-	10	10	10	10	40	50
Optional Subject-3	HXXXCT3151	-	10	10	10	10	40	50
	HXXXCT3152	-	10	10	10	10	40	50
Generic Electives	HSOCGE3152	Health and Society	10	10	10	10	40	50
Vocational & Skill Enhancement Course	HSOCSC3151	NGO Management and Social Development	10	10	10	10	40	50
Ability Enhancement Enhancement Course/ Language	AECENG3151	Compulsory English	10	10	10	10	40	50
	AECXXX3151	(XX:Hid,Mar,Kan,Pal,etc.)	10	10	10	10	40	50
Value Education Course (VEC)	VECCOI3151	Constitution Of India	10	10	10	10	40	50
Community Engagement Services(CES) Basket-6	-	-	-	-	-	-	-	-
		Total	-	-	-	**110**	**440**	550

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NEW MODEL DEGREE COLLEGE, HINGOLI

Faculty of Humanities, Major in Sociology

Under Graduate First Year Programme, Semester I st

Course Structure:

Subject Teaching Scheme

(for 2 credits)

Course Code	Course Name (Paper Title)	Teaching Scheme (Hrs.)		Credits Assigned		
		Theory	CA	Theory	CA	Total
HSOCCT3101	Introduction to Sociology	30	--	02	---	02
HSOCCT3101	New Changes in Social Institutions	30	--	02	---	02
HSOCGE3101	Indian Rural Sociology	30	---	02	---	03
HSOCSC3101	Personality Development	30	---	02	---	02

Assessment Scheme

Course Code (1)	Course Name (2)	Theory					Total Col. (6+7)
			CA			ESE (7)	
		Test I (3)	Test II (4)	Assignment (5)	Avg. of T1+T2+Assi. 30/3 (6)		
HSOCCT3101	Introduction to Sociology	10	10	10	10	40	50
HSOCCT3101	New Changes in Social Institutions	10	10	10	10	40	50
HSOCGE3101	Indian Rural Sociology	10	10	10	10	40	50
HSOCSC3101	Personality Development	10	10	10	10	40	50

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NEW MODEL DEGREE COLLEGE, HINGOLI

***Faculty of Humanities,* Major in Sociology**

Under Graduate First Year Programme,Semester II

Course Structure:

Subject Teaching Scheme

(for 2 credits)

Course Code	Course Name (Paper Title)	Teaching Scheme (Hrs.)		Credits Assigned		
		Theory	CA	Theory	CA	Total
HSOCCT3151	Basic Concept In Sociology	30	--	02	--	02
HSOCCT3152	Contemporary Social Institution	30	--	02	--	02
HSOCGE3151	Health and Society	30	--	02	--	02
HSOCSC3151	NGO Management and Social Development.	30	--	02	--	02

Assessment Scheme

Course Code (1)	Course Name (2)	Theory					Total Col (6+7)
		CA				ESE (7)	
		Test I (3)	Test II (4)	Assignment (5)	Avg. of T1+T2+Assi. 30/3 (6)		
HSOCCT3151	Basic Concept In Sociology	10	10	10	10	40	50
HSOCCT3152	Contemporary Social Institution	10	10	10	10	40	50
HSOCGE3151	Health and Society	10	10	10	10	40	50
HSOCSC3151	NGO Management and Social Development.	10	10	10	10	40	50

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NEW MODEL DEGREE COLLEGE, HINGOLI

Semester-I

Faculty of Humanities Major in Sociology

Under Graduate First Year Programme

Paper Code: HSOCCT3101

Title: INTRODUCTION TO SOCIOLOGY (*Major/Minor)*

Curriculum Details

Course pre-requisite:

1. Passed HSC or equivalent exam.
2. Should have basic knowledge of sociology

Objectives :

1. The objective of the course is developing awareness among a good number student who in turn may able to address to problems arising in and out of society.

2. This paper is introductory paper. The student learn basic concept of sociology and acquire scientific knowledge. Course

3. To help them to understand the government schemes, policies and laws

Outcome :

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1. Student will be able to demonstrate on understanding of how social call affects individual life.

2. To understand society in context of the sociology theory: knowledge concepts.

3. To acquire domain interdisciplinary knowledge through discipline of Sociology.

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Swami Ramanand Teerth Marathwada University, Nanded

NEW MODEL DEGREE COLLEGE,HINGOLI

Semester-I

Faculty of Humanities

Major in Sociology

Paper Code: HSOCCT3101 Title: INTRODUCTION TO SOCIOLOGY

Curriculum Details: (for 2 Credits)

Module No.	Unit No.	Name of Topic	Hrs. Required to cover the contents 1 Hrs.=60M.
1.0		Introduction to Sociology:	08
	1.1	Origin and Development of Sociology	
	1.2	Definition and subject matter of sociology	
	1.3	Development of Indian Sociology.	
2.0		Basic Concepts:	07
	2.1	Society: Meaning and Characteristics.	
	2.2	Social Structure: Meaning and Elements	
	2.3	Social System: Meaning and Functional Problems	
3.0		Social Groups:	08
	3.1	Primary Group: Meaning and Characteristics.	
	3.2	Secondary Group: Meaning and Characteristics.	
	3.3	Importance of Social Groups	
4.0		Social Change:	07
	4.1	Meaning and Nature of Social Change	
	4.2	Factors of Social Change	
	4.3	Importance of Social Change	
		Total	30

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१६. लवानिया, एम.एम.एवं शशी जैन २००८. समाजशास्त्र के सिध्दांत. जयपूर : रिसर्च पब्लिकेशन्स.

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NEW MODEL DEGREE COLLEGE, HINGOLI

Semester-I

Faculty of Humanities, Major in Sociology

Under Graduate First Year Programme

Paper Code : HSOCCT3102

Title-New Changes in Social Institution-II *(Major/Minor)*

Curriculum Details

Course pre-requisite:

1. Passed HSC or equivalent exam.
2. Should have basic knowledge of sociology

Objectives:

1. The main aim of human societies is to maintain control and order.

2. The social structure which organized and orders: creates social solidarity and stability in society. Institution: specially are assigned this function of social order and control.

3. To help them to understand the government schemes, policies and laws

Outcome:

1. Students will obtain a sociological understanding of diverse: social groups: organization and social institutions.

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2. Social institutions are usually conceived of as the basic focuses of social organization: common to all societies.

3. To acquire domain interdisciplinary knowledge through discipline of Sociology.

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NEW MODEL DEGREE COLLEGE, HINGOLI

Semester-I

Faculty of Humanities, Major in Sociology

Paper Code : HSOCCT3102, Title: New Changes in Social Institution

Curriculum Details: (for 2 Credits)

Module No.	Unit No.	Name of Topic	Hrs. Required to cover the contents 1 Hrs.= 60M.
1.0		Introduction to Social Institutions	08
	1.1	Meaning and characteristics of social Institutions.	
	1.2	Importance of social Institutions.	
	1.3	Concept of Institutionalization.	
2.0		Marriage Institution:	07
	2.1	Meaning and characteristics of Marriage Institution.	
	2.2	Recent Changes in Marriage Institution (Contract Marriage/ Inter caste Marriage)	
	2.3	Issues in Marriage Institution: Live in Relationship: Problems of selection of mate.	
3.0		Family Institutions:	08
	3.1	Meaning and characteristics of Family Institution.	
	3.2	Types of Family: Joint Family & Nuclear Family	
	3.3	Issues in Family Institutions: Domestic Violence: Old-Age Problems.	
4.0		Education Institution:	07
	4.1	Meaning and Aims of Education.	
	4.2	Types of Education: (1) Formal and (2)Informal	
	4.3	Recent issues in Education Institution: Privatization: Problems in Higher Education	
		Total	30

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२१. धारवाडकर, दीपक, भालेराव, साहेबराव २०१७. भारतीय समाज समकालीन समस्या. भोकर : रूद्राणी प्रकाशन.

२२. वाघ रविंद्र, जाधव सुधाकर : इतर २०१७. भारतीय समाज संरचना व बदल. जळगाव : प्रशांत पब्लिकेशन.

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२४. खोले, विलास (संपा) : ताराबाई शिंदे १९९७. स्त्री पुरूष तुलना. पुणे : प्रतिमा प्रकाशन.

२५. गोखले, करूणा (अनु) सिमॉन दि बोव्हूआर २०१०. सेकन्ड सेक्स. पुणे : पदमगंधा पब्लिकेशन.

२६. उपाध्याय, उमेश २०१२. वर्तमान सामाजिक समस्यारू-कारण और निवारण. जयपूर : रितू पब्लिकेशन.

२७. शर्मा, अनुराग २०१०. भारतीय समाज. जयपूर : इशिका पब्लिकेशन.

२८. परदेशी, महेशकुमार, धारवाडकर दीपक २०१६. आधुनिक भारत में सामाजिक समस्या. जयपूर : इशिका पब्लिकेशन.

२९. राउत, एन.यू.२०१३. महिला सुरक्षा एवं समाज. जयपूर : सत्यम पब्लिशर्स ॲन्ड डिस्ट्रीब्युटर्स.

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NEW MODEL DEGREE COLLEGE, HINGOLI

Semester-I

Faculty of Humanities, Major in Sociology

Under Graduate First Year Programme

Generic Elective Course (GE)

Paper Code: HSOCGE3101 Title: Indian Rural Sociology

Curriculum Details

Course pre-requisite:

1. passed HSC or equivalent exam.
2. Should have basic interest in social investigation.

Objectives:

1. The course aims at equipping students with skill and knowledge in basic sociological theories to enable them to effectively work with communities in solving identified problems for livelihood improvement.

2. The specific objectives are to apply sociological principles in addressing rural development.

3. To help them to understand the government schemes, policies and laws

Outcome:

1. Importance of rural sociology in agricultural extension and interrelationship & with processes.
Faculty of Humanities, S. R. T. M. University, Nanded.
2. This course explores social life along the rural community and also provides a broad introduction to be issues and perspectives in rural sociology.

3. To acquire domain interdisciplinary knowledge through discipline of Sociology.

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NEW MODEL DEGREE COLLEGE, HINGOLI

Semester-I

Faculty of Humanities, Major in Sociology

Paper Code: HSOCGE3101 Title: Indian Rural Sociology

Generic Elective Course (GE)

Curriculum Details: (for 2 Credits)

Module No.	Unit No.	Topic	Hrs. Required to cover the contents 1 Hrs.=60 M.
1. 0		Rural Society:	08
	1.1	Meaning and characteristics of Rural Society.	
	1.2	Importance of Rural Society.	
	1.3	Recent changes in Rural Society.	
2.0		Rural Family Institution:	08
	2.1	Meaning and Characteristics of Rural Family.	
	2.2	Nuclear Family and Joint Family: Meaning and Characteristics.	
	2.3	Changing nature of Rural Joint Family	
3.0		Rural Development Programmers:	07
	3.1	Meaning and Characteristics of Rural Development Programs.	
	3.2	Swatch Bharat Abhiyan: Need of Water Management	
	3.3	Advantages of Rural Development Programmers.	
4.0		Rural Social Change:	07
	4.1	Meaning and Nature of Rural Social Change.	
	4.2	Factors of Rural Social Change.	
	4.3	Impact of urbanization on Rural Society.	
		Total	30

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NEW MODEL DEGREE COLLEGE, HINGOLI

Semester-I

***Faculty of Humanities Major* in Sociology**

Under Graduate First Year Programme

SEC

Paper Code: HSOCSC3101 **Title: Personality Development**

Curriculum Details

Course pre-requisite:

1. Passed HSC or equivalent exam.
2. Should have basic knowledge of sociology

Course Objectives :

1. This course has aim to orient about Personality Development.

2. This course has essentially aim to enhance and groom one's outer and inner self about a positive change in Students life.

3. The course aims to basic awareness about significance skill Enhancement. To help the student be positive, Increase andimprove self-confidence, learn to lead an face the challenges and Be a good human being.

4. To help them to understand the government schemes, policies and laws.

Course Outcomes:

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1. Personality Development course will polish students about presentation and communication skill and prepare to successful career.
2. Student will Apply the understanding of communication skill into everyday practice and under- standing the importance of human life.

3. To acquire domain interdisciplinary knowledge through discipline of Sociology.

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NEW MODEL DEGREE COLLEGE, HINGOLI

Semester-I

Faculty of Humanities Major in Sociology

Paper Code: HSOCSC3101 Title: Personality Development

SEC

Curriculum Details: (for 2 Credits)

Module No.	Unit No.	Topic	Hrs. Required to cover The contents 1Hrs.=60M.
1.0		Personality Development	08
	1.1	Concept and Meaning of Personality Development	
	1.2	Elements of Personality Development.	
	1.3	Concept of success and failure.	
2.0		**Communication Skills**	08
	2.1	Communication:	
	2.2	Factors necessary for Communication development	
	2.3	Leadership Qualities	
3.0		**Interview Skills**	07
	3.1	Interview : meaning & Types	
	3.2	Preparation for Interview	
	3.3	Time Management	
4.0		Technique of Personality Development and Emotions	
	4.1	Importance of Self-Inspiration	07
	4.2	Development of Creativity	
	4.3	Confidence	
		Total	30

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NEW MODEL DEGREE COLLEGE, HINGOLI
Semester-II
Faculty of Humanities, Major in Sociology

Under Graduate First Year Programme

Paper Code: HSOCCT3151 **Title: Basic Concept in Sociology**

Curriculum Details: (for3 Credits)

Course pre-requisite:

1. Passed HSC or equivalent exam.
2. Should have basic knowledge of sociology

Objectives:

1. Basic concepts in sociology – Tool to think with society: humanly created organization of inter relationships that connects individuals in common culture.
2. Culture: Sets of tradition: rules: symbols that shape and are enacted as feelings thoughts: and behaviors of groups of people.
3. To help them to understand the government schemes, policies and laws.

Outcome:

1. To understand the basic concepts in sociology and their fundamental theoretical interrelationship:
2. students will be able define: gives examples: show interrelationships and demonstrate the relevance.
3. Students will be able to know the basic knowledge of sociology.
4. To acquire domain interdisciplinary knowledge through discipline of Sociology.

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NEW MODEL DEGREE COLLEGE, HINGOLI

Semester II

***Faculty of Humanities,* Major in Sociology**

Paper Code: HSOCCT3151 Title: Basic Concept in Sociology

Curriculum Details: (for 3 Credits)

Module No.	Unit No.	Name of Topic	Hrs. Required tocover the contents 1 Hrs.=60M.
1.0		Socialization	08
	1.1	Definition and Aims of Socialization.	
	1.2	Agencies of Socialization	
	1.3	Significance of Socialization	
2.0		Culture:	07
	2.1	Meaning and Characteristics of Culture	
	2.2	Types of Culture	
	2.3	Importance of Culture.	
3.0		Social Process:	08
	3.1	Meaning and Types of Social Process	
	3.2	Integrative Social Process (Co-operation: Accommodation: Assimilation)	
	3.3	Dis-integrative Social Process (Competition: Conflict)	
4.0		Social Control:	07
	4.1	Meaning and necessity of Social Control.	
	4.2	Agencies of Social Control (Folkways: Custom: Religion: Law: Social Media)	
	4.4	Social Conformity and Social Deviance	
		Total	30

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NEW MODEL DEGREE COLLEGE, HINGOLI

Semester-II

Faculty of Humanities, Major in Sociology

Under Graduate First Year Programme

Paper Code: HSOCCT3152 Title: Contemporary Social Institutions

Curriculum Details

Course pre-requisite:

1 Passed HSC or equivalent exam.
2. Should have basic knowledge of sociology

Objectives:

1. A definition of Contemporary Sociology: Indian Sociology is a term that describes practitioners who use sociological theories and methods
2. Outside of academic setting with the aim to produce positive social change through active intervention.
3. To help them to understand the government schemes, policies and laws.

Outcome:

1. Institutions can refer to mechanism of social order: which govern the behavior of set of individuals within a given community.
2. Moreover: institutions are identified with social purpose: transcending individuals and intention by mediating the rules that govern living behavior. Debates about the social impact of sociology have been historically centered.
3. To acquire domain interdisciplinary knowledge through discipline of Sociology.

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NEW MODEL DEGREE COLLEGE, HINGOLI

Semester-II

***Faculty of Humanities*, Major in Sociology**

Paper Code : HSOCCT3152 Title: Contemporary Social Institutions

Curriculum Details: (for 2 Credits)

Module No.	Unit No.	Name of Topic	Hrs. Required tocover the contents 1 Hrs.= 60M.
1. 0		Political Institution:	08
	1.1	Meaning and characteristics of Political Institution	
	1.2	Issues in Political Institution – Right to Voting. Voting Awareness	
	1.3	Significance of Political Institution	
2.0		Economic Institution:	07
	2.1	Meaning and characteristics of Economic Institution.	
	2.2	Recent changes in Economic Institution- Online Payment: Improvement of below Poverty	
	2.3	Online Payment: Uses and Precautions	
3.0		Jurisdiction:	08
	3.1	Meaning and Importance of Jurisdiction	
	3.2	Recent change in Jurisdiction- Fast Track Court: Transparency in Jurisdiction.	
	3.3	Issues in Jurisdiction-Delay of Justice: Implementation: Increasing Tendency of Dictatorship.	
4.0		Application of Sociological Knowledge:	07
	4.1	Origin and development of Applied Sociology	
	4.2	Definition and Importance of Applied Sociology	
	4.3	Scope of Applied Sociology	
		Total	30

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NEW MODEL DEGREE COLLEGE, HINGOLI

Semester-II

***Faculty of Humanities Major* in Sociology**

Under Graduate First Year Programme

Generic Elective Course (GE)

Paper Code: HSOCGE3151 Title: Health and Society

Curriculum Details

Course pre-requisite:

1. Passed HSC or equivalent exam.
2. Should have basic knowledge of sociology

Objectives:

1. Today, Health Problem has become a major concern in India many diseases are created due to the lack of Knowledge related to Health.
2. The World Health Organization (W.H.O.) has given much importance to this issue.
3. The Students of Sociology must possess the Knowledge of various Health-related concepts and diseases.
4. To help them to understand the government schemes, policies and laws.

Outcome:

1. The individuals health conditions, reactions to sickness and ill health, as well as the effects of care and treatment.
2. Measure that help people experience a sense of hope and safety , as well as physical, mental , and social well-being.
3. Students Understand Concept of Illness, Sick Role, Disease, and Epidemiology. Discuses about Community Health, Meaning of Community Health.
4. To acquire domain interdisciplinary knowledge through discipline of Sociology.

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Swami Ramanand Teerth Marathwada University, Nanded

NEW MODEL DEGREE COLLEGE, HINGOLI

Semester-II

Faculty of Humanities Major in Sociology

Under Graduate First Year Programme, Semester Second

Paper Code: HSOCGE Title: Health and Society

Generic Elective Course (GE)

Curriculum Details: (for 2Credits)

Module No.	UnitNo.	Topic	Hrs. Required to cover the contents 1Hrs.=60M.
1.0		Introduction:	
	1.1	Definition of Health; Aims of Health;	08
	1.2	Scope of Health and Determinants of Health;	
	1.3	Relationship between Health and social Institution.	
2.0		History of Medical System	
	2.1	Historical Account of Indian Medical Development;	
	2.2	Various Types of treatment Methods;	08
	2.3	a) Ayurvedic b) Homeopathy c) Unani d) Allopathy:	
3.0		Concepts:	
	3.1	Illness	07
	3.2	Sick Role	
	3.3	Disease, Epidemiology.	
4.0		Community Health:	
	4.1	Meaning of Community Health; Objectives of community Health;	07
	4.2	Basic elements of community Health programme	
	4.3	Diet and Nutrition.	
		Total	30

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NEW MODEL DEGREE COLLEGE, HINGOLI

Semester-II

Faculty of Humanities Skill Enhancement Major in Sociology

Under Graduate First Year Programme

Paper Code: HSOCSC3151 Title: NGO Management and Social Development

Curriculum Details

Course pre-requisite:

1. Student has interest in Gender studies.
2. Anyone can take this course for sensitive human being.

Course Objectives:

1. To understand the project management dimensions, planning and it's implementation of projects
2. To enhance skills and techniques of project evaluation and resource mobilization.
3. To understand the Human resource management in NGO's.
4. To help them to understand the government schemes, policies and laws.

Course Outcomes:

1. Students should enrich their knowledge about NGO Management.
2. Students enrich their knowledge about project management dimensions, planning and it's implementation.
3. To enrich skills and techniques of project evaluation.
4. To acquire domain interdisciplinary knowledge through discipline of Sociology.

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स्वामी रामानंद तीर्थ
मराठवाडा विद्यापीठ,नांदेड.

(Structure and Syllabus of Four Years Multidisciplinary Degree Programme with Multiple Entry and Exit Options)

UNDERGRADUATE PROGRAMME OF HUMANITIES

Syllabus of FY UG

Major in _English

Under the Faculty of Humanities

(As per NEP-2020)

With effect from 2024-25

From the Desk of Chairman, Board of Studies in English

English is a global language and has become a tool for professional success in the 21st century. It is not merely a subject of study but a set of skills to perform daily. The dual nature of English as a subject and English as a skill doubles the academicians' responsibility in curriculum design and development in a country like India, where it was entered as a foreign language and enjoys the privilege of being one of the official languages.

In the current scenario, our National Education Policy 2020 has a flexible framework for curriculum development. The Government of Maharashtra and Swami Ramanand Teerth Marathwada University Nanded have adopted the NEP framework. It allows learners to choose English as a major, minor, or generic subject in addition to the Vocational and Skill Enhancement Courses.

The Board of Studies in English has studied the NEP Framework, considered the learners and their holistic development, and developed a student-centric curriculum for the first year of the university's UG Programme. The present syllabus is a unique combination of traditional language and literature components along with contemporary skills for personal and professional success.

As envisaged in NEP, we have also explored the possibilities of multidisciplinary and holistic education across the faculties by offering widely accepted and much-needed English courses under the Generic or Open Electives vertical.

People often prefer to follow a routine and become used to the path rather than the road not taken. NEP 2020 allows us to adopt the change we desire and deserve. We firmly believe that our ELT fraternity and learner community will welcome and appreciate the new things.

Prof. Dr. Rohidas Nitonde
Chairman, Board of Studies in English,
Swami Ramanand Teerth Marathwada University, Nanded

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities Major in ---(DSC)---- English

Under Graduate First Year Programme, Semester I (Level 4.5)

Teaching Scheme

	Course Code	Course Name	Credits Assigned			Teaching Scheme (Hrs./Week)	
			Theory	Practical	Total	Theory	Practical
Major and Minor	HENGCT1101	Understanding Literature -I	02	--	02	02	--
	HENGCT1102	Understanding Prose (Essay)	02	--	02	02	--
Generic Electives	HENGGE1101	English for Competitive Exams - I	02	--	02	02	--
Vocational & Skill Enhancement Course	HENGSC1101	Soft Skills	02	--	02	02	--
Ability Enhancement Course	HENGAEC1101	L1- (Compulsory English) Developing Spoken Communication	02	--	02	02	--
	HENGML1101	L2- (SL) Additional English - I	02	--	02	02	--

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Faculty of Humanities Major in ---(DSC)---- English

Under Graduate First Year Programme, Semester I (Level 4.5)

Examination Scheme

[20% Continuous Assessment (CA) and 80% End Semester Examination (ESE)]

Subject (1)	Course Code (2)	Course Name (3)	Continuous Assessment CA				ESE	Total (9)
			Test 1 (4)	Test 2 (5)	Assignment (6)	Average of T1+T2+Assi./3	Total (8)	
Major and Minor	HENGCT1101	Understanding Literature -I	10	10	10	10	40	50
	HENGCT1102	Understanding Prose (Essay)	10	10	10	10	40	50
Generic Electives	HENGGE1101	English for Competitive Exams - I	10	10	10	10	40	50
Vocational & Skill Enhancement Course	HENGSC1101	Soft Skills	10	10	10	10	40	50
Ability Enhancement Course	HENGAEC1101	L1- (Compulsory English) Developing Spoken Communication	10	10	10	10	40	50
	HENGML1101	L2- (MIL / SL) Additional English - I	10	10	10	10	40	50

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Course Structure
DSC (Major)
HENGCT1101: Understanding Literature -I

Teaching Scheme

Course Code	Course Name (Paper Title)	Teaching Scheme (Hrs)	Credits Assigned
HENGCT1101	Understanding Literature -I	02	02

Examination Scheme

[20% Continuous Assessment (CA) and 80% End Semester Examination (ESE)]

Course Code (2)	Course Name (3)	Continuous Assessment CA				ESE	Total (9)
		Test 1 (4)	Test 2 (5)	Assign ment (6)	Average of T1+T2+Assi./3	Total (8)	
HENGC T1101	Understanding Literature -I	10	10	10	10	40	50

Course Prerequisites:

Any learner with a working knowledge of English and who is willing to study literature can take this course.

Course Objectives:

This Major Discipline Specific Course (DSC) is designed to create interest among students aspiring to enter an undergraduate course about knowing what exactly is meant by literature and understanding English literature. The present course contains four units: an introduction to literature, a short story, a novella, and prose. The main objectives are:

1. To introduce students to literature
2. To acquaint students with various genres of literature
3. To make students familiar with major contributors of the genres covered under the prescribed units
4. To develop interest among students in studying literature

Outcomes:

At the end of the course, the students will be able to

1. get introduced to literature
2. study various genres of literature
3. read various pieces of prose essays, short stories, and novellas
4. get motivated to concentrate on various aspects of literature

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The students are required to solve any 3 questions from the remaining four questions (Q. No. 2 to 5) each based on modules 1 to 4 in the syllabus respectively.

Paper Pattern for ESE:

Q.1	Write Short notes (4 out of 4). (Compulsory Question based on the entire syllabus)	10 marks
	(Attempt any 3 questions from Q. No. 2 to Q. No. 5)	
Q.2	Essay-type question on Module 1	10 marks
Q 3	Essay-type question on Module 2	10 marks
Q.4	Essay-type question on Module 3	10 marks
Q.5	Essay-type question on Module 4	10 marks

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Curriculum Details:

Module No.	Unit No.	Name of Topic	Hrs. Required 1 Hrs.=60 M.
1. 0		**Unit 1**	
	1.1	"Of Truth" - Francis Bacon	
	1.2	"Dream Children: A Reverie" -Charles Lamb	**07**
2.0		**Unit 2**	
	2.1	"Bores"- E. V. Lucas	
	2.2	"If You Are Wrong, Admit It" – Dale Carnegie	**07**
3.0		**Unit 3**	
	3.1	"My Struggle for an Education"- Booker T. Washington	**08**
	3.2	"In Search of Mothers' Gardens"- Alice Walker	
4.0		**Unit 4**	
	4.1	"The Secret of Work"- Swami Vivekananda	
	4.2	"My Birthplace"- Nirad C. Chaudhuri	**08**
		Total	**30**

Text Book:

A Textbook by the University

Reference Books:

Abrams, M. H., and Geoffrey G. Harpham. *A Handbook of Literary Terms*. Cengage Learning India. 2009.

Board of Editors, SRTM University, Nanded. *An Anthology of English Non-fictional Prose*. Macmillian Publishers India Private Limited. 2020.

Carnegie, Dale. 'If You are Wrong, Admit It', *How to win Friends and Influence People*. New Delhi: Manjul Publishing House, 2017.

Cochrane, Robert. *The English Essayists*. Deep and Deep Publications, 1989.

Gupta, Balarama G.S. *Links: Indian Prose in English*. Macmillan India Limited, 1991.

Hugh, Walker. *The English Essay and Essayists*. J. M. Dent & Sons Ltd., 1915.

Kaushik, R. K. and S. C. Bhatia. *Essays, Short Stories and One-Act Plays (Abridged Edition)*. Oxford University Press, 2000.

One Moment, Please.., l-adam-mekler.com/walker_in_search.pdf.

Prasad, B. *A Background to the Study of English Literature*. Macmillan Publishers India Limited, 2009.

Selby, F.G. *Bacon's Essays*. Macmillan India Limited, 1992.

Sinha, Susanta K. *English Essayists: With Biographical Sketches and Notes*. Oxford University Press. 2003.

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Course Structure

Generic Elective / Open Elective in English
HENGGE1101: English for Competitive Exams–I

Teaching Scheme

Course Code	Course Name (Paper Title)	Teaching Scheme (Hrs)	Credits Assigned
HENGGE1101	English for Competitive Exams–I	02	02

Examination Scheme

[20% Continuous Assessment (CA) and 80% End Semester Examination (ESE)]

Course Code (2)	Course Name (3)	Continuous Assessment CA				ESE	Total (9)
		Test 1 (4)	Test 2 (5)	Assign ment (6)	Average of T1+T2+Assi./3	Total (8)	
HENGG E1101	English for Competitive Exams–I	10	10	10	10	40	50

Course Prerequisite:

This course can be taken by any students who can read and write in English and are interested in competitive examinations.

Objectives:

The present course aims to train the students appearing for competitive examinations. The focus of the course is to provide learners with the knowledge of English in use. The key objectives are:

- To inculcate the practising skills of correct usage of tense forms among the learners
- To enrich the vocabulary by means of synonyms, antonyms and so on
- To enable the students to transform sentences
- To strengthen students' ability to express and write essays in English

Outcomes:

After the completion of the course, the learners will be able to:

- Use appropriate tense forms
- use vocabulary for acquiring proficiency in English
- Design and transform grammatically correct sentences
- Attain the skill of essay writing

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Guidelines for Course Assessment:

A. Continuous Assessment (CA): 10 Marks (20% of the Maximum Marks)
Two Tests and One Assignment of 10 Marks each will be carried out throughout the course. Average marks scored in two tests and one assignment will be considered as a score in CA.

B. End Semester Assessment (80% of the Maximum Marks): 40 Marks
End Semester Examination Question paper will consist of 5 questions (each question for 10 marks)

Question No. 1 will be compulsory and shall be based on the entire syllabus.

The students are required to solve any 3 questions from the remaining four questions (Q. No. 2 to 5) each based on modules 1 to 4 in the syllabus respectively.

Question Paper Pattern ESE:

Q.1	Write short notes on *any two* (2 out of 4) **Compulsory question**	10
	Solve any four questions (q.2 to q. 6)	
Q.2	Five questions based on Module 1	10
Q.3	Five questions will be given based on Module 2	10
Q.4	Five questions will be given based on Module 3	10
Q.5	Two topics for the essay will be given. (Attempt anyone) based on Module 4	10

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3.0		Values	07
	3.1	Forming Values	
	3.2	Emotional and Social Intelligence	
	3.3	Time Management	
4.0		Leadership	07
	4.1	Building Image	
	4.2	Decision Making	
	4.3	Team Building and Teamwork	
		Total	30

Textbook:

Prescribed by the university

Reference Books:

Alex, K. *Soft Skills,* New Delhi: S. Chand, 2009.

Ali, P. A. *Sizzling Soft Skills for Spectacular Success,* Chennai: Notion Press, 2017.

Sharma, Prashant. *Soft Skills,* New Delhi: PBP Publishing, 2019.

Verma, Shalini. *Enhancing Employability @ Soft Skills,* New Delhi: Pearson, 2012.

Guidelines for Course Assessment:

E. **Continuous Assessment (CA): 10 Marks** (20% of the Maximum Marks)

Two Tests and One Assignment of 10 Marks each will be carried out throughout the course. Average marks scored in two tests and one assignment will be considered as a score in CA.

F. End Semester Assessment (80% of the Maximum Marks): 40 Marks

End Semester Examination Question paper will consist of 5 questions (each question for 10 marks)

Question No. 1 will be compulsory and shall be based on the entire syllabus.

The students are required to solve any 3 questions from the remaining four questions (Q. No. 2 to 5) each based on modules 1 to 4 in the syllabus respectively.

Paper Pattern for ESE:

Q.1	Write Short notes. (Compulsory Question based on the entire syllabus)	10 marks
	(Attempt any 3 questions from Q. No. 2 to Q. No. 5)	
Q.2	Essay-type question on Module 1	10 marks
Q 3	Essay-type question on Module 2	10 marks
Q.4	Essay-type question on Module 3	10 marks
Q.5	Essay-type question on Module 4	10 marks

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	2.1	Introducing	10
	2.2	Asking questions	
	2.3	Using imperative sentences	
	2.4	Using Exclamations	
3.0		**Hosting a Formal Function**	
	3.1	Essentials of a formal function	10
	3.2	Compering	
	3.3	Delivering welcome speech	
	3.4	Proposing a vote of thanks	
4.0		**Developing Conversation in Different Situations**	
	4.1	Conversation in the bank	10
	4.2	Conversation at the railway station	
	4.3	Conversation at the airport	
	4.4	Telephonic conversations (Formal and Informal)	
		Total	30

Prescribed Text:

Textbook Prepared by the University

Guidelines for Course Assessment:

A. **Continuous Assessment (CA): 10 Marks** (20% of the Maximum Marks)
Two Tests and One Assignment of 10 Marks each will be carried out throughout the course. Average marks scored in two tests and one assignment will be considered as a score in CA.

B. **End Semester Assessment (80% of the Maximum Marks): 40 Marks**
End Semester Examination Question paper will consist of 5 questions (each question for 10 marks)

Question No. 1 will be compulsory and shall be based on the entire syllabus.
The students are required to solve any 3 questions from the remaining four questions (Q. No. 2 to 5) each based on modules 1 to 4 in the syllabus respectively.

Paper Pattern for ESE:

Q.1	Write Short notes. (Compulsory Question based on the entire syllabus)	10 marks
	(Attempt any 3 questions from Q. No. 2 to Q. No. 5)	
Q.2	Question on Module 1	10 marks
Q 3	Question on Module 2	10 marks
Q.4	Question on Module 3	10 marks
Q.5	Question on Module 4	10 marks

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	1.3	The Eyes are Not Here by Ruskin Bond	
2.0		**Poetry**	**08**
	2.1	Sonnet 29 by William Shakespeare	
	2.1	Night of the Scorpion by Nissim Ezekiel	
	2.3	Still I Rise by Maya Angelou	
3.0		**Grammar**	**07**
	3.1	Degrees of Comparison	
	3.2	Transformation of Sentences	
4.0		**Composition**	**07**
	4.1	Paragraph Writing	
	4.2	Composition of a Newspaper Advertisement	
		Total	**30**

Textbook:
Spectrum; A Textbook for College Students. Macmillan India, Chennai.

Guidelines for Course Assessment:

C. Continuous Assessment (CA): 10 Marks (20% of the Maximum Marks)
Two Tests and One Assignment of 10 Marks each will be carried out throughout the course. Average marks scored in two tests, and one assignment will be considered as a score in CA.

D. End Semester Assessment (80% of the Maximum Marks): 40 Marks
End Semester Examination Question paper will consist of 5 questions (each question for 10 marks)
Question No. 1 will be compulsory and shall be based on the entire syllabus.
The students are required to solve any 3 questions from the remaining four questions (Q. No. 2 to 5) each based on modules 1 to 4 in the syllabus respectively.

Paper Pattern for ESE:

Q.1	Write Short notes. (Compulsory Question based on the entire syllabus)	10 marks
	(Attempt any 3 questions from Q. No. 2 to Q. No. 5)	
Q.2	Question on Module 1	10 marks
Q 3	Question on Module 2	10 marks
Q.4	A) 5 Objective Questions on 'Change the Degree' B) 5 Objective Questions on the 'Transformation of Sentences'	10 marks
Q.5	Question on Module 4	10 marks

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities

Under Graduate First Year Programme (Semester II)

Course Structure

DSC (Major and Minor)

HENGCT1151: Understanding Short Story

Teaching Scheme

Course Code	Course Name (Paper Title)	Teaching Scheme (Hrs)	Credits Assigned
HENGCT1151	Understanding Short Story	02	02

Examination Scheme

[20% Continuous Assessment (CA) and 80% End Semester Examination (ESE)]

Course Code (2)	Course Name (3)	Continuous Assessment CA				ESE	Total (9)
		Test 1 (4)	Test 2 (5)	Assignment (6)	Average of T1+T2+Assi./3	Total (8)	
HENGCT1151	Understanding Short Story	10	10	10	10	40	50

Course Objectives:

The course is aimed at enabling the students to understand and critically appreciate the short stories to prepare them to understand the genres- novella and novels. The major objectives are:

1. To acquaint the students with the basics and the elements of the short story as a genre of fictional prose
2. To introduce the students to a variety of cultures through select folk tales, fairy tales, and literary classics
3. To enable the students to understand and critically appreciate Short Stories as a genre of fictional prose
4. To inculcate human values and ethics entailed in the stories in the minds of the students

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Jaico Publishing House. *The World's Greatest Short Stories*. Mumbai: Jaico Publishing House, 2013. Print.

Kennedy, X. J. *An Introduction to Fiction, Poetry, and Drama*. Boston: Little, Brown and Company, 1966. Print.

Marszale, Agnes. *Style and Emotion in Comic Novels and Short Stories*. London: Bloomsbury Academic, 2020. Print.

O'Brien, Terry. *50 Greatest Short Stories*. New Delhi: Rupa Publications India Pvt. Ltd., 2015.

Projapati. *Selected Stories by Nobel Prize Winners*. Kolkata: Projapati Books, 2015. Print.

Toolan, Michael. *Making Sense of Narrative Text: Situation, Repetition, and Picturing in the Reading of Short Stories*. New York: Routledge Publishers, 2016. Print.

Guidelines for Course Assessment:

G. **Continuous Assessment (CA): 10 Marks** (20% of the Maximum Marks)
Two Tests and One Assignment of 10 Marks each will be carried out throughout the course. Average marks scored in two tests and one assignment will be considered as a score in CA.

H. **End Semester Assessment (80% of the Maximum Marks): 40 Marks**
End Semester Examination Question paper will consist of 5 questions (each question for 10 marks)

Question No. 1 will be compulsory and shall be based on the entire syllabus.
The students are required to solve any 3 questions from the remaining four questions (Q. No. 2 to 5) each based on modules 1 to 4 in the syllabus respectively.

Paper Pattern for ESE:

Q.1	Write Short notes (4 out of 4). (Compulsory Question based on the entire syllabus)	10 marks
	(Attempt any 3 questions from Q. No. 2 to Q. No. 5)	
Q.2	Essay-type question on Module 1	10 marks
Q 3	Essay-type question on Module 2	10 marks
Q.4	Essay-type question on Module 3	10 marks
Q.5	Essay-type question on Module 4	10 marks

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4	4	*Samskara* by U R Anantha Murthy	08
		Total	**30**

Text Books:

A Course book by the University

Reference Books:

1) Stevenson, R L. *The Strange Case of Dr Jekyll and Mr. Hyde*, New Delhi: Penguin, 2012.
2) Mann, Thomas. *Death in Venice*, New Delhi: Random House. 2010.
3) Steinbeck, John. *Of Mice and Men*, New York: Penguin, 1937.
4) Murthy, Anantha. *Samskara*, New Delhi: OPU, 2012.

Guidelines for Course Assessment:

I. **Continuous Assessment (CA): 10 Marks** (20% of the Maximum Marks)
Two Tests and One Assignment of 10 Marks each will be carried out throughout the course. Average marks scored in two tests and one assignment will be considered as a score in CA.

J. **End Semester Assessment (80% of the Maximum Marks): 40 Marks**
End Semester Examination Question paper will consist of 5 questions (each question for 10 marks)

Question No. 1 will be compulsory and shall be based on the entire syllabus.
The students are required to solve any 3 questions from the remaining four questions (Q. No. 2 to 5) each based on modules 1 to 4 in the syllabus respectively.

Paper Pattern for ESE:

Q.1	Write Short notes (4 out of 4). (Compulsory Question based on the entire syllabus)	10 marks
	(Attempt any 3 questions from Q. No. 2 to Q. No. 5)	
Q.2	Essay-type question on Module 1	10 marks
Q 3	Essay-type question on Module 2	10 marks
Q.4	Essay-type question on Module 3	10 marks
Q.5	Essay-type question on Module 4	10 marks

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3.0		Clauses	08
	3.1	Definition and Concept	
	3.2	Types of Clauses	
	3.3	Exercises	
4.0		Common Errors	06
	4.1	Errors in the Use of Articles and Prepositions	
	4.2	Subject-Verb Agreement	
	4.3	Exercises	
		Total	30

Prescribed Text:

Textbook by the university

Reference Books:

1. Dwivedi R.K. and A. Kumar, *Macmillan Foundation English*. Chennai: Macmillan India, 2001.
2. Wren and Martin, *High School English Grammar & Composition*, New Delhi: S Chand, 2010.
3. Thomson and Martinet, *Practical English Grammar*, New Delhi: OUP, 2007.
4. L S Deshpande and others, *Modern English Grammar: An Introduction*, Nanded: Creative Publications, 2007.
5. M P Bhatia, *Applied Grammar*, Agra: M I Publications. 2010.

Guidelines for Course Assessment:

K. **Continuous Assessment (CA): 10 Marks** (20% of the Maximum Marks)
Two Tests and One Assignment of 10 Marks each will be carried out throughout the course. Average marks scored in two tests and one assignment will be considered as a score in CA.

L. **End Semester Assessment (80% of the Maximum Marks): 40 Marks**
End Semester Examination Question paper will consist of 5 questions (each question for 10 marks)

Question No. 1 will be compulsory and shall be based on the entire syllabus.
The students are required to solve any 3 questions from the remaining four questions (Q. No. 2 to 5) each based on modules 1 to 4 in the syllabus respectively.

Paper Pattern for ESE:

Q.1	Write short notes on *any two* (out of 4) **Compulsory question**	10
	Solve any three questions (q.2 to q. 5)	
Q.2	Seen Passage will be given with five questions	10
Q.3	Seen passage will be given for one-third with a suitable title	10
Q.4	Five clauses will be given from the prescribed text for a combination	10
Q.5	Five sentences with common errors will be given for correction	10

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Tq.Mukhed Dist.Nanded

	3.1	Arms	
	3.2	Hands	
	3.3	Palms	
4.0		**The Language of Postures**	**07**
	4.1	Standing Positions	
	4.2	Sitting Positions	
	4.3	Walking Gestures	
		Total	**30**

Textbook:
Prescribed by the university
Reference Books:
Beattie, Geoffrey. *Rethinking Body Language,* New York: Routledge, 2016.
Fast, Julius. *Body Language,* New York: M. Evans, 2002.
Lewis Hedwig, *Body Language.* New Delhi: Sage, 2012.
Reiman, Tonya. *The Power of Body Language.* New York: Pocket Books, 2007.
Sonneborn, Liz. *Non-Verbal Communication: The Art of Body Language,* New York: Rosen, 2012.

Guidelines for Course Assessment:
M. **Continuous Assessment (CA): 10 Marks** (20% of the Maximum Marks)
Two Tests and One Assignment of 10 Marks each will be carried out throughout the course. Average marks scored in two tests and one assignment will be considered as a score in CA.
N. End Semester Assessment (80% of the Maximum Marks): 40 Marks
End Semester Examination Question paper will consist of 5 questions (each question for 10 marks)
Question No. 1 will be compulsory and shall be based on the entire syllabus.
The students are required to solve any 3 questions from the remaining four questions (Q. No. 2 to 5) each based on modules 1 to 4 in the syllabus respectively.

Paper Pattern for ESE:

Q.1	Write Short notes. (Compulsory Question based on the entire syllabus)	10 marks
	(Attempt any 3 questions from Q. No. 2 to Q. No. 5)	
Q.2	Essay-type question on Module 1	10 marks
Q 3	Essay-type question on Module 2	10 marks
Q.4	Essay-type question on Module 3	10 marks
Q.5	Essay-type question on Module 4	10 marks

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	2.1	Report Writing	
	2.3	Precis Writing	
3.0		**Writing for Career Building**	**07**
	3.1	Resume Writing	
	3.2	Job Application	
	3.3	E-mail Writing	
4.0		**Writing Mechanics for Meetings**	**07**
	4.1	Circulars and Notices	
	4.2	Memos	
	4.3	Agenda and Minutes	
		Total	**30**

Textbook: Prescribed by the university

Reference Books:

Gupta, Sanjay, and Amit Ganguly. *Written Communication in English,* New Delhi: SBPD Publication, 2021.

Kaul, Asha. *Effective Business Communication,* New Delhi: PHI Learning, 2015.

Sehgal, M. K., and Vandana Khetarpal. *Business Communication, I New Delhi: Excel Books, 2013.*

Sen, Leena. *Communication Skills,* New Delhi: PHI Learning, 2009.

Williams, Diana. *Writing Skills in Practice,* London: Jessica Kingsley, 1957.

Guidelines for Course Assessment:

O. **Continuous Assessment (CA): 10 Marks** (20% of the Maximum Marks)

Two Tests and One Assignment of 10 Marks each will be carried out throughout the course. Average marks scored in two tests and one assignment will be considered as a score in CA.

P. **End Semester Assessment (80% of the Maximum Marks): 40 Marks**

End Semester Examination Question paper will consist of 5 questions (each question for 10 marks)

Question No. 1 will be compulsory and shall be based on the entire syllabus.

The students are required to solve any 3 questions from the remaining four questions (Q. No. 2 to 5) each based on modules 1 to 4 in the syllabus respectively.

Paper Pattern for ESE:

Q.1	Write Short notes. (Compulsory Question based on the entire syllabus)	10 marks
	(Attempt any 3 questions from Q. No. 2 to Q. No. 5)	
Q.2	Question on Module 1	10 marks
Q 3	Question on Module 2	10 marks
Q.4	Question on Module 3	10 marks
Q.5	Question on Module 4	10 marks

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	1.3	A Wrong Man in Worker's Paradise by Rabindranath Tagore	
2.0	2	**Poetry**	08
	2.1	Stopping by Woods on a Snowy Evening by Robert Frost	
	2.1	Life by Charlotte Bronte	
	2.3	Ecology by A K Ramanujan	
3.0	3	**Grammar**	07
	3.1	Active and Passive Voice	
	3.2	Synthesis	
	3.3	Identification of Noun, Verb, Adjective and Adverb	
4.0	4	**Composition**	07
	4.1	Letter Writing	
	4.2	E-mail Writing	
	4.3	Idioms and phrasal Verbs	
		Total	30

Textbook:
Spectrum; A Textbook for College Students. Macmillan India, Chennai.

Guidelines for Course Assessment:

E. Continuous Assessment (CA): 10 Marks (20% of the Maximum Marks)
Two Tests and One Assignment of 10 Marks each will be carried out throughout the course. Average marks scored in two tests and one assignment will be considered as a score in CA.

F. End Semester Assessment (80% of the Maximum Marks): 40 Marks
End Semester Examination Question paper will consist of 5 questions (each question for 10 marks)
Question No. 1 will be compulsory and shall be based on the entire syllabus.
The students are required to solve any 3 questions from the remaining four questions (Q. No. 2 to 5) each based on modules 1 to 4 in the syllabus respectively.

Paper Pattern for ESE:

Q.1	Write Short notes. (Compulsory Question based on the entire syllabus)	10 marks
	(Attempt any 3 questions from Q. No. 2 to Q. No. 5)	
Q.2	Question on Module 1	10 marks
Q 3	Question on Module 2	10 marks
Q.4	10 Objective Questions on Module 3	10 marks
Q.5	Question on Module 4	10 marks

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SWAMI RAMANAND TEERTH
MARATHWADA UNIVERSITY, NANDED - 431 606

स्वामी रामानंद तीर्थ
मराठवाडा विद्यापीठ, नांदेड.

(Structure and Syllabus of Four Years Multidisciplinary Degree Program with Multiple Entry and Exit Option)

UNDERGRADUATE PROGRAMME OF HUMINATIES

Major in **DSC** Minor in **DSM MARATHI**

Under the Faculty of Humanities

Effective from Academic year 2024 – 2025
(As per NEP-2020)

Principal
Late Bhimrao Chavan Art's & Science College Chavanwadi(Barahali)
Ta.Mukhed Dist.Nanded

Forward by the Dean, Faculty of Humanities

From the Desk of the Dean :

To meet the challenge of ensuring excellence in undergraduate programme Humanities education, the issue of quality needs to be addressed, debated and taken forward in a systematic manner. Accreditation is the principal means of quality assurance in higher education. The major emphasis of accreditation process is to measure the outcomes of the program that is being accredited. In line with this Faculty of Humanities of Swami Ramanand Teerth Marathwada University Nanded has taken a lead in incorporating philosophy of outcome-based education in the process of curriculum development.

Faculty of Humanities , Swami Ramanand Teerth Marathwada University Nanded, in one of its meetings unanimously resolved that, each Board of Studies shall prepare some Program Educational Objectives (PEO's) and give freedom to affiliated Institutes to add few (PEO's) and course objectives and course outcomes tobe clearly defined for each course, so that all faculty members in affiliated colleges understand the depth and approach of course to be taught, which will enhance learner's learning process. It was also resolved that, maximum senior faculty from colleges and experts from industry to be involved while revising the curriculum. We are happy to state that, each Board of studies has adhered to the resolutions passed by Faculty of Humanities, and developed curriculum accordingly. In addition to outcome-based education, semester-based credit and grading system is also introduced to ensure quality of education.

Semester based Credit and grading system enables a much-required shift in focus from teacher-centric to learner-centric education since the workload estimated is based on the investment of time in learning and not in teaching. It also focuses on continuous evaluation which will enhance the quality of education. Swami Ramanand Teerth Marathwada University Nanded has taken a lead in implementing the system through its affiliated Institutes and Faculty of Technology has devised a transparent credit assignment policy and adopted ten points scale to grade learner's performance. Credit assignment for courses is based on 15 weeks teaching learning process, however content of courses is to be taught in 12-13 weeks and remaining 3-2 weeks to be utilized for revision, guest lectures, coverage of content beyond syllabus etc.

Credit and grading based system will be implemented for First Year of Humanities from the academic year 2023-20124. Subsequently this system will be carried forward for Second Year Humanities in the academic year 2024-2025, for Third Year and Final Year Humanities in the academic years 2025-2026and 2026-2027 respectively.

Dean, Faculty of Humanities,
Associate Dean, Faculty of Humanities
Swami Ramanand Teerth Marathwada University, Nanded

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Swami Ramanand Teerth Marathwada University, Nanded

Members of the Board of Studies in the subject of Marathi

under the faculty of Humanities

Sr No	Name of the Member	Design-ation	Address with mail id	Contact No.
1	डॉ. मा. मा. जाधव	अध्यक्ष	बहिर्जी स्मारक महाविद्यालय, वसमत akshargatha@gmail.com	9422874336
2	डॉ. पी. विठ्ठल	सदस्य	भाषा, वाङ्मय व संस्कृती संकुल, स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ नांदेड p.vitthal75@gmail.com	9850241332
3	डॉ. पृथ्वीराज तौर	सदस्य	भाषा, वाङ्मय व संस्कृती संकुल, स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ नांदेड pritviraj@srtmun.ac.in	9423274565
4	डॉ. संजय बालाघाटे	सदस्य	माधवराव पाटील महाविद्यालय, पालम balaghate.s@rediffmail.com	9960696667
5	डॉ. विश्वाधार देशमुख	सदस्य	यशवंत महाविद्यालय, नांदेड vishvadhard@gmail.com	9860240278
6	डॉ. सर्जेराव रणखांब	सदस्य	देगलूर महाविद्यालय, देगलूर sbrankhamb@gmail.com	9422533667
7	डॉ. कमलाकर चव्हाण	सदस्य	श्री योगानंद स्वामी महाविद्यालय, वसमत kamlakarchavan8@gmail.com	9421381350
8	डॉ. विजयकुमार ढोले	सदस्य	संजीवनी महाविद्यालय, चापोली ता. चाकूर जि. लातूर dholevijay77@gmail.com	9975471574
9	डॉ. कांत जाधव	सदस्य	पं. दीनदयाल उपाध्याय महाविद्यालय, देवणी, जि लातूर drkantjadhav@gmail.com	9850189989
10	डॉ. रणधीर शिंदे	सदस्य	मराठी विभाग, शिवाजी विद्यापीठ, कोल्हापूर randhirshinde76@gmail.com	9890913031
11	डॉ. माधव जाधव	सदस्य	नारायणराव वायमारे महाविद्यालय, आखाडा बाळापूर ता. कळमनुरी जि. हिंगोली mrjadhav1995@gmail.com	9423439991
12	डॉ. बालाजी पोतुलवार	सदस्य	मराठी विभाग, पीपल्स कॉलेज, नांदेड	9823444107
13	वैभव देशमुख	सदस्य	स्वीट लेन, वडगाव, पुणे	8668860129
14	मयुरी पांडुरंग शिंदे	सदस्य	शिवाजी कॉलेज, परभणी	8010255304
15	ज्योती शिवराम मोतीपवळे	सदस्य	महात्मा गांधी महाविद्यालय, अहमदपूर	7875028664

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2 (5.0)	III	HMARCT1201(4 Cr) HMARCT1202 (4 Cr) 8 Credits	HMARMT1201 2 Credits	---	HMARGE1201 (2 Cr) HMARGE1202 (2 Cr) 4 Credits	HMARSC 1201 2 Credits	AECENG1201(2Cr) AECMAR1201(2Cr) *(Hin, Mar, Kan, Pal, Urd, San, etc)* 4 Credits	CCCXXX1201 (NCC/NSS/Sports/ Culture/Health Wellness/ Yoga Education/Fitness) (2 Cr) HXXXFP1201 (2Cr) 4 Credits	22
	IV	HMARCT1251(4 Cr) HMARCT1252 (4 Cr) 8 Credits	HMARMT1251 2 Credits	---	HMARGE1251 (2 Cr) HMARGE1252 (2 Cr) 4 Credits	HMARVC1251 2 Credits	AECENG1251(2Cr) AECMAR1251(2Cr) *(Hin, Mar, Kan, Pal, Urd, San, etc)* VECEVS1251 (2Cr) *Environmental Studies* 6Credits	CCCXXX1251 (NCC/NSS/Sports/ Culture/Health Wellness/ Yoga Education/Fitness) (2 Cr)	22
	Cum. Cr.	24	12	08	08	6+2= 08	22	06	44
Exitoption: UG Diploma in Major DSC and Minor DSM on completion of 88 credits and additional 4 credits NSQF / Internship in DSC									
3 (5.5)	V	HMARCT1301 (4Cr) HMARCT1302 (4Cr) HMARCT1303 (4Cr) 12 Credits	HMARET1301 4 Credits	------	---	-----	HMARVC1301 4 Credits	-----	HMARFP1301 2 Credits	22
	VI	HMARCT1351 (4Cr) HMARCT1352 (4Cr) HMARCT1353 (2Cr) HMARIK1351 (2Cr) 12 Credits	HMARET1351 4 Credits	--	-----	---	HMARVC1351 2 Credits	-----	HMAROJ1351 4 Credits	22
	Cum. Cr.	48+8=56		12	08	08	6 + 8 =14	22	12	44
Exit option: Bachelor of Humanities with Major in DSC and Minor in DSM									

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Abbreviations:

1. **DSC :** Department/Discipline Specific Core (Major)
2. **DSE :** Department/Discipline Specific Elective (Major)
3. **DSM :** Discipline Specific Minor
4. **GE/OE :** Generic/Open Elective
5. **VSEC :** Vocational Skill and Skill Enhancement Course
6. **VSC :** Vocational Skill Courses
7. **SEC :** Skill Enhancement Courses
8. **AEC :** Ability Enhancement courses
9. **MIL :** Modern Indian languages
10. **IKS :** Indian Knowledge System
11. **VEC :** Value Education Courses
12. **OJT :** On Job Training: (Internship/Apprenticeship)
13. **FP :** Field Projects
14. **CEP :** Community Engagement and Service
15. **CC :** Co-Curricular Courses
16. **RM :** Research Methodology
17. **RP :** Research Project/Dissertation

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Swa:) Ramanand Teerth Marathwac)University, Nanded

Assigning Codes to the Courses Alphanumeric, Nine Character Coding AAAAA XXXX

1) First (A) Letter indicate Faculty: H – Humanities S- Science; C – Commerce, & Management, I - Interdisciplinary Studies and D –Distance / External mode .

2) Next Three Letters(XXX) indicates Subject (e.g. ECO – Economics, PHY – Physics, COM – Commerce, CMP – Computer Sci) etc.

3) Forth Letter indicate nature of the course : (e.g. C – Core, M – Minor, , E – Elective, P– Field Project, F – Field Work, O – On Job training, G- Generic /open Ele (Internship/Apprenticeship), I – Internship, CS – Case Study, V: Vocational Skill Courses, S: Skill Enhancement Courses, A: ,Ability Enhancement courses, M: Moder Indian languages, IKS: Indian Knowledge System,VEC: Value Education Courses, CC: Co-Curricular Courses/ Community Engagement and Service, R: Research Methodology. etc.)

4) Sixth Character or First Number indicate the Centre (1- for Affiliated colleges, 2 -Main Campus, 3- Latur sub- centre, 4- Parbhani sub-centre, 5 -Model Degree Col

5) Seventh Character or second number indicate -Year of Study.E.g.1 - First year,2- second year.etc.

6) Last Two Numbers indicate Course Number

e.g. **HECOC1101** – First Core Course in the First Semester of undergraduate programme in Economics under the Faculty of Humanities.

Sr. No	UG/PG	Semester	Affiliated Colleges	Main Campus	Model Degree College	Sub-center Latur	Sub-center Parbhani	Kinwat Sub-Centre
1	First Year	Semester I	1101 to 1150	2101 to 2150	3101 to 3150	4101 to 4150	5101 to 5150	6101 to 6150
2		Semester II	1151 to 1199	2151 to 2199	3151 to 3199	4151 to 4199	5151 to 5199	6151 to 6199
3	Second Year	Semester III	1201 to 1250	2201 to 2250	3201 to 3250	4201 to 4250	5201 to 5250	6201 to 6250
4		Semester IV	1251 to 1299	251 to 2299	3251 to 3299	4251 to 4299	5251 to 5299	6251 to 6299
5	Third Year	Semester V	1301 to 1350	2301 to 2350	3301 to 3350	4301 to 4350	5301 to 5350	6301 to 6350
6		Semester VI	1351 to 1399	2351 to 2399	3351 to 3399	4351 to 4399	5351 to 5399	6351 to 6399
7	Fourth Year	Semester VII	1401 to 1450	2401 to 2450	3401 to 3450	4401 to 4450	5401 to 5450	6401 to 6450
8		Semester VIII	1451 to 1499	2451 to 2499	3451 to 3499	4451 to 4499	5451 to 5499	6451 to 6499
9	Fifth Year	Semester IX	1501 to 1550	2501 to 2550	3501 to 3550	4501 to 4550	5501 to 5550	6501 to 6550
10		Semester X	1551 to 1599	2551 to 2599	3551 to 3599	4551 to 4599	5551 to 5599	6551 to 6599

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Basket 3: Generic/Open Elective course (GE)

Each BOS will suggest Generic Elective Courses (minimum one and maximum four) for semester I and II

		CODE	Title of the Corse
Sem I	BOS in Marathi	HMARGE-1101	स्पर्धा परीक्षा : मराठी भाषा आणि व्याकरण
Sem II	BOS in Marathi	HMARGE-1151	माध्यमातील रोजगार संधी आणि मराठी भाषा

Note : *GE is to be chosen compulsory from faculty other than that of the Major.*

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Faculty of Humanities

Basket 5 : Indian Knowledge System *(02 Credits)*

(Each BOS will suggest minimum one paper with curriculum of Indian Knowledge System for semester I)

Semester	Details of Elective Course (s)	
	CODE	**Title of the Corse**
Semester I	**HIKSXXX-1101**	

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities. **Major in Marathi**

Under Graduate First Year Programme ,Semester I *(Level 4.5)*

Teaching Scheme

	Course Code	Course Name	Credits Assigned			Teaching Scheme (Hrs./ week 1 Hrs.=60 M.)	
			Theory	Practical	Total	Theory	Practical
Optional 1, 2, 3	HMARCT-1101	वाङ्मयप्रकाराचा अभ्यास: कथा आणि प्रवासवर्णन	2+2+2		**06**	06	
	HMARCT-1102	आधुनिक मराठी कविता	2+2+2		**06**	06	
Generic Electives	HMARGE-1101	स्पर्धा परीक्षा : मराठी भाषा आणि व्याकरण	02		**02**	02	
Vocational & Skill Enhancement Course	HMARSC-1101	भाषाकौशल्य : संवाद	02		**02**	02	
Ability Enhancement Course /Languages	AECMAR-1101	गद्य, पद्य व उपयोजित मराठी	02		**02**	02	
Ability Enhancement Course /Languages	AECENG-1101	–	02		**02**	02	
Indian Knowledge system (IKS)	IKSXXX-1101	Select from Basket 5	02		**02**	02	
Total Credits			**22**		**22**	**22**	

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities Major in Marathi

Under Graduate First Year Programme, Semester I *(Level 4.5)*

Examination Scheme

[20% Continuous Assessment (*CA*) and 80% End Semester Examination (*ESE*)]

Subject (1)	Course Code (2)	Course Name (3)	Theory					Total Col. (6+7) / (09)
			Continuous Assessment (CA)				ESE	
			Test I (4)	Test II (5)	Assignment (6)	Avg of T1+T2+Assi. /3 (7)	Total (8)	
Optional 1, 2, 3	HMARCT-1101	वाङ्मयप्रकाराचा अभ्यासः कथा आणि प्रवासवर्णन	10	10	10	10	40	50
	HMARCT-1102	आधुनिक मराठी कविता	10	10	10	10	40	50
Generic Electives	HMARGE-1101	स्पर्धा परीक्षा : मराठी भाषा आणि व्याकरण	10	10	10	10	40	50
Vocational & Skill Enhancement Course	HMARSC-1101	भाषाकौशल्य : संवाद	10	10	10	10	40	50
Ability Enhancement Course /Languages	AECMAR-1101 .	गद्य, पद्य व उपयोजित मराठी	10	10	10	10	40	50
Ability Enhancement Course /Languages	AECENG-1101	-	10	10	10	10	40	50
Indian Knowledge System (IKS)	IKSXXX-1101		10	10	10	10	40	50
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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities. **Major in Marathi**

Under Graduate First Year Programme, Semester I

Course Structure : Optional 1, 2, 3 - *Teaching Scheme*

(for 2 credits)

Course Code	Course Name (Paper Title)	Teaching Scheme (Hrs.)		Credits Assigned		
		Theory	CA	Theory	CA	Total
HMARCT 1101	वाङ्मयप्रकाराचा अभ्यासः कथा आणि प्रवासवर्णन	30	---	02	---	02

(for 2 credits)

Course Code	Course Name (Paper Title)	Teaching Scheme (Hrs.)		Credits Assigned		
		Theory	CA	Theory	CA	Total
HMARGE 1151	माध्यमातील रोजगार संधी आणि मराठी भाषा	30	---	02	--	02

Optional 1, 2, 3 - *Assessment Scheme*

Course Code (2)	Course Name (3)	Theory					Total [Col (7+8)
		CA				ESE (8)	
		Test I (4)	Test II (5)	Assignment (6)	Avg of T1+T2+Assi. /3 (7)		
HMARCT-1151	वाङ्मयप्रकाराचा अभ्यासः ललित व चरित्र	10	10	10	10	40	50

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Faculty of Humanities Major in Marathi – Sem I

Paper Code : HMARGE 1101 , Title: स्पर्धा परीक्षा : मराठी भाषा आणि व्याकरण

Curriculum Details: (for 2 Credits)

Module No.	Unit No.	Topic	Hrs. Required to cover the contents 1 Hrs.=60 M.
1.0		स्पर्धा परीक्षेचे स्वरूप	08
	1.1	विविध क्षेत्रातील संधी	
2.0		स्पर्धा परीक्षा आणि मराठी व्याकरण	08
	2.1	शब्दांच्या जाती	
	2.2	समास	
	2.3	प्रयोग	
	2.4	विभक्ती	
	2.5	विरामचिन्हे	
3.0		स्पर्धा परीक्षा आणि मराठी लेखन	07
	3.1	सारांश लेखन	
	3.2	निबंध लेखन	
	3.3	परिपाठ व शब्दसंग्रह	
	3.4	उतारा आकलन	
	3.5	म्हणी व वाक्प्रचार	
4.0		अनुवाद	07
	4.1	मराठीचा इंग्रजी अनुवाद	
	4.2	इंग्रजीचा मराठी अनुवाद	
		Total	30

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Faculty of Humanities Major in Marathi Sem I

Paper Code : HMARSC-1101, Title : भाषाकौशल्य : संवाद

Curriculum Details: (for 2 Credits)

Module No.	Unit No.	Topic	Hrs. Required to cover the contents 1 Hrs.=60 M.
1.0		संवाद	08
	1.1	संकल्पना, स्वरूप	
	1.2	संवादाचे प्रकार	
2.0		प्रभावी संवादाचे घटक	08
	2.1	अचूक शब्द निवड	
	2.2	भाषेचा प्रवाहीपणा	
	2.3	बोली आणि देहबोली	
3.0		संवाद आणि भाषा	07
	3.1	उच्चारण प्रभुत्व	
	3.2	भाषिक समृद्धता	
4.0		संवाद आणि व्यक्तिमत्त्व विकास	07
	4.1	आत्मविश्वास	
	4.2	विविध माध्यमातून संवाद	
	4.3	संवादाची व्यावहारिक उपयुक्तता	
		Total	30

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Faculty of Humanities Major in Marathi Sem II

Paper Code : : AECMAR-1151, Title : गद्य, पद्य व उपयोजित मराठी

Curriculum Details : (for 2 Credits)

Module No.	Unit No.	Topic	Hrs. Required to cover the contents 1 Hrs.=60 M.
1.0		गद्य पद्य व उपयोजित मराठी	5
	1.1	गद्य पद्याचे स्वरूप	
	1.2	उपयोजित मराठी - स्वरूप	
2.0		गद्य	10
	2.1	काळ्या तोंडाची - व्यंकटेश माडगूळकर	
	2.2	स्त्री-पुरुष तुलना (संपादित अंश) - ताराबाई शिंदे	
	2.3	भुरा (संपादित अंश) - शरद बावीस्कर	
	2.4	महाराजा सयाजीराव गायकवाड (संपादित अंश) - बाबा भांड	
3.0		पद्य	8
	3.1	अंदाज आरशाचा - इलाही जमादार	
	3.2	युगायुगाची गुलामी चाल - दिनकर साळवे	
	3.3	उंबरा ओलांडणाऱ्या बायका - अजय कांडर	
	3.4	धुसर झालं नसतं गाव - रवी कोरडे	
4.0		उपयोजित मराठी	7
	4.1	कार्यालयीन पत्रलेखन	
	4.2	इतिवृत्त लेखन	
		Total	30

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities, **Major in Marathi Sem I**

Paper Code : HMARCT-1101, Title : वाङ्मय प्रकाराचा अभ्यास : कथा व प्रवासवर्णन

Curriculum Details: (for 2 Credits)

IoduleNo.	UnitNo.	Name of Topic	Hrs. Required to cover the contents 1 Hrs.=60 M.
१.०		कथावाङ्मय –	05
	१.१	संकल्पना, स्वरूप, घटक, प्रकार	
२.०		कथा	10
	२.१	माझे दत्तक वडील – चिं.वि. जोशी	
	२.२	अमोद सुनाशी आले – दि.बा. मोकाशी	
	२.३	शाळा – जयंत पवार	
	२.४	माहेर – गणेश आवटे	
३.०		प्रवासवर्णन	05
	३.१	संकल्पना, स्वरूप, घटक	
४.०		प्रवासवर्णन – पाठ्यघटक	10
	४.१	माझा रशियाचा प्रवास (संपादित अंश) – अण्णा भाऊ साठे	
	४.२	कुणा एकाची भ्रमणगाथा (संपादित अंश)– गो. नी. दांडेकर	
	४.३	बदलता भारत (संपादित अंश) – भानू काळे	
	४.४	शोधयात्रा ईशान्य भारताची (संपादित अंश) – राजा शिरगुप्पे	
		Total	**30**

या अभ्यास पत्रिकेसाठी संपादित पुस्तक नेमण्यात आले आहे.

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Faculty of Humanities, Major in Marathi

Paper Code HMARCT 1102 : Title : आधुनिक मराठी कविता

Curriculum Details: (for 2 Credits)

Module No.	UnitNo.	Name of Topic	Hrs. Required to cover the contents 1 Hrs.=60 M.
१.०		आधुनिक मराठी कविता	6
	१.१	स्वरूप	
	१.२	कवितेचे प्रकार	
२.०			8
	२.१	सत्य सर्वांचे आदी घर – महात्मा फुले	
	२.२	पाखरा येशील कधी परतून – रे. ना.वा. टिळक	
	२.३	माझी कन्या – कवी बी	
	२.४	माझी मराठी – माधव ज्युलियन	
	२.५	भंगू दे काठिण्य माझे – बा.सी. मर्ढेकर	
३.०			8
	३.१	स्वप्नांची समाप्ती – कुसुमाग्रज	
	३.२	कार्ल मार्क्स – नारायण सुर्वे	
	३.३	अक्षरे चुरगाळिता – ना.धों. महानोर	
	३.४	निरालय – खलील मोमीन	
	३.५	बेभरवशाचे जगणे – जगदीश कदम	
४.०			8
	४.१	गोधड – वाहरू सोनवणे	
	४.२	एक समूह – उत्तम कांबळे	
	४.३	शिल्पकार – प्रकाश मोगले	
	४.४	मुंग्याचे हरवत नाहीत आत्मसूर – वृषाली किन्हाळकर	
	४.५	टीव्हीवर सिनमा चालू होता – दिशा पिंकी शेख	
		Total	**30**

या अभ्यास पत्रिकेसाठी संपादित पुस्तक नेमण्यात आले आहे.

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Faculty of Humanities Major in Marathi Sem II

Paper Code : HMARGE 1151, Title : माध्यमातील रोजगार संधी आणि मराठी भाषा

Curriculum Details: (for 2 Credits)

Module No.	Unit No.	Topic	Hrs. Required to cover the contents 1 Hrs.=60 M.
1		माध्यमांचे स्वरूप व प्रकार	8
	1.1	मुद्रित माध्यमे	
	1.2	आकाशवाणी	
	1.3	दूरचित्रवाणी	
	1.4	समाजमाध्यमे	
2		मुद्रित माध्यमातील रोजगार संधी	8
	2.1	बातमीलेखन	
	2.2	जाहिरातलेखन	
3		आकाशवाणीवरील रोजगार संधी	7
	3.1	निवेदन / आर. जे. (रेडिओ जॉकी)	
	3.3	जाहिरातलेखन	
4		दूरचित्रवाणी, समाजमाध्यमातील रोजगार संधी	7
	4.1	बातमीलेखन	
	4.2	जाहिरातलेखन	
		Total	30

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Faculty of Humanities Major in Marathi Sem II

Paper Code : HMARSC-1151, Title : भाषाकौशल्य:लेखन

Curriculum Details: (for 2 Credits)

IoduleNo.	UnitNo.	Topic	Hrs. Required to cover the contents 1 Hrs.=60 M.
१.०		लेखनप्रक्रिया	7
	१.१	लेखनाची गरज	
	१.२	लेखनाचे महत्त्व	
	१.३	लेखनातील अडथळे	
	१.४	अडथळे दूर करण्याचे उपाय	
२.०		लेखनासाठीची आवश्यक कौशल्ये	8
	२.१	गती	
	२.२	सुलेखन	
	२.३	शब्दसंग्रह	
	२.४	शुद्धता	
	२.५	योग्य शब्दांचा वापर	
	२.६	शब्दांचे योग्य स्थान	
३.०		लेखनाचे घटक	7
	३.१	मांडणी	
	३.२	अनुक्रम	
	३.३	तर्कसंगती	
	३.४	भाषाविष्कार	
	३.५	लेखनसमीक्षा	
४.०		लेखनाचे प्रकार	8
	४.१	अनुलेखन	
	४.२	श्रुतलेखन	
	४.३	दृकलेखन	
	४.४	गती लेखन	
	४.५	अभिव्यक्तलेखन	
		Total	30

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Faculty of Humanities, Major in Marathi Sem II

Paper Code : AECMAR-1151 , Title : मराठी साहित्य आणि व्यावहारिक मराठी.

Curriculum Details: (for 2 Credits)

Module No.	Unit No.	Name of Topic	Hrs. Required to cover the contents 1 Hrs.=60 M.
1.0		मराठी साहित्य	5
	1.1	स्वरूप	
	1.2	प्रकार	
	1.3	व्यावहारिक मराठी लेखन	
2.0		मराठी साहित्य (गद्याविष्कार)	8
	2.1	नाटक- वाटा पळवाटा -(संपादित अंश) दत्ता भगत	
	2.2	प्रवासवर्णन- रोम राज्य (संपादित अंश)- मीना प्रभू	
	2.3	अनुवाद -पत्र- पं. नेहरूंनी इंदिरा गांधी यांना लिहिलेले पत्र	
3.0		मराठी साहित्य काव्याविष्कार	8
	3.1	गीत -तुफानातील दिवे -वामनदादा कर्डक	
	3.2	हायकू- प्रभाकर साळेगावकर	
	3.3	विडंबन -झेंडूची फुले -केशवकुमार	
4.0		व्यावहारिक मराठी	9
	4.1	बातमी लेखन	
	4.2	जाहिरात लेखन	
		Total	**30**

या अभ्यास पत्रिकेसाठी संपादित पुस्तक नेमण्यात आले आहे.

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Faculty of Humanities, Major in Marathi Sem II

Paper Code : HMARCT 1151 , Title : वाङ्मयप्रकारांचा अभ्यास : ललित व चरित्र

Curriculum Details: (for 2 Credits)

Module No.	Unit No.	Name of Topic	Hrs. Required to cover the contents 1 Hrs.=60 M.
1.0		ललित गद्य वाङ्मय	5
	1.1	संकल्पना	
	1.2	स्वरूप , विशेष	
2. 0		ललित -	10
	2.1	बॉयफ्रेंड - इरावती कर्वे	
	2.2	मृत्यूच्या प्रदेशात - डॉ.नागनाथ कोत्तापल्ले	
	2.3	डिस्कनेक्ट होण्याच्या काळात - नीरजा	
	2.4	आभाळा एवढा छत्रपती - लक्ष्मण माने	
3.0		चरित्र वाङ्मय	5
	3.1	संकल्पना	
	3.2	स्वरूप	
4.0		चरित्र	10
	4.1	सर्वोत्तम भूमिपुत्र गोतम बुद्ध (संपादित अंश) - आ.ह.साळुंखे	
	4.2	संत गाडगेबाबा (संपादित अंश) - प्रबोधनकार ठाकरे	
	4.3	पंजाबराव देशमुख (संपादित अंश) - कल्पना देशमुख	
	4.4	यशवंतराव चव्हाण (संपादित अंश) - रामभाऊ जोशी	
		Total	30

या अभ्यास पत्रिकेसाठी संपादीत पुस्तक नेमण्यात आले आहे.

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Faculty of Humanities, Major in Marathi Sem II

Paper Code : HMARCT 1152, Title : मध्ययुगीन मराठी साहित्य

Curriculum Details : (for 2 Credits)

Module No.	Unit No.	Name of Topic	Hrs. Required to cover the contents 1 Hrs.=60 M.
1.0		मध्ययुगीन साहित्य	05
	1.1	प्रेरणा	
	1.2	स्वरूप	
2. 0		गद्य	10
	2.1	गुरवाची लीळा - म्हाइंभट्ट	
	2.2	कठियाचा दृष्टांत - केशिराज बास	
	2.3	सर्जेराव जेधे यांना पत्र - छत्रपती संभाजी महाराज	
	2.4	सभासदाची बखर (संपादित अंश) - कृष्णाजी अनंत सभासद	
	2.5	अर्जदास्त - संत एकनाथ	
3.0		पद्य	10
	3.1	नाचू कीर्तनाचे रंगी - संत नामदेव	
	3.2	तुमच्या संगतीचे काय सुख आम्हा - संत कर्ममेळा	
	3.3	स्त्री जन्म म्हणोनी न व्हावे उदास - संत जनाबाई	
	3.4	संत तोचि जाणा जगी - संत मुक्ताबाई	
	3.5	ओले मूळ भेदी - संत तुकाराम	
	3.6	श्रोत्याला आर्दास - शेख महंमद	
	3.7	अहो दीपकी पतंग - संत मन्मथ स्वामी	
4.0		पंडिती व शाहिरी काव्य	5
	4.1	शैल्य म्हणे राधेय (आर्या) - मोरोपंत	
	4.2	कुठवर पाहू वाट सख्याची (लावणी) - सगनभाऊ	
		Total	30

या अभ्यास पत्रिकेसाठी संपादित पुस्तक नेमण्यात आले आहे.

Head
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Tq.Mukhed Dist.Nanded

॥ सा विद्या या विमुक्तये ॥

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

'ज्ञानतीर्थ', विष्णुपुरी, नांदेड - ४३१ ६०६ (महाराष्ट्र राज्य) भारत

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

'Dnyanteerth', Vishnupuri, Nanded - 431 606 (Maharashtra State) INDIA

Established on 17th September, 1994, Recognized By the UGC U/s 2(f) and 12(B), NAAC Re-accredited with 'B++' grade

Fax : (02462) 215572

Phone: (02462)215542

Academic-1 (BOS) Section

website: srtmun.ac.

E-mail: bos@srtmun.ac.

मानवविज्ञान विद्याशाखे अंतर्गत राष्ट्रीय शैक्षणिक धोरण २०२० नुसार पदवी प्रथम वर्षाचे अभ्यासक्रम (Syllabus) शैक्षणिक वर्ष २०२४–२५ पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, या विद्यापीठा अंतर्गत येणा–या सर्व संलग्नित महाविद्यालयामध्ये शैक्षणिक वर्ष २०२४–२५ पासून पदवीस्तरावर राष्ट्रीय शैक्षणिक धोरण –२०२० लागू करण्याच्या दृष्टीकोनातून मानवविज्ञान विद्याशाखे अंतर्गत येणा–या अभ्यासमंडळांनी तयार केलेल्या पदवी प्रथम वर्षाचे अभ्यासक्रमांना मा. विद्यापरिषदेने दिनांक १५ मे २०२४ रोजी संपन्न झालेल्या बैठकीतील विषय क्रमांक १६/५९–२०२४ च्या ठरावाअन्वये मान्यता प्रदान केली आहे. त्यानुसार मानवविज्ञान विद्याशाखेतील खालील बी. ए. प्रथम वर्षाचे अभ्यासक्रम (Syllabus) लागू करण्यात येत आहेत.

1) B. A. I year English
2) B. A. I year – History
3) B. A. I year – Economics
4) B. A. I year –Sociology
5) B. A. I year – Public Administration
6) B. A. I year – Geography and Applied Geography
7) B. A. I year – Pali
8) B. A. I year – Sanskrit
9) B. A. I year – Philosophy
10) B. A. I year – Military Science
11) B. A. I year – NCC
12) B. A. I year – Political Science
13) B. A. I year – History (NMD College Hingoli)
14) B. Sc. I year – Political Science (NMD College Hingoli)
15) B. Sc. I year – Economics (NMD College Hingoli)

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी, ही विनंती.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.:शै–१/एनइपी/विवऋविपदवी/२०२४–२५/१०६
दिनांक १०.०६.२०२४

डॉ. सरिता लोमटवार
सहा.कुलसचिव
शैक्षणिक (१–अभ्यासमंडळ) विभाग

प्रत : १) मा. आधिष्ठाता, मानवविज्ञान विद्याशाखा, प्रस्तुत विद्यापीठ.
२) मा. संचालक, परीक्षा व मुल्यमापन मंडळ, प्रस्तुत विद्यापीठ.
३) मा. प्राचार्य, सर्व संबधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) मा. संचालक, सर्व संकुले परिसर व उपपरिसर, प्रस्तुत विद्यापीठ
५) मा. प्राचार्य, न्यू मॉडल डिग्री कॉलेज हिंगोली.
६) सिस्टीम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ. याना देवून कळविण्यात येते की, सदर परिपत्रक संकेतस्थळावर प्रसिध्द करण्यात यावे.

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Dist.Nanded

Forward by the Dean, Faculty of Humanities…….

National Education Policy 2020 has been announced on 29.07.2020. NEP 2020 proposes a new and forward-looking vision for India's Higher Education System through quality universities and colleges. Its key is in the curriculum and its practical implementation.

The curriculum must be exciting, relevant, and regularly updated to align with the latest knowledge requirements and meet specified learning outcomes. High-quality pedagogy is necessary to impart the curricular material to students successfully; pedagogical practices determine the learning experiences provided to students, thus directly influencing learning outcomes. The assessment methods must be scientific, designed to improve learning continuously test the knowledge application.

The university's proper framing and development of syllabi will result in the upbringing and nourishment of multidisciplinary and holistic citizens. Emphasis is on outcome-based learning. Every course has well-defined objectives and outcomes. The assessment guidelines also provide clarity and precision to the vision behind prescribing the particular course content.

NEP foresees more vibrant, socially engaged, cooperative communities and a happier, cohesive, cultured, productive, innovative, progressive, and prosperous nation. The introduction of Research Methodology and ethics will widen the vision and broaden the perspectives of the learners.

Introducing Case Studies and Field Projects has created a unique opportunity for the higher education institute to bridge the gap between the academia, industry and the community NEP believes effective learning requires a comprehensive approach that involves an appropriate curriculum, engaging pedagogy, continuous formative assessment, and adequate student support.

We are sure that the Graduate centres of this university and its affiliated colleges will implement the course effectively and successfully, resulting in a healthy and more creative academic ambience.

Dr. Parag Khadke,
Dean, Faculty of Humanities,
Swami Ramanand Teerth Marathwada University, Nanded.

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Swami Ramanand Teerth Marathwada University, Nanded

Members of the Board of Studies in the subject of PHIOSOPHLY

Under the faculty of Humanities

Sr. No	Name Of The Member	Designation	Address With Mail Id	Contact No.
1	Dr.Shital Yerule	Chairman	M.B.College.Latur. shital.yerule@gmail.Com	7276891503
2	Dr.Sachin Khokale	Member	Sant Janabai College,Gangakhed. sbkhokale11@gmail.Com	9403240345 7057239154
3	Dr.Upade Gyandev Marutirao.	Member	B. Raghunath College, Parbhani. gmupade20@gmail.Com	7030729623
4	Dr.Kirtankar Prabhakar Ramling	Member	S.S.S.P.College.Purna kirtankarpr@gmail.Com	9011943848
5	Dr. Sunil Salunke	Invitee Member	Dayanand College of Atrs,Latur salunkesv@gmail.Com	8459822946
6	Dr.Sanjay Patil	Invitee Member	Degalur College, Degalur.	7030888478
7	Dr.Monalisa Khanorkar	Invitee Member	S.S.C.M.Latur. monalisarkawathe5@Gmail.Com	9552598278
8	Ku. Harke Rahini Shivling	PG Student	M.S.College. Latur. raginiharke@gmail.com	8767106137
9	Ku. Borudkar sunita babu	PG Student	S.S.K.M.Latur	9860366001

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	Cum.Cr.	08	08	08	04	04	12	00	44	44
Exit option: **UG Certificate in Opt 1, Opt 2 and Opt 3 on completion of 44 credits** and additional **4 credits from NSQF / Internship**										

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities. Major in PHIOSOPHY

Basket 1: Major/ Minor (Optional) course for Semester I and II (C): Each of 02 Credits

Semester	BOS proposing Minor (e,g)	Details of Major/Minor Course (M)	
		CODE	Title of the Corse
Semester I	1. BOS in Philosophy	HPHICT1101	Ethics – I
		HPHICT1102	General And Social Psychology - II
Semester II	2. BOS in Philosophy	HPHICT1151	Applied Ethics – III
		HPHICT1152	Introduction To Philosophy IV

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities. **Major in PHIOSOPHY (Subject)-----**

Under Graduate First Year Programme ,Semester I *(Level 4.5)*

Teaching Scheme

	Course Code	Course Name	Credits Assigned			Teaching Scheme (Hrs./ week 1 Hrs.=60 M.)	
			Theory	Practical	Total	Theory	Practical
Optional 1,2,3	HPHICT1101	Ethics – I	02+02+02		06	06	
	HPHICT1102	General And Social Psychology - I	02+02+02		06	06	
Generic Electives	HPHIGE1101	Ethics For Competitive Exams –I	02		02	02	
Vocational & Skill Enhancement Course	HPHISC1101	Practical Ethics-I	02		02	02	
Ability Enhancement Course /Languages	AECENG1101	Compulsory English	02		02	02	
Ability Enhancement Course /Languages(MIL)	AECMIL1101	1.2 MIL	02		02	02	
Indian Knowledge System (IKS)	IKSXXX1101	Select from Basket 5	02		02	02	
Total Credits			20	02	22	20	02

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities Major in PHIOSOPHY

Under Graduate First Year Programme, Semester I *(Level 4.5*

Examination Scheme

[20% Continuous Assessment (*CA)* and 80% End Semester Examination (*ESE*)]

Subject (1)	Course Code (2)	Course Name (3)	Theory					Total Col. (6+7) / (09)
			Continuous Assessment (CA)				ESE	
			Test I (4)	Test II (5)	Assignment (6)	Avg of T1+T2+Assi. /3 (7)	Total (8)	
Optional 1,2,3	HPHICT1101	Ethics – I	10	10	10	10	40	50
	HPHICT1102	General And Social psychology – II	10	10	10	10	40	50
Generic Electives	HPHIGE1101	Ethics For Competitive Exams –I	10	10	10	10	40	50
Vocational & Skill Enhancement Course	HPHISC1101	Practical Ethics-I	10	10	10	10	40	50
Ability Enhancement Course /Languages	AECENG1101	Compulsory English	10	10	10	10	40	50
Ability Enhancement Course /Languages (MIL)	AECMIL101	MIL	10	10	10	10	40	50
Indian Knowledge System (IKS)	IKSXXX1101	Select from **Basket 5**	10	10	10	10	40	50

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities. **Major in PHIOSOPHY (DSC)**

Under Graduate First Year Programme, Semester I

Course Structure: *Optional 1,2,3 - Teaching Scheme*

(for 2 credits)

Course Code	Course Name (Paper Title)	Teaching Scheme (Hrs.)		Credits Assigned		
		Theory	CA	Theory	CA	Total
HPHICT1101	Ethics – I	30	---	2	---	02
HPHICT1102	General And Social Psychology - II	30	---	2	---	02
Course Code	**Course Name (Paper Title)**	**Teaching Scheme (Hrs.)**		**Credits Assigned**		
		Theory	**CA**	**Theory**	**CA**	**Total**
HPHIGE1101	**Ethics For Competitive Exams –I**	**30**	**---**	**02**	**--**	**02**
HPHISC1101	**Practical Ethics-I**	**30**	**--**	**02**	**--**	02

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Generic Elective(GE) – *II (Assessment Scheme)*

Course Code (2)	Course Name (3)	Theory					Total [Col (7+8)
		CA				ESE (8)	
		Test I (4)	Test II (5)	Assignment (6)	Avg of T1+T2+Assi. /3 (7)		
HPHIGE1101	Ethics For Competitive Exams –I	10	10	10	10	40	50
HPHIGE1151	Ethics For Competitive Exams –II	10	10	10	10	40	50

Vocational And Skill Enhancement Course – II (Assessment Scheme)

Course Code (2)	Course Name (3)	Theory					Total [Col (7+8)
		CA				ESE (8)	
		Test I (4)	Test II (5)	Assignment (6)	Avg of T1+T2+Assi. /3 (7)		
HPHISC1101	Practical Ethics-I	10	10	10	10	40	50
HPHISC1151	Business Ethics-II	10	10	10	10	40	50

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Abbreviations:

1. **DSC:** Department/Discipline Specific Core (Major)
2. **DSE:** Department/Discipline Specific Elective (Major)
3. **DSM:** Discipline Specific Minor
4. **GE/OE:** Generic/Open Elective
5. **VSEC:** Vocational Skill and Skill Enhancement Course
6. **VSC:** Vocational Skill Courses
7. **SEC:** Skill Enhancement Courses
8. **AEC:** Ability Enhancement courses
9. **MIL:** Modern Indian languages
10. **IKS:** Indian Knowledge System
11. **VEC:** Value Education Courses
12. **OJT:** On Job Training: (Internship/Apprenticeship)
13. **FP:** Field Projects
14. **CEP:** Community Engagement and Service
15. **CC:** Co-Curricular Courses
16. **RM:** Research Methodology
17. **RP:** Research Project/Dissertation

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Swami Ramanand Teerth Marathwada University,Nanded.

Faculty of Humanities, Major in PHILOSOPHY (DSC)

Paper Code: HPHICT1101,Title Ethics :- I (*Major/ Minor)*

Curriculum Details: (for 2 Credits)

ModuleNo.	UnitNo.	NameofTopic	HrsRequiredtoc over thecontents1 Hrs.=60M.
1.0		**Introduction of Ethics**	
	1.1	Definition and Nature of Ethics:	
	1.2	Scope and importance of Ethics	08
	1.3	Basic moral concepts :Good ,Right	
2.0		**Teleological Theories**	
	2.1	Egoistic Hedonism- Carvaka	
	2.2	Utilitarianism: Jeremy Bentham	08
	2.3	Utilitarianism :J.S.Mill	
3.0		**Deontological Theories**	
	3.1	Kant's Good Will	
	3.2	Doctrine of categorical Imperatives	07
	3.3	Nishkama Karmayoga	
4.0		**Theories of punishment**	
	4.1	Preventive Theory	
	4.2	Retributive Theory	07
	4.3	Reformative Theory	
		Total	30.

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities. **Major in Philosophy**

Under Graduate First Year Programme, Semester - I

Paper Code : HPHICT1102 , Title: General And Social Psychology - II

(*Major/ Minor*)

Curriculum Details

Course pre-requisite:

1) Any HSC Passed Students.

2) Any Students who is Eligible to enter at level 4.5

Course Objectives:

1. To introduce and acquaint students with Psychological theories
2. To acquire a basic understanding of the main psychological ideas and questions.
3. To enhance students' ability to critically reflect, analyze and evaluate psychological arguments.

Course outcomes:

1. It will familiarize students with psychological concepts which will help them to develop the attitude of human life.
2. It will develop a thinking framework within students.
3. It will encourage students to appreciate the relevance of ethics and its importance in a human life.

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Tq.Mukhed Dist.Nanded

References Books:-

(1) Nature and scope of psychology, Stimulus organism mechanism, uses of Psychology. response

(2) Motives. Its meaning, Nature and types, Conflict of motives, Defense mechanism.

(3) Attention: Definition and characteristics, Subjective and objective factors of attention, Kinds of attention.

(4) Learning Methods of learning Trial and error method, conditional response and learning by insight. Books for reading and references:

English:- (1) General Psychology: J.P. Guilford.

(2) General Psychology: Woodworth Marquise.

(4) General and Social Psychology: Tauless. Psychology: The fundamentals of Human adjustment-N.L. MUNN. Foundation of Psychology: Boring, Langfeld Wedt.

Marathi :-

(6) सामान्य मानसशास्त्र देशपांडे / परुळेकर,

(7) सामान्य मानसशास्त्राची मूलतत्त्वे र.चि. पंडीत.

(8) मानसशास्त्रातील त्रिमूर्ती आशा परुळेकर,

(9) सिग्मंड फ्राईड ल.ब. हरोलीकर.

(10) सामान्य मानसशास्त्राची मुलतत्त्वे हरोलीकर व कोतूरकर,

(11) सुगम मानसशास्त्र बोरुडे व देशपांडे.

(12) सामान्य मानसशास्त्र - मु.च. शारंगपाणी.

(13) सामान्य मानसशास्वची मुलतत्त्वे अकोलकर व गोगटे.

Hindi :-

(14) मनोविज्ञान का संक्षिप्त इतिहास अजीमुर्रहमान.

(15) मनोविज्ञान प्रयोग एवं परीक्षण अजीमुर्रहमान.

(16) सिग्मंड फ्राईड और मनो विश्लेषण पदमा कुमारी.

(17) फ्राईड : मनोविश्लेषण देवेद्रकुमार वेदालंकार, (18) मनोविज्ञान का इतिहास डॉ. रामनाथ शर्मा

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Swami Ramanand Teerth Marathwada University, Nanded.

*Faculty of Humanitie s*Major in PHILOSOPHY Sem I (DSC)

Paper Code: HPHIGE1101,Title:-Ethics for Competitive Exam:- I *(GE)*

sCurriculum Details:(for2Credits)

ModuleNo.	UnitNo.	Topic	Hrs.Requiredtocover the contents1Hrs.=60 M.
1.0		**Concept of Ethics**	08
	1.1	Definitions of Ethics	
	1.2	Branches of Ethics	
	1.3	Concept of Virtue: Plato and Aristotle	
2.0		**Moral Values**	08
	2.1	Introduction to Different Moral Values	
	2.2	Lessons from the lives and teachings of great leaders and reformers: Gandhiji and Dr. Ambedkar	
	2.3	Role of family, society, and educational institutions in inculcating moral values	
3.0		**Attitude**	07
	3.1	Meaning and Nature of Attitude	
	3.2	Influence of Attitude on thought and behavior	
	3.3	Moral and Political Attitude	
4.0		**Aptitude**	07
	4.1	Meaning and Nature of Aptitude	
	4.2	Aptitude and foundational values for Civil Service: Integrity , Impartiality and Objectivity	
	4.3	Tolerance and compassion towards the weaker sections	
		Total	30

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities. **Major in Philosophy**

Under Graduate First Year Programme, Semester - I

Paper Code : HPHISC1101, Title: Practical Ethics: I (SEC)

Curriculum Details

Course pre-requisite:

1) Any HSC Passed Students.

2) Any Students who is Eligible to en Entre tire level 4.5

3) Any above student for any faculty(GE).

Course Objectives:

1.To introduce and acquaint students with the concepts of Practical Ethics.

2.To acquire a basic understanding of the main ideas and questions of Practical Ethics.

3.To enhance students' ability to prepare for Human Life.

Course outcomes:

1. It will familiarize students with the concepts of Practical Ethics, which will help them to develop the attitude for daily human life.

2. It will develop a thinking framework within students.

3. It will encourage students to appreciate the relevance of Practical Ethics and its importance in a Human life.

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Tq.Mukhed Dist.Nanded

References Books:-

1. Introduction to ethics: William Lillie.

2. Manual of ethics : Mackenzie.

3. Ethics :WilliamFrankena.

4. Utilitarianism :J.S.Mill.

5. Utilitarianism :J.S.Mill.

6. Principia ethica :G.E.Moore

7. The categorical imperatives :H.J.Paton

8. Ethics for today: Harold Titus

9. The principles of ethics : Balbirsing

10. Ethics :Nowell Smith

११.नीतीमीमांसा -श्री ह दीक्षित

१२.नीतीमीमांसा -दि य देशपांडे

१३ .उपयोजित नीतीशास्त्र-:सुनील साळुंके

१४ .उपयोजित नीतिशास्त्र -:माधवी कवी

१५.नीतीशास्त्र -:सुनील साळुंके

१६.पाश्चात्य नीतिशास्त्राचा इतिहास -:मे.पु.रेगे

१७.तत्त्वज्ञान महकोष खंड एक-दोन-तीन-: प्रा दे द वाडेकर

१८.भारतीय नास्तिक दर्शनाचे नीतिशास्त्र -:सुनिलदत्त गावरे

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Swami Ramanand Teerth Marathwada University, Nanded.

Faculty of Humanities, Major in PHILOSOPHY (DSC)

Paper Code : HPHICT1151, Title Applied Ethics :- III *(Major/ Minor)*

Curriculum Details :(for 2 Credits)

Module No.	Unit No.	Name of Topic	Hrs. Required to cover the contents (1 Hrs.=60M.)
1.0		**Applied Ethics**	08
	1.1	Nature and scope of applied ethics	
	1.2	Importance of applied ethics	
	1.3	Emerging applied ethical values: Surrogate mother, Living in Relationship	
2.0		**Role of morality in Education**	08
	2.1	Importance of morality in teaching profession	
	2.2	Problems in teaching profession	
	2.3	Code of conduct for teachers and students	
3.0		**Role of morality in Legal Profession**	07
	3.1	Importance of morality in legal profession	
	3.2	Problems in legal profession	
	3.3	Code of conduct for lawyers	
4.0		**Role of morality in Medical Profession**	07
	4.1	Importance of morality in Medical profession	
	4.2	Moral code for medical profession	
	4.3	Abuses in medical profession	
		Total	30

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities. **Major in Philosophy**

Under Graduate First Year Programme, Semester – II

Paper Code : HPHICT1152, Title: Introduction To Philosophy:- IV *(Major/ Minor)*

Curriculum Details

Course pre-requisite:

1) Any HSC Passed Students.

2) Any Students who is Eligible to Entre level 4.5

Course Objectives:

1. To introduce and acquaint students with basic problems of philosophy
2. To acquire a basic understanding of the main philosophical concepts..
3. To enhance students' ability to critically reflect, analyze and evaluate philosophical Concepts.

Course outcomes:

1. It will familiarize students with philosophical concepts which will help them to develop the attitude of human life.
2. It will develop a thinking framework within students.
3. It will encourage students to appreciate the relevance of philosophy and its importance in a human life.

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Tq.Mukhed Dist.Nanded

References Books:-

1.History of Philosophy :Thilly F.A

2. A critical History of Greek Philosophy: StaceW.T.

3.A History of Modern Philosophy :Wright W.K.

4.Living Issues in Philosophy : Titus Herold

5.Introduction to Philosophy :Perry and Batman

६.भारतीय दर्शन संग्रह:- द.वा. जोग भारतीय तत्त्वज्ञान: पी.डी.चौधरी

७.भारतीय तत्त्वज्ञान:- वेद प्रकाश डोणगावकर

८.भारतीय नास्तिक दर्शनाचे नीतिशास्त्र:- सुनील दत्त गवरे

९.भारतीय तत्त्वज्ञानाची रूपरेषा:- भा. ग. केतकर

१०.पश्चात दर्शन का समीक्षात्मक इतिहास:- याकुब मसीह

११.पाश्चात्य तत्त्वज्ञानातील द्रव्य संकल्पन:- सुनील साळुंके

१२.पाश्चात्य तत्त्वज्ञानाचा इतिहास:- माधवी कवी

१३.भारतीय आणि पाश्चात्य नीतिशास्त्र:- विद्या जोशी

१४.पाश्चात्य तत्त्वज्ञानाची रूपरेषा:- माधवी कवी

१५.धर्म दर्शन:- राम नारायण व्यास

१६.सामान्य दर्शन एवं दर्शनीक विश्लेषण:- याकुब मसीह

१७.धर्मदर्शन की रूप रेखा:- हरेंद्र प्रसाद सिन्हा

१८.तुलनात्मक दर्शन:- याकुब मसीह धर्माचे तत्वज्ञान:- ज. वा. जोशी

१९.धर्म आणि विज्ञान:- बट्रांड रसेल

२०.हिंदू धर्म आणि तत्वज्ञान:- सिंधु डांगे

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SWAM RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Faculty of Humanities **Major in PHILOSOPHY Semester II (DSC)**

Paper Code: HPHIGE1151,Title:- Ethics For Competitive Exams –II *(GE)*

Curriculum Details:(for 2 Credits)

Module No.	Unit No.	Topic	Hrs. Required to cover the contents 1Hrs.=60M.
1.0		**Emotional Intelligence**	
	1.1	Emotional Intelligence	08
	1.2	Meaning and Nature of Emotional Intelligence	
	1.3	Utilities and application of Emotional Intelligence in administration	
2.0		**Contributions of Thinkers and Philosophers**	
	2.1	Concepts Of Morality	08
	2.2	Contributions Of Moral Thinkers And Philosophers From India: Chanakya And Buddha	
	2.3	Contributions Of Moral Thinkers And Philosophers From India: Swami Vivekananda And Ravidranath Tagore	
3.0		**Ethics in Public Service**	
	3.1	Concept of public service	07
	3.2	Ethical Issues in international relations and Funding	
	3.3	Codes of Conduct for Administrator	
4.0		**Ethics in Administration**	
	4.1	Challenges of corruption	
	4.2	Citizen's Charters	07
	4.3	Work culture, Transparency and Quality of service delivery	
		Total	30

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities. **Major in Philosophy**

Under Graduate First Year Programme, Semester - II

Paper Code : HPHISC1151, Title: BUSINESS ETHICS:- II (SEC)

Curriculum Details

Course pre-requisite:

1) Any HSC Passed Students.

2) Any Students who is Eligible to Entre level 4.5

3) Only Student who have admitted for philosophy as major subject

Course Objectives:

1.To introduce and acquaint students with Applied Ethical theories

2.To acquire a basic understanding of the main Applied Ethical ideas and questions.

3.To enhance students' ability to critically reflect, analyze and evaluate Applied Ethical arguments

Course outcomes:

1. It will familiarize students with Applied ethical concepts which will help them to develop the attitude of human life.

2. It will develop a thinking framework within students.

3. It will encourage students to appreciate the relevance of Applied ethics and its importance in a human life.

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References Books:-

1. Introduction to ethics: William Lillie.
2. Manual of ethics : Mackenzie.
3. Ethics :WilliamFrankena.
4. Utilitarianism :J.S.Mill.
5. Utilitarianism :J.S.Mill.
6. Principia ethica :G.E.Moore
7. The categorical imperatives :H.J.Paton
8. Ethics for today: Harold Titus
9. The principles of ethics : Balbirsing
10. Ethics :Nowell Smith

१.नीतीमीमांसा -श्री ह दीक्षित

१ .नीती मीमांसा - श्री ह दीक्षित

२.नीती मीमांसा -दि य देशपांडे

३ .उपयोजित नीतिशास्त्र -:माधवी कवी

४.भारतीय नास्तिक दर्शनाचे नीतिशास्त्र -:सुनिलदत्त गवरे

५.नीतीशास्त्र -:सुनील साळुंके

६.पाश्चात्य नीतिशास्त्राचा इतिहास -:मे.पु.रेगे

७.तत्त्वज्ञान महकोष खंड एक-दोन-तीन-: प्रा दे द वाडेकर

८.उपयोजित नीतीशास्त्र-:सुनील साळुंके.

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स्वामी रामानंद तीर्थ
मराठवाडा विद्यापीठ, नांदेड.

(Structure and Syllabus of Four Years Multidisciplinary Degree Program with Multiple Entry and Exit Option)

UNDERGRADUATE PROGRAMME OF HUMINATIES

Major in DSC POLITICAL SCIENCE

Under the Faculty of Humanities

Syllabus
B.A.F.Y.POLITICAL SCIENCE
SEM. I & II

Effective from Academic year 2024 – 2025
(As per NEP-2020)

Forward by the Dean,
Faculty of Humanities.....

National Education Policy 2020 has been announced on 29.07.2020. NEP 2020 proposes a new and forward-looking vision for India's Higher Education System through quality universities and colleges. Its key is in the curriculum and its practical implementation.

The curriculum must be exciting, relevant, and regularly updated to align with the latest knowledge requirements and meet specified learning outcomes. High-quality pedagogy is necessary to impart the curricular material to students successfully; pedagogical practices determine the learning experiences provided to students, thus directly influencing learning outcomes. The assessment methods must be scientific, designed to improve learning continuously test the knowledge application.

The university's proper framing and development of syllabi will result in the upbringing and nourishment of multidisciplinary and holistic citizens. Emphasis is on outcome-based learning. Every course has well-defined objectives and outcomes. The assessment guidelines also provide clarity and precision to the vision behind prescribing the particular course content.

NEP foresees more vibrant, socially engaged, cooperative communities and a happier, cohesive, cultured, productive, innovative, progressive, and prosperous nation. The introduction of Research Methodology and ethics will widen the vision and broaden the perspectives of the learners.

Introducing Case Studies and Field Projects has created a unique opportunity for the higher education institute to bridge the gap between the academia, industry and the community NEP believes effective learning requires a comprehensive approach that involves an appropriate curriculum, engaging pedagogy, continuous formative assessment, and adequate student support.

We are sure that the Graduate centres of this university and its affiliated colleges will implement the course effectively and successfully, resulting in a healthy and more creative academic ambience.

Dean, Faculty of Humanities,
Swami Ramanand Teerth Marathwada University, Nanded.

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Program Objectives in Political Science

- To understand the importance of concepts and research techniques in Political Science.
- To familiarize the students with the basic ideas thoughts and theories in Political Science and applied theories of political science.
- To help them to understand and make distinction among Political Science and help them to understand the importance of in the national and global contexts.
- To help them to understand the emergence, and growth of modern States and give them an idea of their functioning and relate them to the political realities.
- To equip them to critically relate the theoretical aspects of Political Science to the Socio-Economic and Political facts of our times.

Program Learning Outcomes in Political Science:

At the end of the successful completion of the course, the students will be able to-

- To acquire domain interdisciplinary knowledge through the discipline of Political Science.
- Study and analyze political contexts from critical and constructive prospective.
- Have a better understanding of the working of various political institutions (including Decentralized institutions (LSG) state legislatures and parliament) and relate this Functioning to the greater cause of nation building as a responsible citizen.
- Assess how (to) global, national and regional development affect polity and society.
- To gain/achieve critical thinking and develop the ability to make logical/rational Inferences about socio-economic and political issues, on the basis of comparative and Contemporary Political discourses in India and Global.
- Thinking about national and international issues involving States having various Political ideologies and historical contexts.
- Pursue higher education such as Post Graduate Studies and Research in Political Science and in other interdisciplinary areas to provide qualitative insights to create a Better world.

In addition to above more program educational objectives of their own may be added by affiliated Institute. In addition to Program Educational Objectives, for each course of undergraduate program, objectives and expected outcomes from learner's point of view are also included in the curriculum to support the philosophy of outcome based education. I believe strongly that small step taken in right direction will definitely help in providing quality education to the stake holders.



Dr. Ratnakar Baburao Lakshete
Chairman, Board of Studies of the Political Science
Swami Ramanand Teerth Marathwada University, Nanded

NOTE: - Need to rewrite as per program outcomes and the objectives

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Faculty of Humanities (Example- 1 Three Optional)

Structure for Four Year Multidisciplinary Degree Program with Multiple Entry and Exit

Subject: DSC (Major) /DSM (Minor)

Year & Level	Semester	Optional-1	Optional-2	Optional-3	Generic Elective (GE) (select from Basket 3 of *(Faculties other than Humanities)*	Vocational & Skill Enhancement Course	Ability Enhancement Course (AEC) (Basket 4) Value Education Courses (VEC / Indian Knowledge System (IKS)(Basket 5) *(Common across all faculties)*	Field Work / Project/Internship/ OJT/ Apprenticeship / Case Study Or Co-curricular Courses (CC) (Basket 6 for CC) *(Common across all faculties)*	Credits	Total Credits
1	2	3	4	5	6	7	8	9	10	11
1 (4.5)	I	HPOLCT1101 Political Concepts-I (2 Cr) HPOLCT1102 Indian Government & Politics -II (2 Cr) 4 Credits	HXXXCT1101(2 Cr) HXXXCT1102(2 Cr) 4 Credits	HXXXCT1101 (2 Cr) HXXXCT1102 (2 Cr) 4 Credits	HPOLGE1101 Civil Services 2 Credits	HPOLSC1101 Political Journalism 2 Credits	AECENG1101(2 Cr) AECXXX1101(2 Cr) (Hin,Mar,Kan.,Pal., Urdu,San. Etc.) IKSXXX1101 (2Cr) 6 Credits		22	44
	II	HPOLCT1151 Political Concepts -III (2 Cr) HPOLCT1152 Indian Government & Politics-IV (2 Cr) 4 Credits	HXXXCT1151(2 Cr) HXXXCT1152(2 Cr) 4 Credits	HXXXCT1151 (2 Cr) HXXXCT1152 (2 Cr) 4 Credits	HPOLGE1151 Legal Literacy 2 Credits	HPOLSC1151 Electoral Politics 2 Credits	AECENG1151(2 Cr) AECXXX1151 (2Cr) *(Hin, Mar, Kan, Pal, etc)* VECCOI1151 (2Cr) *Constitution of India* 6 Credits		22	
	Cum. Cr.	08	08	08	04	04	12		44	

Exit option: UG Certificate in Opt 1, Opt 2 and Opt 3 on completion of 44 credits and additional 4 credits from NSQF / Internship

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities

General Guidelines for course structure:

1) The Major subject is the discipline or subject of the main focus and the degree will be awarded in that discipline/subject.
2) Credits and curriculum for optional subjects are same in the first year.
3) In the first year students should choose three different subjects as optional subject in the same faculty.
4) From the second-year curriculum of major and minor subject is the different and student have to select major and minor from three optional subjects.
5) Generic /Open Elective is to be chosen compulsorily from faculty other than that of the Major. (Select from Basket)
6) Vocational and Skill Enhancement Courses (VSEC or VSC and SEC) are related to Major Course (DSC)
7) Ability Enhancement Courses (AEC):
    a) English language may be offered Sem . I for 2 Credits and sem. III for 2 Cr. in AEC
    b) Second languages may be offered Sem . II for 2 Credits and sem. IV for 2 Cr. in MIL
8) Column No. 8 and 9 is common for all faculties.
9) Curriculum of VEC, COI, IKS and CCC will provide by university.

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Basket 3: Generic/Open Elective course (GE)

Each BOS will suggest Generic Elective Courses (minimum one and maximum four) for semester I and II

		CODE	Title of the Corse
Sem. I	BOS in Political Science	HPOLGE1101	Civil Services
Sem. II	BOS in Political Science	HPOLGE1151	Legal Literacy

Note: GE is to be chosen compulsory from faculty other than that of the Major.

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Faculty of Humanities Major in Political Science

Under Graduate First Year Programme ,Semester I *(Level 4.5)*

Teaching Scheme

	Course Code	Course Name	Credits Assigned			Teaching Scheme (Hrs./ week 1 Hrs.=60 M.)	
			Theory	Practical	Total	Theory	Practical
Optional 1,2,3	HPOLCT1101	Political Concepts –I	02+02+02		06	06	
	HPOLCT1102	Indian Government & Politics -II	02+02+02		06	06	
Generic Electives	HPOLGE1101	Civil Services	02		02	02	
Vocational & Skill Enhancement Course	HPOLSC1101	Political Journalism	02		02	02	
Ability Enhancement Course	AECENG1101	L1-Compulsory English	02		02	02	
Ability Enhancement Course (MIL)	AECMIL1101	L2-MIL (Basket-3)	02		02	02	
Indian Knowledge System (IKS)	IKSXXX1101	-Basket 5	02		02	02	
Total Credits			22		22	22	
Total Credits			22		22	22	

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities Major in Political Science

Under Graduate First Year Programme, Semester I *(Level 4.5*

Examination Scheme

[20% Continuous Assessment (*CA*) and 80% End Semester Examination (*ESE*)]

Subject (1)	Course Code (2)	Course Name (3)	Theory					Total Col. (6+7) / (09)
			Continuous Assessment (CA)				ESE	
			Test I (4)	Test II (5)	Assignment (6)	Avg of T1+T2+Assi. /3 (7)	Total (8)	
Optional 1,2,3	HPOLCT1101	Political Concepts –I	10	10	10	10	40	50
	HPOLCT1102	Indian Government & Politics -II	10	10	10	10	40	50
Generic Electives	HPOLGE1101	Civil Services	10	10	10	10	40	50
Vocational & Skill Enhancement Course	HPOLSC1101	Political Journalism	10	10	10	10	40	50
Ability Enhancement Course	AECENG1101	L1-Compulsory English	10	10	10	10	40	50
Ability Enhancement Course (MIL)	AECMIL1101	L2-MIL (Basket-3)	10	10	10	10	40	50
Indian Knowledge System (IKS)	IKSXXX1101	Basket 5	10	10	10	10	40	50

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities. **Major in Politcal Science**

Under Graduate First Year Programme, Semester I & II

Course Structure: *Optional 1,2,3 - Teaching Scheme*

(for 2 credits)

Course Code	Course Name(Paper Title)	Teaching Scheme (Hrs.)		Credits Assigned		
		Theory	CA	Theory	CA	Total
HPOLCT1101	Political Concepts-I	30	---	02	---	02
HPOLCT1102	Indian Government & Politics –II	30	---	02	---	02
(for 2 credits)						
Course Code	Course Name(Paper Title)	Teaching Scheme (Hrs.)		Credits Assigned		
		Theory	CA	Theory	CA	Total
HPOLGE1151	Political Concepts-III	30	---	02	--	02
HPOLGE1152	Indian Government & Politics -IV	30	---	02	--	02

Optional 1,2,3 - Assessment Scheme

Course Code(2)	CourseName (3)		Theory			Total [Col (7+8)
			CA		ESE (8)	
		Test I (4)	Test II (5)	Assignment (6)	Avg of T1+T2+Assi. /3 (7)	
HPOLCT1101	Political Concepts-I	10	10	10	10	40	50
HPOLCT1102	Indian Government & Politics –II	10	10	10	10	40	50
HPOLCT1151	Political Concepts-III	10	10	10	10	40	50
HPOLCT1152	Indian Government & Politics-IV	10	10	10	10	40	50

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Faculty of Humanities, **Major in Political Science**

Paper Code: HPOLCT1101

Title –Political Concepts -I

Curriculum Details: (for 02 Credits)

Module No.	Unit No.	Topic	Hrs. Required to cover the contents 1 Hrs.=60 M.
1. 0		**Political Science**	08
	1.1	Meaning , Definition	
	1.2	Nature & Scope	
	1.3	Carrier opportunities in Political Science	
2.0		**State**	08
	2.1	Meaning & Definition	
	2.2	Nature of State	
	2.3	Essential Elements of State	
3.0		**Government**	07
	3.1	Meaning , Definition	
	3.2	Parliamentary Government	
	3.3	Presidential Government	
4.0		**Sovereignty**	07
	4.1	Meaning, Definition	
	4.2	Characteristics of Sovereignty	
	4.3	Types of Sovereignty	
		Total	30

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- चि.ग.घांगरेकर,१९९९,राज्यशास्त्राची मुलतत्वे ,नागपूर ,श्री मंगेश प्रकाशन
- शांताराम भोगले,अनंत वाईकर,२००३,राजकीय संकल्पना,लातूर ,विद्या भारती प्रकाशन
- बी.वाय.कुलकर्णी ,अशोक नाईकवाडे ,२००३,राजकीय सिद्धांत, पुणे,विद्या प्रकाशन
- अशोक नाईकवाडे ,२००९,मुलभूत राज्यशास्त्रीय संकल्पना, औरंगाबाद, कैलास पब्लिकेशन
- भा.ल.भोळे,२००२,राजकीय सिद्धांत व राजकीय विश्लेषण ,नागपूर, पिंपळापुरे बुक्स डीस्ट्रीब्यूटर्स
- दिगंबर खेडेकर ,२००९,राजकीय सिद्धांतातील मुलभूत संकल्पना ,औरंगाबाद,चिन्मय प्रकाशन
- एस.बी.फड ,२०१४, उच्चतर आधुनिक राजकीय सिद्धांत ,औरंगाबाद ,विद्या बुक्स पब्लीशर्स
- प.सी.काणे ,२००३, राजकीय सिद्धांत आधारभूत संकल्पना ,नागपूर, पिंपळापुरे अंड कंपनी पब्लिशर्स
- रा.आ.तिजारे , चि.ग.घांगरेकर, राज्यशास्त्राचे सिद्धांत,नागपूर, श्री मंगेश प्रकाशन
- किसन चोपडे ,२००२, राजकीय सिद्धांताची तत्वे,नागपूर ,विद्या प्रकाशन
- चंद्रशेखर दिवाण ,१९९८, राजकीय सिद्धांत व राजकीय विश्लेषण, नागपूर ,विद्या प्रकाशन
- शैलेंद्र देवळाणकर,२०१३, राज्यशास्त्रातील मुलभूत संकल्पना , औरंगाबाद ,विद्या बुक्स पब्लीशर्स
- राजशेखर सोलापुरे,२०१९, राजकीय संकल्पनांचा परिचय,लातूर,सुमन प्रकाशन
- राजशेखर सोलापुरे, २०१८,(संपा), राजकीय सिद्धांताची रूपरेखा,लातूर,अरुणा प्रकाशन

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Faculty of Humanities, Major in Political Science

Paper Code: HPOLCT1102

Title -Indian Government & Politics-II

Curriculum Details: (for 02 Credits)

Module No.	Unit No.	Topic	Hrs. Required to cover the contents 1 Hrs.=60 M.
1. 0		**Making of Indian Constitution**	08
	1.1	Sources of Indian Constitution	
	1.2	Constitution Assembly	
	1.3	Preamble & Features of Indian Constitution	
2.0		**Constitutional Provisions**	08
	2.1	Fundamental Rights	
	2.2	Fundamental Duties	
	2.3	Directive Principal of State Policy	
3.0		**Legislature**	07
	3.1	Loksabha – Structure and Power	
	3.2	Rajyasabha - Structure and Power	
	3.3	State Legislature– (Legislative Assembly & Council) Structure and Power	
4.0		**Executive**	07
	4.1	President - Structure and Power	
	4.2	Prime Minister - Structure and Power	
	4.3	State Executive – (Governor & Chief Minister) Structure and Power	
		Total	30

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Faculty of Humanities **Major in Political Science**

Under Graduate First Year Programme, Semester I

Generic Elective Course (GE)

Paper Code: HPOLGE1101

Title- Civil Services

Curriculum Details

Course Objectives:

1. To eradicate fear of civil services examination.
2. To motivate and prepare for civil services examination and other competitive exams.
3. To help the students to know the basic ideas of civil services recruitment.
4. To study the methods and functions of public service commission.
5. To study the basic responsibility of administrative officers in Indian Democracy.

Course Outcomes:

At the end of the course the students shall understand –

- It will help students to eradicate fear of competitive examinations.
- Pupils will develop skills to pass the competitive examination.
- Students will know that acquisition of knowledge is a matter of vast study and voracious reading.
- Students will understand the difference and co-ordination between legislature and bureaucracy.

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- S.L.Goel & Shalini Rajneesh- Public Personnel Administration
- P.D.Sharma & B.M. Sharma-Indian Administration
- T.S.R. Subramanian- Journey through Babudom and Netaland
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- जाधव तुकाराम व शिरपूरकर महेश ,भारतीय राज्यघटना व घटनात्मक प्रक्रिया ,युनिक अकादमी ,पुणे ,२०११
- महाराष्ट्र लोकसेवा आयोग ,माहिती पत्रक ,महाराष्ट्र शासन प्रकाशन ,शासकीय मध्यवर्ती मुद्रणालय ,मुंबई
- वायाळ द्वारकाप्रसाद, राज्यसेवा परीक्षा : भरती पद्धत (खंड पहिला) ,कैलाश पब्लिकेशन्स,औरंगाबाद, २०१०
- देशपांडे श्रीकांत, लोकप्रशासन ,मंगेश प्रकाशन ,रामदास पेठ, नागपूर ,१९८९
- पाटील बी.बी. ,लोकप्रशासन शास्त्र ,फडके प्रकाशन ,कोल्हापूर ,१९८६
- पाटील वा.भा. महाराष्ट्र शासन, प्रशांत पब्लिकेशन्स, जळगाव,२०१२
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- जाधवर देवा , राज्यसेवा मुख्य परीक्षा ,द युनिक अकादमी ,पुणे, २०१६
- दर्शनकार अर्जुनराव ,कर्मचारी प्रशासन , कैलास पब्लिकेशन्स,औरंगाबाद,
- वायाळ द्वारकाप्रसाद,राजेंद्र शिंदे , स्पर्धा परीक्षांच्या तयारी कौशल्याची मुलभूत माहिती , शब्दवेध बुक हाउस,औरंगाबाद,२०२३
- राजशेखर मोलापुरे, २०१९,समाजसुधारक,सर्वसमावेशक प्रश्नसंच,लातूर,अरुणा प्रकाशन

JOURNALS:

1. Mainstream
2. Seminar
3. Indian Journal of Public Administration
4. Economic & Political Weekly

5.प्रकाशन विभाग, सूचना और प्रसार मंत्रालय , भारत सरकार ,वार्षिक संदर्भ ग्रंथ
6.पाटील आनंद ,स्पर्धा परीक्षा नौकरी संदर्भ स्टडी सर्कल द्वारा प्रकाशित ,मुंबई
7.जाधव तुकाराम,बुलेटीन ऑफ युनिक अकादमी ,पुणे
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Faculty of Humanities **Major in Political Science**

Under Graduate First Year Programme Semester-II

Paper Code: HPOLCT1151

Title – Political Concepts -III

Curriculum Details

Course Objectives:

- To study the Political Concepts and Analysis
- To study the various Human Values as like Liberty, Equality and Justice
- To study the Democratic system & its Theoretical angle

Course Outcomes: **At the end of the course the students shall understand –**

- The nature and relevance of Democracy in Present Political Scenario
- The different concepts like Liberty, Justice and Equality.
- To reflect upon some of the important debates in Political Concepts.

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Faculty of Humanities Major in Political Science

Paper Code: HPOLSC1101

Title- Political Journalism (SEC)

Curriculum Details: (for 2 Credits)

Module No.	Unit No.	Topic	Hrs. Required to cover the contents 1 Hrs.=60 M.
1. 0		**Introduction of Journalism**	08
	1.1	Nature & Scope	
	1.2	Significations of Journalism	
	1.3	Types of Journalism	
2.0		**Political Journalism**	08
	2.1	Sources of Political Journalism	
	2.2	Code of Conducts for Journalist	
	2.3	Use of Social Media in Journalism	
3.0		**Political Reporting**	07
	3.1	Political Reporter –Qualities & Responbilities	
	3.2	Types of Reporting	
	3.3	Political Interview – Preparation & Techniques	
4.0		**Challenges & Opportunities in Journalism**	07
	4.1	Opportunities in Journalism	
	4.2	Party Spirited News Papers	
	4.3	Commercialization of Journalism	
		Total	30

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- To study the Democratic system & its Theoretical angle

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- To reflect upon some of the important debates in Political Concepts.

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- सुधाकर कुलकर्णी ,२०१० ,राजकीय सिद्धांत ,लातूर,अरुणा प्रकाशन
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Faculty of Humanities **Major in Political Science**

Under Graduate First Year Programme, Semester II

Paper Code: HPOLCT1152

Title- Indian Government & Politics-IV

Curriculum Details

Course Objectives:

- To study history and Present System of Local Self Government in Maharashtra
- To understand the Judiciary System in India
- To understand the Election Commission & Political Party in India & Maharashtra

Course Outcomes:

At the end of the course the students shall understand –

- The nature and relevance of local Political system in Maharashtra.
- Students will help to understand the Center-State Relations.
- Students increase his knowledge about Election Commission & Political Party & its activity.

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- सुनिल शिंदे ,भालेराव सुरेश,२०२२, महाराष्ट्रातील शासन आणि राजकारण , जळगाव, प्रितम पब्लिकेशन
- डी.आर.भागवत,आर.आर.बने ,२०१९, महाराष्ट्र शासन आणि राजकारण, नांदेड,क्रियेटीव्ह प्रकाशन
- विलास पाटील ,१९९९, महाराष्ट्र शासन आणि राजकारण, कोल्हापूर,फडके प्रकाशन
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- पवार प्रकाश,भारतीय शासन आणि नेतृत्वाची वाटचाल,डायमंड पब्लीकेशन,पुणे
- पाटील विलास ,भारतीय संविधान ,के सागर पब्लीकेशन,पुणे
- पाटील बी.बी. व उर्मिला चव्हाण ,भारतीय शासन आणि राजकारण ,फडके प्रकाशन ,कोल्हापूर
- मोरे (लांडगे) पी.एस., भारतीय शासन आणि राजकारण,लातूर ,अरुणा प्रकाशन ,२०१४

- शिंदे सुनिल व ढवळे जयराम, भारताचे शासन आणि राजकारण, एज्युकेशनल पब्लिकेशन्स अॅन्ड डिस्ट्रीब्यूटर्स, औरंगाबाद.
- कारेकर मंजिरी व सुवर्णा बेनके, भारताचे शासन आणि राजकारण, पिअरसन पब्लिकेशन, नवी दिल्ली.
- घांग्रेकर चिं. ग., (१९९७), भारतीय राज्यघटना : स्वरूप आणि राजकारण, श्री मंगेश प्रकाशन, नागपूर
- जाधव तुकाराम व महेश शिरपूरकर, (२०११), भारतीय राज्यघटना व घटनात्मक प्रक्रीया, युनिक अॅकॅडमी, पुणे.
- संजय बी. गायकवाड ,सुनिल एस. ताकतोडे ,२०१५ ,भारतीय शासन एंव राजनीती ,रोशनी पब्लिकेशन ,कानपूर
- फैय्याज मुनीरसाब सौदागर (संपा), २०१७ , आरक्षणाचे ध्रोरण ,सामाजिक न्याय आणि भारतातील लोकशाहीवादी राजकारण,शिवानी प्रकाशन ,पुणे
- गाऊराव माधवराव नरवाडे ,२०२१, नगराच्या विकासात नगरपरिषदेचे योगदान विशेष संदर्भ हदगाव (१९९०-२००६),सुमन प्रकाशन ,नांदेड
- डॉ.पंजाब आनंदराव चव्हाण ,२०१८ , भारतीय राजनीतिक व्यवस्था ,विकास प्रकाशन ,कानपूर

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Faculty of Humanities **Major in Political Science**

Generic Elective Course (GE)

Paper Code : HPOLGE1151

Title-Legal Literacy

Curriculum Details: (for 2 Credits)

Module No.	Unit No.	Topic	Hrs. Required to cover the contents 1 Hrs.=60 M.
1. 0		**Legal Literacy**	08
	1.1	Meaning & Definition	
	1.2	Need for Legal Literacy	
	1.3	PIL	
2.0		**Criminal Law and Women**	08
	2.1	FIR & Arrest Bail	
	2.2	Offense Against Women's-Dowry, Sexual Harassment & Violence Against Women	
	2.3	Prevention of Atrocities –SC/ST	
3.0		**Family Law**	07
	3.1	Hindu Personal Law-Marriage ,Divorce	
	3.2	Muslim Personal Law-Marriage ,Divorce	
	3.3	Perspectives of Uniform Civil Code	
4.0		**Contemporary Legislation**	07
	4.1	Cyber Law	
	4.2	Insurance Law	
	4.3	Govt. Educational Schemes & Scholarship for students	
		Total	30

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities **Major in Political Science**

Under Graduate First Year Programme, Semester II

Paper Code: HPOLSC1151

Title- Electoral Politics (SEC)

Curriculum Details

Course Objectives:

1. To help students know about the working of the Election Commission and acquire knowledge on the various Important General Elections that took place in India, as well as, make analyses of some important General Elections in India.
1. To help students understand the role of media in the entire election process, what Political Advertising can do and how Psephology plays an important role in Electoral Analysis.

Course Outcomes:

- At the end of the course the students shall understand –

1. Students will be able to understand how the Election Commission works, what rules and regulations are in Place During an election, and some important elections that have taken place.
2. Students will understand and analyze the role of the media in the election process in India, critically analyze and Debate on the process of Political Advertising, and understand how Psephology works during elections and what Career options it can offer.

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References :

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२०.महाराष्ट्रातील राजकारण लोकप्रतिनिधी निवडणूक मार्गदर्शक , चंद्रकांत भुजबळ , पोलिटिकल रिसर्च अंड अनालीसीस ब्युरो

२१. निवडणूक व्यवस्थापन , डॉ.महेंद्र पाटील ,प्रशांत पब्लिकेशन ,जळगाव

२२. निवडणूक जिंकण्यासाठी सर्व कांही - पोलिटिकल रिसर्च अंड अनालीसीस ब्युरो

२३. राजशेखर सोलापुरे,२०१७,लोकशाही आणि निवडणूक प्रक्रिया,लातूर,अरुणा प्रकाशन

24.वर्मा ज्योती, (२००७), सामाजिक जनांकिके, डिस्कवरी पब्लिसिंग हाऊस, नई दिल्ली.

25.बुथ लेवल अधिकारीयोंके लिए हॅन्डबुक, (२०११) भारत निर्वाचन आयोग, निर्वाचन सदन, अशोक रोड नई दिल्ली.

26.बाधवा शालिनी, (२००३), भारतीय राजनीतिशास्त्र का विकास, अर्जुन पब्लिशिंग हाऊस, नई दिल्ली.

27.भोळे भा.ल., भारतीय गणराज्याचे शासन आणि राजकारण, पिंपळापुरे प्रकाशन, नागपूर.

28.पटवे दिपक, (२०१२), चला राजकारणात, राजहंस प्रकाशन, पुणे.

29.जाधव तुकाराम व शिरपूरकर महेश, भारतीय संविधान व भारतीय राजकारण, युनिक अकॅडमी, पुणे.

30.जोशी सुधाकर, भारतीय शासन आणि राजकारण, विद्या बुक्स पब्लिशर्स, औरंगाबाद.

31.व्होरा राजेंद्र व पळशिकर सुहास (संपादक), लेले चित्रा (अनुवाद), भारतीय लोकशाही : अर्थ आणि व्यवहार, डायमंड पब्लिकेशन्स, पुणे, प्रथम मराठी आवृत्ती,२०१०.

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SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

DSC/DSM End Semester Exam (ESE)

FACULTY OF HUMANITIES

B.A.FIRST YEAR POLITICAL SCIENCE

Question Paper Pattern

With effect from 2024-25

Time: 02 Hrs. Marks: 40

Note:

1. Question No.1 is Compulsory
2. Students are required to solve a total of 04 questions
3. Students need to solve ANY THREE of the remaining Five questions (Q.02 to 06)

Q. 1	Write Short Notes (All) A) B) C) D)	10 Marks
Q. 2	Descriptive question	10 Marks
Q. 3	Descriptive question	10 Marks
Q. 4	Descriptive question	10 Marks
Q. 5	Descriptive question	10 Marks
Q. 6	Descriptive question	10 Marks

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SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

VSC/SEC End Semester Exam (ESE)

FACULTY OF HUMANITIES

B.A.FIRST YEAR POLITICAL SCIENCE

Question Paper Pattern

With effect from 2024-25

Time: 02 Hrs. Marks: 40

Note:

1. Question No.1 is Compulsory
2. Students are required to solve a total of 04 questions
3. Students need to solve ANY THREE of the remaining Five questions (Q.02 to 06)

Q. 1	Write Short Notes (All) A) B) C) D)	10 Marks
Q. 2	Descriptive question	10 Marks
Q. 3	Descriptive question	10 Marks
Q. 4	Descriptive question	10 Marks
Q. 5	Descriptive question	10 Marks
Q. 6	Descriptive question	10 Marks

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GUIDELINES FOR COURSE ASSESSMENT:

A. Continuous Assessment (CA) (20% of the Maximum Marks):

This will form 20% of the Maximum Marks and will be carried out throughout the semester. It may be done by conducting **Two Tests and one Assignment.** Average of marks scored in these two tests and one assignment of a theory paper will make CA .

B. End Semester Assessment (80% of the Maximum Marks):

(For illustration we have considered a paper of 02 credits, 50 marks and need to be modified depending upon credits of individual paper)

1. **ESA Question paper will consists of 6 questions. Each of 10 marks for 2 Cr. pattern and 15 marks for 3 Cr. pattern. (BOS may change scheme of marking.)**
2. **There will be 4- 5 sub questions in Question No. 1**
3. **Question No.1 will be compulsory and shall be based on entire syllabus.**
4. **Students are required to solve a total of 4 Questions.**
5. **Students need to solve ANY THREE of the remaining Five Question (Q.2 to Q.6) and shall be based on entire syllabus.**

C. Assessment of Term Work/ Tutorial/Field Works:

At least 06 test / assignments covering entire syllabus must be given during the 'class wise tutorial'. The assignments should be students' centric and attempts be made to make assignments more meaningful, interesting and innovative.

Term work assessment must be based on overall performance of the student with every assignments graded time to time. The grades be converted to marks as per 'credit and grading system' manual and should be added and averaged.

D. Assessment of Community Engagement Services:

Students have freedom to take more than one CES/CC courses, however, marks of the best performing CES/CC be considered for final assessment. Assessment of the CES/CC courses be done by the respective course coordinators depending on the performance of the student and his participation in the international, national, state, university, college level events or camps, wherever applicable. In other cases performance of a student be assessed depending on his/her regularity, participation in the regular activities in the semester.

Note: Number of lectures required to cover syllabus of a course depend on number of credit assigned to it. For example, for a two credit course, 30 lectures each of one hour duration are assigned, while that for a three credit course 45. lectures.

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Swami Ramanand Teerth Marathwada University,

Nanded-431 606

(Structure and Syllabus of Four Year Multidisciplinary under Graduate Degree Program in Humanities with Multiple Entry and Exit option)

Under Graduate Program of Humanities

Major in Public Administration

Under the Faculty of Humanities

B.A. First Year

Effective from Academic Year -2024-2025

(As per NEP-2020)

Coordinator I.Q.A.C.
Late Bhimrao Chavhan Arts & Sci.College
Chavhanvadi Tq.Mukhed Dist.Nanded

Principal
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Forward by the Dean, Faculty of Humanities.....

National Education Policy 2020 has been announced on 29.07.2020. NEP 2020 proposes a new and forward-looking vision for India's Higher Education System through quality universities and colleges. Its key is in the curriculum and its practical implementation.

The curriculum must be exciting, relevant, and regularly updated to align with the latest knowledge requirements and meet specified learning outcomes. High-quality pedagogy is necessary to impart the curricular material to students successfully; pedagogical practices determine the learning experiences provided to students, thus directly influencing learning outcomes. The assessment methods must be scientific, designed to improve learning continuously test the knowledge application.

The university's proper framing and development of syllabi will result in the upbringing and nourishment of multidisciplinary and holistic citizens. Emphasis is on outcome-based learning. Every course has well-defined objectives and outcomes. The assessment guidelines also provide clarity and precision to the vision behind prescribing the particular course content.

NEP foresees more vibrant, socially engaged, cooperative communities and a happier, cohesive, cultured, productive, innovative, progressive, and prosperous nation. The introduction of Research Methodology and ethics will widen the vision and broaden the perspectives of the learners.

Introducing Case Studies and Field Projects has created a unique opportunity for the higher education institute to bridge the gap between the academia, industry and the community NEP believes effective learning requires a comprehensive approach that involves an appropriate curriculum, engaging pedagogy, continuous formative assessment, and adequate student support.

We are sure that the Graduate centers of this university and its affiliated colleges will implement the course effectively and successfully, resulting in a healthy and more creative academic ambience

Prof. Dr. Parag Khadke
Dean, Faculty of Humanities,

Principal
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Coordinator I.Q.A.C.
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Program Objectives in Public Administration

- To understand the importance of concepts and research techniques in Public Administration.
- To familiarize the students with the basic idea's thoughts and theories in Public Administration.
- To help them to understand and make distinction among Public Administration and help them to understand the importance of in the national and global contexts.
- To help them to understand the emergence and growth of modern Administration and give them an idea of their functioning and relate them to the administrative realities.
- To equip them to critically relate the theoretical aspects of Public Administration to the Socio-Economic and Administrative facts of our times.

Program Learning Outcomes in Public Administration:

At the end of the successful completion of the course, the students will be able to-

- Acquire domain interdisciplinary knowledge through the discipline of Public Administration.
- Study and analyze administrative contexts from critical and constructive perspective.
- Have a better understanding of the working of various administrative institutions and relate this functioning to the greater cause of nation building as a responsible citizen.
- To gain / achieve Critical thinking and develop the ability to make logical /rational inferences about Socio- Economic and Administrative issues, on the basis of Comparative and Contemporary Administrative discourses in India and Global.
- Thinking about National and International issues involving States having various Administrative Ideologies and historical contexts.
- Pursue higher education such as Under Graduate Studies in Public Administration and in other interdisciplinary areas to provide qualitative insights to create a better world. In addition to above more program educational objectives of their own may be added by affiliated Institutes. In addition to Program Educational Objectives, for each course of Undergraduate program, objectives and expected out comes from learner's point of view a real so included in the curriculum to support the philosophy of outcome-based education. I believe strongly that small step taken in right direction will definitely help in providing quality education to the stakeholders.

Professor (Dr.) Shaikh Mohmmad Hanif Ismailsab
Chairman, Board of Studies in Public Administration
Swami Ramanand Teerth Marathwada University, Nanded

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities

Structure for Four Year Multidisciplinary Degree Program with Multiple Entry and Exit

(Four-year Structure as per NEP-2020)

Subject: Public Administration DSC (Major)/ DSM (Minor)

Year & Level	Semester	Optional-1	Optional-2	Optional -3	Generic Elective (GE) select from Basket 3 of Faculties other than Humanities	Vocational &Skill Enhancement Course	Ability Enhancement Course (AEC) (Basket4) Value Education Courses (VEC/ Indian Knowledge System (IKS) (Basket 5) *(Common across all faculties)*	Field Work /Project/Internship/ OJT/Apprenticeship / CaseStudy Or Co-curricular Courses(CC) (Basket6 forCC) *(Common across all faculties)*	Credits
1	2	3	4	5	6	7	8	9	10
1 (4.5)	I	**HPUBCT1101(2Cr)** Introduction to public Administration **HPUBCT1102 (2Cr)** Indian Constitution & Administration **Total = 4 Credits**	**HXXXCT1101 (2 Cr) HXXXCT1102 (2 Cr) 4 Credits**	**HXXXCT1101 (2 Cr) HXXXCT1102 (2 Cr) 4 Credits**	**HPUBGE1101** E-Administration **2 Credits**	**HPUBSC1101** Personality Development & Communication Skills **2 Credits**	**AECENG1101 (2Cr) AECXXX1101(2Cr)** *(Hin, Mar, San, Urd, Pal, Kan, etc.)* **IKSXXX1101 (2Cr) 6 Credits**	----	22
	II	**HPUBCT1151(2Cr)** Principles of Administrative Organization **HPUBCT1152 (2Cr)** Indian Administrative system **Total = 4 Credits**	**HXXXCT1151 (2 Cr) HXXXCT1152 (2 Cr) 4 Credits**	**HXXXCT1151 (2 Cr) HXXXCT1152 (2 Cr) 4 Credits**	**HPUBGE1151** Administration of Non-Government Organization (NGO) **2 Credits**	**HPUBSC1151** Leadership Styles and Conflict Management **2 Credits**	**AECENG1151 (2Cr) AECXXX1151(2Cr)** *(Hin, Mar, San, Urd, Pal, Kan, etc.)* **VECCOI1151 (2Cr) Constitution of India 6 Credits**	----	22
	Cum. Cr.	08	08	08	04	04	12	00	44

***Exit option*: UG Certificate in Opt.1, Opt.2 and Opt. 3 on completion of 44 credits and additional 4 credits from NSQF/Internship**

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities

General Guidelines for course structure:

1. The Major subject is the discipline or subject of the main focus and the degree will be awarded in that discipline/subjec
2. Credits and curriculum of Major and Minor subject is same in the first year
3. In the first year Students should choose two different subjects as a Major and Minor in same faculty).
4. From the Second-year curriculum of Major and Minor subject is the different.
5. Generic /Open Elective is to be chosen compulsorily from faculty other than that of the Major. (Select from Basket)
6. Vocational and Skill Enhancement Courses (VSEC or VSC and SEC) are related to Major Course (DSC)
7. Ability Enhancement Courses (AEC):
    a) English language may be offered Sem. I for 2 Credits and sem. III for 2 Cr. in AEC
    b) Second languages may be offered Sem. II for 2 Credits and sem. IV for 2 Cr. in AEC
8. Column No. 7and 8 is common for all faculties.
9. Curriculum of VEC, CI, IKS and CC will provide by university.

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Tq.Mukhed Dist.Nanded

Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities Optional Subject: Public Administration

Basket-3: Generic/ Open Elective course (GE)

Semester	BOS proposing	CODE	Title of the Corse
Sem. I	BOS in Public Administration	HPUBGE1101(2Cr.)	E-Administration
Sem. II	BOS in Public Administration	HPUBGE1151(2Cr.)	Administration of Non-Government Organization (NGO)

Note: GE is to be chosen compulsory from faculty other than that of the Major.

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities Optional Subject: Public Administration

Under Graduate First Year Programme, Semester II (Level 4.5)

Teaching Scheme

	Course Code	Course Name	Credits Assigned			Teaching Scheme (Hrs./week,1Hrs.=60M.)	
			Theory	Practical	Total	Theory	Practical
Optional -1	HPUBCT1151	Principles of Administrative Organization	02		02	02	
	HPUBCT1152	Indian Administrative system	02		02	02	
Optional -2	HXXXCT1151	–	02		02	02	
	HXXXCT1152	–	02		02	02	
Optional -3	HXXXCT1151	–	02		02	02	
	HXXXCT1152	–	02		02	02	
Generic Elective	HPUBGE1151	Administration of Non-Government Organization (NGO)	02		02	02	
Vocational & Skill Enhancement	HPUBSC1151	Leadership Styles and Conflict Management	02		02	02	
Ability Enhancement Course	AECENG1151	L1-Compulsory English	02		02	02	
Ability Enhancement Course (MIL)	AECMIL1151	L2- MIL (Basket-3)	02		02	02	
Value Education Courses (VEC) Basket 5	VECCOI1151	Constitution of India	02		02	02	
Total Credits			22		22	22	

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities Major in Public Administration (DSC)

Under Graduate First Year Programme, Semester II (Level 4.5)

Examination Scheme

[20% Continuous Assessment (CA) and 80% End Semester Examination (ESE)]

Subject	Course Code	Course Name	Theory					Total Col. (7+8)
			Continuous Assessment(CA)			Avg. of	ESE	
			Test I	Test II	Assignment	T1+T2+Assi./3	Total	
01	02	03	04	05	06	07	08	09
Optional -1	HPUBCT1151	Principles of Administrative Organization	10	10	10	10	40	50
	HPUBCT1152	Indian Administrative system	10	10	10	10	40	50
Optional -2	HXXXCT1151	–	10	10	10	10	40	50
	HXXXCT1152	–	10	10	10	10	40	50
Optional -3	HXXXCT1151	–	10	10	10	10	40	50
	HXXXCT1152	–	10	10	10	10	40	50
Generic Elective	HPUBGE1151	Administration of Non-Government Organization (NGO)	10	10	10	10	40	50
Vocational & Skill Enhancement	HPUBSC1151	Leadership Styles and Conflict Management	10	10	10	10	40	50
Ability Enhancement Course Basket 4	AECENG1151	L1- Compulsory English	10	10	10	10	40	50
Ability Enhancement Course MIL	AECMIL1151	L2- MIL (Basket-3)	10	10	10	10	40	50
Value Education Courses (VEC) Basket 5	VECCOI1151	Constitution of India Select from **Basket 4**	10	10	10	10	40	50
			--	--	--	110	440	550

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Swami Ramanand Teerth Marathwada University, Nanded
Faculty of Humanities Optional Subject Public Administration (DSC)

Under Graduate First Year Programme, Semester-II

Teaching Scheme

(For 2 credits)

Course Code	Course Name (Paper Title)	Teaching Scheme (Hrs.)		Credits Assigned		
		Theory	CA	Theory	CA	Total
HPUBCT1151	Principles of Administrative Organization	30	- -	02	---	02
HPUBCT1152	Indian Administrative system	30	- -	02	---	02
(for2credits)						
Course Code	**Course Name (Paper Title)**	**Teaching Scheme (Hrs.)**		**Credits Assigned**		
		Theory	**CA**	**Theory**	**CA**	**Total**
HPUBGE1151	Administration of Non-Government Organization (NGO)	**30**	**-**	**02**	--	**02**
HPUBSC1151	Leadership Styles and Conflict Management	**30**	**-**	**02**	--	**02**

Assessment Scheme

Course Code	Course Name	Theory					Total [Col 07+08]
		CA				ESE	
		Test I	Test II	Assignment	Avg. ofT1+T2+Assi. /3		
01	02	03	04	05	06	07	08
(For 2 credits)							
HPUBCT1151	Principles of Administrative Organization	10	10	10	10	40	50
HPUBCT1152	Indian Administrative system	10	10	10	10	40	50
(For 2 credits)							
HPUBGE1151	Administration of Non-Government Organization (NGO)	10	10	10	10	40	50
HPUBSC1151	Leadership Styles and Conflict Management	10	10	10	10	40	50

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Faculty of Humanities

Optional Subject: Public Administration (DSC) Semester-I

Paper Code: HPUBCT1101

Title: Introduction to public Administration-I

Curriculum Details: (for 2 Credits)

Module No.	Unit No.	Name of Topic	Hrs. Required to cover the contents 1 Hrs.=60M.
1.0		**Public Administration**	
	1.1	Meaning & Nature	
	1.2	Scope	**08**
	1.3	Importance	
2.0		**Public Administration and Private Administration**	
	2.1	Affinity	
	2.2	Difference	**07**
	2.3	Public Private Partnership (P.P.P.)	
3.0		**Public Relations**	
	3.1	Meaning	
	3.2	Importance	**07**
	3.3	Agencies	
4.0		**New Trends in Public Administration**	
	4.1	Good Governance: Meaning & Principles	
	4.2	Civil Society: Meaning & Features	**08**
	4.3	Citizens Charter: Meaning & Importance	
		Total	**30**

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Faculty of Humanities

Optional Subject: Public Administration (DSC)

Under Graduate First Year Programme, Semester-I

Paper Code: HPUBCT1102

Title: Indian Constitution & Administration-II

Curriculum Details

Course pre-requisite:

1. Any H.S.C. Passed Students from the Government Sanctioned Institutions
2. Any Students who is Eligible to entire at level 4.5

Course objectives:

1) To realize the significance of Indian constitution to students and understand the basic concepts of Indian constitution.
2) To identify the importance of fundamental rights as well as fundamental duties.
3) To understand Indian Judicial System.

Course Outcomes:

1. It will be Possible to understand the importance of Constitution of Indian as a fundamental law.
2. Exercise his fundamental rights in proper sense at the same time identifies his responsibilities in national building.
3. Students will become responsible Citizens of India.

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Text Books

1. भोळे भा. ल., २०१५ भारतीय गणराज्याचे शासन आणि राजकारण,पिंपळापूरे पब्लिकेशन्स,नागपूर
2. बंग के.आर., २०१८ भारतीय प्रशासन,विद्या प्रकाशन, औरंगाबाद
3. डॉ. विळेगावे व्यंकट आणि डॉ. यमलवाड गोविंद, भारतीय प्रशासन, क्रिएटिव्ह पब्लिकेशन्स, नांदेड
4. डॉ. सतीश ठोंबरे, भारतीय प्रशासन ,अभिजित प्रकाशन ,लातूर
5. पाटील बी.बी. २००९भारतीय शासन आणि राजकारण, फडके प्रकाशन,कोल्हापूर.
6. डॉ. प्रीती पोहेकर, भारतीय प्रशासन : विकास व व्यवस्था, अरुणा प्रकाशन, लातूर
7. डॉ. पंचशील एकंबेकर आणि डॉ.उलगडे लक्ष्मण, २०१७, भारतीय लोकशाही आणि कल्याणकारी राज्य, अरूणा प्रकाशन, लातूर
8. डॉ.उलगडे लक्ष्मण, एप्रिल-२०११, भारतीय प्रशासन, अरूणा प्रकाशन, लातूर

References

1) Mishra B.B., 1959, The Central Administration of the East India Company, Oxford press. Delhi

2) Durgadas Basu, 2019, Introduction to the constitution of India, Wadhwa, and Co., Nagpur.

3)Maheshwari Shriram, 1990, Indian Administration, Kitab Mahal, New Delhi.

4)Hoshiyar Singh, 2011, Indian Administration, Kitab Mahal, New Delhi.

5)VidyaBhushan& Vishnu Bhagwan, 2011, Indian Administration, S.Chand& Com., New Delhi.

6)Ghai K.K., 2019, Indian Government and Politics, Kalyani Publishers, New Delhi

7) Gupta Jawaharlal, 2012, Union Government and Administration, Dominant Publishers, New Delhi

8)Ramchandran Padma (1995), Public Administration in India,National Book Trust of India, New Delhi

9) Arora Ramesh, 2012, Indian Public Administration, Vishwas Prakashan, New Delhi

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Faculty of Humanities

Optional Subject: Public Administration

Paper Code: HPUBGE1101

Title: E-Administration-I

Generic Elective course (GE)

Semester-I

Curriculum Details: (for 2 Credits)

Module No.	Unit No.	Name of Topic	Hrs. Requiredtocoverthecontents 1Hrs.=60M.
1.0		**E-Administration**	**08**
	1.1	Meaning& Definition	
	1.2	Importance Of E-Administration	
	1.3	Impact of E- Administration	
2.0		**Applications of E-Administration**	**08**
	2.1	Social Networking Apps: Importance & Types	
	2.2	Maha E-Seva Kendra: Importance	
	2.3	D.B.T. (Direct Benefit Transfer): Meaning & Importance	
3.0		**ICT in Administration**	**07**
	3.1	Need of ICT	
	3.2	Communication Tools in Administration	
	3.3	Efficiency of ICT in Administration	
4.0		**Challenges before E-administration**	**07**
	4.1	Lack of E-literacy	
	4.2	I.T. Security	
	4.3	Miss Use of social media	
		Total	**30**

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Faculty of Humanities

Skill Enhancement Course (SEC) In Public Administration

Under Graduate First Year Programme, Semester-I

Paper Code: HPUBSC1101

Title: Personality Development &Communication Skills-I

Curriculum Details

Course pre-requisite:

1. Any H.S.C. Passed Students from the Government Sanctioned Institutions
2. Any Students who is Eligible to entire at level4.5
3. Any Students except studying in Faculty of Humanities

Course objectives

1. Developing the effective communication skills among the students.
2. Inculcating the soft skills in theoretical and practical ways and also to develop the effective communication skills among the students.
3. Learning about the essential factors for personality development and bringing them in to practice.
4. Create understanding of the nonverbal forms of communication.

Course outcomes

1. Students will acquire theoretical knowledge of concepts such as personality, skills, values, communication, motivation and leadership
2. Students will develop self-understanding based on theoretical understanding of personality, skills, values, communication, motivation and leadership.
3. It will help to acquire attitude, manners and communication skills necessary for rational decision making.

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Text Books

1. पृथवीराज तौर, शैलेन्द्र लेंडे, डॉ.वंदना महाजन,२०२०, व्यक्तिमत्व विकासासाठी संभाषण व लेखन कौशल्य, अथर्व पब्लिकेशन, जळगांव
2. डॉ. आशा भागवत,२०१८,संवाद कौशल्य, डायमंड पब्लिकेशन, पुणे
3. डॉ. एकनाथ हेळगे, डॉ. जयश्री नेमाडे, प्रा. ए.पी. चौधरी, प्रा. अर्चना चौधरी,२०२२, व्यक्तिमत्व विकास आणि सॉफ्ट स्कील, प्रशांत पब्लिकेशन, जळगांव

References

1. Ajmani, J C (2012) Good English: Getting it Right. Rupa Publications: New Delhi
2. Andrews, Sudhir (1988) How to Succeed at Interviews (21st Reprint). Tata McGraw Hill: New Delhi
3. Baron, Robert A and Misra, Girishwar (2015) Psychology (Indian Sub-continent Edition). Pearson: New Delhi
4. Becker, Ethan F. and Wortmann, Jon (2009) Mastering Communication at Work: How to Lead, Manage, and Influence? McGraw Hill: New Delhi

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities

Optional Subject: Public Administration (DSC) Semester-II

Paper Code: HPUBCT1151

Title: Principles of Administrative organization-III

Curriculum Details: (for 2 Credits)

Module No.	Unit No.	Name of Topic	Hrs. Required to cover the contents 1 Hrs.=60M.
1.0		**Organization**	07
	1.1	Meaning & Importance	
		Forms of Organization ----	
	1.2	Formal Organization: Meaning & features	
	1.3	Informal Organization: Meaning & features	
2.0		**Principles of Administrative Organization**	08
	2.1	Hierarchy – Meaning, merits and demerits	
	2.2	Span of control - Meaning and Factors determining Span of control	
	2.3	Communication – Meaning& types	
3.0		**Chief Executive**	08
	3.1	Types of Chief Executive	
	3.2	Functions of Chief Executive	
	3.3	Qualities of Chief Executive	
4.0		**Line and Staff Agencies**	07
	4.1	Meaning	
	4.2	Types and Functions of Line Agencies	
	4.3	Types and Functions of Staff Agencies	
		Total	30

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Faculty of Humanities

Optional Subject: Public Administration (DSC)

Under Graduate First Year Programme, Semester-II

Paper Code: HPUBCT1152

Title: Indian Administrative system-IV

Curriculum Details

Course pre-requisite:

1. Any H.S.C. Passed Student from the Government Sanctioned Institutions
2. Any Student who is Eligible to entire at level 4.5

Course objectives:

1. To Understand the Administrative system of India
2. To identify various silent features of Indian Administration.
3. To introduce the Historical background of Indian Administration.

Course outcomes

1. Understand the form and substance of Indian Administration
2. Learn the significance of Indian Parliament.
3. Acquaint with the functioning of the Indian administration, at central levels and the responses of these systems in addressing the concerns of the people
4. Analyze the executive role of Constitutional Bodies

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Text Books

1. भोळे भा.ल.,२०१५, भारतीय गणराज्याचे शासन आणि राजकारण, पिंपळापूरे पब्लिकेशन्स,नागपूर
2. बंग के.आर., २०१८, भारतीय प्रशासन,विद्या प्रकाशन, औरंगाबाद
3. डॉ. विळेगावे व्यंकट आणि डॉ. यमलवाड गोविंद, भारतीय प्रशासन, क्रिएटिव्ह पब्लिकेशन्स, नांदेड
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5. पाटील बी.बी. २००९, भारतीय शासन आणि राजकारण, फडके प्रकाशन, कोल्हापूर.
6. डॉ. प्रीती पोहेकर, भारतीय प्रशासन : विकास व व्यवस्था, अरुणा प्रकाशन, लातूर
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References

1) Mishra B.B., 1959, The Central Administration of the East India Company, Oxford press. Delhi

2) Durga das Basu, 2019, Introduction to the constitution of India, Wadhwa, and Co., Nagpur.

3) Maheshwari Shriram, 1990, Indian Administration, Kitab Mahal, New Delhi.

4)Hoshiyar Singh, 2011, Indian Administration, Kitab Mahal, New Delhi.

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6)Ghai K.K., 2019, Indian Government and Politics, Kalyani Publishers, New Delhi

7) Gupta Jawaharlal, 2012, Union Government and Administration, Dominant Publishers, New Delhi

8) Ramchandran Padma (1995), Public Administration in India,National Book Trust of India, New Delhi

9) Arora Ramesh, 2012, Indian Public Administration, Vishwas Prakashan, New Delhi

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Faculty of Humanities

Generic Elective course (GE) In Public Administration
Paper Code: HPUBGE1151
Title: Administration of Non-Government Organizations-II

Generic Elective course (GE) –
Semester-II

Curriculum Details: (for 2 Credits)

Module No.	Unit No.	Topic	Hrs. Required to cover the contents 1 Hrs. = 60M.
1.0		**Non-Government Organization**	**08**
	1.1	Meaning, Importance	
	1.2	Process of Formation of NGO	
	1.3	Role of NGO's in Development	
2.0		**Administration of** N.G.O.	**08**
	2.1	Meaning, Definition	
	2.2	Nature of NGO's administration	
	2.3	Scope of NGO's administration	
3.0		**Sources of NGO Funding**	**07**
	3.1	Internal Sources	
	3.2	External Sources	
	3.3	NGO ***Darpan*** Portal	
4.0		**Problems and Challenges of NGO**	**07**
	4.1	Lack of credibility	
	4.2	Poor Governance	
	4.3	Political Interference	
		Total	**30**

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Faculty of Humanities

Skill Enhancement Course (SEC) In Public Administration

Under Graduate First Year Programme

Semester-II

Paper Code: HPUBSC1151

Title: Leadership Styles and Conflict Management-II

Curriculum Details

Course pre-requisite:

1. Any H.S.C. Passed Student from the Government Sanctioned Institutions
2. Any Student who is Eligible to entire at level 4.5
3. Any Students except studying in Faculty of Humanities

Course objectives

1. To Learn Role of Leader in Conflict management
2. Describe how conflict impacts individuals and teamwork.
3. Assess your own personal history and comfort level with conflict.
4. Distinguish between task and relationship conflict.

Course Outcomes:

1. Understand the different styles of leadership given by administrative thinkers.
2. They will also understand the causes and level of conflicts in an organization.
3. Students will also be able to understand the handling of inter-personal conflict
4. Describe a leader's role in managing conflict in the Organization
5. Understand how to turn conflict into an opportunity for redemption and reconciliation.

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Tq.Mukhed Dist.Nanded

Text Books

1. जॉनसी. मॅक्सवेल, अनुवाद: प्रा. दिनकरबोरीकर, २०१३, लीडरशिपचे रहस्य, साकेत प्रकाशन, औरंगाबाद
2. शरू रांगणेकर, १९९७, व्यवस्थापनाची मुलतत्वे, रांगणेकर असोसिएट्स, मुंबई

References

1. Elijah Odhiambo, 2011, Leadership Styles and Conflict Management in the Anglican Church, LAMBART Academic Publication
2. A Denise Stanley, 2009, Leadership and Conflict Management Styles, VDM Verlag

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SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Faculty of Humanities

B.A. (First Year) Subject: Public Administration

End of Semester Examination (ESE)

Question Paper Pattern for 2 Credits

Semester Pattern with Effective from 2024-2025

1) Write short's note (10 Marks)

   1)
   2)
   3)
   4)

2) Descriptive Question (10 Marks)
3) Descriptive Question (10 Marks)
4) Descriptive Question (10 Marks)
5) Descriptive Question (10 Marks)
6) Descriptive Question (10 Marks)

Note: Q. No. 1 is Compulsory. Students need to solve ANY THREE of the remaining Five Questions (Q.2toQ.6) and Q. No.01 shall be based on entire syllabus. Total = 40 Marks

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स्वामी रामानंद तीर्थ
मराठवाडा विद्यापीठ, नांदेड.

SYLLABUS

History

B. A. FIRST YEAR

Semester I & II

Semester Pattern

Under the Faculty of Humanities

Effective from Academic Year 2024-2025

(As per NEP-2020)

Principal
Late Bhimrao Chavan Arts's &
Science College Chavawadi(Barahali)
Tq.Mukhed Dist.Nanded

Message from Hon'ble Vice Chancellor

Dear Stakeholders,

A warm and affectionate welcome to the new entrant students, who are embarking on a new and exciting academic odyssey of higher education of Swami Ramanand Teerth Marathwada University, Nanded. SRTM University has a rich legacy of academic excellence and since its establishment has been striving hard to impart quality education to meet national and global challenges. As a result, SRTMU has become a preferred destination of higher education for the students from various parts of the country and beyond. SRTMU enduring to its vision statement "**Enlightened Student: A Source of Immense Power**" owes meteoric rise of the stakeholders through their empowerment and sustainable development. SRTMU aims to develop strategic action plans to focus its energies and resources on igniting the rural youth by transforming them into thoughtful, productive citizens on a local and global scale through high-quality academic, well-rounded, value-added and experiential learning opportunities.

Higher education is a dynamic process and is characterized to enhance the existing skills, interests, understandings and progress of the learners. In the present scenario it is incumbent for the higher education institutes (HEIs) to shake-up their curriculum and make it more of the learner-centric, skill oriented so that the learners are oriented for the self- employment and self-sustaining skills like start-ups. Such an opportunity is provided by the **National Education Policy 2020** (**NEP-2020**), which aims at equipping students with knowledge, skills, values, leadership qualities and initiates them for lifelong learning.

I am delighted to present the "**Common Credit Framework developed by the university for 3 / 4year undergraduate programs as a part of the implementation of NEP-2020**" from academic year 2024-25. This credit framework offers a plethora of undergraduate, post-graduate, diploma, certificate and research programs. The credit framework is truly learner-centric and provide academic diversity to the learners with ample of opportunities and wide range of flexibility for selection of courses of their choice. As a result, students have options to choose different academic pathways of creative combinations of courses in cross-discipline and blended mode, with an opportunity of **Multiple Entry and Multiple Exit, Flexibility of completing courses at** ease based on his/her own pace. Owing to these characteristics, the new education policy is a path-breaking and transforming policy that enables the students to develop critical and innovative thinking with a major emphasis on acquiring skills and holistic development along with a healthy blend of academics. With a synergy of skill, education, research, training, curricular and extra- curricular activities, exposure to the work cultures in the leading industries through internships and On-Job-Training facilitates the movement of the students through a path of learning, exposure and attitude to becoming job ready professionals. The courses like Indian Knowledge System, Environmental Studies, Constitution of India, Culture Studies, NCC, NSS, Sports, Yoga, Health Fitness, etc, help students to acquire democratic attitude and sense of social and civic responsibilities. Thus, the credit framework

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From the Desk of the Dean:

Swami Ramanand Teerth Marathwada University, Nanded, enduring to its vision statement "***Enlightened Student: A Source of Immense Power***", is trying hard consistently to enrich the quality of science education in its jurisdiction by implementing several quality initiatives. Revision and updating curriculum to meet the standard of the courses at national and international level, implementing innovative methods of teaching-learning, improvisation in the examination and evaluation processes are some of the important measures that enabled the University to achieve ***the 3Es, the equity, the efficiency*** and ***the excellence*** in higher education of this region. To overcome the difficulty of comparing the performances of the graduating students and also to provide mobility to them to join other institutions the University has adopted the cumulative grade point average (CGPA) system in the year 2014-2015. Further, following the suggestions by the UGC and looking at the better employability, entrepreneurship possibilities and to enhance the latent skills of the stakeholders the University has adopted the Choice Based Credit System (CBCS) in the year 2018-2019 at graduate and post-graduate level. This provided flexibility to the students to choose courses of their own interests. To encourage the students to opt the world-class courses offered on the online platforms like, NPTEL, SWAYM, and other MOOCS platforms the University has implemented the credit transfer policy approved by its Academic Council and also has made a provision of reimbursing registration fees of the successful students completing such courses.

SRTM University has been producing a good number of high calibre graduates; however, it is necessary to ensure that our aspiring students are able to pursue the right education. Like the engineering students, the youngsters pursuing science education need to be equipped andtrained as per the requirements of the R&D institutes and industries. This would become possible only when the students undergo studies with an updated and evolving curriculum to match global scenario.

Higher education is a dynamic process and in the present era the stakeholders need to be educated and trained in view of the self-employment and self-sustaining skills like start-ups. Revision of the curriculum alone is not the measure for bringing reforms in the higher education, but invite several other initiatives. Establishing industry-institute linkages and initiating internship, on job training for the graduates in reputed industries are some of the important steps that the University would like to take in the coming time. As a result, revisionof the curriculum was the need of the hour and such an opportunity was provided by the New Education Policy 2020. National Education Policy 2020 (NEP 2020) aims at equipping students with knowledge, skills, values, leadership qualities and initiates them for lifelong learning. As aresult the students will acquire expertise in specialized areas of interest, kindle their intellectual curiosity and scientific temper, and create imaginative individuals.

The NEP-2020 envisages a student-centric educational system with an opportunity to learn multiple courses and programmes and provides a comparable and globally competitive educational system. It transforms the existing Higher Educational System into creative, innovative and research oriented system. In addition to the traditional and time-tested system of continuing with the 3-year educational programme, the NEP provides an opportunity to the

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From Desk of Chairman, Board of Studies of the Subject History

Preamble:

Humanities disciplines, encompassing history, social sciences, literature, and cultural studies, offer a profound insight into the tapestry of human experiences across diverse periods, societies, and cultures. They provide a platform for students to delve into and appreciate the myriad dimensions of human thoughts, emotions, values, and actions. The study of humanities is a catalyst for the development of critical thinking and analytical skills, empowering students to dissect complex texts, interpret varied perspectives, and construct compelling arguments grounded in evidence. These skills transcend academia, proving invaluable in professions ranging from law and journalism to research, policy-making, and business. Beyond professional applications, humanities education cultivates cultural and historical awareness, equipping students with the tools to comprehend the underpinnings of their own society and others.

Exploring Indian history holds profound significance as it not only nurtures cultural identity but also serves as a catalyst for national unity. By delving into the annals of the past, students gain invaluable insights into the rich tapestry of social structures and diversity that have shaped the Indian subcontinent. The study of historical events and movements not only unveils the evolution of the nation but also provides a global perspective, connecting local narratives to wider historical currents. Engaging with Indian history fosters critical thinking skills, enabling individuals to analyze and interpret the complexities of the past. Moreover, it plays a pivotal role in the preservation of India's cultural heritage, ensuring that the collective memory endures through generations. These outcomes collectively empower individuals with a profound understanding of their roots, a broader worldview, and the intellectual tools to make meaningful contributions to society.

I, Dr. Rahul Varvantikar, proudly serve as the Chairman of the Board of Studies in History at Swami Ramanand Teerth Marathwada University in Nanded. I am pleased to announce that we recently conducted a collaborative meeting with distinguished individuals, including Heads and eminent figures from various institutes, totaling 13 members. This gathering resulted in the finalization of the Program Educational Objectives for the Undergraduate program in History. The collective efforts and insights of these esteemed participants have contributed to the formulation of the following Program Educational Objectives, which are now ready for implementation.

1. To offer students a thorough insight into the historical evolution of the Indian subcontinent, the curriculum will delve into diverse epochs, civilizations, empires, socio-political movements, and cultural shifts that have played pivotal roles in shaping the region.
2. To cultivate critical thinking skills in students, the curriculum will actively promote the examination and analysis of historical sources, interpretations, and debates, fostering a

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Swami RamanandTeerthMarathwada University, Nanded

Members of the Board of Studies in the subject of History

Under the faculty of Humanities

Sr. No	Name of the Members	Designation	Address with mail ID	Contact No.
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SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Faculty of Humanities

for Four Year Multidisciplinary Degree Program with Multiple Entry and Exit (For Award of Certificate)

(First Year Structure, Major in History (DSC) w. e. f. 2024-25)

Year & Level	Semester	Optional Subject-1	Optional Subject-2	Optional Subject-3	Generic Elective (GE) (Basket 2) *(Select one each from Group A and B of Basket 2, not related to DSC / DSM in col. 3 and 4)*	Vocational Skill Course (VSC) and Skill Enhancement Course (SEC) VSEC) *(Related to DSC)*	Ability Enhancement Course (AEC) (Basket 4) Value Education Courses (VEC) / Indian Knowledge System (IKS)Basket 5*(Common across faculty)*	OJT, FP, CEP, CC, RP. (On Job Training / Field Project /Community Eng. Services / Co- curricular courses / Research Project) (Basket 4 for CES) *(Common across faculty)*	Credits	Tot Cred
1	2	3	4		5	6	7	8	9	1
I 4.5	1	HHISCT1101 (2 Cr) History of Ancient India (Up to 322BC) HHISCT1102 (2 Cr) History of Maratha Power (1630-1673 AD)	-----	-----	HHISGE1101(2 Cr) A. Social Reformers in Maharashtra	HHISSC1101 (2Cr) Tourism	AECENG1101(2Cr) AECMIL1102(2Cr) *(Hin,Mar,Kan,Pal,etc)* IKS3101 (2Cr) 6 Credits	----	22	44
I 4.5	II	HHISCT1151 (2 Cr) History of Ancient India (322 BC to 647 AD) -I HHISCT1152 (2 Cr) History of Maratha Power (1674-1707 AD)	-----	-----	HHISGE1151 (2 Cr) A. Social Reformers in Maharashtra	HHISSC1151 (2Cr) Tourism	AECENG1151(2Cr) AECMIL1152(2Cr) *(Hin,Mar,Kan,Pal,etc)* VEC151(2 Cr) *ConstitutionofIndia* 6 Credits	----	22	
	Total	08	08	08	04	04	12	-----		

Exit option: UG Certificate in Opt.1, Opt.2, Opt. 3 on completion of 44 credits and additional 4 credits from NSQF Course / Internship

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Faculty of Humanities.
Major in History (DSC) / GE/SEC
Under Graduate First Year Programme, Semester II *(Level 4.5) Teaching Scheme*

	Course Code	Course Name	Credits Assigned			Teaching Scheme (Hrs./ week, 1 Hrs.=60 M.)	
			Theory	Practical	Total	Theory	Practical
Major	HHISCT1151	History of Ancient India (322 BC to 647 AD) -I	02	----	02	02	----
	HHISCT1152	History of Maratha Power (1674-1707 AD)	02	----	02	02	----
Generic Electives	HHISGE1151	Social Reformers in Maharashtra	02	----	02	02	----
Vocational & Skill Enhancement Course	HHISSC1151	Tourism	02	----	02	02	----

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Faculty of Humanities

Major in History

Under Graduate First Year Programme, Semester II *(Level 4.5)*

Examination Scheme

[20% Continuous Assessment (*CA*) and 80% End Semester Examination (*ESE*)]

Subject (1)	Course Code (2)	Course Name (3)	Theory					Total Col (7+8)] (9)
			Continuous Assessment (CA)				ESE	
			Test I (4)	Test II (5)	Assignment (6)	Avg of T1+T2+ Assi. /3 (7)	Total (8)	
Optional	HHISCT1151	History of Ancient India (322 BC to 647 AD) -I	10	10	10	10	40	50
	HHISCT1152	History of Maratha Power (1674-1707 AD)	10	10	10	10	40	50
Generic Electives	HHISGE1151	Social Reformers in Maharashtra	10	10	10	10	40	50
Vocational & Skill Enhancement Course	HHISSC1151	Tourism	10	10	10	10	40	50

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Faculty of Humanities. Major in History

Basket 1(For Semester I & II)

Major / Minor (Optional) Course for Semester I & II (C): Each of 02 Credits

Semester	BOS proposing Minor. (e g.)	Details of Minor Course (M)	
		CODE	Title of the Corse
Semester I	BOS in HIS	HHISCT1101	History of Ancient India (Up to 322BC)
		HHISCT1102	History of Maratha Power (1630-1673 AD)
Semester II	BOS in HIS	HHISCT1151	History of Ancient India (322 BC to 647 AD) -I
		HHISCT1152	History of Maratha Power (1674-1707 AD)

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities Major in History (DSC)

Under Graduate-First Year Progamme, Semester-I & II

Paper Title: History of Ancient India

Curriculum Details

Course pre-requisite

1. Students should possess a genuine curiosity and interest in exploring the past. Ancient Indian History can be complex and diverse, requiring students to delve into different aspects of society, culture, politics, and religion.

2. Ancient Indian history is interconnected with various disciplines such as archaeology, anthropology, sociology, linguistics, and religious studies. Students should be open to exploring these interdisciplinary connections and incorporating diverse perspectives into their study of ancient Indian history.

3. Ancient Indian history involves analyzing and interpreting historical sources, evaluating different perspectives, and constructing well-reasoned arguments. Students to develop analytical and critical thinking skills to comprehend and critically assess historical evidence and interpretations.

Course objectives

1. To familiarize students with different types of historical sources such as inscriptions, archaeological remains, literary texts, and accounts of foreign travelers. Students will learn to critically evaluate these sources and understand their limitations in reconstructing ancient Indian History.

2. To provide them with a comprehensive understanding of the ancient history of the Indian subcontinent. This includes the study of ancient civilizations, societies, cultures, political systems, and major historical events that shaped India's past.

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities Major in History (DSC)

Under Graduate-First Year Progamme, Semester-I

Paper Code- HHISCT1101

Paper Title: History of Ancient India (Up to 322 BC)

(Major)

***Curriculum Details* (For 2 Credits)**

Module No.	Unit No.	Name of Topic	Hrs. Required to cover the contents 1 Hrs.=60 M.
1. 0		**Sources**	07
	1.1	Meaning of Sources	
	1.2	Archaeological Sources	
	1.3	Literary Sources	
2.0		**Indus Valley Civilization**	07
	2.1	Indus Valley Civilization	
	2.2	Salient Features	
	2.3	Causes of Decline	
3.0		**Vedic Age**	08
	3.1	Pre Vedic-Age- Political, Social, Religious and Economic life	
	3.2	Post Vedic Age- Political and Social life	
	3.3	Post Vedic Age-Religious and Economic life	
4.0		**Jainism and Buddhism in India**	08
	4.1	Sixteen Mahajanapada	
	4.2	Mahavir Vardhaman: Early life and his Philosophy	
	4.3	Gautam Buddha: Early life and his Philosophy	
		Total	**30**

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Course outcomes

1. Students will acquire a comprehensive knowledge and understanding of the life, achievements, and reign of Shivaji Maharaj. They will develop a detailed understanding of his early years, military campaigns, administrative reforms, and his role in establishing the Maratha Empire.

2. Students will gain a deeper understanding of the socio-political context in which Shivaji Maharaj operated. They will learn about the political landscape of medieval India, including the Mughal Empire, the Deccan Sultanates, and other regional powers, and how Shivaji Maharaj navigated these dynamics.

3. Students will explore the administrative reforms introduced by Shivaji Maharaj. They will analyze the decentralized administrative system, revenue administration, justice administration, and policies promoting religious tolerance.

4. Students will engage in comparative studies by analyzing Shivaji Maharaj's reign in relation to other contemporary and preceding rulers and empires. They will understand the different historiographical perspectives on Shivaji Maharaj and his legacy, and evaluate the influence of political, social, and cultural factors on historical interpretations.

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities Major in History (DSC)

Under Graduate-First Year Progamme, Semester-II

Paper Code- HHISCT1152

Paper Title: History of Maratha Power (1674-1707 AD)

(Major)

Curriculum Details (For 2 Credits)

Module No.	Unit No.	Name of Topic	Hrs. Required to cover the contents 1 Hrs.=60M.
1. 0		**Coronation of Chhatrapati Shivaji Maharaj**	07
	1.1	Causes	
	1.2	Course	
	1.3	Effects of Coronation	
2.0		**Karnataka Expedition**	07
	2.1	Causes	
	2.2	Course	
	2.3	Effects Karnataka Expedition	
3.0		**Chhatrapati Sambhaji Maharaj**	08
	3.1	Relation with Adilshahi	
	3.2	Relation with Mughal	
	3.3	Relation with Portuguese, British and Siddi	
4.0		**Maratha War of Independence**	08
	4.1	Chhatrapati Rajaram Maharaj	
	4.2	Maharani Tarabai	
	4.3	Santaji Ghorpade and Dhanaji Jadhav	
		Total	30

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities Major in History (DSC)

Under Graduate-First Year Progamme, Semester-I & II

Paper Title: Social Reformers in Maharashtra (Generic Elective) (GE)

Curriculum Details **(For 2 Credits)**

Course pre-requisite

1. Students should have some knowledge of Maharashtra's society, culture, and traditions, including its diverse communities, languages, and religious practices.

2. Social reformers often challenge existing norms, traditions, and practices. Students should cultivate an open-minded and empathetic approach to appreciate the reformers perspectives, motivations, and contributions.

3. Students should have a basic knowledge of Maharashtra's history, including its political, social, and cultural developments. This will provide a framework for understanding the specific context in which Social Reformers emerged and operated.

Course objective

1. To familiarize students with the significant social reformers who have played a pivotal role in shaping Maharashtra's society

2. To gain a deeper understanding of the historical, cultural, and societal context in which these reformers emerged. The objective is to cultivate an appreciation for the rich heritage of Maharashtra and its impact on social transformation.

3. To delve into the ideologies and philosophies espoused by social reformers of Maharashtra, by examining their beliefs and principles.

4. This paper intends to foster an active engagement with contemporary social issues by drawing connections between the work of Social Reformers and current challenges faced by society.

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities Major in History (DSC)

Under Graduate-First Year Progamme, Semester-I

Paper code- HHISGE1101

Paper Title: Social Reformers in Maharashtra

(Generic Elective) *(GE)*

Curriculum Details (For 2 Credits)

Module No.	Unit No.	Name of Topic	Total Hrs.
1.0		**Social Reform Movement in Maharashtra**	08
	1.1	Causes	
	1.2	Effects	
	1.3	Importance	
2.0		**Gopal Hari Deshmukh (Lokhitwadi)**	08
	2.1	Early life	
	2.2	Social contribution	
	2.3	Shatpatre	
3.0		**Mahatma Jotirao Phule**	07
	3.1	Early life	
	3.2	Social contribution	
	3.3	Educational Contribution	
4.0		**Gapal Ganesh Agarkar**	07
	4.1	Early Life	
	4.2	Social Contribution	
	4.3	Sudharak	
		Total	30

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities Major in History) DSC(

Under Graduate-First Year Progamme, Semester-I & II

Paper Title: Tourism (SEC)

Curriculum Details (For 2 Credits)

Course pre-requisite

1. Students should have the brief introduction of Tourism.
2. Students have knowledge about tourist place and transport.
3. Students also known the historical place for tourism.

Course objectives

1. To introduce the students about Tourism history, types.
2. Students should aware about MTDC and ITDC and their function
3. Students understand the Caves, Temples, Forts and importance of these places.
4. To create awakening to conserve the heritage by way of establishing Tourist places.

Course outcomes

1. Students will understand about conservation of tourist places.
2. Students will able for their vocational career through Tourism.
3. Students have jobs in MTDC and ITDC.
4. Students will help to conserve tourist places nearby them.

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Swami RamanandTeerthMarathwada University, Nanded

Faculty of Humanities Major in History) DSC(

Under Graduate-First Year Progamme, Semester-II

Paper Code- HHISSC1151

Paper Title: Tourism (SEC)

***Curriculum Details* (For 2 Credits)**

Module No.	Unit No.	Topic	Hrs. Requiredtocover thecontents 1Hrs.=60M.
1.0		**Caves**	**08**
	1.1	Introduction of Caves	
	1.2	Ajanta, Ellora (Verul),	
	1.3	Shiur, Mahur	
2.0		**Temples**	**08**
	2.1	Introduction of Temple	
	2.2	Hottal, Aundha Nagnath,	
	2.3	Parli Vaijanath, Nilkantheshwar (Nilanga)	
3.0		**Forts**	**07**
	3.1	Introduction of Forts and their Types	
	3.2	Devgiri, Kandhar,	
	3.3	Mahur, Udgir	
4.0		**Memorials**	**07**
	4.1	Introduction of Memorials	
	4.2	Bibi ka Makabara, Dikshabhumi	
	4.3	Gurudwara (Nanded), Manstambha (Parbhani)	
		Total	**30**

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Tq.Mukhed Dist.Nanded

Swami RamanandTeerthMarathwada University, Nanded

Faculty of Humanities Major in History (DSC)

End of Semester Examination (ESE)

Question Paper Pattern (2 Credits)

Semester Pattern with Effective from 2024-2025

1) Write short's note (Any Two) **(10 Marks)**

a)

b)

c)

d)

2) Descriptive Question **(10 Marks)**

3) Descriptive Question **(10 Marks)**

4) Descriptive Question **(10 Marks)**

5) Descriptive Question **(10 Marks)**

6) Descriptive Question **(10 Marks)**

Total = 40 Marks

Note:

1. Question 1 shall be mandatory and shall be based on entire Syllabus
2. Students need to solve **Any Three** of the remaining Five Questions (Q. 2 to Q.6)

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Tq.Mukhed Dist.Nanded

॥ सा विद्या या विमुक्तये ॥

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

'ज्ञानतीर्थ', विष्णुपुरी, नांदेड – ४३१ ६०६ (महाराष्ट्र राज्य) भारत

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

'Dnyanteerth', Vishnupuri, Nanded - 431 606 (Maharashtra State) INDIA

Established on 17th September, 1994, Recognized By the UGC U/s 2(f) and 12(B), NAAC Re-accredited with 'B++' grade

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Academic-I (BOS) Section

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E-mail: bos@srtmun.ac.in

शैक्षणिक वर्ष २०२४–२५ पासून लागू केलेल्या मानवविज्ञान विद्याशाखे अंतर्गत राष्ट्रीय शैक्षणिक धोरणानुसार पदवी स्तरावरील प्रथम वर्षाच्या सुधारित (दुरूस्ती) अभ्यासक्रमा बाबत...

प रि प त्र क

संदर्भ:– जा.क्र.शै–१/एनईपी/विविधविषपदवी/२०२४–२५/१०६ दिनांक १०/०६/२०२४

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, संदर्भीय परिपत्रकान्वये दिनांक १५ मे २०२४ रोजी संपन्न झालेल्या मा.विद्यापरिषदेच्या विषय क्र. १६/५१–२०२४ अन्वये मान्यता दिल्यानुसार मानवविज्ञान विद्याशाखे अंतर्गत राष्ट्रीय शैक्षणिक धोरणानुसार पदवी प्रथम वर्षाचे अभ्यासक्रम शैक्षणिक वर्ष २०२४–२५ पासून लागू करण्यात आलेले आहेत.

तथापी वरील संदर्भीय परिपत्रका अन्वये प्रकाशित केलेल्या अभ्यासक्रमामध्ये अभ्यासमंडळानी किरकोळ दुरूस्ती करून सुधारित अभ्यासक्रम सादर केला आहे. मा.अधिष्ठाता मानवविज्ञान विद्याशाखा यांच्या मान्येतेने खालील दुरूस्तीसह सुधारित अभ्यासक्रम लागू करण्यात येत आहेत.

01	B.A. I Year- Economics (Affiliated Colleges)

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी, ही विनंती.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.:शै–१/एनईपी/पदवीअभ्यासक्रम/२०२४–२५/३५०
दिनांक २३.०८.२०२४

डॉ. सरिता लोमटवार
महा.कुलसचिव
शैक्षणिक (१–अभ्यासमंडळ) विभाग

प्रत १) मा अधिष्ठाता, मानवविज्ञान विद्याशाखा, प्रस्तुत विद्यापीठ.
२) मा संचालक, परीक्षा व मुल्यमापन मंडळ, प्रस्तुत विद्यापीठ
३) मा प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ
४) मा संचालक, सर्व संकुले परिसर व उपपरिसर, प्रस्तुत विद्यापीठ

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Ta.Mukhed Dist.Nanded

Forward by the Dean, Faculty of Humanities

From the Desk of the Dean

To meet the challenge of ensuring excellence in undergraduate programme Humanities education, the issue of quality needs to be addressed, debated, and taken forward in a systematic manner. Accreditation is the principal means of quality assurance in higher education. The major emphasis of accreditation process is to measure the outcomes of the program that is being accredited. In line with this Faculty of Humanities of Swami Ramanand Teerth Marathwada University Nanded has taken a lead in incorporating philosophy of outcome-based education in the process of curriculum development.

Faculty of Humanities, Swami Ramanand Teerth Marathwada University Nanded, in one of its meetings unanimously resolved that, each Board of Studies shall prepare some Program Educational Objectives (PEO's) and give freedom to affiliated Institutes to add few (PEO's) and course objectives and course out comes to be clearly defined for each course, so that all faculty members in affiliated colleges understand the depth and approach of course to be taught, which will enhance learner's learning process. It was also resolved that, maximum senior faculty from colleges and experts from industry to be involved while revising the curriculum. We are happy to state that, each Board of studies has adhered to these solutions passed by Faculty of Humanities, and developed curriculum accordingly. In addition to outcome-based education, semester-based credit and grading system is also in traduced to ensure quality of education.

Semester based Credit and grading system enables a much-required shift in focus from teacher-centric to learner-centric education since the workload estimated is based on the investment of time in learning and not in teaching. It also focuses on continuous evaluation which will enhance the quality of education. Swami Ramanand Teerth Marathwada University, Nanded has taken a lead in implementing the system through its affiliated Institutes and Faculty of Technology has devised a transparent credit assignment policy and adopted ten points scale to grade learner's performance. Credit assignment for courses is based on 15 weeks teaching learning process, however content of courses is to be taught in 12-13 weeks and remaining 3-2 weeks to be utilized for revision, guest lectures, coverage of content beyond syllabus etc.

Credit and grading based system will be implemented for First Year of Humanities from the Academic Year 2024-2025. Subsequently this system will be carried forward for Second Year Humanities in the academic year 2025-2026, for Third Year and Final Year Humanities in the academic years 2026-2027 and 2027-2028 respectively.

Dr. Parag Khadke, Dean, Faculty of Humanities,
Dr. Shailaja Wadikar, Associate Dean, Faculty of Humanities
Swami Ramanand Teerth Marathwada University, Nanded

Principal
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Tq.Mukhed Dist.Nanded

Swami Ramanand Teerth Marathwada University, Nanded

Members of the Board of Studies in the subject of Economics

Under the Faculty of Humanities

Sr. No.	Name of the Member	Designation	Address with Email id	Contact No.
1	**Dr. L. H. Patil**	*Chairman*	Shivaji Mahavidhyalya, Udgir	9421365316
2	**Dr. P. P. Lonarkar**	*Member*	School of Social Science this University, Nanded.	7745083377
3	**Dr. S. U. Kadam**	*Member*	School of Social Science this University, Nanded.	8698063223
4	**Dr. V. V. Sukale**	*Member*	Peoples College Nanded.	9423345145
5	**Dr. D. D. Bhosale**	*Member*	Yeshwant Mahavidyalaya, Nanded.	7020560852
6	**Dr. C. P. Karkare**	*Member*	K.R.M Mahila Mahavidyalaya, Nanded.	9923330669
7	**Dr. R. V. Kirtankar**	*Member*	Narayanrao Waghmare College Akhda Balapur.	8788823804
8	**Dr. V. C. Belure**	*Member*	S. C. Mahavidyalaya, Ardhapur, Dist. Nanded.	8329263854
9	**Dr. P. R. Muthe**	*Member*	Yeshwant Mahavidyalaya, Nanded.	9421359542
10	**Dr. B. T. Ghute**	*Member*	Dayanand College of Arts, Latur.	8329408608
11	**Dr. A. D. Wadkar**	*Member*	Shri Kumarswami Mahavidyalaya, Ausa, Dist. Latur.	9822411978
12	**Dr. Ganesh Gawande**	*Member*	Nirmal Krida & Samaji Prabodhini Trust ACS College, Badnapur.	9422716106
13	**Dr. S. U. Mandle**	*Invitee Member*	Smt. Sushiladevi Deshmukh Mahila Mahavidyalaya, Latur.	9503205145
14	**Prof. S. R. Bhuyare**	*Invitee Member*	Rajiv Gandhi Mahavidyalaya, Mudkhed, Dist. Nanded.	9011810212
15	**Dr. T. V. Powale**	*Invitee Member*	Late Babasaheb Deshmukh Gorthekar ACS Mahavidyalaya, Umri.	9403117084
16	**Dr. G. P. Lodhe**	*Invitee Member*	D.S.M. College of Arts, Commerce & Science, Parbhani.	9403393016
17	**Dr. A. R. Kavthale**	*Invitee Member*	Havgi Swami Mahavidyalaya, Udgir, Dist. Latur.	8793739157
18	**Dr. B. P. Gadekar**	*Invitee Member*	Rajarshi Shahu Mahavidyalaya (Autonomous), Latur.	9975137364

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Abbreviations:

1. **DSC :** Department /Discipline Specific Core (Major)
2. **DSE :** Department /Discipline Specific Elective (Major)
3. **DSM :** Discipline Specific Minor
4. **GE/OE :** Generic /Open Elective
5. **VSEC :** Vocational Skill and Skill Enhancement Course
6. **VSC :** Vocational Skill Courses
7. **SEC :** Skill Enhancement Courses
8. **AEC :** Ability Enhancement Courses
9. **MIL :** Modern Indian Languages
10. **IKS :** Indian Knowledge System
11. **VEC :** Value Education Courses
12. **OJT :** On Job Training : (Internship/Apprenticeship)
13. **FP :** Field Projects
14. **CEP :** Community Engagement and Service
15. **CC :** Co-Curricular Courses
16. **RM :** Research Methodology
17. **RP :** Research Project/Dissertation

Late Bhimrao Chavan Arts's & Science College Chawadi(Barahali) Ta.Mukhed Dist.Nanded
Principal

General Guidelines for course structure:

1. The Major subject is the discipline or subject of the main focus and the degree will be awarded in that discipline /subject
2. Credits and curriculum for optional subjects are same in the first year .
3. In the first year students should choose three different subjects as optional subject in the same faculty .
4. From the second year curriculum of major and minor subjects is the different and student have to select major and minor from three optional subjects.
5. Generic /open elective is to be chosen compulsorily from faculty other than that of the Major.(select from Basket)
6. Vocational and skill enhancement courses (VSEC or VSC and SEC) are related to Major Courses (DSC).
7. Ability Enhancement Courses (AEC):
    a) English language may be offered semester I for 2 credits and sem. III for 2 Credit in AEC.
    b) Second languages may be offered sem. II for 2 credits and sem. IV for 2 credit in MIL.
8. Colum no.8 and 9 is common for all faculties .
9. Curriculum of VEC ,COI ,IKS and CCC will provide university.

Late Bhimrao Chavan Arts's & Science College Chaswad(Barahali) Tq.Hadgaon Dist.Nanded

Principal

Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities Major in Economics

Basket 3: Generic/Open Elective course (GE)

Each BOS will suggest Generic Elective Courses (minimum one and maximum four) for semester I and II

		CODE	Title of the Corse
Sem. I	BOS in Economics	HECOGE1101	Economics for Competitive Examination-I
Sem. II	BOS in Economics	HECOGE1151	Economics for Competitive Examination-II

Note:

GE is to be chosen compulsory from faculty other than that of the Major.

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Swami Ramanand Teerth Marathwada University, Nanded
Faculty of Humanities

Basket 5: Indian Knowledge System *(02 Credits)*

(Each BOS will suggest minimum one paper with curriculum of Indian Knowledge System for semester II)

Semester	Details of Elective Course(s)	
	CODE	Title of the Corse
Semester II	IKSECO1101	Indian Knowledge System (IKS)

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Ta.Mukhed Dist.Nanded

Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities. Major in Economics

Under Graduate First Year Programme, Semester I *(Level 4.5)*

Teaching Scheme

	Course Code	Course Name	Credits Assigned			Teaching Scheme (Hrs./ week 1 Hrs.=60 M.)	
			Theory	Practical	Total	Theory	Practical
Optional (M1)	HECOCT1101	Indian Economy-I	02		02	02	
	HECOCT1102	Environmental Economics-I	02		02	02	
Optional (M2)	HECOCT1101		02		02	02	
	HECOCT1102		02		02	02	
Optional (M3)	HECOCT1101		02		02	02	
	HECOCT1102		02		02	02	
Generic Electives	HECOGE1101	Economics for Competitive Examination-I	02		02	02	
Vocational & Skill Enhancement Course	**HECOSC1101**	**E-banking**	02		02	02	
Ability Enhancement Course /Languages	AECENG1101	Compulsory English	02		02	02	
Ability Enhancement Course /Languages	AECXXX1101	Hin, Mar, Kan, Pali etc.	-	02	02	--	02
Value Education Course (VEC)	**IKSECO1101**	**Indian Knowledge System (IKS)**	02		02	02	
Total Credits			**20**	**02**	**22**	**20**	**02**

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Ta.Mukhed Dist.Nanded

Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities

Major in Economics

Under Graduate First Year Programme, Semester I *(Level 4.5)*

Examination Scheme

[20% Continuous Assessment (*CA*) and 80% End Semester Examination (*ESE*)]

Subject (1)	Course Code (2)	Course Name (3)	Theory					
			Continuous Assessment (CA)			Avg of T1+T2+Assi./3 (7)	ESE	Total Col. (6+7) / (09)
			Test I (4)	Test II (5)	Assignment (6)		Total (8)	
Optional 1,2,3	HECOCT1101	Indian Economy-I	10	10	10	10	40	50
	HECOCT1102	Environmental Economics-I	10	10	10	10	40	50
Generic Electives	HECOGE1101	Economics for Competitive Examination-I	10	10	10	10	40	50
Vocational & Skill Enhancement Course	HECOSC1101	E-banking	10	10	10	10	40	50
Ability Enhancement Course /Languages	AECENG1101	Compulsory English	10	10	10	10	40	50
Ability Enhancement Course /Languages	AECXXX1101	Hin, Mar, Kan, Pali etc.	10	10	10	10	40	50
Indian Knowledge System (IKS)	IKSECO1101	Indian Knowledge System (IKS)	10	10	10	10	40	50
			--	--	--	--	--	50

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Late Bhimrao Chavan Arts's & Science College Chavawadi(Barahali) Ta.Mukhed Dist.Nanded

Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities.

Major in Economics (DSC/DSM)

Under Graduate First Year Programme Semester I & II

Course Structure : ***Optional 1,2,3 - Teaching Scheme***

(for 2 credits)

CourseCode	Course Name (Paper Title)	Teaching Scheme (Hrs.)		Credits Assigned		
		Theory	CA	Theory	CA	Total
HECOCT 1101	Indian Economy	30	---	02	---	02
HECOCT 1102	Environmental Economics	30	---	02	---	02

(for 2 credits)

CourseCode	Course Name (Paper Title)	Teaching Scheme (Hrs.)		Credits Assigned		
		Theory	CA	Theory	CA	Total

Principal
Late Bhimrao Chavan Arts's &
Science College Chavawadi(Barahali)
Ta.Mukhed Dist.Nanded

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Faculty of Humanities.

B.A. (First Year)

Subject : Economics

End of Semester Examination (ESE)

Question Paper Pattern

Optional M1/M2/M3 (2 Credits)

Semester Pattern with Effective from 2024-2025

Note: 1. First question is compulsory.

2. Attempt any three questions from question no. 2 to 6

Q.1. Write short notes on any two (Compulsory) (10 Marks)
(Based on entire syllabus)

i)

ii)

iii)

iv)

Q.2. Descriptive Question (10 Marks)

Q.3. Descriptive Question (10Marks)

Q.4. Descriptive Question (10 Marks)

Q.5. Descriptive Question (10 Marks)

Q.6. Descriptive Question (10 Marks)

Total = 40 Marks

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C. Assessment of Term Work/ Tutorial/ Field Works :

At least 06 test / assignments covering entire syllabus must be given during the 'class wise tutorial'. The assignments should be students' centric and attempts be made to make assignments more meaningful, interesting, and innovative.

Term work assessment must be based on overall performance of the student with every assignment graded time to time. The grades be converted to marks as per 'credit and grading system' manual and should be added and averaged.

D. Assessment of Community Engagement Services :

Students have freedom to take more than one CES courses, however, marks of the best performing CES be considered for final assessment. Assessment of the CES courses be done by the respective course coordinators depending on the performance of the student and his participation in the international, national, state, university, college level events or camps, wherever applicable. In other cases performance of a student be assessed depending on his/her regularity, participation in the regular activities in the semester.

Note : Number of lectures required to cover syllabus of a course depend on number of credit assigned to it. For example, for a two credit course, 30 lectures each of one hour duration are assigned, while that for a three credit course 45 lectures.

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Faculty of Humanities

Optional in Economics

Under Graduate First Year Programme, Semester - I

Paper Code : HECOCT1101

Paper Title : Indian Economy-I

Course Contents (for 02 credits)

Module No.	Unit No.	Name of Topic	Hrs. Req. to cover the contents 1Hrs. =60M
1.0		**Structure of Indian Economy :**	
	1.1	Meaning & types of economy- Capitalist, Socialist and Mixed economy	08
	1.2	Characteristics of Indian economy	
	1.3	Economic infrastructure - Energy - importance, sources, crisis and measures., Transport - types, problems and progress.	
2.0		**Major Challenges Before Indian economy :**	
	2.1	Population –Causes of growing population , Unemployment – (meaning, causes)	08
	2.2	Poverty and Inequality (meaning, and Causes)	
	2.3	Human Development Index – meaning & components	
3.0		**Planning in India :**	
	3.1	Meaning, Objectives and demerits of India's economic planning.	08
	3.2	NITI Aayog - composition, features, objectives, and functions.	
	3.3	Difference between planning commission and NITI Aayog.	
4.0		**Environmental Issues :**	
	4.1	Climate change, global warming - causes effects and measures.	06
	4.2	Sustainable Development - goals and achievements.	
	4.3	Green economy - carbon footprint and carbon trading.	
Total			**30**

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Faculty of Humanities

Optional in Economics

Under Graduate First Year Programme, Semester - I

Paper Code : HECOCT1102, Title : Environmental Economics-I

Curriculum Details (for 2 Credits)

Introduction:

Today, the rate of economic development is decreasing due to environmental degradation at the global level, and if the environmental degradation continues at the same rate, there is a fear that the rate of development will become negative. Therefore, the awareness of how important it is to conserve the environment at the global, national and state level has come to the government level. It is the need of the hour to become a people's movement and protect the environment. In order to realize that future citizens mean today's students, in economics in humanities faculty in higher education, environmental economics is given a special place, and the above paper is kept in the course, what is the relationship between economy and environment among students? By making the students aware of this, developing a holistic approach in the students for the environmental problems and the various issues arising from it, instead of exploiting the natural resources provided by nature, by conserving them, the awareness of how those resources can be used for the sustainable development of the economy comes to the students through the gradual course. This course has been designed in that regard.

Course Objectives:

1. Creating environmental awareness among students.
2. To familiar students with environmental problems and injuries on the environment.
3. To aware students for conservation of natural resources.
4. To generate self-awareness among students for environment protection.

Course Outcomes:

1. Students will have full knowledge of the interrelationship between economy and environment and students will love the environment.
2. By educating the students about the environmental issue, they become aware of what to do for environmental conservation.
3. Students understand the importance of natural resources in human life and economy.
4. Students realize the importance of environmental education and social awareness for environmental conservation.

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References:

1. Gully Baba com panel, *'Environmental economics'*, Gullybaba publishing house.
2. Joshi , M.V.(2005), *'Theories and approaches of environmental economics'*, by Atlantic publishers and distributors private limited Edition.
3. Mukherjee Sampat, Ghosh Amrita, Bhatt Vipul, Mukherjee Lalima (2021), *'Analytical environmental economics'*, by Global Net publication.
4. Niranjan Das, Karunaphukan, (2022), *'Environmental economics'*, Vidyabhavan publication.
5. Rabindra N Bhattacharya, (Edited) (2022), *'Environmental economics an Indian perspective'*, Oxford University press.
6. झामरे जी. एन., (2011); 'भारतीय अर्थव्यवस्था विकास व पर्यावरणात्मक अर्थशास्त्र', अँड कंपनी पब्लिशर्स. नागपूर.
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9. वराट तु.म., (2004); 'पर्यावरणशास्त्र एक अभ्यास', रेणुका प्रकाशन,औरंगाबाद.
10. वाडकर अनिल दि. (संपा.) (2021), *पर्यावरण संवर्धन एवं महिला सम्मान*, अरुणा प्रकाशन, लातूर.
11. भोगे दिलीप, (2019); 'पर्यावरण अभ्यास', अरुणा प्रकाशन, लातूर.

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Faculty of Humanities

Generic Elective

Undergraduate First Year Programme Semester-I

Paper Code : HECOGE1101

Course Title: Economics for Competitive Examination Part – I

Curriculum Details (for 2 Credits)

Module No.	Unit No.	Name of Topic	Hrs. required to cover the contents 1 Hrs. = 60 Min
1.0		Nature of Indian Economy	06
	1.1	Demographic features of Indian Economy	
	1.2	Poverty and Unemployment – Meaning and Types	
	1.3	Growth and Development- Meaning and difference	
2.0		**Budget**	08
	2.1	Meaning and objectives of Budget	
	2.2	Types of Budget	
	2.3	Revenue Expenditure and Capital Expenditure – Meaning and features	
3.0		**Agriculture**	08
	3.1	Role of Agriculture sector in Indian Economy	
	3.2	Farm Subsidies – Meaning and Types	
	3.3	Minimum Support Prices – Meaning and Objective	
4.0		**Economy of Maharashtra**	08
	4.1	Features of Economy of Maharashtra	
	4.2	Challenges before Economy of Maharashtra	
	4.3	Regional Imbalance in Maharashtra (Brief)	
		Total	30

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Faculty of Humanities

(Vocational & Skill Enhancement Course)

Paper Code :HECOSC1101

Course Title: E-Banking

Course Contents (for 2 credits)

Outline of Course:

Prepare for background of student modern E-banking transaction like UPI, Mobile Banking, SMS Banking, Internet Banking. Students should know about modern E-banking tools like ATM, Debit Card and Credit Card. Student should know about payment getways from E-banking system. Student should know about new modern transaction through internet by E-banking tools.

Objectives:

5. Prepare background of students for E-banking transaction
6. To provide information about the E-banking tools
7. To give knowledge for student about modern E-banking through internet
8. Student should aware of Cyber Security in E-banking

Outcomes:

At the end of the course the students should be able to:

5. Acquaint the student with the nature of E-banking transaction
6. Student know about the difference between traditional banking and modern E-banking
7. Student get aware E-banking tools developed through internet
8. Student know about scenario of overall E-banking

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References-

1. Mahmood Shah & Steve Clarke, **'E Banking Management, Issues, Solution & Strategies'**, Information of Science Reference, Hershey New York ,2009
2. K.N. Subrahmanya, **'Modern Banking In India'**, Deep & Deep Publications, New Delhi Bank Finance For Rural Development: L K Naidu, Ashish publishing house. Delhi.
3. Kaptan SS & Choubey N S., "E-Indian Banking in Electronic Era", Sarup & Sons, New Delhi, 2003.
4. Banking Technology - Indian Institute of Bankers Publication.
5. https://www.fortinet.com/blog/industry-trends/cybersecurity-in-banking
6. महादेव रिठे आणि संतोष कुटे, **'आधुनिक बँकिंग प्रणाली'**, प्रशांत पब्लिकेशन्स,जळगाव, 2018
7. एन.एल.चव्हाण, 'बँकिंगची मुलतत्वे आणि कार्यपद्धती', प्रशांत पब्लिकेशन्स, जळगाव, 2019
8. बाबासाहेब सांगळे व इतर , 'बँक व्यवसाय आणि वित्तपुरवठा', सावित्रीबाई फुले विद्यापीठ

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IKS – I

INTRODUCTION TO INDIAN KNOWLEDGE SYSTEMS

Course level: UG **Semester: I**

Credits: 02 **Hours: 30**

Course Description:

This course aims to provide a comprehensive understanding of the rich and diverse knowledge systems that have evolved in India over centuries. It is focused towards various aspects of Indian knowledge, encompassing contributions to humanities, Science, Technology, Engineering and Mathematics fields. Through four modules, undergraduate level students will gain insights into the foundational concepts, historical developments, and contemporary relevance of Indian knowledge systems.

Course Objectives:

1. Introduce foundational concepts and philosophical underpinnings of Indian knowledge systems.
2. Explore contributions to humanities, including literature, art, music, and philosophy.
3. Explore the achievements and relevance in Science, Technology, Engineering and Mathematics (STEM) fields such as mathematics, astronomy, medicine, Ayurved, architect, engineering, town planning, water management, etc.

Course Outcomes:

1. Explain fundamental principles and concepts of Indian knowledge systems.
2. Analyze contributions to humanities, recognizing cultural and artistic significance.
3. Assess impact of Indian achievements in STEM fields on global knowledge systems.

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4. Supriya Lakshmi Mishra, Culture and History of Ancient India (With Special Reference of Sudras), 2020.
5. Ranganathananda, Swami. The Massage of the Upanishads. Bombay: Bharathya Vidya Bhaven, 1985.
6. DK Chakkrabarty, Makkhan Lal, History of Ancient India (Set of 5 Volumes), Aryan book Internation publication, 2014
7. Introduction to Indian Knowledge System, B. Mahadevan, V. R. Bhat, Nagendra Pavana R. N., PHI. 2022
8. Yoga System of Patanjali, J. H. Woods, Bharatiya Kala Prakashan 2009
9. Indian Philosophy – Vol I and II, S. Radhakrishnan, Oxford University Press. 2009
10. Mayamatam – Indian Treatise on Housing, Architecture and Iconography (2 volumes), Bruno Daegens, Indira Gandhi National centre for Arts. 2007
11. Glimpse into Kautilya's Arthashastra, Ramachandrudu P., Sanskrit Academy, Hyderabad. 2010
12. Vedic Mathematics, Jagadguru Swami Sri Bharati Krsna Tirathji Maharaj, Motilal Banarsidass Publishers, Delhi 1965

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अभ्यासक्रम:

MODULE 1: भारतीय ज्ञान परंपरेची ओळख

1. परिभाषा
2. उद्दिष्टे
3. समकालीन महत्व
4. भारतीय शिक्षण आणि शैक्षणिक संस्थांचा ऐतिहासिक आढावा

MODULE 2: भारतीय तत्त्वज्ञान प्रणाली

1. आस्तिक प्रणाली : (सांख्य, योग, वैशेषिक, न्याय, पूर्व मीमांसा आणि उत्तर मीमांसा)
    - स्वरूप, संकल्पना आणि साहित्य
2. नास्तिक प्रणाली : (बौद्ध धर्म, जैन धर्म आणि चार्वाक)
    - स्वरूप, संकल्पना आणि साहित्य

MODULE 3: मानवतावादातील योगदान

1. भारतातील शास्त्रीय भाषांची ओळख (संस्कृत, पाली, मागधी)
2. प्राचीन भारतीय कला (संगीत, नाटक) आणि स्थापत्यकला (मंदिर आणि शहर नियोजन) यांची ओळख
3. सामाजिक संस्थांवरील भारतीय तत्वविचार (पुरुषार्थ, आश्रम, धर्म आणि मूल्ये)
4. भारतीय अर्थशास्त्र आणि नीतिशास्त्राची ओळख (मूलभूत संकल्पना)

MODULE 4: एसटीईएम (STEM) (विज्ञान, तंत्रज्ञान, अभियांत्रिकी आणि गणित) मध्ये योगदान

1. भारतातील गणित आणि खगोलशास्त्राचा ऐतिहासिक विकास
2. आरोग्य आणि औषधोपचार पद्धतींची ओळख: आयुर्वेद आणि जीवनशैली (ऋतूचर्या, दिनचर्या इत्यादी) यांचा चरक, सुश्रुतआणि वाग्भट यांच्यासंदर्भात आढावा
3. धातुकर्म आणि पदार्थ विज्ञानाशी संबंधित प्राचीन भारतीय तंत्रज्ञान आणि उपलब्धी
4. प्राचीन भारतीय शेती पद्धती

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Faculty of Humanities

Optional in Economics

Under Graduate First Year Programme, Semester - II

Paper Code : HECOCT1151

Paper Title : Indian Economy-II

Curriculum Details (for 2 Credits)

Course pre-requisite :

Students should know about broad structure of the Indian Economy and inter sectorial relationship of the sectors of the Indian Economy. Student may broadly aware of issues before Indian economy. They must ready to know about recent policy changes and their effects on all sectors and sub sectors of the economy.

Course Objectives :

1) To provide information about types of economy and sectors of economy
2) To endeavor to provide useful insights to the students about the present economic standing and composition of the Indian economy, the major sectors and their relative importance in the Indian economy.
3) To make students aware of major challenges faced by the Indian Economy.

Course Outcomes :

At the end of the course the students should be able to :

1) Acquaint the students with structure of the Indian Economy and changes taking place therein.
2) Know the progress of Indian planning and policy frame work of Indian Economy.
3) Understand the problems of the Indian Economy i.e. Population, Unemployment, Poverty.
4) Get aware of challenges before Indian Economy and remedies for it.
5) Know about sector wise contribution in Indian Economy.
6) Able to formulate the strategy for the economic development in India.
7) Able to evaluate impact of LPG policies on economic growth in India.

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Recommended Text books/ Reference:

1. Ahluwalial. J. and I.M.D. Little (1999), *India's Economic Reforms and Development* (Essays in Honour of Manmohan Sing), Oxford University Press, New Delhi.
2. Bardhan P. K.(9th Edition)(1999), *The Political Economy of Development in India*, Oxford University Press, New Delhi.
3. Bawa R.S. and P.S. Raikhey (Ed) (1977), *Structural Changes in Indian Economy*, Guru Nanak Dev University Press, Amritsar.
4. Brahmananda P.R. and Panchmukhi V.A.(2001), *Development Experience in Indian Economy*, Inter-State Perspectives, Bookwell, Delhi.
5. Bhagwati, Jagdish(2004), *In Defense of Globalization*, Oxford University Press U.K.
6. Bhattacharya, Aditya and Marzit, Sugata (2004), *Globalization and Developin Economies; Theory and Evidence*, Manohar, New Delhi.
7. Chakravariti, S.(1987), *Development Planning; The Indian Experience*, Oxford University Press New Delhi.
8. Chanda, R. (2006), *Trade in Services and India: Prospects and Strategies*, Wiley, India.
9. Dhingra Ishwar C. (2006), *Indian Economy*, Sultan Chand & Sons, New Delhi.
10. Datt, Ruddar and Sundaram, K.P.M. (2011), *Indian Economy*, S. Chand & Co. New Delhi.
11. Goel, S. L. (2002), *Advanced Public Administration*, Deep and Deep Publication, New Delhi.
12. Gupta, S.P. (1989), *Planning and Development in India ; A Critique*, Allied Publishers Private Limited, New Delhi .
13. Gordon, J. and P. Gupta (2004), *Understanding India's Services Revolution,* IMF Working Paper WP/04/171, September, 2004.
14. Krishnamachari, V.T. (1962), *Fundamental of Planning in India*, Orient Longmans, Bombay.
15. Mohanty, Binode (1991), *Economic Development Perspectives*, Vol. 3, Public Enterprises Performance, Common Wealth Publishers, New Delhi.
16. Muthe P.R. ,Kombde S. (2017), *Bhartiy Arthvyavastha*, Distance Education, SRTM University, Nanded (Edited- Marathi)
17. Muthe P. R. ,Pupalwad D. A. (2017), *Banka Ani Vitta Padhati*, Distance Education, SRTM University, Nanded (Edited- Marathi)
18. Powale T.V., Takle S.R. and Khandare V. (2012), *Economics of Agricultural Development,* Chinmay Publication, Aurangabad. (In Marathi)
19. Raghbendra (Ed)(2003), *Indian Economic Reforms*, Hampshire, U.K.
20. Sawant S. D. (2002), *Indian Agriculture: Past developments and policies for the future,* Dantwala Monograph Series, No. 4, 2002
21. Tidsell, Clem and Sen, Raj Kumar (Ed) (2004), *Economic Globalization*, Government of India, Economic Survey (2020-21, 2021-22)
22. Takle S.R. and Powale T.V. (2009), *Agricultural Economics*, Serials Publications, New Delhi. (In Marathi)
23. Uma Kapila (2013), *Indian Economy*, Performance and Policies, Academic Foundation, New Delhi.
24. घुमटकर, सु. आणि घुमटकर गो. (2022), भारतीय अर्थव्यवस्था, एज्युकेशन पब्लिशर्स आणि कं., छ. संभाजीनगर.

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Faculty of Humanities (Optional in Economics)

Under Graduate First Year Programme, Semester - II

Paper Code : HECOCT1152, Title : Environmental Economics-II

Course Contents (for 02 Credits)

Module No.	Unit No.	Topic	Hrs. Required to Cover the Contents 1 Hrs. = 60M.
1.0		**Environment and Sustainable Development :**	08
	1.1	Sustainable Development- Meaning, Objectives and Importance of Sustainable development	
	1.2	Indicators & obstacles of Sustainable Development	
	1.3	Relation between Environment and Sustainable Development	
2.0		**Major Environmental Concepts :**	08
	2.1	Ecosystem-Meaning, Types and Importance of Ecosystem	
	2.2	Biodiversity- Meaning, Types and Importance of Biodiversity	
	2.3	Environmental Goods (Air, Water, Sun)	
3.0		**Agriculture Development and Environment :**	08
	3.1	Organic Farming- Meaning and Importance of Organic Farming	
	3.2	Natural Farming- Meaning and Importance of Natural Farming	
	3.3	Role of Environment in Agriculture Development	
4.0		**Environmental Movements :**	06
	4.1	Chipko & Appiko Movements (Introduction and Objectives)	
	4.2	Narmada Bachao Anolan(Introduction and Objectives)	
	4.3	Wildlife Movement(Introduction and Objectives)	
	Total		**30**

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Faculty of Humanities

Generic Elective – II

Course Code : HECOGE1151

Course Title: Economics for Competitive Examination Part – II

Curriculum Details (for 2 Credits)

Outline of Course:

Prepare for background of student like MPSC, UPSC and all competitive exams. Students should know about broad nature of the Indian Economy and how to procedure of government budget. Student should know about Indian Economies primary sector like agriculture and their subsidies and public distribution system for food distribution in India. In India Agriculture is backbone of economy and food processing industry is the major industry in India so that student should know broad scenario of food processing industry.

Objectives:

1. Prepare background of students for competitive examination
2. To provide information about the nature of Indian Economy
3. To give knowledge for student about how to prepare budget
4. Student should know about primary and secondary sector like agriculture and food processing industry.

Outcomes:

At the end of the course the students should be able to :

1. Acquaint the student with the nature of Indian Economy
2. Student know about the procedure of budget and types of expenditure
3. Student get aware of sectral structure of Indian Economy like agricultural and industry
4. Student know about scenario of overall Indian Economy

Reference books:

1. Abhishekh Dubey (2021) – "Indian Economy", Oswal Publisher.
2. Ramesh Singh (2021) – "Indian Economy", Mc Grow Hill, India
3. Datt & Sundharam (2023-24) "Indian Economy ", S Chand and Company Ltd , Ghaziabad, U.P - 201010 India
4. Puri V. K., Misra S. K., Garg Bharat (2022) "Indian Economy," Himalaya Publication, India
5. पुरी व्ही. के., मिश्रा एस. के., (2022) "भारतीय अर्थव्यवस्था," हिमालया पब्लिकेशन हाऊस, भारत
6. दत्त अँड सुंदरम (२०२३-२४) "भारतीय अर्थव्यवस्था," एस. चंद अँड कंपनी लि. गाझियाबाद, यु. पी., भारत
7. Government of India (2023, 2024) – "Economic Survey,"
8. नितीन सिंघानिया (2021), भारतीय अर्थव्यवस्था, मॅग्रा हिल पब्लिकेशन भारत
9. Surane Balaji & Divya Surane , Year book (2024) "Chalu Ghadamodi Dairy," (Marathi Year Book)
10. Pratiyogita Darpan Year Book (2024) "Samanya Adhyayan Bharatiya Arthvyavstha" (Hindi Year Book)

NCERT of Class 11, (2024) "Development of Indian Economy"

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Outcomes:

By the end of the course, students will be able to:

- Understand and explain the economic aspects of tourism, including its meaning, nature, scope, and various types.
- Recognize the contribution of tourism to the national economy, specifically its impact on GDP and its importance in India and Maharashtra.
- Analyze tourism demand, identify different types of tourism demand, and comprehend the determinants influencing tourism demand.
- Define and discuss tourism supply, comprehend its market structure, and understand the trends shaping the supply in the tourism industry.
- Gain knowledge about e-marketing in tourism, including its introduction, meaning, and its role in promoting tourism products and services.
- Identify and evaluate customer satisfaction strategies employed by airlines, hotels, resorts, homestays, travel agencies, and online reservation systems.
- Understand the challenges faced in e-marketing within the tourism industry and develop strategies to overcome them.
- Comprehend the importance of tourism policy and planning, including investment opportunities and government policies related to the economics of tourism.
- Familiarize themselves with the National Tourism Policy of 1982 and 2002, recognizing its significance in shaping the tourism industry.
- Acquire knowledge about travel documentation requirements, including passports, visas, health certificates, and travel insurance for tourists.

1. Belure, V. C. & Janakwade S. T. (2013). Tourism: A Major Engine of Economic Growth. In L. H. Patil (Ed.), Agri Tourism (pp. 127-133). Udgir: Mayur Prakashan.
2. Bhatia, A. K. (1986). Tourism Development. New Delhi: Sterling Publishers.
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॥ सा विद्या या विमुक्तये ॥

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
'ज्ञानतीर्थ', विष्णुपुरी, नांदेड - ४३१ ६०६ (महाराष्ट्र राज्य) भारत
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शैक्षणिक वर्ष २०२४–२५ पासून राष्ट्रीय शैक्षणिक धोरणानुसार लागू केलेल्या मानवविज्ञान विद्याशाखेतील पदवी प्रथम वर्षाच्या सुधारित (दुरुस्ती) अभ्यासक्रमा बाबत....

प रि प त्र क

संदर्भ:- १. जा.क्र.शै–१/एनईपी/पदवीअभ्यासक्रम/२०२४–२५/१४२ दिनांक ०८/०७/२०२४

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, संदर्भीय परिपत्रकान्वये दिनांक १५ मे २०२४ रोजी संपन्न झालेल्या मा. विद्यापरिषदेच्या बैठकीतील विषय क्र. १६/५९–२०२४ अन्वये मान्यता दिल्यानुसार मानवविज्ञान विद्याशाखे अंतर्गत राष्ट्रीय शैक्षणिक धोरणानुसार पदवी प्रथम वर्षाचे अभ्यासक्रम शैक्षणिक वर्ष २०२४–२५ पासून लागू करण्यात आलेले आहेत. तथापी वरील संदर्भीय परिपत्रका अन्वये प्रकाशित केलेल्या अभ्यासक्रमामध्ये अभ्यासमंडळाची शिफारशीनुसार दुरुस्ती करून अभ्यासक्रम सादर केला असून मा. अधिष्ठाता, मानवविज्ञान विद्याशाखा यांच्या मान्यतेने दुरुस्ती केलेले खालील अभ्यासक्रम लागू करण्यात येत आहेत.

01	B. A. I year Hindi

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी, ही विनंती.

सहाय्यक कुलसचिव
शैक्षणिक अभ्यासमंडळ विभाग

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.:शैक्षणिक–१/परिपत्रक/दुरुस्ती/मानवविज्ञानवि/
२०२४–२५/289
दिनांक : ०८.१०.२०२४

प्रत माहिती व पुढील कार्यवाहीस्तव.

०१. मा. अधिष्ठाता, मानवविज्ञान विद्याशाखा, प्रस्तुत विद्यापीठ.
०२. मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
०३. मा. संचालक, सर्व संलग्नित संकुले, प्रस्तुत विद्यापीठ.
०४. मा प्राचार्य, सर्व संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
०५ सिस्टम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ. यांना सहर्ष कळविण्यात येते की,
सदरील परिपत्रक विद्यापीठाच्या संकेतस्थळावर प्रसिध्द करण्यात यावे.

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Forward by the Dean, Faculty of Humanities.....

National Education Policy 2020 has been announced on 29.07.2020. NEP 2020 proposes a new and forward-looking vision for India's Higher Education System through quality universities and colleges. Its key is in the curriculum and its practical implementation.

The curriculum must be exciting, relevant, and regularly updated to align with the latest knowledge requirements and meet specified learning outcomes. High-quality pedagogy is necessary to impart the curricular material to students successfully; pedagogical practices determine the learning experiences provided to students, thus directly influencing learning outcomes. The assessment methods must be scientific, designed to improve learning continuously test the knowledge application.

The university's proper framing and development of syllabi will result in the upbringing and nourishment of Multidisciplinary and holistic citizens. Emphasis is on outcome-based learning. Every course has well-defined objectives and outcomes. The assessment guidelines also provide clarity and precision to the vision behind prescribing the particular course content.

NEP forces more vibrant, socially engaged, cooperative communities and a happier, cohesive, cultured, productive, innovative, progressive, and prosperous nation. The introduction of Research Methodology and ethics will widen the vision and broaden the perspectives of the learners.

Introducing Case Studies and Field Projects has created a unique opportunity for the higher education institute to bridge the gap between the academia, industry and the community NEP believes effective learning requires a comprehensive approach that involves an appropriate curriculum, engaging pedagogy, continuous formative assessment, and adequate student support.

We are sure that the Graduate centres of the university and its affiliated colleges will implement the course effectively and successfully, resulting in a healthy and more creative academic ambience.

Prof. Dr. Parag Khadke
Dean, Faculty of Humanities,

Swami Ramanand Teerth Marathwada University, Nanded.

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साहित्य जैसा प्रश्नपत्र करता है | हम जो कुछ हैं वह प्राकृतिक संपदा के कारण | उसके प्रति छात्रों में जागरुकता का भाव निर्माण हो | इसलिए हिंदी साहित्य और पर्यावरण जैसा प्रश्नपत्र पाठ्यक्रम में सम्मिलित किया है |

नई शिक्षा नीति में भारतीय भाषाओं को प्रधानता दी है | वैश्वीकरण के दौर में भाषा संवर्धन अपने आप में अलग महत्व रखता है जिस कारण पाठ्यक्रम में हिंदी भाषा के विभिन्न रूपों, क्षेत्रों तथा भाषा वैज्ञानिक अध्ययन समाविष्ट किए हैं | इससे हिंदी भाषा के प्रति अपनत्व निर्माण होगा और भाषा के प्रति समझ भी बढ़ेगी | भाषा संवर्धन की दृष्टि से महत्वपूर्ण पहल तथा उपलब्धि होगी | भारत बहुभाषिक, बहुधर्मीय, बहुसांस्कृतिक और लोकतांत्रिक राष्ट्र है | सबकी सहभागिता को प्रधानता देना हमारा प्रधान कर्तव्य है | इसी उद्देश्य से पाठ्यक्रम में स्त्री विमर्श, दलित विमर्श, किसान विमर्श, आदिवासी विमर्श, बाल विमर्श, वृद्धावस्था विमर्श और किन्नर विमर्श जैसे अधुनातन विमर्शों को रखा है | छात्र उन्हें पढ़ें और भारत के सभी वर्गों को समझें | भारत को एक सूत्र में पिरोये यही हमारी मनीषा है | छात्रों के भीतर राष्ट्रभक्ति का भाव तथा अपनत्व निर्माण हो और राष्ट्रभक्ति का संस्कार हो इसी उद्देश्य से हिंदी राष्ट्रीय काव्यधारा जैसे प्रश्नपत्र को पाठ्यक्रम में रखा है | अपने अतीत का गौरवगान से प्रेरित होना अपने आप में अलग महत्व रखता है |

दुनिया में वे ही राष्ट्र विकसित राष्ट्र हैं जिनमें सबसे अधिक शोध हुए हैं | इसी कारण नई शिक्षा नीति में शोध को अधिक महत्व दिया है | छात्रों के भीतर तार्किक और वैज्ञानिक सोच निर्माण हो इसी कारण पाठ्यक्रम में शोध प्रविधि तथा अनुप्रयुक्त अनुसंधान और प्रकाशन की नैतिकता जैसे प्रश्नपत्र को अंतर्निहित किया है | छात्रों के भीतर साहित्यिक शोध की दृष्टि निर्माण होने में सहायता होगी तथा साहित्य और अधिक समृद्ध होगा | यह साहित्य की दृष्टि से सबसे बड़ी उपलब्धि होगी | आलोचना दिशानिर्देशन का कार्य करती है | अपनी आत्मालोचना भी करती है | साहित्यिक आलोचना कैसे करें जिसकी जानकारी छात्रों को प्राप्त हो इसी उद्देश्य से हिंदी आलोचना जैसा प्रश्नपत्र रखा है | इस पाठ्यक्रम में मुख्य विषय, उपविषय तथा वैकल्पिक विषय रखें हैं, जिससे छात्र अंर्तविद्याशाखीय तथा बहुविद्याशाखीय ज्ञान से अर्जित होंगे | इसमें बी.ए. मानद तथा शोधसहित स्नातक की सुविधा उपलब्ध है | अध्ययन के साथ छात्रों का मूल्यमापन भी होना चाहिए इसीलिए प्रस्तुत पाठ्यक्रम में मूल्यमापन की प्रक्रिया अंतर्निहित है | प्रस्तुत पाठ्यक्रम श्रेयांक और श्रेणीबद्ध प्रणाली से बनाया गया है | अत: नई शिक्षा नीति की फलश्रुति की कामना के साथ.....

डॉ.सुजितसिंह परिहार
अध्यक्ष-हिंदी अध्ययन मंडल,
स्वामी रामानंद तीर्थ मराठवाडा विश्वविद्यालय,नांदेड

NOTE: - Need to rewrite as per program outcomes and the objectives.

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Faculty of Humanities, S.R.T.M. University, Nanded.

Swami Ramanand Teerth Marathwada University , Nanded

Faculty of Humanities

Sub- Hindi

Structure for **Four Year Multidisciplinary Degree Program with Multiply Entry and Exit**

Subject : Hindi

(Four year Structure As per NEP-2020)

Year & Leave	Sem	(Basket 1) Optional-1	Optional -2	Optional-3	Generic Elective (GE) Basket 3 of Faculties other than Humanities	Vocational & Skill Enhancement Course (Related to DSC)	Ability Enhancement Course (AEC) (Basket 4) Value Education Courses (VEC)/Indian Knowledge System (IKS)(Basket 5) (Common across all faculties)	Field Work/Project/Internship/OJT/Apprenticeship/ Case Study Or Co-curricular Courses (CC) (Basket 6 for CC) (Common across all faculties)	Credit	Total Credits
1	2	3	4	5	6	7	8	9	10	11
1 4.5	I	**HHINCT1101:2 Cr** हिंदी कहानी साहित्य **HHINCT1102: 2Cr** आधुनिक हिंदी काव्य **(श्रेयांक - 04)**	-	-	**HHINGE1101: 2Cr** हिंदी भाषा और प्रतियोगी परीक्षाएँ - भाग - 1 **(श्रेयांक - 02)**	**HHINSC1101: 2Cr** हिंदी भाषा तथा लेखन कौशल **(श्रेयांक - 02)**	**AECHIN-1101: 2Cr** साहित्य कलश और व्यावहारिक हिंदी - भाग - 1 **(श्रेयांक - 02)**	----	22	**कुल श्रेयांक - 44** U.G. Certificate
	II	**HHINCT1151: 2Cr** हिंदी उपन्यास **HHINCT1152:2Cr** रोजगारमूलक हिंदी **(श्रेयांक - 04)**	-	-	**HHINGE1151: 2Cr** हिंदी भाषा और प्रतियोगी परीक्षाएँ - भाग - 2 **(श्रेयांक - 02)**	**HHINSC1151: 2Cr** सृजनात्मक लेखन **(श्रेयांक - 02)**	**AECHIN-1151: 2Cr** साहित्य कलश और व्यावहारिक हिंदी - भाग - 2 **(श्रेयांक - 02)**	---	22	
Cum. Cr.		08	08	08	04	04	08	04	44	

Exit Option : UG Certificate in Optional 1, 2, 3 on Completion of 44 Credits and additional 4 credits form NSQF / Internship.

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Swami Ramanand Teerth Marathwada University , Nanded

Faculty of Humanities **Sub- Hindi**

Structure for four year Multidisciplinary Under Graduate Degree Program in Humanities with Multiply Entry and Exit

(Four year Structure As per NEP-2020)

Year & Leave	Sem	Subject- 1 Major (DSC/DSE) (Basket 1)				Generic Elective (GE) (Basket 3) Select one each from basket (different from DSC/DSM)	Vocational & Skill Enhancement Course (Related to DSC)	Ability Enhancement Course (AEC) (Basket 4) Value Education Courses (VEC)/Indian Knowledge System (IKS)(Basket 5) (Common across faculty)	Field Work/Project/Internship/OJT/Apprenticeship/ Case Study Or Co-curricular Courses (CC) (Basket 6 for CC) (Common across faculty)	Credit	Total Credits
1	2	3		4	5	6	7	8	9	10	11
III 5.5	V	HHINCT1301:4Cr हिंदी साहित्य का इतिहास (आरंभ से रीतिकाल) HHINCT1302:4Cr हिंदी भाषा शिक्षण HHINCT1303:4Cr हिंदी व्यंग्य **(श्रेयांक-12)**	HHINE1301:4Cr हिंदी आत्मकथा साहित्य **अथवा** HHINET1302:4Cr विशेष रचनाकार : हरिवंशराय बच्चन **अथवा** HHINE1303:4Cr विशेष रचनाकार : ओमप्रकाश वाल्मीकि **(श्रेयांक- 04)**				HHINVC 1301: 4Cr जनसंचार माध्यम **(श्रेयांक-04)**	--	HHINFP1301:2Cr क्षेत्रिय परियोजना **(श्रेयांक-02)**	22	**कुल श्रेयांक - 132** **U.G. Degree**
	VI	HHINCT1351:4Cr हिंदी साहित्य का इतिहास (आधुनिक काल) HHINCT1352:4Cr भारतीय काव्यशास्त्र - HHINCT1353:4Cr हिंदी साहित्य और भारतीय ज्ञान परंपरा **(श्रेयांक - 12)**	HHINE1301:4Cr आधुनिक गद्य साहित्य **अथवा** HHINE1302 विशेष रचनाकार : हरिशंकर परसाई **अथवा** HHINE1303 विशेष रचनाकार : शरद जोशी **(श्रेयांक- 04)**		----		HHINVC 351:2Cr अनुवाद सिद्धांत एवं प्रविधि **(श्रेयांक-04)**	--	HHINFP1351:4Cr शोध परियोजना **(श्रेयांक-04)**	22	
Cum. Cr.		48+08=56		12	08	10	14	06+08=14	18	44	

Exit Option : Bachelor in Humanities with Major in DSC and Minor in DSM.

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Faculty of Humanities

Sub- Hindi

Bachelor of Humanities with Research

Structure for four year Multidisciplinary Under Graduate Degree Program in Humanities with Multiply Entry and Exit : (Four year Structure As per NEP-2020)

Year & Leave	Sem	Subject- 1 Major (DSC/DSE) (Basket 1)		Subject - 2 Minor (DSM) Basket 2		Generic Elective (GE) (Basket 3) Select one each from basket (different from DSC/DSM)	Vocational & Skill Enhancement Course (Related to DSC)	Ability Enhancement Course (AEC) (Basket 4) Value Education Courses (VEC) Indian Knowledge System (IKS)(Basket 5) (Common across faculty)	Field Work/Project/Internship/OJT/Apprenticeship/ Case Study Or Co-curricular Courses (CC) (Basket 6 for CC) (Common across faculty)	Credit	Total Credits
1	2	3		4	5	6	7	8	9	10	11
IV 6.0	VII	**HHINCT1401:4Cr** तुलनात्मक साहित्य **HHINCT1402:4Cr** हिंदी प्रवासी साहित्य **HHINCT1403:2Cr** भाषा प्रौद्योगिकी **(श्रेयांक - 10)**	**HHINE1401:4Cr** हिंदी अनूदित साहित्य अथवा **HHINE1402** लोक साहित्य **(श्रेयांक-04)**	**HHINRM1401:4 Cr** अनुसंधान की प्रविधि और प्रकाशन की नैतिकता **(श्रेयांक-04)**	--		---	--	**HHINFP1401:4Cr** शोध परियोजना **(श्रेयांक-04)**	22	**कुल श्रेयांक-176** U.G. Degree with Research
	VIII	**HHINCT1451:4Cr** भारतीय दार्शनिक चिंतन **HHINCT452:4Cr** आलोचना **HHINCT453:2Cr** दक्खिनी हिंदी **(श्रेयांक - 10)**	**HHINE1451:4Cr** इक्कीसवीं सदी का हिंदी साहित्य अथवा **HHINE1452** इक्कीसवीं सदी का विश्व साहित्य **(श्रेयांक-04)**	—	--		---	---	HHINFP1451:8Cr परियोजना लेखन **(श्रेयांक-08)**	22	
Exit option : Bachelor of Humanities with Major in DSC with Research and Minor in DSM											
Total Credits		Major 68+16=84		12+RM04	08	GE10	V-8-S-6=14	AEC8+VEC4+IKS2	CC+8+FP/CS-06+RP=30	44	

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General Guidelines for Selection of Coursess

i. Major subject is the discipline or course of main focus, Bachelors degree shall be awarded in that Discipline / subject.

ii. Minor Subject(s) is/are the subjects from the same discipline / faculty and shall act as supporting subjects to the Major.

iii. At the entry level of the 3/4-year UG program students shall be required to choose any THREE of the available subjects in a college/institute as Optional 1, Optional 2 and Optional 3 subjects, respectively

iv. No. of credits assigned to the Optional 1, Optional 2 and Optional 3 shall be same in Semesters I and II.

v. In the second year of the degree program students shall have to select one of the three subjects (Optional 1, 2 and 3) as a Major Subject & one as Minor Subject, while third optional shall be discontinued.

vi. Students shall have option to switch over from Major to Minor or vice-versa after first year.

vii. Once they finalize their Major subject in the beginning of the second year of the programme, they shall pursue their further education in that particular subject as the Major course. Therefore, from second year onwards curriculum of the Major and Minor subjects shall be different.

viii. Students are required to select Generic/Open Elective compulsorily from the faculties different from their Optional subjects (select from Basket 3).

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Assigning Codes to the Courses Alphanumeric, Nine Character Coding AAAAA XXXX

1) **First (A) Letter indicate Faculty: H** – Humanities S- Science; **C** – Commerce, & Management, **I** - Interdisciplinary Studies and **D** –Distance / External mode .
2) **Next Three Letters(XXX) indicates Subject** (e.g. ECO – Economics, PHY – Physics, COM – Commerce, CMP – Computer Sci) etc.
3) **Forth Letter indicate nature of the course** : (e.g. **C** – Core, **M** – Minor, , **E** – Elective, **P**– Field Project, **F** – Field Work, **O** – On Job training, **G**- Generic /open Elective (Internship/Apprenticeship), **I** – Internship, **CS** – Case Study, **V:** Vocational Skill Courses, **S:** Skill Enhancement Courses, **A:** ,Ability Enhancement courses, **M:** Modern Indian languages, **IKS:** Indian Knowledge System,**VEC:** Value Education Courses, **CC:** Co-Curricular Courses/ Community Engagement and Service, **R:** Research Methodology. etc.)
4) **Sixth Character or First Number** indicate the Centre (**1**-for Affiliated colleges,**2**-Main Campus,**3**-Latur sub- centre,**4**-Parbhani sub-centre,**5**-Model Degree College)
5) **Seventh Character or second number indicate** -Year of Study.E.g.**1** - First year,**2**- second year.etc.
6) **Last Two Numbers** indicate Course Number

e.g. **HECOC1101** – First Core Course in the First Semester of undergraduate programme in Economics under the Faculty of Humanities.

Sr. No	UG/PG	Semester	Affiliated Colleges	Main Campus	Model Degree College	Sub-center Latur	Sub-center Parbhani	Kinwat Sub-Centre
1	First Year	Semester I	1101 to 1150	2101 to 2150	3101 to 3150	4101 to 4150	5101 to 5150	6101 to 6150
2		Semester II	1151 to 1199	2151 to 2199	3151 to 3199	4151 to 4199	5151 to 5199	6151 to 6199
3	Second Year	Semester III	1201 to 1250	2201 to 2250	3201 to 3250	4201 to 4250	5201 to 5250	6201 to 6250
4		Semester IV	1251 to 1299	251 to 2299	3251 to 3299	4251 to 4299	5251 to 5299	6251 to 6299
5	Third Year	Semester V	1301 to 1350	2301 to 2350	3301 to 3350	4301 to 4350	5301 to 5350	6301 to 6350
6		Semester VI	1351 to 1399	2351 to 2399	3351 to 3399	4351 to 4399	5351 to 5399	6351 to 6399
7	Fourth Year	Semester VII	1401 to 1450	2401 to 2450	3401 to 3450	4401 to 4450	5401 to 5450	6401 to 6450
8		Semester VIII	1451 to 1499	2451 to 2499	3451 to 3499	4451 to 4499	5451 to 5499	6451 to 6499
9	Fifth Year	Semester IX	1501 to 1550	2501 to 2550	3501 to 3550	4501 to 4550	5501 to 5550	6501 to 6550
10		Semester X	1551 to 1599	2551 to 2599	3551 to 3599	4551 to 4599	5551 to 5599	6551 to 6599

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Faculty of Humanities - Hindi

Basket 3: Generic Elective course (GE)

Each BOS will suggest Generic Elective Courses (minimum one and maximum four) for semester I and II

Semesterer	BOS proposing GE	Group A	
		CODE	Title of the Course
Sem I	BOS in Hindi	HHINGE1101	हिंदी भाषा और प्रतियोगी परीक्षाएँ - भाग - 1
Sem II	BOS in Hindi	HHINGE1151	हिंदी भाषा और प्रतियोगी परीक्षाएँ - भाग - 2

Note : GE is to be chosen compulsory from faculty other than that of the Major.

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Faculty of Humanities

Basket 5: Indian Knowledge System *(02 Credits)*

(Each BOS will suggest minimum one paper with curriculum of Indian Knowledge System for semester II)

Semester	Details of Elective Course(s)	
	CODE	**Title of the Course**
Semester I	HIKSX1151	---

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Faculty of Humanities. Major in Hindi (DSC)

Under Graduate First Year Programme ,Semester I *(Level 4.5)*

Teaching Scheme

	Course Code	Course Name	Credits Assigned			Teaching Scheme (Hrs./ week 1 Hrs.=60 M.)	
			Theory	Practical	Total	Theory	Practical
Major and Minor	HHINCT1101	हिंदी कहानी साहित्य	02+02+02		06	06	
	HHINCT1102	आधुनिक हिंदी काव्य	02+02+02		06	06	
Generic Electives	HHINGE1101	हिंदी भाषा और प्रतियोगी परीक्षाएँ - भाग - 1	02		02	02	
Vocational & Skill Enhancement Course-*SEC*	HHINSC1101	हिंदी भाषा : लेखन कौशल	02		02	02	
Ability Enhancement Course/Languages	AECENG1101	Compulsory English	02		02	02	
	AECHIN-1101	साहित्य कलश और व्यावहारिक हिंदी - भाग - 1	02		02	02	
Value Education Courses	IKS1101 (Select from basket 5)	IKS	02		02	02	
Co-curricular Courses/Community Engagement Services (CC) (Basket 5)	HXXXC101	Any one of NCC/ NSS /Sports/ Culture /Health Wellness /Yoga Education / Fitness	-	-	-	-	-
Total Credits			22	-	22	22	-

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Faculty of Humanities Major in Hindi (DSC)

Under Graduate First Year Programme, Semester I *(Level 4.5*

Examination Scheme

[20% Continuous Assessment (*CA*) and 80% End Semester Examination (*ESE*)]

Subject(1)	Course Code (2)	Course Name(3)	Theory					Total Col. (6+7) / (09)
			Continuous Assessment (CA)				ESE	
			TestI (4)	Test II (5)	Assignment (6)	Avg of T1+T2+Assi. /3 (7)	Total (8)	
Major (Basket 1)	HHINCT1101	हिंदी कहानी साहित्य	10	10	10	10	40	50
	HHINCT1102	आधुनिक हिंदी काव्य	10	10	10	10	40	50
Generic Electives (Basket 1)	HHINGE1101	हिंदी भाषा और प्रतियोगी परीक्षाएँ - भाग - 1.	10	10	10	10	40	50
Vocational & Skill Enhancement Course-*SEC*	HHINSC1101	हिंदी भाषा तथा लेखन कौशल	10	10	10	10	40	50
Ability Enhancement Course /Languages (Basket 4)	AECENG1101	Compulsory English	10	10	10	10	40	50
	AECHIN-1101	साहित्य कलश और व्यावहारिक हिंदी-भाग -1	10	10	10	10	40	50
Value Education Courses (Basket 5)	HVECC1101	IKS	10	10	10	10	40	50
Co-curricular Courses/Community Engagement Services (CC) (Basket 6)	HXXXC101	Any one of NCC/NSS/Sports/ Culture/Health Wellness/Yoga Education/ Fitness	-	-	-	-	-	

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***Faculty of Humanities*- Hindi**

Under Graduate First Year Programme, Semester - I

Course Structure: ***Optionai 1 - Teaching Scheme***

(for 2 credits)

Course Code	Course Name (Paper Title)	Teaching Scheme (Hrs.)		Credits Assigned		
		Theory	CA	Theory	CA	Total
HHINCT1101	हिंदी कहानी साहित्य	30	---	02	---	02
HHINCT1102	आधुनिक हिंदी काव्य	30	---	02	---	02

Under Graduate First Year Programme, Semester - II

Course Structure: ***Optionai 1 - Teaching Scheme***

(for 2 credits)

Course Code	Course Name (Paper Title)	Teaching Scheme (Hrs.)		Credits Assigned		
		Theory	CA	Theory	CA	Total
HHINCT1151	हिंदी उपन्यास	30	--	02	---	02
HHINCT1152	रोजगारमूलक हिंदी	30	---	02	---	02

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(For 2 Credits) Vocational & Skill Enhancement Course-SEC (Related to OPTIONAL) Semester - I

Course Code (2)	Course Name (3)	Theory					Total [Col (7+8)
		CA				ESE (8)	
		Test I (4)	Test II (5)	Assignment (6)	Avg of T1+T2+Assi. /3 (7)		
HHINSV1101	हिंदी भाषा लेखन कौशल	10	10	10	10	40	50

(For 2 Credits) Vocational & Skill Enhancement Course -SEC(Related to OPTIONAL) Semester - II

Course Code (2)	Course Name (3)	Theory					Total [Col (7+8)
		CA				ESE (8)	
		Test I (4)	Test II (5)	Assignment (6)	Avg of T1+T2+Assi. /3 (7)		
HHINSC1151	सृजनात्मक लेखन	10	10	10	10	40	50

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Faculty of Humanities- **Hindi**

Under Graduate First Year Programme, Semester I

Paper Code : HHINCT1101, Title हिंदी कहानी साहित्य *(Optional)*

Curriculum Details

पूर्व अपेक्षित पाठयक्रम (Course pre-requisite)

I. एच.एस.सी. उत्तीर्ण

पाठयक्रम के उद्देश्य (Course objectives)

1) हिंदी साहित्य के कहानी विधा से परिचित कराना ।

2) कहानी के तत्वों, प्रकारों एवं कहानी शिल्प की जानकारी देना ।

3) मूल्यात्मक, भावनात्मक तथा चारित्रिक गुणों को विकसित करना ।

4) कहानी साहित्य के माध्यम से कहानी लेखन कौशल की क्षमता को विकसित करना ।

5) तर्क और कल्पनाशक्ति का विस्तार हो तथा उच्च कोटि का सृजनात्मक आनंद मिले ।

प्रतिफल आधारित पाठयक्रम (Course outcomes)

1) हिंदी कहानी साहित्य एवं कहानीकारों के परिचय से साहित्यिक दृष्टि निर्माण होगी ।

2) पठन, चिंतन तथा लेखन कौशल का विकास होगा ।

3) सृजन शक्ति का विकास होगा ।

4) भारतीय संस्कृति एवं मूल्यों का परिचय होगा ।

5) विश्लेषण और रचना प्रक्रिया की समझ निर्माण होगी।

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संदर्भ ग्रंथ सूची :

1. नामवर सिंह - कहानी : नई कहानी,राजकमल प्रकाशन,1-B, नेताजी सुभाष मार्ग, नई दिल्ली - 110002
2. पुष्पपाल सिंह - समकालीन कहानी : रचना मुद्रा, राधाकृष्ण प्रकाशन, 1-B, नेताजी सुभाष मार्ग, नई दिल्ली - 110002
3. राजेंद्र यादव - हिंदी कहानी : स्वरूप और संवेदना, वाणी प्रकाशन-21 ,4695 ,ए ,दरियागंज ,नयी दिल्ली110002
4. मार्कण्डेय - कहानी की बात, लोकभारती प्रकाशन, पहली मंजिल, दरबारी बिल्डिंग, सिविल लाईन, प्रयागराज, 211001
5. संपा. सुशीलकुमार - हिंदी कहानी के सौ वर्ष, हिमाचल कला, संस्कृति एवं भाषा अकादमी, शिमला 171001
6. डॉ. देवीशंकर अवस्थी - नई कहानी : संदर्भ और प्रकृति, राजकमल प्रकाशन, 1-B, नेताजी सुभाष मार्ग, नई दिल्ली - 110002
7. लक्ष्मीनारायण लाल - आधुनिक हिंदी कहानी, वाणी प्रकाशन-21 ,4695 ,ए ,दरियागंज ,नयी दिल्ली110002
8. गोपाल राय - हिंदी कहानी का इतिहास, राजकमल प्रकाशन, 1-B, नेताजी सुभाष मार्ग, नई दिल्ली - 110002

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Faculty of Humanities- Hindi

Semester - I

Paper Code : HHINCT1102, Title **आधुनिक हिंदी काव्य** (Optional)

Curriculum Details: (for 2 Credits)

Module No.	Unit No.	Name of Topic	Hrs. Required tocover the contents 1 Hrs.=60 M.
1.0		काव्य : अध्ययन	06
	1.1	काव्य : अवधारणा	
	1.2	काव्य : स्वरूप	
	1.3	आधुनिक हिंदी कविता का विकास	
2.0		आधुनिक हिंदी कविता - भाग 1	08
	2.1	मुकरियाँ - भारतेंदु हरिश्चंद्र	
	2.2	बीती विभावरी जाग री - जयशंकर प्रसाद	
	2.3	भिक्षुक - सूर्यकांत त्रिपाठी 'निराला'	
3.0		आधुनिक हिंदी कविता - भाग 2	08
	3.1	रोटी और संसद - धूमिल	
	3.2	किताबें - सफदर हाशमी	
	3.3	गीत नया गाता हूँ- अटल बिहारी वाजपेयी	
4.0		आधुनिक हिंदी कविता-भाग 3	08
	4.1	इस स्त्री से डरो - कात्यायनी	
	4.2	जंगल चीता बन लौटेगा - उज्ज्वला ज्योति	
	4.3	कोरोना व्हायरस - अनंत काबरा	
		Total	30

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Faculty of Humanities- **Hindi**

Under Graduate First Year Programme, Semester I

Paper Code :HHINGE1101, Title हिंदी भाषा और प्रतियोगी परीक्षाएँ - भाग - 1

(Generic/Open Elective)

Curriculum Details

पूर्व अपेक्षित पाठयक्रम (Course pre-requisite)

1. एच.एस.सी. उत्तीर्ण

पाठयक्रम के उद्देश्य (Course objectives)

1) छात्रों को प्रतियोगी परीक्षाओं में भाषा की दृष्टि से सक्षम बनाना।
2) छात्रों को प्रतियोगी परीक्षाओं से अवगत कराना ।
3) हिंदी के प्रायोगिक रूपों से छात्रों को परिचित कराना।
4) विभिन्न परीक्षाओं की दृष्टि से हिंदी के महत्व को समझाना।
5) प्रतियोगी परीक्षाओं की दृष्टि से विभिन्न कौशलों को विकसित कराना,जैसे-साक्षात्कार ।

प्रतिफल आधारित पाठयक्रम (Course outcomes)

1) विभिन्न प्रतियोगी परीक्षाओं में हिंदी भाषा के अध्ययन से छात्रों को रोजगार प्राप्त होगा।

2) छात्र हिंदी लेखन कौशल से आत्मनिर्भर होगा।

3) हिंदी के प्रायोगिक रूप कौशल से आजीवन लाभ होगा।

4)उनमें साक्षात्कार का कौशल विकसित होगा।

5)प्रस्तुत प्रश्नपत्र से प्रतियोगी परीक्षाओं में बहुत बडा लाभ होगा।

Head
Department of Hindi
L.B.C.Arts & Science College Chavhanwadi
(Barhali)Tq.Mukhed Dist.Nanded (M.S)

Principal
Late Bhimrao Chavan Arts's &
Science College Chavawadi(Barahali)
Tq.Mukhed Dist.Nanded

संदर्भ ग्रंथ सूची :

1. धीरेंद्र वर्मा-हिंदी भाषा और लिपि,हिदुस्तानी एकेडेमी,इलाहाबाद
2. गोपाल राय-हिंदी भाषा का विकास,राजकमल प्रकाशन, 1-B, नेताजी सुभाष मार्ग, नई दिल्ली - 110002
3. प्रो.राजमणि शर्मा- हिंदी भाषा विकास के विविध आयाम,हरियाणा ग्रंथ अकादमी,पंचकूला .
4. उदयनारायण तिवारी-हिंदी भाषा का उदगम और विकास,लोकभारती प्रकाशन,प्रयाग
5 प्रो.एच.पद्मनाभन हिंदी भाषा और लिपि, वाणी प्रकाशन-21 ,4695 ,ए ,दरियागंज ,नयी दिल्ली110002
6. संपा.अमर बहादुर सिंह-बैंकिग-हिंदी पाठ्यक्रम,केंद्रिय हिंदी संस्थान,आगरा
7. हिंदी भाषा-प्रतियोगिता दर्पण - परीक्षापयोगी सीरीज-ई बुक
8. कृष्णकुमार गोस्वामी-अनुप्रयोग हिंदी,वाणी प्रकाशन-21 ,4695 ,ए ,दरियागंज ,नयी दिल्ली
9. जी.गोपीनाथन-अनुवाद सिद्धांत एवं प्रयोग,लोकभारती प्रकाशन,प्रयाग
10.बालेंदु शर्मा दाधीच-तकनीक तेरे कितने आयाम,प्रभात प्रकाशन प्रा.लि.4-19 आसफ अली रोड ,नई दिल्ली-110002
11.डॉ. हिंदी भाषा : लेखन कौशल (इग्नू), ऑनलाईन अध्ययन सामग्री (सॉफ्ट कॉपी/ पीडीएफ) **https://www-ignouassignmentguru-com.translate.goog/bhdla-136-study-material-download/?_x_tr_sl=en&_x_tr_tl=hi&_x_tr_hl=hi&_x_tr_pto=tc**
12. वेब साईड-केंद्रीय हिंदी प्रशिक्षण संस्थान-**https://chti.rajbhasha.gov.in/?9640?21**

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Arts & Science College Chavhanwadi
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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities in Hindi (VSC/SEC)

Semester - I

Paper Code : HHINSC1101, Title **हिंदी भाषा तथा लेखन कौशल**

Curriculum Details: (for 2 Credits)

Module No.	UnitNo.	Name of Topic	Hrs. Required tocover the contents 1 Hrs.=60 M.
1.0		**भाषा कौशल**	08
	1.1	भाषा कौशल : अर्थ और स्वरूप	
	1.2	भाषा कौशल : क्षेत्र	
	1.3	भाषा कौशल : विशेषताएँ	
2.0		**भाषा कौशल के प्रकार**	08
	2.1	श्रवण कौशल	
	2.2	भाषण कौशल	
	2.3	वाचन कौशल	
3.0		**लेखन कौशल**	08
	3.1	लेखन कौशल : अर्थ और स्वरूप	
	3.2	लेखन कौशल : क्षेत्र	
	3.3	लेखन कौशल : विशेषताएँ	
4.0		**लेखन कौशल के प्रकार**	06
	4.1	फीचर लेखन	
	4.2	वृतांत लेखन	
	4.3	स्तंभ लेखन	
		Total	**30**

Head
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Tq.Mukhed Dist.Nanded

Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities- Hindi

Under Graduate First Year Programme, Semester -I

Paper Code :AECHIN1101, Title साहित्य कलश और व्यावहारिक हिंदी-भाग-1

(AEC)(2Cr)

Curriculum Details

पूर्व अपेक्षित पाठयक्रम (Course pre-requisite)

1. एच.एस.सी. उत्तीर्ण

पाठयक्रम के उद्देश्य (Course objectives)

1) हिंदी कहानी का परिचय कराना।
2) हिंदी कविता से परिचित कराना।
3) साहित्य की समझ निर्माण हो।
4) ब्लॉग लेखन का कौशल प्राप्त हो।
5) विज्ञापन लेखन की कला अवगत हो।

प्रतिफल आधारित पाठयक्रम (Course outcomes)

1) हिंदी कहानी की समझ विकसित होगी।
2) हिंदी कविता के प्रति रुचि निर्माण होगी।
3) साहित्य के प्रति नया दृष्टिकोन निर्माण होगा।
4) ब्लॉग लेखन का कौशल विकसित होगा।
5) विज्ञापन लेखन का कौशल प्राप्त होगा।

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Science College Chavawadi(Barhali)
Tq.Mukhed Dist.Nanded

संदर्भ ग्रंथ सूची

1. मधुरेश-हिन्दी कहानी का विकास, लोकभारती प्रकाशन, इलाहाबाद, उ.प्र. ।
2., नामवर सिंह- कहानीः नयी कहानी, राज़कमल प्रकाशन, नई दिल्ली।
3.राजेन्द्र यादव- कहानीः स्वरूप और संवेदना, नेंशनल पब्लिशिंग हाउस, दिल्ली।
4.समकालीन कहानीः रचनामुद्रा, पुष्पपाल सिंह, राधाकृष्ण प्रकाशन, दिल्ली।
5 डॉ.विश्वम्भरनाथ उपाध्याय-आधुनिक हिंदी कविता-सिद्धांत और समीक्षा,प्रभात प्रकाशन,दिल्ली
6. नामवर सिंह - कविता के नये प्रतिमान, राजकमल प्रकाशन, 1-B, नेताजी सुभाष मार्ग, नई दिल्ली - 110002
7. केदारनाथ सिंह - आधुनिक कविता में बिंब विधान, राधाकृष्ण प्रकाशन, 7/31, अन्सारी रोड, दरियागंज, नई दिल्ली
8 . संपादक-अविनाश वाचस्पति, रवीन्द्र प्रभात- हिन्दी ब्लॉगिंग अभिव्यक्ति की नई क्रान्ति,, हिन्दी साहित्य निकेतन, बिजनौर (उ.प्र.), प्र.सं.2011
9.रवींद प्रभात-हिन्दी ब्लॉगिंग का इतिहास हिन्दी साहित्य निकेतन बिजनौर प्रसं 2011
10.नरेंद्र सिंह यादव-विज्ञापन-तकनीक एवं सिद्धांत,राजस्थान ग्रंथ अकादमी
11.कैलाशनाथ पाण्डेय-विज्ञापन बाजार और हिंदी,राजकमल प्रकाशन, 1-B, नेताजी सुभाष मार्ग, नई दिल्ली - 110002
12.डॉ. स्नेह लता - सोशल मीडिया और ब्लॉग लेखन, श्री नटराज प्रकाशन, दिल्ली -
13.सरहद के इस पार कहानी पर नासिरा शर्मा के शब्दों मेंhttps://youtu.be/FwDls5HVGI0?si=KsehsJ47wCvS9pMK

Head
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Tq.Mukhed Dist.Nanded

Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities- Hindi

Semester - II

Paper Code : HHINCT1151, Title **हिंदी उपन्यास** (Optional)

Curriculum Details: (for 2 Credits)

Module No.	Unit No.	Name of Topic	Hrs. Required tocover the contents 1 Hrs.=60 M.
1.0		**उपन्यास : अध्ययन**	06
	1.1	उपन्यास : अवधारणा, स्वरूप	
	1.2	उपन्यास : प्रकार	
	1.3	उपन्यास के तत्व	
2.0		**मधु कांकरिया-ढलती साँझ का सूरज** (उपन्यास)-राजकमल प्रकाशन, 1-B, नेताजी सुभाष मार्ग, नई दिल्ली - 110002	08
	2.1	मधु कांकरिया : परिचय	
	2.2	ढलती साँझ का सूरज : कथावस्तु, मूल संवेदना	
	2.3	ढलती साँझ का सूरज में व्यक्त समस्याएँ	
3.0		**ढलती साँझ का सूरज** (उपन्यास)	08
	3.1	ढलती साँझ का सूरज : पात्र तथा चरित्र -चित्रण	
	3.2	ढलती साँझ का सूरज : भाषा शैली	
	3.3	ढलती साँझ का सूरज : उद्देश्य	
4.0		**हिंदी उपन्यासकार : सामान्य परिचय**	08
	4.1	प्रेमचंद	
	4.2	मैत्रेयी पुष्पा	
	4.3	संजीव	
		Total	**30**

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Tq.Mukhed Dist.Nanded

Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities. **Hindi**

Under Graduate First Year Programme, Semester - II

Paper Code : HHINCT1152, Title रोजगारमूलक हिंदी (Optional)

Curriculum Details

पूर्व अपेक्षित पाठयक्रम (Course pre-requisite)

1. एच.एस.सी. उत्तीर्ण

पाठयक्रम के उद्देश्य (Course objectives)

1) रोजगारमूलक हिंदी के स्वरूप और क्षेत्र से परिचित कराना|
2) मोबाईल एप्स और रोजगार की जानकारी देना |
3) हिंदी टंकण के कौशल से परिचित कराना|
4) मशिनी अनुवाद की जानकारी देना|
5) क्रीडा समाचार लेखन और समालोचन के कौशल से अवगत कराना|

प्रतिफल आधारित पाठयक्रम (Course outcomes)

1) रोजगारमूलक हिंदी से छात्रों कों रोजगार मिलेगा|
2) मोबाईल एप्स और रोजगार के बहुत बडे क्षेत्र से छात्र परिचित होंगे |
3) हिंदी टंकण कौशल विकसित होगा|
4) मशिनी अनुवाद कौशल को विकसित होगा |
5) क्रीडा समाचार लेखन और समालोचन की कला विकसित होगी |

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Science College Chavawadi(Barahali)
Tq.Mukhed Dist.Nanded

संदर्भ ग्रंथ सूची

1. रवींद्र शर्मा - 'सी' भाषा में प्रोग्रामिंग, राजस्थान हिंदी ग्रंथ अकादमी, जयपुर
2. डॉ. स्नेह लता - सोशल मीडिया और ब्लॉग लेखन, श्री नटराज प्रकाशन, दिल्ली - 110053
3. डॉ. संगीता रानी - सोशल मीडिया संभावनायाँ और चुनौतियाँ, श्री नटराज प्रकाशन, दिल्ली
4. डॉ. अर्जुन चव्हाण - मीडियाकालीन हिंदी : स्वरूप एवं संभावनाएँ, राधाकृष्ण प्रकाशन, नई दिल्ली
5. विजयकुमार मल्होत्रा - कम्प्यूटर के भाषिक अनुप्रयोग, वाणी प्रकाशन-21 ,4695 ,ए ,दरियागंज ,नयी दिल्ली110002
6. रुपचंद गौतम - हिंदी टंकण सिद्धांत, वाणी प्रकाशन-21 ,4695 ,ए ,दरियागंज ,नयी दिल्ली - 110002
7. बालेन्दु शर्मा दाधीच - तकनीक तेरे कितने आयाम, प्रभात प्रकाशन, 4/19 असाफ अली रोड, नई दिल्ली - 110002
8. डॉ. कैलाशचंद्र भाटिया - प्रयोजनमूलक कामकाजी हिंदी, तक्षशिला प्रकाशन, 98ए, हिंदी पार्क, दरियागंज, नई दिल्ली - 110002
9. प्रो. हरिमोहन - संपादन कला एवं प्रूफ पठन, तक्षशिला प्रकाशन, 98ए, हिंदी पार्क, दरियागंज, नई दिल्ली - 110002
10. संपा. पूरनचंद टंडन - कम्प्यूटर अनुवाद, भारतीय अनुवाद परिषद, नई दिल्ली
11. हरीशकुमार सेठी - ई-अनुवाद और हिंदी, किताब घर प्रकाशन, 9/221, मेन बाजार, गांधी नगर, दिल्ली - 110031
12. संपादक-अविनाश वाचस्पति, रवीन्द्र प्रभात- हिन्दी ब्लॉगिंग अभिव्यक्ति की नई क्रान्ति,, हिन्दी साहित्य निकेतन, बिजनौर (उ.प्र.), प्र.सं.2011
13. रवींद प्रभात-हिन्दी ब्लॉगिंग का इतिहास हिन्दी साहित्य निकेतन बिजनौर प्रसं 2011

Head
Department of Hindi
B.C.Arts & Science College Chavhanwadi
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Tq.Mukhed Dist.Nanded

Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Humanities in Hindi *(Generic/open Elective)*

Semester - II

Paper Code : HHINGE1151, Title हिंदी भाषा और प्रतियोगी परीक्षाएँ - भाग - 2

Curriculum Details: (for 2 Credits)

Module No.	UnitNo.	Name of Topic	Hrs. Required tocover the contents 1 Hrs.=60 M.
1.0		**प्रतियोगी परीक्षाएँ और व्याकरण-भाग-1**	
	1.1	संज्ञा और विशेषण	08
	1.2	लिंग और वचन	
	1.3	कारक और क्रिया	
2.0		**प्रतियोगी परीक्षाएँ और व्याकरण-भाग-2**	
	2.1	वर्तनी शुद्धि का महत्व	08
	2.2	विरामचिह्न :स्वरुप,प्रकार और महत्व	
	2.3	वाक्यरचना : परिभाषा और भेद	
3.0		**हिंदी लेखन - भाग-1**	
	3.1	पत्र लेखन :आवेदन पत्र और सरकारी पत्र	08
	3.2	निबंध लेखन के विषय-राष्ट्रीय एकात्मता,लोकतंत्र,पर्यावरण ,किसान, चुनाव में मतदान का महत्व,भारत और युवा ,भारतीय जनसंख्या,कृत्रिम मेधा,नई शिक्षा नीति -2020 और भाषा.बेटी बचाओ बेटी पढाओ,	
	3.3	संक्षेपण-(दिए हुए अनुच्छेद को एक-तिहाई शब्दों में लिखना)	
4.0		**हिंदी लेखन - भाग-2**	
	4.1	सूचना प्रौद्योगिकी और हिंदी	06
	4.2	समाज माध्यम और हिंदी	
	4.3	कार्यालयी हिंदी-प्रारुपण और टिप्पण का स्वरुप एवं महत्व	
		Total	30

Head
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Science College Chavawadi(Barah
Tq.Mukhed Dist.Nanded

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED - 431 606 (MS)

स्वामी रामानंद तीर्थ
मराठवाडा विद्यापीठ, नांदेड

(Credit Framework and Structure of Four Year UG Program with Multiple Entry and Exit Option as per NEP-2020)

UNDERGRADUATE PROGRAMME OF

SCIENCE & TECHNOLOGY

Major in Computer Science and Minor in Multidisciplinary
(Subject)

Under the Faculty of Science & Technology

(Revised as per the Govt. Of Maharashtra circular Dt. 13th March 2024)

Principal
Late Bhimrao Chavan Arts's &
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Tq.Mukhed Dist.Nanded

॥ मा विद्या या विमुक्तये ॥

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

'ज्ञानतीर्थ', विष्णुपुरी, नांदेड - ४३१ ६०६ (महाराष्ट्र राज्य) भारत

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

'Dnyanteerth', Vishnupuri, Nanded - 431 606 (Maharashtra State) INDIA

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

Established on 17th September, 1994, Recognized By the UGC U/s 2(f) and 12(B), NAAC Re-accredited with 'B++' grade

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विज्ञान व तंत्रज्ञान विद्याशाखे अंतर्गत राष्ट्रीय शैक्षणिक धोरण २०२० नुसार पदवी प्रथम वर्षाचे अभ्यासक्रम (Syllabus) शैक्षणिक वर्ष २०२४–२५ पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, या विद्यापीठा अंतर्गत येणा–या सर्व संलग्नित महाविद्यालयामध्ये शैक्षणिक वर्ष २०२४–२५ पासून पदवीस्तरावर राष्ट्रीय शैक्षणिक धोरण –२०२० लागू करण्याच्या दृष्टीकोनातून विज्ञान व तंत्रज्ञान विद्याशाखे अंतर्गत येणा–या अभ्यासमंडळांनी तयार केलेल्या पदवी प्रथम वर्षाचे अभ्यासक्रमांना मा विद्यापरिषदेने दिनांक १५ मे २०२४ रोजी संपन्न झालेल्या बैठकीतील विषय क्रमांक १५/५९–२०२४ च्या ठरावान्वये मान्यता प्रदान केली आहे. त्यानुसार विज्ञान व तंत्रज्ञान विद्याशाखेतील खालील बी. एस्सी प्रथम वर्षाचे अभ्यासक्रम (Syllabus) लागू करण्यात येत आहेत.

1) B. Sc. I year – Computer Science
2) B. Sc. I year – Computer Application
3) B. Sc. I year – Information Technology
4) B. Sc. I year – Computer Maintainance
5) B. Sc. I year – Computer Science (Single Major)
6) B. Sc. I year - Computer Network Technology (Single Major)
7) B. Sc. I year - Software Engineering (Single Major)
8) B. Sc. I year - Information Technology (Single Major)
9) B. Sc. I year - Computer Management (Single Major

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी, ही विनंती.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.शै–१/एनइपी/विविधविद्याशाखा/२०२४–२५/१५४
दिनांक १६.०७.२०२४

डॉ. सविता लोंढेकर
सहा कुलसचिव
शैक्षणिक (१–अभ्यासमंडळ) विभाग

प्रत : १) मा. अधिष्ठाता, विज्ञान व तंत्रज्ञान विद्याशाखा, प्रस्तुत विद्यापीठ.
२) मा. संचालक, परीक्षा व मूल्यमापन मंडळ, प्रस्तुत विद्यापीठ
३) मा. प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) मा. संचालक, सर्व संकुले परिसर व उपपरिसर, प्रस्तुत विद्यापीठ
५) मा. प्राचार्य, न्यू मंगरुळ टिप्पी कॉलेज सिंगोली.
६) सिस्टीम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ. यांना देवून कळविण्यात येते की, सदर परिपत्रक संकेतस्थळावर प्रसिध्द करण्यात यावे.

Principal
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Tq.Mukhed Dist.Nanded

From the Desk of the Dean, Faculty of Science and Technology

Swami Ramanand Teerth Marathwada University, Nanded, enduring to its vision statement "***Enlightened Student: A Source of Immense Power***", is trying hard consistently to enrich the quality of science education in its jurisdiction by implementing several quality initiatives. Revision and updating curriculum to meet the standard of the courses at national and international level, implementing innovative methods of teaching-learning, improvisation in the examination and evaluation processes are some of the important measures that enabled the University to achieve ***the 3Es, the equity, the efficiency*** and ***the excellence*** in higher education of this region. To overcome the difficulty of comparing the performances of the graduating students and also to provide mobility to them to join other institutions the University has adopted the cumulative grade point average (CGPA) system in the year 2014-2015. Further, following the suggestions by the UGC and looking at the better employ ability, entrepreneurship possibilities and to enhance the latent skills of the stakeholders the University has adopted the Choice Based Credit System (CBCS) in the year 2018-2019 at graduate and post-graduate level. This provided flexibility to the students to choose courses of their own interests. To encourage the students to opt the world-class courses offered on the online platforms like, NPTEL, SWAYM, and other MOOCS platforms the University has implemented the credit transfer policy approved by its Academic Council and also has made a provision of reimbursing registration fees of the successful students completing such courses.

SRTM University has been producing a good number of high calibre graduates; however, it is necessary to ensure that our aspiring students are able to pursue the right education. Like the engineering students, the youngsters pursuing science education need to be equipped and trained as per the requirements of the R&D institutes and industries. This would become possible only when the students undergo studies with an updated and evolving curriculum to match global scenario.

Higher education is a dynamic process and in the present era the stakeholders need to be educated and trained in view of the self-employment and self-sustaining skills like start-ups. Revision of the curriculum alone is not the measure for bringing reforms in the higher education, but invite several other initiatives. Establishing industry-institute linkages and initiating internship, on job training for the graduates in reputed industries are some of the important steps that the University would like to take in the coming time. As a result, revision of the curriculum was the need of the hour and such an opportunity was provided by the New Education Policy 2020. National Education Policy 2020 (NEP 2020) aims at equipping students with knowledge, skills, values, leadership qualities and initiates them for lifelong learning. As a result the

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students will acquire expertise in specialized areas of interest, kindle their intellectual curiosity and scientific temper, and create imaginative individuals.

The curriculum given in this document has been developed following the guidelines of NEP-2020 and is crucial as well as challenging due to the reason that it is a transition from general science based to the discipline-specific-based curriculum. All the recommendations of the ***Sukanu Samiti*** given in the **NEP Curriculum Framework-2023** have been followed, keeping the disciplinary approach with rigor and depth, appropriate to the comprehension level of learners. All the Board of Studies (BoS) under the Faculty of Science and Technology of this university have put in their tremendous efforts in making this curriculum of international standard. They have taken care of maintaining logical sequencing of the subject matter with proper placement of concepts with their linkages for better understanding of the students. We take this opportunity to congratulate the Chairman(s) and all the members of various Boards of Studies for their immense contributions in preparing the revised curriculum for the benefits of the stakeholders in line with the guidelines of the **Government of Maharashtra regarding NEP-2020**. We also acknowledge the suggestions and contributions of the academic and industry experts of various disciplines.

We are sure that the adoption of the revised curriculum will be advantageous for the students to enhance their skills and employ ability. Introduction of the mandatory ***On Job Training, Internship program*** for science background students is praise worthy and certainly help the students to imbibe firsthand work experience, team work management. These initiatives will also help the students to inculcate the workmanship spirit and explore the possibilities of setting up of their own enterprises.

Dr. M. K. Patil

Dean

Faculty of Science and Technology

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Science College Chavawadi(Barahali)
Tq.Mukhed Dist.Nanded

Details of the Board of Studies Members in the subject Computer Science (Optional) ***under the faculty of Science & Technology of S.R.T.M. University, Nanded***

Sr No	*Name of the Member*	*Designation*	*Address*	*Contact No.*
1				
2				
3				
4				
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7				
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9				
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Tq.Mukhed Dist.Nanded

Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Science and Technology

General Guidelines for Selection of Courses

i. The **Major subject** is the discipline or course of main focus, bachelors' degree shall be awarded in that Discipline / subject.

ii. **Minor Subject(s)** is/are the subjects from the same discipline / faculty and shall act as supporting subjects to the Major.

iii. At the entry level of the 3/4-year UG program students shall be required to choose any THREE of the available subjects in a college/institute as **Major (Optional 1), Minor 1 (Optional 2) and Minor 2 (Optional 3) subjects, respectively**

iv. No. of credits assigned to the **Major (Optional 1), Minor 1 (Optional 2) and Minor 2 (Optional 3) shall be same in Semesters I and II.**

v. **In the second year of the degree program students shall Computer Science (Optional) one of the three subjects (Optional 1, 2 and 3) as a Major Subject and one as Minor Subject, while third optional shall be discontinued.**

vi. Students shall have an option to switch over from **Major to Minor or vice-versa after first year.**

vii. Once they finalize their **Major subject** in the beginning of the second year of the programme, they shall pursue their further education in that particular subject as the **Major** subject. Therefore, from second year onwards curriculum of the **Major** and **Minor** subjects shall be different.

viii. Students are required to Computer Science **(Optional) Generic /Open Computer Science Electives (vertical 3 in the credit framework)** compulsorily from the **faculties different than that of their Major / Minor subjects** (Computer Science from **Basket 3**).

ix. **Content and other details of the GE are available in the document prepared by the respective BOS from which the candidate has chosen his/her GE.**

x. Students shall be required to complete the Skill based courses of 06 credits in the first two years.

xi. Vocational Courses (VSEC or VSC) shall be related to the **Major** course

xii. Ability Enhancement Courses (AEC):

a) English Communication Course (Language) of 2 credits shall be offered in Semester I and III

b) Modern Indian Languages shall be of 2 credits and shall be offered in Semester II and IV

xiii. Courses marked as VEC, CI, IKS and CCC in Column Nos. 7and 8 shall be common for all the students irrespective of their faculties of studies.

xiv. Curriculum of VEC, CI, IKS and CCC shall be provided by the University separately.

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SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED - 431 606

Summary of the Credits Assigned to various courses to be proposed by the Board of Studies under the Faculty of Science and Technology

A. No. Of Credits assigned to various courses:

Sr No.	Heads	Credits assigned in each Semester								Total Credits
		I	II	III	IV	V	VI	VII	VIII	
1	Major Subject	4	4	8	8	16	16	18/14	18/14	92/84
2	Minor 1 Subject	4	4	2	2	--	--	--	--	12
3	Minor 2 Subject	4	4	--	--	--	--	--	--	08
3	Generic CSC Electives / Research Methodology	2	2	4	2	--	--	4	--	10 + 4 (14)
4	Vocational and Skill Enhancement Course / Indian Knowledge System	2	2	2	2	4	2	--	--	8+6 (14)
5	Ability Enhancement Course L1 (English)	2	--	2	--	--	--	--	--	4
6	Ability Enhancement Course L2 (SL)	--	2	--	2	--	--	--	--	4
7	Value Added Course /IKS (Constitution of India / EVS)	2	2	--	2	--	--	--	--	6
8	Community Engagement Services NCC/NSS/Sports/Culture	2	2	2	2	--	--	--	--	8
9	Project/ Field Work/ OJT /Internship	--	--	2	2	2	4	--/4	4/8	14/22
10	Total Credits	22	22	22	22	22	22	22	22	176

1. Major Courses *(92 / 84 credits, **Basket-1**)*: Each BOS shall suggest **Major Courses** of 04 credits **(02 credit Theory and 02 credit practical papers)** for semesters I and II
As the University has adopted Three Optional credit framework, therefore, every student have a freedom to chose three courses of his choice from among the options made available by a particular college / institute. As number of credits assigned to all the three optional are same, therefore, he / she have a freedom to sCSCct any one of them as Major and one as Minor course from second year onward.

2. Minor Courses *(20 + 04 credits, **Basket-2**)*: **Total numbers of credits assigned to the Minor Courses are 20** and a course on Research Methodology of 4 credits in VIIth semester.

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[Note: *i.* Each Board of studies is required to develop curriculum of **two theory papers and a practical course each of 02 credits**. This would be **common for major and minor courses** during semesters I and II. **No need of preparing Minor courses separately for First Year.**
ii. Students have option to select any of the three optional as **Major** and one **Minor** at the beginning of the **Third Semester (Second Year)** of their degree programme.]

3. Generic CSCctives *(10 credits; for students from faculties other than Science and Technology, Basket-3)*: One paper each of 02/04 **credits** to be offered **in semester I to VI** as Generic CSCctives. As these papers shall be opted by the students from other faculties; therefore, difficulty level of these courses shall at beginners' level (4.0). Each BOS shall **suggest a minimum of one and a maximum of four Generic CSCctive papers** to be offered during semesters I to VI. Students have freedom to choose one **Generic CSCctive** paper from **Basket-3** (common for all faculties) in each semester, provided these GE courses are from other faculty.

4. Ability Enhancement Course (AEC) *(08 credits; common for all faculty students, Basket-4)*: One Language course each of 02 credits in the first four semesters.
L1 – First Language English *(Compulsory for all disciplines) (02 credits each in semesters I and III)*
L2 – Second Language (Students have option to choose second language from the **Language Basket-IV**) *(02 credits each in semesters II and IV)*

5. Vocational and Skill Enhancement Courses (VC/SC) *(08 +06 credits, shall be related to the Major Course)*: Each BOS shall suggest four Vocational and three Skill Enhancement Courses each of 02 credits to be offered in semesters I to VI. These courses shall be related to the **Major subject**.

6. Indian Knowledge System (IKS) (Generic) *(02 credits, common for all faculties, Basket-5)*: Students have a freedom to choose a course on **Indian Knowledge System** of 02 credits from *Basket-5* and shall be common for the students from all faculties of study.

7. Value Education Courses (VEC) *(04 credits, common and compulsory for all faculty students)*: Students have to complete two Value Added courses each of 02 credits during semester V and VI and are compulsory for students of all faculties.
a. **Constitution of India** *(02 credits)* – in Semester V
b. **Environmental Studies** *(02 credits)* – in Semester VI

8. Community Engagement Services (CES / CCC)*(08 credits, common for all faculty students)*: Students need to complete four **Community Engagement Services** courses like **NCC, NSS, Sports, Cultural Studies** each of 02 credits in first four semesters I, II, III and IV and are common across the faculty.
Grades of NCC/NSS/Sports/Cultural courses shall be awarded to the students on the basis of their participation in University, Regional, National, International, Inter-University and Intra-University level activities. Guidelines for the award of grades for NCC/NSS/Sports/Cultural studies shall be prepared by a Committee constituted by the University.

9. Field Work / Projects/ OJT/ Internship/Apprenticeship related to DSC major subjects *(14 credits for Honours and 22 credits for Honours with Research credits)*: The students shall have to complete Field Work, Project, Case Study, Internship or Apprenticeship, etc. as per the credit framework.

10. Bachelor of Science in Computer Science (Optional)Honors and Minor in DSM.

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For the award of **Bachelor of Science in** Computer Science(Optional) **Honors and Minor in** DSM students have to complete **92 credits** from Major, **20** credits of Minor and the required number of credits of Field Work / Projects/ Internship/Apprenticeship/Case study **related to Major subject.**

11. Bachelor of Science in Computer Science (Optional)Honors with Research and Minor in DSM.
For the award of **Bachelor of Science in** Computer Science(Optional) **Honors with Research and Minor in** DSM students have to complete **84 credits** theory courses of Major subject, **20 credits** of Minor and required number of credits of Field Work / Projects/ Internship/Apprenticeship/Case study **related to Major subject.**

12. These guidelines are as per the present instructions from Government of Maharashtra and are subject to change time-to-time as per the guidelines from Govt. of Maharashtra.

MULTIPLE EXIT Options for Students:

1. Exit Option after First year

Students may take exit after completion of first year with **Certificate in Major (DSC) and Minor (DSM) subject** on completion of minimum 44 credits and additional 4 credits of NSQF skill / vocational in major/minor subject or internship during summer vacation.

2. Exit Option after Two years

Students may take exit after completion of second year of the programme with **Diploma in Major (DSC) and Minor (DSM)** subject on completion of minimum 88 credits and additional 04 credits on NSQF skill / vocational or Internship on major/minor courses during summer vacation.

3. Exit Option after Three years

Students may take exit with a Degree as **Bachelors of Science in Major (DSC) and Minor (DSM)** after earning minimum of 132 credits.

4. Exit Option after Four Years after completing 176 credits

(a) Bachelor of Science in Computer Science(Optional) Honours and Minor in DSM.

(b) Bachelor of Science in Computer Science(Optional) with Research and Minor in DSM.

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Science and Technology (Three Optional in the First Year)

Credit Framework for Four Year Multidisciplinary Degree Program with Multiple Entry and Exit

Subject: DSC (Major) /DSM (Minor 1 and Minor 2)

(For illustration PHY, CHE and CSC combinations are considered, which may change for different combinations)

Year & Level	Semester	Optional 1 (Major) *(From the same Faculty)*	Optional 2 (Minor 1) *(From the same Faculty)*	Optional 3 (Minor 2) *(From the same Faculty)*	Generic CSCctive (GE) (select from Basket 3 of *Faculties other than Science and Technology*)	Vocational & Skill Enhancement Course	Ability Enhancement Course (AEC) (Basket 4) Value Education Courses (VEC) / Indian Knowledge System (IKS) (Basket 5) *(Common across all faculties)*	Field Work / Project/Internship/ OJT/ Apprenticeship / Case Study Or Co-curricular Courses (CCC) (Basket 6 for CCC) *(Common across all faculties)*	Credits	Total Credits
1	2	3	4	5	6	7	8	9	10	11
1 (4.5)	I	SCSCCT1101 (T 2Cr) Fundamentals of Computer Science SCSCCP1101 (P 2Cr) Lab I 4 Credits	SDSMCT1101 (T 2Cr) SDSMCP1101 (P 2Cr) 4 Credits	SDSMCT1101 (T 2Cr) SDSMCP1101 (P 2Cr) 4 Credits	SCSCGE1101 Digital Literacy 2 Credits	SCSCSC1101 PC Installation & Networking 2 Credits	AECENG1101 (2Cr) ACEMIL1101 (2Cr) IKSXXX1101 (2Cr) 6 Credits		22	44
	II	SCSCCT1151 (T 2Cr) Programming in C SCSCCP1151 (P 2Cr) Lab II 4 Credits	SDSMCT1151 (T 2Cr) SDSMCP1151 (P 2Cr) 4 Credits	SDSMCT1151 (T 2Cr) SDSMCP1151 (P 2Cr) 4 Credits	SCSCGE1151 ICT 2 Credits	SCSCSC1151 MS-Office 2 Credits	AECENG1151 (2Cr) ACEMIL1151 (2Cr) VECCOI1151 (2Cr) *Constitution of India* 6 Credits		22	
	Cum. Cr.	08	08	08	04	04	12		44	

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Exit option: UG Certificate in Opt 1, Opt 2 and Opt 3 **on completion of 44 credits** and additional **4 credits from NSQF / Internship**											
2 (5.0)	**III**	**SCSCCT1201 (2cr)** Programming in C++ **SCSCCT1202 (2cr)** DBMS **SCSCCP1203 (2cr) SCSCCP1204 (2cr) 8 Credits**	**SDSMCT1201** OOP's Through C++ **SDSMCP1201** (1T+1P) **2 Credits**		**SCSCGE1201 (2cr)** Cyber Security **SCSCGE1202 (2cr)** Dos & Window **4 Credits**	**SCSCSC1201** Multimedia **2 Credits**	**ACEXXX1201** (MAR/HIN/URD /KAN/PAL) (2Cr) **2 Credits**	**SCSCFP1201 (2Cr) CCCXXX1201** (2Cr) **4 Credits**	**22**	
	IV	**SCSCCT1251 (2cr)** Programming in Java **SCSCCT1252 (2cr)** RDBMS **SCSCCP1253 (2cr) SCSCCP1254 (2cr) 8 Credits**	**SDSMCT1251** Java Programming **SDSMCP1251** (1T+1P) **2 Credits**		**SCSCGE1251** Data Science **2 Credits**	**SCSCVC1251** Linux O.S **2 Credits**	**ACEXXX1251** (MAR/HIN/URD /KAN/PAL) (2Cr) **VECEVS1251** (2Cr) **4 Credits**	**SCSCFP1351 (2Cr) CCCXXX1151(2Cr) 4 Credits**	**22**	
	Cum. Cr.	24	12	08	10	06	14	12	88	88
Exit option: UG Diploma in Major DSC and Minor DSM **on completion of 88 credits and** additional **4 credits NSQF / internship in DSC**										
3 (5.5)	**V**	**SCSCCT1301** (T 3Cr) Computer Network **SCSCCT1302** (T 3Cr) PHP Programming **SCSCIK1303** (T 2Cr) **SCSCCP1304** (P 2Cr) **SCSCCP1305** (P 2Cr) **12 Credits**	**SCSCET1301** (T 3Cr) Visual Basic **SCSCEP1301** (P 1Cr) **4 Cr**	--		--	**SCSCVC1301** Hardware & Networking Essential-I **4 Credits**	--	**SCSCFP1301 (2 Cr) 2 Credits**	**22**	

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	VI	SCSCCT1351 (T 3Cr) Python Programming SCSCCT1352 (T 3Cr) E-Commerce SCSCCT1353 (T 2Cr) SCSCCP1354 (P 2Cr) SCSCCP1355 (P 2Cr) 12 Credits	SCSCET1351 (T 3Cr) VB.Net SCSCEP1351 (P 1Cr) 4 Cr	--		--	SCSCVC1351 Hardware & Networking Essential-II 2 Credits	--	SCSCOJ1351 4 Credits	22	
	Cum. Cr.	56		12	08	10	6 + 8 =14	14	18		132
Exit option: B. Sc. (Bachelor in Science) with Major in DSCand Minor in DSM											
4 (6.0)	VII	SCSCCT1401 (T 4Cr) Advanced Java SCSCCT1402 (T 4Cr) Android OS SCSCCT1403 (T 2Cr) ASP.NET SCSCCP1404 (P 4Cr) 14 Credits	SCSCET1401 (T 3Cr) Internet of Thing SCSCEP1401 (P 1Cr) 4 Cr	*Research Methodology* SCSCRM1401 4 Credits		--	--	--	--	22	
	VIII	SCSCCT1451 (T 4Cr) O. S. Concepts SCSCCT1452 (T 4Cr) C#.NET SCSCCT1453 (T 2Cr) Software Testing SCSCCP1454 (P 4Cr) 14 Credits	SCSCET1401 (T 3Cr) System Security SCSCEP1401 (P 1Cr) 4 Cr	--		--	--	--	SCSCOJ1451 4 Credits	22	
	Cum Cr	Honours: 92		18+4	08	10	V-08 + S-06	AEC-4+MIL-4 +VEC-4 +IKS-2	22		176
Exit option: B. Sc. (Hons) with Major in DSCand Minor inDSM											

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4 (6.0)	VII	SCSCCH1401 (T 3Cr) **Advanced Java** SCSCCH1402 (T 3Cr) **Android OS** SCSCCH1403 (T 4Cr) **(H- Honours) 10 Credits**	SCSCET1401 (T 3Cr) **Internet of Thing (IoT)** SCSCEP1401 (P 1Cr) **4 Cr**	*Research Methodology* **SCSCRM1401 4 Credits**		--	--	--	Research Project **SCSCRP1401 4 Credits**	22	44
	VIII	SCSCCH1451 (T 3Cr) **O. S.Concepts** SCSCCH1452 (T 3Cr) **C#.NET Programming** SCSCCH1453 (T 4Cr) **(H- Honours) 10 Credits**	SCSCET1451 (T 3Cr) **System Security** SCSCEP1451 (P 1Cr) **4 Cr**	--		--	--	--	Research Project **SCSCRP1451 8 Credits**	22	
Exit option: B. Sc. (Hons with Research) in DSCand Minor in DSM											
Total Credits		Major – 92 / 84	Minor 1 -18 + RM - 04	Minor 2 08	GE/OE - 10	(V-08 + S-06) 14	(AEC-8 + VEC-4 + IKS-2)14		(CC-08+FP/CS-06+OJT-04+RP-12) 30	176	

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Abbreviations:

1. **DSC:** Department/Discipline Specific Core (Major)
2. **DSE:** Department/Discipline Specific Elective (Major)
3. **DSM:** Discipline Specific Minor
4. **GE/OE:** Generic/Open Elective
5. **VSEC:** Vocational Skill and Skill Enhancement Course
6. **VSC:** Vocational Skill Courses
7. **SEC:** Skill Enhancement Courses
8. **AEC:** Ability Enhancement courses
9. **MIL:** Modern Indian languages
10. **IKS:** Indian Knowledge System
11. **VEC:** Value Education Courses
12. **OJT:** On Job Training: (Internship/Apprenticeship)
13. **FP:** Field Projects
14. **CEP:** Community Engagement and Service
15. **CC:** Co-Curricular Courses
16. **RM:** Research Methodology
17. **RP:** Research Project/Dissertation

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Assigning TEN DIGIT Codes to the Courses ALPHANUMERIC Coding AAAAAA XXXX

1) **First (A) Letter indicate Faculty:** H – Humanities; S - Science; C – Commerce, & Management, I - Interdisciplinary Studies and D –Distance / External mode .

2) **Next Three Letters(XXX) indicates Subject** (e.g. ECO – Economics, CSC – Computer Science, COM – Commerce, CSC – Computer Sci.) etc.

3) **Fourth and Fifth Letters indicate nature of the course** : (e.g. **CT** – Core Theory, **CP** – Core Practical, **MT** – Minor Theory, **ET** – Elective Theory, **EP** – Elective Practical, **FP**– Field Project, **FW** – Field Work, **OJ** – On Job training, **GE** - Generic /open Elective, **IN** – Internship, **CS** – Case Study, **VC** - Vocational Skill Courses, **SC** - Skill Enhancement Courses, **AEC** - Ability Enhancement courses, **ML** - Modern Indian languages, **CCC** - Co-Curricular Courses/ Community Engagement and Service, **RM** - Research Methodology, **IKC** - Indian Knowledge System,**VEC** - Value Education Courses, etc.)

4) **Sixth Character or First Number:** indicate the Centre (1- for Affiliated colleges, 2 -Main Campus, 3- Model Degree College, 4- Sub-Centre Latur, 5-Sub-Centre Parbhani, 6 –Sub-Centre Kinwat)

5) **Seventh Character or second number indicate** -Year of Study.e.g.**1** - First year,**2**- second year.etc.

6) **Last Two Numbers** indicate Course Number

e.g. **SCSCCT1101** – Faculty of **Science & Technology (S) COMPUTER SCIENCE** (CSC) subject **Core Theory** (CT) Course offered in the First Semester in affiliated colleges

Sr. No	UG/PG	Semester	Affiliated Colleges	Main Campus	Model Degree College	Sub-center Latur	Sub-center Parbhani	Sub-Centre Kinwat
1	First Year	Semester I	1101 to 1150	2101 to 2150	3101 to 3150	4101 to 4150	5101 to 5150	6101 to 6150
2		Semester II	1151 to 1199	2151 to 2199	3151 to 3199	4151 to 4199	5151 to 5199	6151 to 6199
3	Second Year	Semester III	1201 to 1250	2201 to 2250	3201 to 3250	4201 to 4250	5201 to 5250	6201 to 6250
4		Semester IV	1251 to 1299	251 to 2299	3251 to 3299	4251 to 4299	5251 to 5299	6251 to 6299
5	Third Year	Semester V	1301 to 1350	2301 to 2350	3301 to 3350	4301 to 4350	5301 to 5350	6301 to 6350
6		Semester VI	1351 to 1399	2351 to 2399	3351 to 3399	4351 to 4399	5351 to 5399	6351 to 6399
7	Fourth Year	Semester VII	1401 to 1450	2401 to 2450	3401 to 3450	4401 to 4450	5401 to 5450	6401 to 6450
8		Semester VIII	1451 to 1499	2451 to 2499	3451 to 3499	4451 to 4499	5451 to 5499	6451 to 6499
9	Fifth Year	Semester IX	1501 to 1550	2501 to 2550	3501 to 3550	4501 to 4550	5501 to 5550	6501 to 6550
10		Semester X	1551 to 1599	2551 to 2599	3551 to 3599	4551 to 4599	5551 to 5599	6551 to 6599

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B. Sc. First Year Semester I *(Level 4.5)*

Teaching Scheme

	Course Code	Course Name	Credits Assigned			Teaching Scheme (Hrs/ week)	
			Theory	Practical	Total	Theory	Practical
Optional 1	SCSCCT1101	**Fundamentals of computer Science**	02	--	**04**	02	--
	SCSCCP1101	Lab I (practical)	-	02			04
Optional 2	SDSCMT1101	Title of paper 1	02	--	**04**	02	--
	SDSCMP1101	Title of paper 2 (practical)	-	02			04
Optional 3	SDSCMT1101	Title of paper 1	02	--	**04**	02	--
	SDSCMP1101	Title of paper 2 (practical)	-	02			04
Generic Electives *(from other Faculty)*	SCSCGE1101	**Digital Literacy (Basket 3 of respective Faculty)**	02	--	**02**	02	--
Skill Based Course (related to Major)	SDSCSC1101	**PC Installation and Networking**	--	02	**02**	--	04
Ability Enhancement Course	AECENG1101	L1 – Compulsory English	02	--	**02**	02	--
Indian Knowledge System (IKS)	IKSXXX1101	SCSCct from **Basket 5**	02	--	**02**	02	--
Language	AECMIL1101		02	--	**02**	02	--
Total Credits			**14**	**08**	**22**	**14**	**16**

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B. Sc. First Year Semester I *(Level 4.5)*

Examination Scheme

[20% Continuous Assessment (*CA*) and 80% End Semester Assessment (*ESA*)]

(For illustration we have considered a paper of 02 credits, 50 marks, need to be modified depending on credits assigned to individual paper)

Subject (1)	Course Code (2)	Course Name (3)	Theory				Practical		Total Col (6+7) / Col (8+9) (10)
			Continuous Assessment (CA)			ESA			
			Test I (4)	Test II (5)	Average of T1 & T2 (6)	Total (7)	CA (8)	ESA (9)	
Optional 1	SCSCCT1101	**Fundamentals of computer Science**	10	10	10	40	--	--	50
	SCSCCP1101	Lab I (practical)	--	--	--	--	20	30	50
Optional 2	SDSCMT1101	Title of paper 1	10	10	10	40	--	--	50
	SDSCMP1101	Title of paper 2practical	--	--	--	--	20	30	50
Optional 3	SDSCMT1101	Title of paper 1	10	10	10	40	--	--	50
	SDSCMP1101	Title of paper 2 practical	--	--	--	--	20	30	50
Generic Elective	SCSCGE1101	**Digital Literacy (Basket 3)**	10	10	10	40	--	--	50
Skill Based Course	SCSCSC1101	**PC Installation and Networking**	--	--	--	--	20	30	50
Ability Enhancement Course	AECENG1101	**L1 – Compulsory English**	10	10	10	40	--	--	50
Indian Knowledge System	IKSXXX1101	Title **(Basket 5)**	10	10	10	40	--	--	50
Language	ACEMIL1101 CCCXXX1101		10	10	10	40	--	--	50

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B. Sc. First Year Semester II *(Level 4.5)*

Teaching Scheme

	Course Code	Course Name	Credits Assigned			Teaching Scheme (Hrs/ week)	
			Theory	Practical	Total	Theory	Practical
Optional 1	SCSCCT1151	**Programming in C Language**	02	--	**04**	02	--
	SCSCCP1151	Lab I (practical)	-	02			04
Optional 2	SDSCMT1151	Title of paper 1	02	--	**04**	02	--
	SDSCMP1151	Title of paper 2 (practical)	-	02			04
Optional 3	SDSCMT1151	Title of paper 1	02	--	**04**	02	--
	SDSCMP1151	Title of paper 2 (practical)	-	02			04
Generic Electives *(from other Faculty)*	SCSCGE1151	**ICT (Basket 3 of respective Faculty)**	02	--	**02**	02	--
Skill Based Course (related to Major)	SDSCSC1151	**MS-Office**	--	02	**02**	--	04
Ability Enhancement Course	AECENG1151	L1 – Compulsory English	02	--	**02**	02	--
Indian Knowledge System (IKS)	IKSXXX1151	SCSCct from **Basket 5**	02	--	**02**	02	--
Constitution of India	VECCOI1151		02	--	**02**	02	--
Total Credits			**14**	**08**	**22**	**14**	**16**

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B. Sc. First Year Semester II *(Level 4.5)*

Examination Scheme

[20% Continuous Assessment (*CA*) and 80% End Semester Assessment (*ESA*)]

(For illustration we have considered a paper of 02 credits, 50 marks, need to be modified depending on credits assigned to individual paper)

Subject (1)	Course Code (2)	CourseName (3)	Theory				Practical		Total Col (6+7) / Col (8+9) (10)
			Continuous Assessment (CA)			ESA			
			Test I (4)	Test II (5)	Average of T1 & T2 (6)	Total (7)	CA (8)	ESA (9)	
Optional 1	SCSCCT1151	**Programming in C Language**	10	10	10	40	--	--	50
	SCSCCP1151	Lab I (practical)	--	--	--	--	20	30	50
Optional 2	SDSCMT1151	Title of paper 1	10	10	10	40	--	--	50
	SDSCMP1151	Title of paper 2practical	--	--	--	--	20	30	50
Optional 3	SDSCMT1151	Title of paper 1	10	10	10	40	--	--	50
	SDSCMP1151	Title of paper 2 practical	--	--	--	--	20	30	50
Generic Elective	SCSCGE1151	**ICT (Basket 3)**	10	10	10	40	--	--	50
Skill Based Course	SDSCSC1151	**MS-Office**	--	--	--	--	20	30	50
Ability Enhancement Course	AECENG1151	**L1 – Compulsory English**	10	10	10	40	--	--	50
Indian Knowledge System	IKSXXX1151	Title **(Basket 5)**	10	10	10	40	--	--	50
Constitution of India	VECCOI1151		10	10	10	40	--	--	50

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Course Structure: *Major 1 -Teaching Scheme*

Course Code	Course Name (Paper Title)	Teaching Scheme(Hrs.)		Credits Assigned		
		Theory	Practical	Theory	Practical	Total
SCSCCT1101	Fundamentals of Computer Science	02	--	02	--	02

Major 1 -Assessment Scheme

Course Code (2)	Course Name (3)	Theory				Practical		Total [Col (6+7) or Col (8+9)] (10)
		CA			ESA (7)	CA (8)	ESA (9)	
		Test I (4)	Test II (5)	Avg of T1 & T2 (6)				
SCSCCT1101	Fundamentals of Computer Science	10	10	10	40	--	--	50

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Course Structure: *Major 1 -Teaching Scheme*

Course Code	Course Name (Paper Title)	Teaching Scheme(Hrs.)		Credits Assigned		
		Theory	Practical	Theory	Practical	Total
SCSCCT1151	Programming in C Language	02	--	02	--	02

Major 1 -Assessment Scheme

Course Code (2)	Course Name (3)	Theory				Practical		Total [Col (6+7) or Col (8+9)] (10)
		CA			ESA (7)			
		Test I (4)	Test II (5)	Avg of T1 & T2 (6)		CA (8)	ESA (9)	
SCSCCT1101	Programming in C Language	10	10	10	40	--	--	50

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B. Sc. FY (Computer Science) (Semester I)

C. CSCSCCT1101 (Theory): Fundamentals of Computer Science

Periods: 30 Hours **Max. Marks: 50** [ESE:40 & CA:10] **Credits : 2**

Course Pre- requisite: HSC (XIIth Science) pass

Course Objectives:

- To understand the basics of computer system, its architecture.
- To understand functioning of computer components.
- To know the key terms related to the computer system
- To design Algorithm and flowcharts.
- Develop skills in analyzing the usability of a web site.
- Understand how to plan and conduct user research related to web usability.
- Learn techniques of responsive web design, including media.

Course Outcome: After completion of this course students will be -

- Identify the components of a personal computer system.
- Demonstrate input/output unit functions
- Design Algorithms and Flowcharts.
- Be able to use the HTML tags.
- Understand the principles of creating an effective web page.

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D. *Curriculum Details:* SCSCCT1101(Theory):

Fundamentals of Computer Science

Module No.	Unit No.	Topic	Hrs. required to cover the contents
1.0		**Basics of Computer System**	09
	1.1	Computer Architecture: CPU (ALU, MU, CU), Input Ports, Output Ports	
	1.2	Input / Output Devices: Keyboard, Mouse, Monitor, Printer	
	1.3	Memory: Main Memory, Secondary Memory	
	1.4	Introduction to Algorithm	
	1.5	Introduction to Flowcharts and its symbols	
2.0		**Input /Output Devices**	09
	2.1	Input Devices: Keyboard, Point & Draw Devices, Data Scanning Devices,	
	2.2	Digitizer, Electronic Card Reader, Voice Recognition Devices	
	2.3	Output Devices: Monitor, Printer, Plotter	
	2.4	Screen Image Projector, Voice Response System	
3.0		**Introduction to Number System**	05
	3.1	Introduction to Decimal, Binary, Octal, Hexadecimal.	
	3.2	ASCII Code, Gray Code	
	3.3	BCD Code	
4.0		**Computer Software and OS**	07
	4.1	Introduction to Software	
	4.2	Types of Software	
	4.3	Operating System and its functions	
	4.4	Introduction to DOS and Windows	
	4.5	DOS Internal and External Commands	

Reference Books / Text Books:

1. Fundamentals of Computers, V. Rajaraman
2. Computers and Common Sense, R. Hunt and Shelly Y.
3. Computer Fundamentals (5Th Edition), P. K. Sinha

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B.Sc.FY (Computer Science) (Semester I)

SCSCCP1101: Comp. Lab-I: Practical based on SCSCCT1101

Periods :60 Hours **Max. Marks: 50** [ESE:30 & CA:20] **Credits : 2**

Curriculum Details:

SCSCCP1101: Comp. Lab-I - Practical based on SCSCCT1101

Group I :

1. Study of Computer Architecture
2. Study of input devices
3. Study of output devices
4. Study of different Computer Memory
5. Study of Internal DOS Commands
6. Study of External DOS Commands
7. Study of Windows OS

Note:

i. Every student must perform at least **10** experiments

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B.Sc. FY (Computer Science) (Semester I)

SCSCGE1101 [Generic Elective (GE) 1]: Digital Literacy

Periods :30 Hours **Max. Marks: 50** [ESE:40 & CA:10] **Credits: 2**

Course Pre- requisite: HSC (XIIth) pass from any faculty

Course Objectives:

- Understand the software testing life cycle
- Understand various components of computers
- Work confidently with GUI base operating system
- Create various business documents using Word Processor
- Create electronic Spreadsheets
- Work with charts and graphs
- Understand internet and its functionalities.
- Sending and receiving emails
- Create presentations
- Working with animations in presentations

Course Outcome: After completion of this course

- Knowing Computer
- Computer using GUI based Operating System
- Understanding Word Processing
- Using Spreadsheet
- Communication using the Internet
- WWW and Web Browsers

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Curriculum Details:

SCSCGE1101 [Generic Elective 1]: Digital Literacy

Module No.	Unit No.	Topic	No. of hours. required to cover the contents
1		**Introduction to Computer**	08
	1.1	Computer Architecture, Classification of computer, Memory and their types	
	1.2	Input and output devices	
	1.3	Application of Computer	
2		**Operating System**	09
	2.1	Introduction to OS, Structure of OS	
	2.2	Types of Operating System, Multi-user, Multi-Tasking, Multi-Programming, Real time System	
	2.3	GUI based Operating System	
3		**Word Processing and Spreadsheet**	06
	3.1	Study of MS-Word	
	3.2	Study of MS-Excel	
4		**Computer Network**	07
	4.1	Computer Network: Introduction, types of network, Topology,Protocol, Internet, WWW, Web browser	
		Total	30

Text Books:

1. Fundamentals of Computers, V. Rajaraman
2. Computers and Common Sense, R. Hunt and Shelly Y.
3. Computer Fundamentals (5Th Edition), P. K. Sinha

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B.Sc. FY (Computer Science) (Semester I)

SCSCSC1101: PC Installation & Networking (Skill)

Periods :60 Hours **Max. Marks: 50** [ESE:30 & CA:20] **Credits: 2**

Course Pre- requisite: HSC (XIIth) science pass

Course Objectives:

- Build practical skills in Assembling & maintenance of the personal desktop computer
- Installation of operating system
- Software's as well as to setup the network.

Course Outcomes: After completion of this course

- Knowledge of computer hardware and peripherals
- Installation
- PC assembly
- Trouble shooting

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Curriculum Details:

SCSCSC1101: PC Installation & Networking (Skill)

Module No	Unit No	Topic	Hrs. Required to cover the contents
1		**Computer Fundamentals**	15
	1.1	Study of computer devices: Keyboard, Mouse, Monitor	
	1.2	RAM, ROM, Hard Disk, Pen Drive	
	1.3	CD Drive,DVD Drive	
	1.4	Motherboard, SMPS	
2		**Operating System**	15
	2.1	Installation of Windows OS on a Computer	
	2.2	Using System Tools: disk clean up	
	2.3	Disk fragmentation, Antivirus Software	
3.		**OS Administration**	15
	3.1	Windows OS Administration: Creating User	
	3.2	Installing/Uninstalling programs	
	3.3	copy files & folders, Creating a CD, Formatting Pen Drives	
4.		**Device Administration**	15
	4.1	Installing printer, Connecting to LAN	
	4.2	Installing Software	
	4.3	Installing Operating System	
	4.4	Downloading contents from Internet	
		Total	60

Books:

1. Computer Installation & Servicing by D Balsubrmaniyam, McGraw Hill Pub.
2. PC : Repair & Maintenance a practical guide by J Rosenthal, K Irwin
3. Easy PC Maintainance & Repair by Philip Laplante, McGraw Hill Pub.

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B. Sc. FY (Computer Science) (Semester II)

SCSCCT1151 (Theory):

Programming in C-Language

Periods: 30 Hours **Max. Marks: 50** [ESE: 40 & CA:10] **Credits : 2**

Course Pre- requisite: HSC (XIIth) science pass

Course Objectives:

- The data structures paper helps the students to have the practical understanding of the subject..
- Able to write well-structured procedure-oriented programs.
- To solve problems using data structures such as linear lists, stacks, queues, hash tables, binary trees, heaps, binary search trees, and graphs and writing programs for these solutions.
- The course aims to prove exposure to problem-solving through programming
- It aims to train the student to the basic concepts of the C-Programming language.
- It is general purpose and procedure oriented programming language. In which we are able to develop OS and MAC operating system application software and programming languages.

Course Outcome: After completion of this course students will be –

- Students are able to use various data structures operations.
- Course is designed to prove complete knowledge of C-Language to develop logics which will them to create programs, application in C.
- To develop programs using operators and control statement.
- Introduces the more advanced features of the C language.

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Curriculum Details :

SCSCOE1151: ICT

Module No	Unit No	Topic	Hrs. Required to cover the contents
1		**Fundamentals of Internet**	08
	1.1	What is Internet?, Internet applications,Internet Addressing – Entering a Web Site Address, URL–Components of URL	
	1.2	Searching the Internet, Browser –Types of Browsers	
	1.3	Introduction to Social Networking: Twitter, Tumblr, LinkedIn	
	1.4	Facebook, flickr, Skype, yahoo, YouTube, WhatsApp	
2		**E-mail**	08
	2.1	Definition of E-mail -Advantages and Disadvantages	
	2.2	User Ids, Passwords, Email Addresses, Domain Names,	
	2.3	Mailers, Message Components	
	2.4	Message Composition,Mail Management.	
3		**G-Suite**	07
	3.1	Google drive, Google documents	
	3.2	Google spread sheets, Google Slides	
	3.3	Google forms	
4		**Internet security**	07
	4.1	Overview of Internet security, E-mail threats and secure E-mail, Viruses and antivirus software	
	4.2	Firewalls, Cryptography, Digital signatures, Copyright issues.	
		Total	30

Textbooks:

1. In-line/On-line : Fundamentals of the Internet and the World Wide Web, 2/e – byRaymond Greenlaw and Ellen Hepp, Publishers : TMH
2. Internet technology and Web design, ISRD group, TMH.
3. Information Technology – The breaking wave, Dennis P.Curtin, Kim Foley, Kunai Sen and Cathleen Morin, TMH.

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B.Sc. FY (Computer Science) (Semester II)

SCSCSC1151: MS-Office

Periods :60 Hours **Max. Marks: 50** [ESE:30 & CA:20] **Credits: 2**

Course Pre- requisite: B.Sc. I Sem Comp. Sci. Pass

Course Objectives:

- Office Automation is to enhance and upgrade the existing system
- It will simplify the task and reduce the paper work
- This means the software improves the working methods by replacing the existing manual system with the computer-based system

Course Objectives: After completion of this course

- Understand the computer software
- Hardware, made available to simplify and automate a variety of office operations
- Data processing, data manipulating and data presentation with various application

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Curriculum Details : **SCSCSC1151: MS-Office**

Module No	Unit No	Topic	Hrs. Required to cover the contents
1		**Introduction to MS-Word**	**15**
	1.1	Word 2010 Basics: - Opening screen of MS-word, Home menu- font tab, Paragraph tab	
	1.2	Styles tab , Editing options in MS-Word, Insert menu- table tool	
	1.3	Header and Footer tool, Mail-merge	
2		**Working with MS-Excel**	**15**
	2.1	Introduction to MS-Excel, Formatting cells, Formatting columns, Row height	
	2.2	Merging, Splitting columns and connecting the worksheets, Working with Formulas and Functions	
	2.3	Creating charts, Goal seek, Data validation	
	2.4	Conditional Formatting	
3		**Working with Microsoft power point.**	**15**
	3.1	Opening Screen of MS PowerPoint, Creating a new presentation based on template	
	3.2	Design template and blank presentation, Slide Transition	
	3.3	Design template and blank presentation, Slide Transition	
4		**Introduction to MS-Access.**	**15**
	4.1	Opening screen of MS-Access, Advantages and disadvantages of MS-Access	
	4.2	Performing Queries, Generating the report	
	4.3	Creating the database in Access, Creating forms and adding new records in MS-Access.	
		Total	**60**

Recommended Books:

1. MS-DOS 6.22 by Russell A Stultz BPB publication.

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Guidelines for the Course Assessment:

A. Continuous Assessment (CA) (20% of the Maximum Marks) of theory and practical courses:

i. **For Theory Course:** CA shall form 20% of the Maximum Marks and shall be carried out over the entire semester. It shall be done by conducting **Two Tests** (Test I on 40% curriculum) and **Test II** (on remaining 40% syllabus) and average of the marks scored by a student in these two tests of a particular paper shall be taken as the **CA** score.

ii. **For Practical Course:** CA score of the practical course shall be marks scored by a student in the internal practical examination conducted by the concerned teacher.

B. End Semester Assessment (80% of the Maximum Marks) of theory and practical courses:

(For illustration a paper of 02 credits, 50 marks has been considered and shall be modified appropriately depending upon credits of the individual paper)

Question Paper Pattern of the ESA:

i. **ESA Question paper shall consist 6 questions, each of 10 marks**
ii. **Question No.1 shall be compulsory and shall be based on the entire syllabus**
iii. Students shall have to solve ***ANY THREE*** of the remaining Five Questions (i.e. from question 2 to 6)
iv. **Students shall have to solve a TOTAL of 4 Questions.**

C. Assessment of On Job Training (OJT) Course (for 04 credits):

a. Continuous assessment part (**40%, 40 marks out of 100**) of this course shall be done by the mentor of the student, where he /she is supposed to complete his On Job Training. This shall be based on the regularity, participation and performance of the students at the place of OJT.

b. Semester End Assessment (ESA) (**60% of the total marks, 60 marks out of 100**) of this course shall be done by a panel of examiners in two parts

i. based on the work report submitted by the student (**50% i.e. 30 marks**) and

ii. **Remaining 50%** (30 marks) shall be based on his presentation and viva-voce on the work carried to be assessed by the panel of examiners. This assessment shall be done along with practical examinations of respective courses / subjects.

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D. Assessment of Field Project (FP) and Research Project (RP) (e.g. for 02 credits)

a. Continuous assessment part (**40%, 20 marks out of 50**) of this course shall be done by the mentor of the student and shall be based on regularity, experimental work and performance of the student.

b. Semester End Assessment (ESA) (**60% of the total marks, 30 marks out of 50**) of this course shall be done shall be done by a panel of examiners in two parts

i. based on the work report submitted by the student (**50% i.e. 30 marks**) and

ii. **Remaining 50%** (30 marks) shall be based on his presentation and viva-voce on the work carried out by the student. This assessment shall be done along with practical examinations of the respective courses / subjects.

E. Assessment of Co-Curricular courses (CCC):

a. Assessment of the CCC course shall be done by the respective course coordinator as a part of CA and be based on the regularity, performance of a student and his participation in various activities as prescribed in the regulations prepared in this regard.

b. The End Semester Assessment (ESA) of the CCC courses shall be done as per the regulations prepared in this regard and shall be done on the basis of the write-up, presentation by the student on the activities that he has carried out in a semester.

c. Students shall have freedom to opt for more than one CCC courses. However, score of the best performing CC shall be considered for preparing his result.

F. Syllabi, Teaching and Examination Scheme for the courses in Column 7 and Column 8 (AEC, VEC, IKS, CI, EVS, CCCs, etc.) shall be common for all the students from different faculties.

Note: Number of lectures required to cover syllabus of a course depends on the number of credits assigned to a particular course. One credit of theory corresponds to 15 Hours lecturing and for practical course one credit corresponds to 30 Hours. For example, for a course of two credits 30 lectures of one hour duration are assigned, while that for a three credit course45 lectures.

%%%%%%%%

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Curriculum Details:

SCSCCT1151 (Theory): Programming in C-Language

Module No.	Unit No.	Topic	Hrs. required to cover the contents
1.0		**Introduction**	06
	1.1	History of C	
	1.2	Compilers and Interpreters	
	1.3	Introduction to Algorithms	
	1.4	Flowcharts and Problems	
2.0		**Introduction to C**	08
	2.1	Introduction, Structure of a C program	
	2.2	Character set, C tokens, Constant and Variables	
	2.3	Console Input /Output Statements	
	2.4	Data types, Operators	
3.0		**Control , Looping Statements and Arrays**	09
	3.1	Decision Making Statement: If Statement, If- else Statement, Nested if –else Statement, Else if Ladder Statement, Switch Statement	
	3.2	Loop Statements: For Loop, While Loop, Do-while Loop	
	3.3	Break, Goto and Continue	
	3.4	Introduction to Arrays	
	3.5	Types of array with declaration and initialization: One Dimensional, Two Dimensional and Multidimensional Array	
	3.50	Standard String library function	
4.0		**Function**	07
	4.1	Functions in C	
	4.2	What is a function	
	4.3	User defined functions	
	4.4	Recursion	
	4.5	Introduction to Structure and Union	
		Total	30

Reference Books / Text Books:

1. Programming in ANSI C by E. Balaguruswami. 5th edition 2.
2. Let Us C – Yashwant Kanetkar
3. Gatway of C- P.B. Khannale
4. C Language Foundation- Dr. Madhav Bokare, Amol Suryawanshi
5. C Programming for Beginners- Madhav Bokare, N.G. Kurale

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Curriculum Details:

SCSCCP1153: Comp. Lab-II : Practicals based on SCSCCT1151

1. Study and Perorm at least 10 program on C Language Concepts

Note:

Every student must perform at least **10** experiments

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B.Sc. FY (Computer Science) (Semester II)

SCSCOE1151 (Theory): ICT

Periods :30 Hours **Max. Marks: 50** [ESE:40 & CA:10] **Credits: 2**

Course Pre- requisite: ICT (SCSCOE1151)

Course Objectives:

To develop an ability

- Basic ICT tools which help them in their day to day and life as well as in office and research

Course Outcomes:

On completion of this course, the students will be able to

- Understand the literature of social networks and their properties.
- Explain which network is suitable for whom.
- Develop skills to use various social networking sites like twitter, flickr, etc.
- Learn few GOI digital initiatives in higher education.
- Apply skills to use online forums, docs, spreadsheets, etc for communication, collaboration and research.
- Get acquainted with internet threats and security mechanisms.

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MARATHWADA UNIVERSITY, NANDED - 431 606

स्वामी रामानंद तीर्थ
मराठवाडा विद्यापीठ, नांदेड.

(Structure and Syllabus of Four Years Multidisciplinary Degree Program with Multiple Entry and Exit Option)

BACHELOR OF ARTS/SCIENCE

Major **Mathematics (DSC)**

Under the Faculty of
Science and Technology

Effective from Academic year 2024 – 2025
(As per NEP-2020)

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Tq.Mukhed Dist.Nanded

॥ मा विद्या या विमुक्तये ॥

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

'ज्ञानतीर्थ', विष्णुपुरी, नांदेड - ४३१ ६०६ (महाराष्ट्र राज्य) भारत

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

'Dnyanteerth', Vishnupuri, Nanded - 431 606 (Maharashtra State) INDIA

Established on 17th September, 1994, Recognized By the UGC U/s 2(f) and 12(B), NAAC Re-accredited with 'B++' grade

Phone: (02462)215541

Academic-1 (BOS) Section

website: srtmun.ac.in

E-mail: bos@srtmun.ac.in

शैक्षणिक वर्ष २०२४-२५ पासून लागू केलेल्या विज्ञान व तंत्रज्ञान विद्याशाखेतील राष्ट्रीय शैक्षणिक धोरणानुसार पदवी प्रथम वर्षाच्या सुधारित (दुरुस्ती) अभ्यासक्रमा बाबत..

प रि प त्र क

संदर्भ:- १. जा.क्र.शै-१/एनईपी/विज्ञतंविवदवी/२०२४-२५/११३ दिनांक १३/०६/२०२४

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, संदर्भीय परिपत्रकान्वये दिनांक १५ मे २०२४ रोजी संपन्न झालेल्या मा. विद्यापरिषदेच्या बैठकीतील विषय क्र. १५/५९-२०२४ अन्वये मान्यता दिल्यानुसार विज्ञान व तंत्रज्ञान विद्याशाखेतील राष्ट्रीय शैक्षणिक धोरणानुसार अभ्यासक्रम (Syllabus) शैक्षणिक वर्ष २०२४-२५ पासून लागू करण्यात आलेले आहेत.

तथापी वरील संदर्भीय परिपत्रका अन्वये प्रकाशित केलेल्या अभ्यासक्रमामध्ये अभ्यासमंडळाची किरकोळ दुरुस्ती करून अभ्यासक्रम सादर केला आहे. मा. अधिष्ठाता, विज्ञान व तंत्रज्ञान विद्याशाखा यांच्या मान्यतेने खालील दुरुस्ती केलेला अभ्यासक्रम लागू करण्यात येत आहे.

01	B. Sc./B. A. I year Mathematics

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी, ही विनंती.

डॉ. सरिता लोसरवार
सहाय्यक कुलसचिव
शैक्षणिक अभ्यासमंडळ विभाग

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड - ४३१ ६०६.
जा.क्र.:शैक्षणिक-१/परिपत्रक/एनईपीयुजीदुरुस्ती/S&T/२४९९
२०२४-२५/
दिनांक : २३.०८.२०२४

प्रत माहिती व पुढील कार्यवाहीस्तव :
१) मा. अधिष्ठाता, विज्ञान व तंत्रज्ञान विद्याशाखा, प्रस्तुत विद्यापीठ.
२) मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
३) मा. प्राचार्य, सर्व संबंधित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) सिस्टम एनालिस्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ. यांना देवून कळविण्यात येते की, सदरील परिपत्रक विद्यापीठाच्या संकेतस्थळावर प्रसिध्द करण्यात यावे.

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From Desk of Chairman, Board of Studies in the Subject Mathematics

Preamble:

One of the significant reforms in the undergraduate education is to introduce the Learning Outcomes-based Curriculum Framework (LOCF) which makes it student-centric, interactive, and outcome-oriented with well-defined aims, objectives, and goals to achieve. Mathematics is a necessary tool for much of science and engineering. It provides the basic language for understanding the world and gives precision to scientific thought. With the maturing of the Indian industry, there is a large demand for people with strong analytical skills and broad-based background in the mathematical sciences. The curriculum of B.A./B.Sc. Mathematics is structured in such a way that the students acquire in-depth knowledge to perceive the principles of the core subjects like Algebra, Calculus, Analytical Geometry, Differential Equations, Real Analysis, etc are covered exclusively to prepare the students to proceed to the next level of Higher Mathematics of Linear Algebra, Advanced Analysis, Mechanics. A list of varied electives like Operations Research, Graph Theory, Number Theory, Numerical Analysis, Topology, Integral Transform etc are furnished to bridge between the Pure and Applied Mathematics. The comprehensive curriculum design yields an excellent career opportunity in Research, Education, Public and Private Sectors, Business sectors, Banking, IT Industries and in every domain of contemporaries.

The overall aim of B.Sc. Mathematics is to:

- Develop broad and balanced knowledge and understanding of definitions, concepts, principles, and theorems.
- Provide students sufficient knowledge and skills enabling them to undertake further studies in mathematics and its allied areas.
- Create deep interest in learning mathematics.
- Encourage the students to develop a range of generic skills helpful in employment, internships, and social activities.

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- Familiarize the students with suitable tools of mathematical analysis to handle issues and problems in mathematics and related sciences.
- Enhance Computational skills and Mathematical reasoning
- Qualify competitive examinations like IIT-IAM, NBHM etc
- Promote and apply mathematics knowledge to do Research/Case Study /Field Project etc.

B.Sc. (Mathematics) Programme Outcomes (POs):

PO1	**Disciplinary Knowledge:** B.A/ B.Sc in Mathematics is the zenith of in-depth knowledge of Algebra, Analysis, Geometry, Calculus and several other branches of mathematics. This also leads to study interdisciplinary areas such as computer science and other allied subjects.
PO2	**Communication Skills:** Ability to communicate various mathematical concepts effectively using examples and their geometrical visualization. Skill and Knowledge attained during program will increase the ability to solve real world problems.
PO3	**Digital Proficiency:** The completion of this programme will enable the learner to use appropriate software's to solve mathematical problems
PO4	**Ability to work Independently:** The Learner completing this program will grow the capacity to do work independently.
PO5	**Critical Thinking and Logical Reasoning:** Student will acquire ability of critical thinking and logical reasoning.
PO6	**Mathematical Principles:** students will understand mathematical principles and their applications.
PO7	**Confidence of Learning: The** B.Sc. Programme will develop learners mathematical knowledge and oral, written, and practical skills in a way which will encourage confidence, satisfaction and learning enjoyment.
PO8	**Ability to peruse advanced studies and research**: Students will be motivated high for doing higher education and research in Academically strong institution
PO9	**Skill/Vocational Courses:** Students will have to study skill/Vocational courses related to pure and applied Mathematics.
PO10	**Generic /Open Elective :** As an interdisciplinary approach student will study GE/OE course in Mathematics

Lt. Dr. Mahesh Sahebrao Wavare
Chairman, Board of Studies of the Mathematics
S.R.T. M. U. Nanded

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List of Members in Board of Studies (Mathematics)under the faculty of Science and Technology

Sr No	Name of the Member	Designation	Address	Contact Number and Email ID
1	Prof. Lt. Dr. Mahesh Sahebrao Wavare	BoS Chairman (Ad hoc)under Section26(18) and BoS Member under section *40(2)(c)*	Rajarshi Shahu Mahavidyalaya (Autonomous), Latur, Tq. & Dist. Latur.	9890620620 maheshwavare@gmail.com
2	Prof. Dr. Dnyaneshwar Dadaji Pawar	*VC Nominated BoS Member Under Section 40(2)(a)*	Director School of Mathematical Sciences, SRTM University, Nanded	*9423124662* *dypawar@yahoo.com*
3	Dr. B. Surendranath Reddy	*VC Nominated BoS Member Under Section 40(2)(b)(i)*	School of Mathematical Sciences, SRTM University, Nanded	9096077789 surendra.phd@gmail.com bsreddy@srtmun.ac.in
4	Dr. Arun Babarao Jadhav	*VC Nominated BoS Member Under Section 40(2)(b)(ii)*	DSM's College of Arts, Commerce and Science, Parbhani.	7875118707 arunbjadhao@gmail.com
5	Dr. S. S. Handibag	*BoS Member Under Section 40(2)(b)(ii)*	Mahatma Basweshwar Mahavidylaya, Latur	9011491162 960417748 sujitmaths@gmail.com
6	Prof. Dr. Vandeo Chimnaji Borkar	*BoS Member Under Section 40(2)(b)(iii)*	Yeshwant Mahavidyalaya, Nanded	9421769217 borkarvc@gmail.com
7	Dr. Kishor Ramrao Gaikwad,	*BoS Member Under Section 40(2)(b)(iii)*	Science College, Nanded	9923295556 drkr.gaikwad@yahoo.in
8	Dr. Hemant Kishor Undegaonkar,	*BoS Member Under Section 40(2)(b)(iii)*	Bahairji Smarak College, Basmat, Dist. Hingoli	9822546874 hkundegaonkar@gmail.com
9	Dr. S. S. Bellale	*BoS Member Under Section 40(2)(c)*	Dayanand Science College, Latur, Tq. & Dist. Latur – 413512	9405417417 sidhesh.bellale@gmail.com
10	Dr. Ram Govindrao Metkar	*BoS Member Under Section 40(2)(c)*	Indira Gandhi Sr. College, Cidco, New Nanded, Tq. & Dist. Nanded.:	9822312176 rammetkarmath@gmail.com
11	Miss. Jyoti G Narwade	*PG Student*	Pratibha College of Education Kalbhor Nagar Pune	Jyotinarwade790@gmail.com
12	Sukane Sushima Santosh	*UG Student*	C/O Shri Shivaji College Udgir Dist Latur	smusrcollege2007@rediffmail.com

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Science & Technology

Structure for Four Year Multidisciplinary Degree Program with Multiple Entry and Exit

Subject: Mathematics (Major and Minor)

Year & Level	Semester	Optional-1	Optional -2	Optional -3	Generic Elective (GE) (Basket 2) *(Select one each from Group A and B of Basket 2, should not be related to DSC / DSM in col. 3 and 4)*	Vocational & Skill Enhancement Course (V/SEC) *(Related to DSC Mathematics)*	Ability EnhancementCourse (AEC) (Basket 3 for L2) Value Education Courses (VEC) / Indian Knowledge System (IKS) *(Common across faculty)*	Field Work / Project/ Internship/ OJT/ Apprenticeship / Case Study Or Co-curricular Courses (CC) (Basket 4 for CC) *(Common across faculty)*	Credits	Total Credits
1	2	3	4	5	6	7	8	9	10	
	I	SMATCT1101- Topics in Algebra (2Cr) (Theory) SMATCP1102 Lab Course-I (Calculus Using SAGE) (2Cr) (Practical) **(4cr)**	**Other than Mathematics (4cr)**	**Other than Mathematics (4cr)**	GE-1 SMATGE1101 Foundation of Mathematics (2Cr)	SEC SMATSC1101 (2Cr) Basics of MATLAB /Scilab (2cr)	AECENG1101 (2Cr) ACEMIL1101 (MAR/HIN/URD/KAN /PAL)(2Cr) IKSXXX1101 (2Cr) 6 Credits	--	22	44

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1 (4.5)	**II**	SMATCT1151 Analytical Geometry (2Cr) (Theory) SMATCP1152 Lab Course-II (Integral Calculus) (2Cr) (Practical) (4cr)	**Other than Mathematics (4cr)**	**Other than Mathematics (4cr)**	GE-2 SMATGE1151 Basic Algebra (2Cr)	SEC SMATSC1151 (2Cr) Programming Using MATLAB/Scilab (2cr)	**AECENG1101 (2Cr) AECMIL1151 (MAR/HIN/URD/KAN/PAL)(2Cr) VECCOI1151 (2Cr) Constitution of India 6 Credits**	--	**22**	
Exit option: UG Certificate in Major Mathematics **on completion of 44 credits** and additional **4 credits from NSQF / Internship**										
2 (5.0)	**III**	SMATCT1201 (3Cr) (Theory) Real Analysis SMATCT1202 (3Cr) (Theory) Group Theory SMATCP1203 (1Cr) (Practical) Lab Course-I(Based on Real Analysis) SMATCP1204 (1Cr) (Practical) Lab Course-II(Based on Group Theory) **8 Credits**	SMATMT1201 Applied Mathematics (1Cr) SMATMP1201 Lab Course on Applied Mathematics (1Cr)		GE-3 SMATGE1201 (2Cr) Quantitative Aptitude and Logical Reasoning (2 credits)	SMATSC1201 (2Cr) Introduction to R Programming **2 Credits**	**AECENG1201 (2cr) AECMIL1201 (2Cr) (MAR/HIN/URD/KAN/PAL) 4 Credits**	**CCCXXX1201(2Cr)** (NCC/NSS/ SPT(sports)/ CLS(Cultural Studies) /HWS (Health Wellness)/ YGE(Yoga Education) / FIT(Fitness) **SMATFP1201 (2Cr) 4Credits**	**22**	**44**
	IV	SMATCT1251 (3Cr) (Theory) Ordinary Differential Equation SMATCT1252 (3Cr) (Theory) Ring Theory SMATCP1253 (1Cr) (Practical) Lab Course-III(Based on ODE) SMATCP1254 (1Cr)	SMATMT1251 Vector Calculus (1Cr) SMATMP1251 Lab Course on Vector Calculus (1Cr)		GE-4 SMATGE1251 (2Cr) Essential Mathematics for Data Science (2 credits)	VSC-1 SMATVC1251 Latex Typesetting 2 Credits	**AECENG1201 (2cr) AECMIL1201 (2Cr) (MAR/HIN/URD/KAN/PAL) VECEVS1251 (2Cr) 6 Credits**	**CCCXXX1251(2Cr) y(NCC/NSS/SPT(sports)/ CLS(Cultural Studies)/HWS(HealthWellness)/ YGE(YogaEducation) / FIT(Fitness) 2 Credits**	**22**	

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		(Practical) Lab Course-IV(Based on Ring Theory) **(8 Credits)**								
Exit option: UG Diploma in Major Mathematics and Minor Mathematics on completion of 88 credits and additional 4 credits NSQF / internship in DSC										
3 (5.5)	V	SMATCT1301 Metric Space (3Cr) SMATCT1302 Linear Algebra(3Cr) SMATIK1303 Ancient Indian Mathematics (2cr) MATCP1303 (2Cr) Lab Course-V (Based on Metric Space) MATCP1304 Lab Course-VI (Based on Linear Algebra) (2cr) (12 Credits)	**SMATET1301 (3Cr T+1Cr P)** Elective-I: (A)Operation Research (B)Numerical Analysis (C) Any equivalent course from SWAYAM-NPTEL/MOOC **(3T+1P Credits)**	--	--	--	VSC-2 SMATVC1301 (4Cr) Python Programming **(4 Credits)**	--	FP-3/CS-1 SMATHFP1301 / SMATHCS1301 (2Cr) Field Project/ Case Study **2 Credits**	**22**	**44**
	VI	**SMATCT1351 (3Cr)** Complex Analysis **SMATCT1352 (3Cr)** Integral Transform SMATCT1353 Multivariable Calculus (2 Cr) **SMATCP1353 (2Cr)** Lab Course-VII (Based on	**SMATET1351 (3Cr T+1Cr P)** Elective -II (A) Mechanics (B) Topology (C) Any equivalent course from SWAYAM-NPTEL/MOOC **(3Cr T+1Cr P)**		--		VSC-3 SMATVC1351 Essential Mathematics for Machine Learning (2cr)	--	SMATOJ1351 (4Cr) **(OJT)** **4 Credits**	**22**	

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Exit option: Bachelor of Science with Major in MATHS (Honors) and Minor in DSM											172
4 (6.0)	VII	SMATCT1401 (4Cr) Abstract Algebra SMATCT1402 (4Cr) Advanced Calculus SMATCT1403 (2Cr) Multivariable Calculus **10 Credits**	SMATEC1401 (4Cr) (A)Partial Differential Equations (B) Dynamics and Continuum Mechanics-I (C) Theory of Probability (D) Any equivalent course from SWAYAM-NPTEL/MOOC **4 Credits**	*Research Methodology* **SVECRM1401** (4Cr) **4 Credits**		--	--	--	Research Project **SMATRP1401 (4Cr)**	22	44
	VIII	SMATCT1451 (4Cr) Linear Algebra SMATCT1452 (4Cr) Topology SMATCT1453 (2Cr) **Introduction to Scilab 10 Credits**	SMATEC1451 (4Cr) (A) Partial Differential Equation (B) Dynamics and Continuum Mechanics-I I (C) Combinatorics **4 Credits**	--		--	--	--	Research Project **SMATRP1451 (8Cr)**	22	
Exit option: Bachelor of Science with Major in MATHS (Honours with Research) and Minor in Mathematics											176
Total Credits		Major -92/84		Minor1 -12 + RM – 04	Minor-2 08	GE/OE - 08	V-08 + S-06	AEC-8 +MIL-08 VEC-4 + IKS-2 Total 22	(CC-04+FP/CS-04+OJT-04+RP-12) 24	176	

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		Complex Analysis) **SMATCP1353 (2Cr)** Lab Course-VIII (Based on Integral Transform) **(12 Credits)**									
Exit option: Bachelor in Science with Major in Mathematics, and Minor in DSM											**130**
4 (6.0)	**VII**	SMATCT1401 (4Cr) Abstract Algebra SMATCT1402 (4Cr) Advanced Calculus SMATCT1403 (4Cr) Complex Analysis SMATCT1404 (2Cr) **Multivariable Calculus Credits** 14	SMATET1401 **(3Cr T+1Cr P)** (A)Mathematical Modeling (B) Dynamics and Continuum Mechanics-I (C) Theory of Probability (D) Any equivalent course from SWAYAM-NPTEL/MOOC **(3Cr T+1Cr P)**	*RM-1 Research Methodology* **SMATRM401** (4Cr) **4 Credits**		--	--	--	--	**22**	**44**
	VIII	SMATCT1451 (4Cr) Linear Algebra SMATCT1452 (4Cr) Measure and Integration Theory SMATCT1453 (4Cr) Topology SMATCT1454 (2Cr) Introduction to Scilab **14 Credits**	SMATET1451 **(3Cr T+1Cr P)** (A) Partial Differential Equation (B) Dynamics and Continuum Mechanics-I I (C) Combinatorics **(3Cr T+1Cr P=4Cr)**	--		--	--	--	SMATOJ451 (4Cr) **(OJT)** **4 Credits**	**22**	

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		(Practical) Lab Course-IV(Based on Ring Theory) **(8 Credits)**								
Exit option: UG Diploma in Major Mathematics and Minor Mathematics on completion of 88 credits and additional 4 credits NSQF / internship in DSC										
3 **(5.5)**	**V**	SMATCT1301 Metric Space (3Cr) SMATCT1302 Linear Algebra(3Cr) SMATIK1303 Ancient Indian Mathematics (2cr) MATCP1303 (2Cr) Lab Course-V (Based on Metric Space) MATCP1304 Lab Course-VI (Based on Linear Algebra) (2cr) (12 Credits)	**SMATET1301 (3Cr T+1Cr P)** Elective-I: (A)Operation Research (B)Numerical Analysis (C) Any equivalent course from SWAYAM-NPTEL/MOOC **(3T+1P Credits)**	--	--	--	VSC-2 SMATVC1301 (4Cr) Python Programming **(4 Credits)**	--	FP-3/CS-1 SMATHFP1301 / SMATHCS1301 (2Cr) Field Project/ Case Study **2 Credits**	**22**	**44**
	VI	**SMATCT1351 (3Cr)** Complex Analysis **SMATCT1352 (3Cr)** Integral Transform SMATCT1353 Multivariable Calculus (2 Cr) **SMATCP1353 (2Cr)** Lab Course-VII (Based on	**SMATET1351 (3Cr T+1Cr P)** Elective -II (A) Mechanics (B) Topology (C) Any equivalent course from SWAYAM-NPTEL/MOOC **(3Cr T+1Cr P)**	--	--		VSC-3 SMATVC1351 Essential Mathematics for Machine Learning (2cr)	--	SMATOJ1351 (4Cr) **(OJT)** **4 Credits**	22	

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1 (4.5)	II	SMATCT1151 Analytical Geometry (2Cr) (Theory) SMATCP1152 Lab Course-II (Integral Calculus) (2Cr) (Practical) (4cr)	**Other than Mathematics** **(4cr)**	**Other than Mathematics** **(4cr)**	GE-2 SMATGE1151 Basic Algebra (2Cr)	SEC SMATSC1151 (2Cr) Programming Using MATLAB/Scilab (2cr)	**AECENG1101 (2Cr) AECMIL1151 (MAR/HIN/URD/KAN/PAL)(2Cr) VECCOI1151 (2Cr) Constitution of India 6 Credits**	--	22	
Exit option: UG Certificate in Major Mathematics **on completion of 44 credits** and additional 4 credits from NSQF / Internship										
2 (5.0)	III	SMATCT1201 (3Cr) (Theory) Real Analysis SMATCT1202 (3Cr) (Theory) Group Theory SMATCP1203 (1Cr) (Practical) Lab Course-I(Based on Real Analysis) SMATCP1204 (1Cr) (Practical) Lab Course-II(Based on Group Theory) **8 Credits**	SMATMT1201 Applied Mathematics (1Cr) SMATMP1201 Lab Course on Applied Mathematics (1Cr)		GE-3 SMATGE1201 (2Cr) Quantitative Aptitude and Logical Reasoning (2 credits)	SMATSC1201 (2Cr) Introduction to R Programming **2 Credits**	**AECENG1201 (2cr) AECMIL1201 (2Cr) (MAR/HIN/URD/KAN/PAL) 4 Credits**	**CCCXXX1201(2Cr)** (NCC/NSS/ SPT(sports)/ CLS(Cultural Studies) /HWS (Health Wellness)/ YGE(Yoga Education) / FIT(Fitness) **SMATFP1201 (2Cr) 4Credits**	22	44
	IV	SMATCT1251 (3Cr) (Theory) Ordinary Differential Equation SMATCT1252 (3Cr) (Theory) Ring Theory SMATCP1253 (1Cr) (Practical) Lab Course-III(Based on ODE) SMATCP1254 (1Cr)	SMATMT1251 Vector Calculus (1Cr) SMATMP1251 Lab Course on Vector Calculus (1Cr)		GE-4 SMATGE1251 (2Cr) Essential Mathematics for Data Science (2 credits)	VSC-1 SMATVC1251 Latex Typesetting 2 Credits	**AECENG1201 (2cr) AECMIL1201 (2Cr) (MAR/HIN/URD/KAN/PAL) VECEVS1251 (2Cr) 6 Credits**	**CCCXXX1251(2Cr) y(NCC/NSS/SPT(sports)/ CLS(Cultural Studies)/HWS(HealthWellness)/ YGE(YogaEducation) / FIT(Fitness) 2 Credits**	22	

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Basket : Generic Elective course (GE) Structure

Note: ***Generic Elective Courses*** *for semesters I and II*

Sem	BoS	CODE	Credits for Course	Open/Generic Elective Corse	Nature of Course
Sem I	BoS in Mathematics	SMATG1101	2 Cr	Foundation of Mathematics	Theory
Sem II	BoS in Mathematics	SMATG1151	2 Cr	Basic Algebra	Theory

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B.A./B. Sc. First Year Semester I *(Level 4.5)*

Teaching Scheme

	Course Code	Course Name	Credits Assigned			Teaching Scheme (Hrs/ week)	
			Theory	Practical	Total	Theory	Practical
Optional: Mathematics	SMATCT1101	Topics in Algebra	02	--	**02**	02	--
	SMATCP1102	Lab Course-I Calculus Using SAGE	--	02	**02**	--	04
GE-1	SMATGE1101	Foundation of Mathematics	02	--	**02**	02	--
SEC-1	SMATSC1101	Basics of MATLAB/Scilab	--	02	**02**	--	04
AEC-1	SAECEN1101	Compulsory English	02	--	**02**	02	--
AEC-2	SAECMIL1101	Hin/Mar/Kan/Pali/ Sanskrit/etc.	02	--	**02**	02	--
IKS-1	SVECCI1101	Title from Concern BoS	02	-	**02**	02	--
Total Credits			**10**	**04**	**14**	**08**	**12**

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B.A/B. Sc. First Year Semester I *(Level 4.5)*

Examination Scheme

[20% Continuous Assessment (*CA*) and 80% End Semester Assessment (*ESA*)]

	Course Code (2)	Course Name (3)	Theory				Practical		Total Col (6+7) / Col (8+9) (10)
			Continuous Assessment (CA)			ESA			
			Test I (4)	Test II (5)	Avg of (T1+T2)/2 (6)	Total (7)	CA (8)	ESA (9)	
Optional: Mathematics	SMATCT1101	Topics in Algebra	10	10	10	40	--	--	50
	SMATCP1102	Lab Course-I Calculus Using SAGE	--	--	--	--	20	30	50
GE-1	SMATGE1101	Foundation of Mathematics	10	10	10	40	--	--	50
SEC-1	SMATSC1101	Basics of MATLAB/Scilab	--	--	--	--	20	30	50
AEC-1	SAECEN1101	Compulsory English	10	10	10	40	--	--	50
AEC-2	SAECMIL1101	Hin/Mar/Kan/Pali/ Sanskrit/etc.	10	10	10	40	--	--	50
IKS-1	SVECCI1101	Title from Concern BoS	10	10	10	40	--	--	50

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B.A./B. Sc. First Year Semester II *(Level 4.5)*

Teaching Scheme

	Course Code	Course Name	Credits Assigned			Teaching Scheme (Hrs/ week)	
			Theory	Practical	Total	Theory	Practical
Optional : Mathematics	SMATCT1151	Analytical Geometry	02	--	**02**	02	--
	SMATCP1152	Lab Course-II Integral Calculus	--	02	**02**	--	04
GE-2	SMATGE1151	Basic Algebra	02	--	**02**	02	--
SEC-2	SMATSC1151	Programming Using MATLAB /Scilab	--	02	**02**	--	04
AEC-3	AECENG1101	English Compulsory					
AEC-4	AECMIL1151	Hin/Mar/Pal/Kan/Sanskrit/ etc.	02	--	**02**	02	--
VEC-1	SVECCI1151	Constitution of India	02	-	**02**	02	--
Total Credits			**10**	**04**	**14**	**08**	**12**

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B.A./B. Sc. First Year Semester II *(Level 4.5)*

Examination Scheme

[20% Continuous Assessment (*CA*) and 80% End Semester Assessment (*ESA*)]

Subject (1)	Course Code (2)	Course Name (3)	Theory				Practical		Total [Col (6+7) / Col (8+9)] (10)
			Continuous Assessment (CA)			ESA			
			Test I (4)	Test II (5)	Avg of (T1+T2)/2 (6)	Total (7)	CA (8)	ESA (9)	
Optional : Mathematics	SMATCT1151	Analytical Geometry	10	10	10	40	--	--	50
	SMATCP1152	Lab Course-II Integral Calculus	--	--	--	--	20	30	50
GE-2	SMATGE1151	Basic Algebra	10	10	10	40	--	--	50
SEC-2	SMATSC1151	Programming Using MATLAB /Scilab	--	--	--	--	20	30	50
AEC-3	AECENG1101	English Compulsory	10	10	10	40	--	--	50
AEC-4	AECMIL1151	Hin/Mar/Pal/Kan/Sanskrit/ etc.	10	10	10	40	--	--	50
VEC-1	SVECCI1151	Constitution of India	10	10	10	40	--	--	50

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Abbreviations:

1.	DSC	: Discipline Specific Core (Major)
2.	CC/CT	: Core Course /Core Theory(Related Major)
3.	CP	: Core Practical
4.	DSE	: Discipline Specific Elective (Major)
5.	EC /ET	: Elective Course /Elective Theory
6.	EP	: Elective Practical
7.	MC/MT	: Minor Course /Minor Theory
8.	MP	: Minor Practical
9.	DSM	: Discipline Specific Minor
10.	GE/OE	: Generic/Open Elective
11.	VSEC	: Vocational Skill and Skill Enhancement Course
12.	VSC	: Vocational Skill Courses
13.	VC	: Vocational Course
14.	SEC	: Skill Enhancement Course
15.	SC	: Skill Course
16.	AEC	: Ability Enhancement Course
17.	IKS	: Indian Knowledge System
18.	VEC	: Value Education Courses
19.	OJ	: On Job Training
20.	FP	: Field Projects
21.	CC	: Co-Curricular Courses
22.	RP	: Research Project/Dissertation
23.	FP	: Field Project
24.	IP	: Internship Program
25.	CS	: Case Study

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26.	CLS	: Cultural Studies
27.	FIT	: Fitness
28.	HWS	: Health and Wellness
29.	YGE	: Yoga
30.	NCC	: National Cadet Core
31.	NSS	: National Service Scheme
32.	SPT	: Sports
33.	MIL	: Modern Indian languages
34.	RM	: Research Methodology

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B.A. / B.Sc. I (SEMESTER-I)

DSC-1 Topics in Algebra

Programme: Certificate Course in Mathematics Class: B.A./B.Sc. I	Year: First Level 4.5	Course Type DSC	Semester: I
Prerequisites: Elementary Knowledge of Algebra			
Course Code: SMATCT1101	Course Title: Topics in Algebra		
Course Outcomes: **CO1:** Students can Sort one-one, onto functions and can compute equivalence relation. **CO2:** Students Can compute Composite of functions **CO3:** Student can compute REF, RREF and rank of any ordered matrix **CO4:** Student can solve Linear System of Equation and apply Caley Hamilton Theorem			
Credits: 2	DSC-1		
Max. Marks: 50	Min. Passing Marks:20		
Total No. of Lectures – Tutorials – Practical (in hours per week): L-T-P: 2-0-0			

Topics in Algebra		
Module	Topic	No of Lectures
I	**Sets Functions and Relations:** Basic terminologies, Operation on set, Cartesian Product of set Relations on sets, Type of relations, Equivalence Relations.	08
II	**Functions:** One-one, onto functions and bijections, Composition of functions, Inverse of functions, Equivalences Classes, Partitions of a Set.	07
III	**Elementary Operations and Rank of Matrix:** Elementary Operations, Equivalent Matrices, Row Rank and Column, Rank of a Matrix, Echelon Form of the Matrix, Row Reduced Echelon Form	07
IV	**System of Linear Equations and Caley Hamilton Theorem:** System Linear Equations (Homogeneous and Non-Homogeneous), Characteristic values, Characteristic vectors, Cayley Hamilton theorem.	08
	Text Books	
1	Ajit Kumar, S. Kumeresan and Bhaba Kumar Sarma, A Foundation Course in Mathematics Narosa Publication House (For Module I and II) **Scope:** Chapter 2 : Article 2.1,2.2,2.5 Chapter 4 : Articles 4.1, 4.2, 4.3 Chapter 3 : Articles 3.1, 3.2, 3.3,3.4 Chapter 4 : Article 4.4	
2	Om P. Chug, Kulbhushan Prakash, A.D.Gupta, Topics in Algebra, Anmol Publications Pvt. Ltd., New Delhi , First Edition 1997 (For Module III and IV) **Scope :**Chapter 11 : Articles : 11.5 to 11.16 Chapter 11 : Articles : 11.32 to 11.39 Chapter 12 : Articles : 12.1. to 12.3, 12.18	
	Reference Books	
1	A text books of matrices, By Shanti Narayan (S. Chand & Company Ltd) Ram Nagar, New Delhi	

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2	Seymor Lipschutz, Theory and Problems of linear Algebra, third edition (Tata McGraw Hill)
3	K.B. Datta, Matrix & Linear Algebra, DHI Publication

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B.A. / B.Sc. I (SEMESTER-I)

DSC-2: Lab Course -I (Calculus Using SAGE)

Programme: Certificate Course in Mathematics Class: B.A./B.Sc. I	Year: First Level 4.5	Course Type DSC	Semester: I
Prerequisites: Basic Knowledge of Computer handling			
Course Code: SMATCP1102	Course Title: Lab Course-I (Calculus Using SAGE)		
Course Outcomes: After successful completion of the course student will be able to **CO1:** Do basic programming in Sage **CO2:** Do practical's on Calculus **CO3**: Know Programming and Data Structures **CO4:** Plot 2D, 3D Curve and display solution of differential equation.			
Credits: 2	DSC-2		
Max. Marks: 50	Min. Passing Marks:20		
Total No. of Lectures – Tutorials – Practical (in hours per week): L-T-P: 2-0-2			

Lab Course-II (Calculus Using SAGE)		
Module	Topic	No of Lectures
I	**Getting to Grips with Sage:** The Sage Program, A Tool for Mathematics, Sage as a Calculator First Computations, Elementary Functions and Usual Constants, On-Line Help and Automatic Completion, Python Variables Symbolic Variables First Graphics	6T+6P
II	**Analysis** : Symbolic Expressions and Simplification, Symbolic Expressions, Transforming Expressions, Usual Mathematical Functions Assumptions, Some Pitfalls, Equations, Explicit Solving, Equations with no Explicit Solution, Analysis, Sums, Limits, Sequences, Power Series Expansions, Series, Derivatives, Partial Derivatives, Integrals.	8T+10P
III	**Programming and Data Structures:** Syntax, General Syntax, Function Calls, More About Variables, Algorithmics, Loops, Conditionals, Procedures and Functions, Example: Fast Exponentiation, Input and Output, Lists and Other Data Structures, List Creation and Access, Global List Operations, Main Methods on Lists, Examples of List Manipulations, Character Strings, Shared or Duplicated Data Structures, Mutable and Immutable Data Structures, Finite Sets, Dictionaries.	7T+8P
IV	**Graphics:** 2D Graphics, Graphical Representation of a Function, Parametric Curve, Curve in Polar Coordinates, Curve Defined by an Implicit Equation, Data Plot, Displaying Solutions of Differential Equations Evolute of a Curve, 3D Curves.	7T+8P
	Text Book	
1	Paul Zimmermann, Nathann Cohen, Alexandre Casamayou, Mathematical Computation with SageMath available from on http://www.sagemath.org, Society for Industrial & Applied Mathematics, U.S. **Scope:**	

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	Chapter 1 Chapter 2 :Article 2.1,2.2,2.3 Chapter 3 Chapter 4
	Reference Books
1	Razvan A Mezei, An Introduction to SAGE Programming: With Applications to SAGE Interacts for Numerical Methods, Springer
2	www.sagemath.org
3	Varun Kumar, Basics of SageMath: Mathematics (Practical),Amazon KDP
4	William Granville and David Joyner, Differential Calculus and Sage

List of Practical's

Sr	Title of Practical	Number of Examples
1	Practical on Elementary Functions and Usual Constants	02
2	Practical on Symbolic Variables	02
3	To define symbolic functions and Manipulate expressions	02
4	Practical's on Sums and Sequence	02
5	Practical's on Power series Expansion	02
6	Practical's on Derivatives	02
7	Practical's on Partial Derivatives	02
8	Practical's on Integration	02
9	Practical's on Lists	02
10	Practical's on Data Structures	02
11	Practical's on 2D Plots	03
12	Practical's on 3D Plots	03
13	Practical's on displaying solutions of differential equations	02
14	Practical's on Parametric Curve, Curve in Polar Coordinates,	02

Note: Record book will consist of minimum 30 practical's and examples/Programs may vary college to college and for internal assessment 10 marks for record books and for 10 marks conduct two internal practical examination and take the average of it.

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B.A. / B.Sc. I (SEMESTER-I)

GE/OE: Foundation of Mathematics

Programme: Certificate Course in Mathematics Class: B.A./B.Sc. I	Year: First Level 4.5	Course Type GE/OE For Basket 2	Semester: I
Prerequisites: -- Basic Knowledge of Computations			
Course Code: SMATGE1101	Course Title: Foundation of Mathematics		

Course Outcomes:

After Successful completion of this course students can able to

CO1: Compute distance formula, midpoint formula, equation of lines ,parallel lines and perpendicular lines

CO2: Find symmetry of graphs

CO3: Discuss limit and continuity of given function'

CO4: Apply derivatives to compute maxima and minima

Credits: 2	GE/OE
Max. Marks: 50	Min. Passing Marks:20
Total No. of Lectures – Tutorials – Practical (in hours per week): L-T-P: 2-0-0	

Foundation of Mathematics		
Module	Topic	No of Lectures
I	**Coordinates Systems and Graphs of Equations:** The coordinate of a point on a line, Absolute value, Coordinate of a point in a plane, Distance formula, Midpoint Formulas, Graphs of equation, Straight line, Slope, Equation of a line, parallel lines, perpendicular lines.	08
II	**Intersection of Graphs, Symmetry and Functions:** Intersection of graphs, Symmetry, Symmetry about a line, Symmetry about a point, Functions and their graphs, Notation of a function, Intervals, Even and Odd functions, Zeros of polynomial.	07
III	**Limit and Continuity:** Limits, Properties of limits, Existence or Non-existence of a limit, One sided limit, Infinite limits, limits at infinity, Continuity, Definition and properties of continuity, One sided continuity, Continuity over a closed interval.	08
IV	**Derivatives and Applications:** The slope of tangent line, Derivative, Differentiability and Continuity, Further rules for derivatives, Maximum and Minimum problems.	07
	Text Book	
1	Elliott Mendelson, Schaum's Outline of Theory and problems of "Beginning Calculus" Second edition, Tata McGraw-Hill publishing company limited. **Scope:** Chapter1: Articles 1.1,1.2 Chapter2: Article 2.1,2.2,2.3 Chapter3: Complete Chapter4: Articles 4.1,4.2,4.3,4.4 Chapter 5: Complete. Chapter6: Articles 6.1,6.2 Chapter7: Articles 7.1,7.2,7.3,7.4 Chapter8: Articles 8.1,8.2,8.3 Chapter9: Articles 9.1,9.2,9.3	

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	Chapter 10: Articles 10.1,10.2,10.3 Chapter11: Complete Chapter12: Complete Chapter13: Articles 13.1,13.2 Chapter14: Complete.
	Reference Books
1	Joseph Edwards, "Differential Calculus for Beginners", Arahant publication.
2	George B. Thomas, Jr. And Ross L. Finney Calculus and Analytical Geometry (Pearson)
3	J. H. Heinbockel , Introduction to Calculus
4	P.K Jain. Khalil Ahemad, Textbook of Analytical geometry of two dimension
5	Suggested digital platform: NPTEL/SWAYAM/MOOCs

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Skill Enhancement Course

B.A. / B.Sc. I (SEMESTER-I)

SEC- Basics of MATLAB/Scilab

Programme: Certificate Course in Mathematics Class: B.A./B.Sc. I	Year: First Level 4.5	Course Type SEC	Semester: I
Prerequisites: 1. Basic knowledge of computer operating system			
Course Code: SMATSC1101	Course Title: Basics of MATLAB/Scilab		

Course Outcomes:

After successful completion of the course student will be able to

CO1: Perform basic MATLAB/Scilab commands and will apply MATLAB/Scilab for elementary number theory problem.

CO2: Do Arithmetic Operations of Arrays

CO3: Solve elementary linear Algebra examples using MATLAB/Scilab

CO4: Compute Row Reduced Echelon Form

Credits: 2	SEC-1
Max. Marks: 50	Min. Passing Marks:20
Total No. of Lectures – Tutorials – Practical (in hours per week): L-T-P: 2-0-2	

Basics of MATLAB/Scilab		
Module	Topic	No of Lectures and Practical's
I	**Introduction to MATLAB/Scilab:** MATLAB Programming language, Built-in Functions, Graphics, computations, External interface, and Tool boxes. MATLAB windows, desktop, command window, workspace, Figure and Editor Windows, Input-output, File types, platform dependence, Printing.	10L+5P
II	**Programming in MATLAB/Silab:** Scripts and functions. Script files, function files: Executing of function, writing good functions, sub functions, compiled functions.	8L+7P
III	**Matrix as array:** Matrices and Vectors, input, indexing, matrix manipulation, creating vectors. Matrix and Array operations, Arithmetic operations, Relational operations, logical operations,	5L +10P
IV	**Linear Algebra and MATLAB/Scilab:** Elementary math functions, matrix functions, character string. finding the determinant, rank, inverse of matrix, Solving Linear system of equations and computation of row reduced echelon form finding eigen-values and eigenvectors.	5L +10P
	Recommended Books/Links	
1	Rudra Pratap ,Getting Started With MATLAB 7, Oxford University Press(For MATLAB User)	
2	Tejas Sheth ,SCILAB: A Practical Introduction to Programming and Problem Solving (Scilab User)	
3	Suggested digital platform: NPTEL/SWAYAM/MOOCs	

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4	Amos Gilat ,MATLAB An introduction with applications Wiley India Edition 4th 2012
5	https://spoken-tutorial.org/tutorial-search/?search_foss=Scilab&search_language=English
6	https://nptel.ac.in/courses/103106118
7	S S Alam S N Alam, Understanding Matlab A Textbook For Beginners, Wiley India 2019
8	Dr. Devendra Chouhan, Dr. Uday Dolas ,Basic Programming Concepts of SCILAB, OrangeBooks Publication 2022

List of Practical's

Sr	Title of Practical	Number of Examples
1	To find prime factors of given numbers	02
2	To find greatest common divisor and To generate integer m and n such that gcd(a,b)=ma+nb	02
3	To find Least common multiple of given two numbers	02
4	To generate the list of prime numbers	02
5	To check singularity and non-singularity of a given square matrix	02
6	To find row reduced echelon form	02
7	To find rank of matrix	02
8	To solve given system of linear equations	02
9	To find Characteristic polynomial of a square matrix	02
10	To find eigen values and eigen vectors of a square matrix.	02

Note:

1. MATLAB/Scilab or any freeware suitable software can be used to run these programs.

2.Record book will consist of minimum 20 practical's and examples/Programs may vary college to college and for internal assessment 10 marks for record books and for 10 marks conduct two internal practical examination and take the average of it.

Assessment Scheme for SEC

Course Code (2)	Course Name (3)	Theory				Practical		Total Col (8+9)] (10)
		CA			ESA (7)			
		Test I (4)	Test II (5)	Avg (T1+T2)/2 (6)		CA (8)	ESA (9)	
SMATS1101	Basics of MATLAB/Scilab	--	--	--	--	20	30	50

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B.A. / B.Sc. I (SEMESTER-II)

DSC-4: Analytical Geometry

Programme: Certificate Course in Mathematics Class: B.A./B.Sc. I	Year: First Level 4.5	Course Type DSC	Semester: II
Prerequisites: Elementary knowledge of coordinate axis and XII (Mathematics)			
Course Code: SMATCT1151	Course Title: Analytical Geometry		
Course Outcomes: After successful completion of this course students can able to **CO1:** Study and analyse Geometry of three dimensions. **CO2:** Learners can compute angle between two planes and lines **CO3**: Learners can compute tangent to given Sphere **CO4:** Student can study various forms of Sphere			
Credits: 2	DSC-4		
Max. Marks: 50	Min. Passing Marks:20		
Total No. of Lectures – Tutorials – Practical (in hours per week): L-T-P: 2-0-0			

Analytical Geometry		
Module	Topic	No of Lectures
I	**Planes:** Direction Cosines and Direction Ratios, Equation of Plane, Normal Form, Transform to the Normal Form, Plane Passing through Three Non-collinear Points, Intercept Form, Angle between Two Planes, Distance of a Point from a Plane, Distance between Parallel Planes, Systems of Planes, Two Sides of Planes, Bisector Planes.	09
II	**Lines in Three Dimension:** Equations of a Line in Symmetric and Unsymmetrical Forms, Line Passing through Two Points, Angle between a line and a Plane. Perpendicular Distance of a Point from a Line.	07
III	**Transformation of Co-ordinates:** Introduction, Change of Origin, Change of Directions of Axes, Relation between the Direction Cosines of Three Mutually Perpendicular Lines, Invariants	07
IV	**Sphere:** Equation of a Sphere in Different Forms, Plane Section of a Sphere, Equation of a Circle, Sphere through a Given Circle, Intersection of a Sphere and a Line, Equation of Tangent Plane to Sphere.	07
Text Books		
1	Shanti Narayan, Analytical Solid Geometry S. Chand and Company Ltd, New Delhi, 1998 Scope :Chapter 1 : Articles 1.6 & 1.7 Chapter 2 : Articles 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7 Chapter 3 : Articles 3.1, 3.2, 3.7 Chapter 5 : Article 5.1, 5.2, 5.3 Chapter 6 : Articles 6.1, 6.2, 6.3, 6.4, 6.5, 6.6	

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	Reference Books
1	P.K.Jain and Khalil Ahmad, A Text Book of Analytical Geometry of Three Dimensions, Wiley Estern Ltd. 1999.
2	A text book of Analytical Geometry of two dimensions, By P.K Jain and Khalil Ahmed, (Wiley Eastern Ltd, 1994)
3	A text book of Analytical Geometry of three dimensions, By P. K Jain and Khalil Ahmed, (Wiley Eastern Ltd, 1999.)
4	Suggested digital platform: NPTEL/SWAYAM/MOOCs

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B.A. / B.Sc. I (SEMESTER-II)

DSC-5: **Lab Course-II**(Integral Calculus)

Programme: Certificate Course in Mathematics Class: B.A./B.Sc. I	Year: First Level 4.5	Course Type DSC	Semester: II

Prerequisites: Elementary knowledge of integration, partial derivatives and XII (Mathematics)

Course Code: SMATCP1152	Course Title: Lab Course-II (Integral Calculus)

Course Outcomes:

After Successful completion of this course students can

CO1: Discuss integral as limit of sum and apply fundamental theorems of Integral Calculus.
CO2: Study Beta and Gamma Functions.
CO3: Apply double integration to compute area bounded by region.
CO4: Study application of Multiple integral.

Credits: 2	DSC-5
Max. Marks: 50	Min. Passing Marks:20

Total No. of Lectures – Tutorials – Practical (in hours per week): L-T-P: 2-0-2

Lab Course-II (Integral Calculus)		
Module	Topic	No of Lectures
I	**Integral as limit of Sum:** Integral as a limit of sum, Properties of Definite integrals, Fundamental theorem of integral calculus, Summation of series by integration.	08T+7P
II	**Beta and Gamma Functions:** Definitions of Beta function and Gamma Functions, Properties of Beta and Gamma Functions, Gamma function, Transformations of Gamma Functions, Relation between Beta and Gamma function, Examples.	07T+8P
III	**Double Integral:** Double integrals, Working Methods, Double integral for polar curves, Applications of Double Integrals Area, and Volume.	06T+9P
IV	**Triple integrals:** Evaluation of Triple integrals, Dirichlet's theorem, Examples on Dirichlet's theorem.	05T+10P
	Text Book	
1	Shanti Narayan, P.K. Mittal, Integral Calculus, S. Chand 2005. Scope: Chapter6: Complete Chapter 7: Articles 7.1, 7.2, 7.3, 7.3.1, 7.3.2 Chapter12: Articles 12.1,12.2,12.2.1,12.2.2 12.3,12.6,12.7	
	Reference Books	
1	Gorakh Prasad, Chandrika Prasad, Text Book on Integral Calculus 2002	
2	T.M. Apostal, Calculus Vol. I, John Wiley & Sons Inc., 1974	
3	H. Anton, I. Birens and S. Davis, Calculus, John Wiley and Sons, Inc. 2007	
4	G.B. Thomas and R.L. Finney, Calculus, Pearson Education, 2010	
5	Suggested digital platform: NPTEL/SWAYAM/MOOCs	

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B.A. / B.Sc. I (SEMESTER-II)

DSC-5: **Lab Course-II**(Integral Calculus)

Programme: Certificate Course in Mathematics Class: B.A./B.Sc. I	Year: First Level 4.5	Course Type DSC	Semester: II
Prerequisites: Elementary knowledge of integration, partial derivatives and XII (Mathematics)			
Course Code: SMATCP1152	Course Title: Lab Course-II (Integral Calculus)		
Course Outcomes: After Successful completion of this course students can **CO1:** Discuss integral as limit of sum and apply fundamental theorems of Integral Calculus. **CO2:** Study Beta and Gamma Functions. **CO3:** Apply double integration to compute area bounded by region. **CO4:** Study application of Multiple integral.			
Credits: 2	DSC-5		
Max. Marks: 50	Min. Passing Marks:20		
Total No. of Lectures – Tutorials – Practical (in hours per week): L-T-P: 2-0-2			

Lab Course-II (Integral Calculus)		
Module	Topic	No of Lectures
I	**Integral as limit of Sum:** Integral as a limit of sum, Properties of Definite integrals, Fundamental theorem of integral calculus, Summation of series by integration.	08T+7P
II	**Beta and Gamma Functions:** Definitions of Beta function and Gamma Functions, Properties of Beta and Gamma Functions, Gamma function, Transformations of Gamma Functions, Relation between Beta and Gamma function, Examples.	07T+8P
III	**Double Integral:** Double integrals, Working Methods, Double integral for polar curves, Applications of Double Integrals Area, and Volume.	06T+9P
IV	**Triple integrals:** Evaluation of Triple integrals, Dirichlet's theorem, Examples on Dirichlet's theorem.	05T+10P
	Text Book	
1	Shanti Narayan, P.K. Mittal, Integral Calculus, S. Chand 2005. Scope: Chapter6: Complete Chapter 7: Articles 7.1, 7.2, 7.3, 7.3.1, 7.3.2 Chapter12: Articles 12.1,12.2,12.2.1,12.2.2 12.3,12.6,12.7	
	Reference Books	
1	Gorakh Prasad, Chandrika Prasad, Text Book on Integral Calculus 2002	
2	T.M. Apostal, Calculus Vol. I, John Wiley & Sons Inc., 1974	
3	H. Anton, I. Birens and S. Davis, Calculus, John Wiley and Sons, Inc. 2007	
4	G.B. Thomas and R.L. Finney, Calculus, Pearson Education, 2010	
5	Suggested digital platform: NPTEL/SWAYAM/MOOCs	

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List of Practical's

Sr	Title of Practical	Number of Examples
1	To solve examples on Definite integrals	02
2	To apply fundamental Theorem of Integral Calculus	02
3	To solve examples of summation of series by integration	02
4	To proof convergence of Beta and Gamma Function	02
5	To Solve Integrals using Beta and Gamma function	02
6	To discuss relation between Beta and Gamma functions.	02
7	To Solve double integrals, repeated integral	02
8	To solve double integral using polar coordinates	02
9	To solve examples on change of variables	03
10	To solve examples using change the order of integration in Double integrals	02
11	To solve examples on triple integrals	02
12	To apply Dirichlet's theorem	02
13	To compute area bounded by curves	02
14	To solve examples on applications of multiple integral	03

Note: Record book will consist of minimum 30 practical's and examples may vary college to college and for internal assessment 10 marks for record books and for 10 marks conduct two internal practical examination and take the average of it.

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B.A. / B.Sc. I (SEMESTER-II)

Ge/OE : Basic Algebra

Programme: Certificate Course in Mathematics Class: B.A./B.Sc. I	Year: First Level 4.5	Course Type GE/OE	Semester: II
Prerequisites			
Course Code: SMATGE1151	Course Title: Basic Algebra		

Course Outcomes:

After Successful completion of this course students can

CO1: Uunderstand matrices and determinants.

CO2: Solve system of linear equations.

CO3: Differentiate Simple and Compound Interest.

CO4: Compute the discount and profit on sell.

Credits: 2	GE/OE
Max. Marks: 50	Min. Passing Marks:20
Total No. of Lectures – Tutorials – Practical (in hours per week): L-T-P: 2-0-0	

Basic Algebra		
Module	Topic	No of Lectures
I	**Matrix Algebra** Definition of a Matrix, Types of Matrices, Algebra of Matrices, Determinants, Adjoint of a Matrix, Inverse of a Matrix via Adjoint Matrix	08
II	**Determinants:** Definition and Properties of determinants ,minor and cofactor ,evaluation of determinant using various properties ,Product of determinants and Crammers rule	08
III	**Adjoint of Matrix** Definition ,Methods of finding Inverse of Square Matrix ,Solution of a system of equations by the method of Inversion of Coefficient Matrix	08
IV	**Mathematics of Finance:** Compound interest, Compounding, Discounting, Examples and Problems.	06
	Recommended Books:	
1	P K Ghosh,S Saha ,Buissness Mathematics and Statistics ,New Central Book Agency (P) Ltd Scope : Module I –Chapter 1 of Part I Module II-Chapter 2 of Part I Module III -Chapter 3 of Part I Module IV Chapter 1 and 2 of Part II	
2	K. Selvakumar ,Mathematics for Commerce ,Notion Press Chennai.	
3	Khattar & S. R. Arora , Business Mathematics with Applications Dinesh S. Chand Publishing New Delhi.	
4	S. A. Bari ,Practical Business Mathematics ,New Literature Publishing Company New Delhi.	

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B.A. / B.Sc. I (SEMESTER-II)

SEC- Programming Using MATLAB/Scilab

Programme: Certificate Course in Mathematics Class: B.A./B.Sc. I	Year: First Level 4.5	Course Type SEC	Semester: II
Prerequisites: Elementary knowledge of coordinate axis and XII (Mathematics)			
Course Code: SMATSC1151	Course Title: Programming Using MATLAB		
Course Outcomes: After successful completion of this course students are able to: **CO1:** Do programming using MATLAB **CO2:** Define function and function files **CO3:** Plot two dimensional graphs **CO4:** Plot three dimensional plots.			
Credits: 2	SEC		
Max. Marks: 50	Min. Passing Marks:20		
Total No. of Lectures – Tutorials – Practical (in hours per week): L-T-P: 2-0-2			

Programming Using MATLAB//Scilab		
Module	Topic	No of Lectures
I	**Programming in MATLAB:** Relational and Logical Operators, Conditional Statement, The if-end structure, if-else-end Structure ,The Switch Case Statement ,Loops ,For -end loop while-end loop	06L+7P
II	**User Defined Functions and Function Files:** Creating function file, Structure of function file, Local and Global Variable, User defined function.	06L+7 P
III	**Two Dimensional Plots :** The plot command, Plot of Given Data, Plot of given Function, the fplot command Plotting multiple plots in same figure window, labelling of plot and legends, Histograms, Polar Plots	10L+10P
IV	**Three Dimensional Plots:** Line Plot, Mesh and surface plot, Plots with special Graphics, The view Command	06L+8P
Text Book		
1	Amos Gilat, MATLAB An introduction with applications Wiley India Edition 4th 2012(MATLAB User)	
2	Tejas Sheth ,SCILAB: A Practical Introduction to Programming and Problem Solving (Scilab User)	
	Reference Books	
1	Rudra Pratap ,Getting Started With MATLAB 7, Oxford University Press	
2	https://spoken-tutorial.org/tutorial-search/?search_foss=Scilab&search_language=English	
3	https://nptel.ac.in/courses/103106118	
4	S S Alam S N Alam, Understanding Matlab A Textbook For Beginners, Wiley India 2019	
5	Dr. Devendra Chouhan, Dr. Uday Dolas ,Basic Programming Concepts of SCILAB, Orange Books Publication 2022	
6	Suggested digital platform: NPTEL/SWAYAM/MOOCs	

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List of Practical's

Sr	Title of Practical	Number of Examples
1	To Evaluate logical and relational mathematical expression	02
2	To write the programs using conditional statement	02
3	To Execute program using loops	02
4	To define function and evaluate for its value	02
5	To define anonymous function with one or more variable	02
6	To plot graph of given function with labeling	02
7	To multiple plots in one figure window	02
8	To plot with polar coordinates	02
9	To plot three dimensional plot	02
10	To Plot with special graphics.	02

Note:

1. MATLAB/Scilab or any freeware suitable software can be used to run these programs

2. Record book will consist of minimum 20 practical's and examples/Programs may vary college to college and for internal assessment 10 marks for record books and for 10 marks conduct two internal practical examination and take the average of it.

Assessment Scheme for SEC

Course Code (1)	Course Name (2)	Theory				Practical		Total Col (7+8)] (10)
		CA			ESA (6)			
		Test I (3)	Test II (4)	Avg (T1+T2)/2 (5)		CA (7)	ESA (8)	
SMATS1151	Programming Using MATLAB/Scilab	--	--	--	--	20	30	50

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Assessment Scheme for Optional (Theory)/GE/Theory paper

Course Code (1)	Course Name (2)	Theory				Practical		Total Col (5+6)] (10)
		CA			ESA			
		Test I (3)	Test II (4)	Avg (T1+T2)/2 (5)	(6)	CA (7)	ESA (8)	
Major(Theory)/Minor /OE/GE	Major(Theory)/Minor /OE/GE	10	10	10	40	--	--	50

Assessment Scheme for SEC /VSC/Practical

Course Name (1)	Theory				Practical		Total Col (6+7)] (8)
	CA			ESA (5)			
	Test I (2)	Test II (3)	Avg (T1+T2)/2 (4)		CA (6)	ESA (7)	
Major Practical/SEC/VEC	--	--	--	--	20	30	50

Guidelines for Course Assessment:

A. Continuous Assessment (CA) (20% of the Maximum Marks):

This will form 20% of the Maximum Marks and will be carried out throughout the semester. It may be done by conducting **Two Tests** (Test I on 40% curriculum) and **Test II** (remaining 40% syllabus). Average of the marks scored by a student in these two tests of the theory paper will make his **CA** score (col 6).

B. End Semester Assessment (80% of the Maximum Marks):

(For illustration we have considered a paper of 02 credits, 50 marks and need to be modified depending upon credits of an individual paper)

1. **ESA Question paper will consists of 6 questions, each of 10 marks.**
2. **Students are required to solve a total of 4 Questions.**
3. **Question No.1 will be compulsory and shall be based on entire syllabus.**
4. Students need to solve **ANY THREE** of the remaining Five Questions (Q.2 to Q.6) and shall be based on entire syllabus.

C. Assessment of Co-Curricular courses (CC):

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a. Continuous Assessment (CA) of the CC course shall be done by the respective course coordinator depending on the regularity, performance of a student and his participation in the international, national, state, university, college level events or camps, wherever applicable.

b. End Semester Assessment (ESA) shall be done based on the write-up and presentation by the student on the activities that he has carried out throughout the semester.

c. Students have freedom to take more than one CC courses, however, score of the best performing CES shall be considered for final assessment.

d. Syllabi, Teaching Scheme and Examination Scheme for the courses in Column 7 and Column 8 (AEC, VEC, IKS, CI, EVS, CCs, etc.) shall be common for all the students from different faculties.

Note: Number of lectures required to cover syllabus of a course depends on the number of credits assigned to a particular course. One credit of theory corresponds to 15 Hours lecturing and for practical course one credit corresponds to 30 Hours. For example, for a course of two credits 30 lectures of one hour duration are assigned, while that for a three credit course 45 lectures.

%%%%%

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SWAMI RAMANAND TEERTH

MARATHWADA UNIVERSITY,

NANDED - 431 606 (MS)

स्वामी रामानंद तीर्थ
मराठवाडा विद्यापीठ, नांदेड

(Credit Framework and Structure of Four Year UG Program with Multiple Entry and Exit Option as per NEP-2020)

UNDERGRADUATE PROGRAMME

OF SCIENCE & TECHNOLOGY

SUB - DAIRY SCIENCE

Major in DSC and Minor in DSM (Subject)

Under the Faculty of Science & Technology

(Revised as per the Govt. Of Maharashtra circular Dtd. 13th March 2024)

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परिपत्रक-५५ (1) ST

॥ सा विद्या या विमुक्तये ॥

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

'ज्ञानतीर्थ', विष्णुपुरी, नांदेड - ४३१ ६०६ (महाराष्ट्र राज्य) भारत

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

'Dnyanteerth', Vishnupuri, Nanded - 431 606 (Maharashtra State) INDIA

Established on 17th September, 1994, Recognized By the UGC U/s 2(f) and 12(B), NAAC Re-accredited with 'B++' grade

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Academic-1 (BOS) Section

website: srtmun.ac.

E-mail: bos@srtmun.ac.

विज्ञान व तंत्रज्ञान विद्याशाखे अंतर्गत राष्ट्रीय शैक्षणिक धोरण २०२० नुसार पदवी प्रथम वर्षाचे अभ्यासक्रम (Syllabus) शैक्षणिक वर्ष २०२४–२५ पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, या विद्यापीठ अंतर्गत येणा–या सर्व संलग्नित महाविद्यालयामध्ये शैक्षणिक वर्ष २०२४–२५ पासून पदवीस्तरावर राष्ट्रीय शैक्षणिक धोरण –२०२० लागू करण्याच्या दृष्टीकोनातून विज्ञान व तंत्रज्ञान विद्याशाखे अंतर्गत येणा–या अभ्यासमंडळांनी तयार केलेल्या पदवी प्रथम वर्षाचे अभ्यासक्रमांना मा. विद्यापरिषदेने दिनांक १५ मे २०२४ रोजी संपन्न झालेल्या बैठकीतील विषय क्रमांक १५/५९–२०२४ च्या ठरावान्वये मान्यता प्रदान केली आहे. त्यानुसार विज्ञान व तंत्रज्ञान विद्याशाखेतील खालील बी. एस्सी प्रथम वर्षाचे अभ्यासक्रम (Syllabus) लागू करण्यात येत आहेत.

1) B. Sc. I year - Botany
2) B. Sc. I year - Seed Technology
3) B. Sc. I year - Horticulture
4) B. Sc. I year - Geology
5) B. Sc. I year - Dairy Science
6) B. Sc. I year -Electronics
7) B. Sc. I year - Environmental Science
8) B. Sc. I year - Fishery Science
9) B. Sc. I year - Mathematics
10) B. Sc. I year - Microbiology
11) B. Sc. I year - Agricultural Microbiology
12) B. Sc. I year - Physics
13) B. Sc. I year - Food Science
14) B. Sc. I year – Computer Science (N M D College Hingoli)

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी, ही विनंती.

डॉ. सरिता लोमटकर
सहा.कुलसचिव
शैक्षणिक (१–अभ्यासमंडळ) विभाग

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.:शै–१/एसएपी/विद्यापरिषदनी/२०२४–२५/११२
दिनांक १२.०६.२०२४

प्रत : १) मा. अधिष्ठाता, विज्ञान व तंत्रज्ञान विद्याशाखा, प्रस्तुत विद्यापीठ.
२) मा. संचालक, परीक्षा व मूल्यमापन मंडळ, प्रस्तुत विद्यापीठ.
३) मा. प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) मा. संचालक, सर्व संकुले परिसर व उपपरिसर, प्रस्तुत विद्यापीठ.
५) मा. प्राचार्य, न्यू मॉडल डिग्री कॉलेज हिंगोली.
६) सिस्टीम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ, याना देवून कळविण्यात येते की, सदर परिपत्रक संकेतस्थळावर प्रसिध्द करण्यात यावे.

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B.Sc. F.Y. Semester - I

Title- Perspectives of livestock farming in India:

Paper No. : SDRSCT-1101

Marks-50/credit 2 2 Hours / week

Module No.1. 8Hrs

Unit : I

1.1 Introduction to the subject.
1.2 Common terminology used in animal husbandry.
1.3 Taxonomic classification of Dairy animals.
1.4 Argo-climatic zones in India.

Module No.2 7Hrs

Unit: II

2.1 Establishment of Dairy farm.
2.2 Site selection for Dairy farming
2.3 Water supply, light and ventilation.
2.4 Types of housing for Dairy animals.

Module No.3 8Hrs

Unit: III

3.1 Study of Dairy farming system in India.
3.2 Cattle development programme through five year plan.
3.3 Role of NDDB in Dairy development in India.
3.4 Role of livestock in manpower employment, Socioeconomic development.

Module No.4 7Hrs

Unit: IV

4.1 Production and potentiality of buffalo in India.
4.2 Recycling of wastes.
4.3 Maintenance of sanitary and hygienic conditions on farm.
4.4 Capital- Types of capital and ways of capital rise.

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B. Sc. F.Y . Semester - I

Title- Practical Paper No.SDRSCP-1101

Marks-50/credit 2 4Hours / week - Total (60 Hrs)

Practicals

1. Morphology of cattle, Buffalo, Sheep and Goat.
2. Linear body measurement, Body wedges and estimation of body weight.
3. Study of physical characters of cattle.
4. Study of common appliances used on the animal farm.
5. Casting, restraining and handling of farm animals.
6. Study of castration of Cattle.
7. Study of Identification marks of cattle.
8. Study of health record of Pregnancy Cow.
9. Care and Management of Newly Born Calves.
10. Health records of calves.
11. Drenching of farm animals.
12. Dressing of farm animals.
13. Visit to.
    - i) Visit to Regional Cattle farm.
    - ii) Visit to Veterinary Hospital.
    - iii) Fodder Processing Plant.

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B.Sc. F.Y. Semester - I

Title- Routine Management Practices in Farm Animals(**Generic**) :

Paper No. SDRSGE-1101

Marks-50/Credit 2 2Hours / week

Module No. 1 7Hrs

Unit: I

1.1 Introduction to the subject.
1.2 Identification marks of cattle & Buffalo.
1.3 Docking and dipping in Sheep.
1.4 Control of licking and chewing of old leathers.

Module No.2 8Hrs

Unit : II

2.1 Shoeing of dairy farm animals.
2.2 Livestock census and cattle population.
2.3 Drying off lactating cows, methods of drying.
2.4 Management of Newly born calves.

Module No.3 7Hrs

Unit: III

3.1 Preparation of animal for milking and methods of milking.
3.2 Trimming of hoofs in Cattle & Buffalo.
3.3.Suckling and Weaning of calves.
3.4 Keeping of health Records.

Module No.4 8Hrs

Unit: IV

4.1 Cleaning and sanitation of livestock houses.
4.2 Collection and utilization of manure.
4.3 Sewage of dairy waste.
4.4 First aid measures.

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B.Sc. F.Y. Semester - I

Title- Preparation of Feed and Fodder **(Skill):**

Paper No. SDRVSC-1101

Marks-50/Credit 4Hours/ week **Total- (60 Hrs)**

1. Collection of feed and fodder sample.
2. Preparation of Silage.
3. Preparation of Hay.
4. Computation of Ration for milking animal.
5. Feeding Standards to different categories of animal.
6. Preparation of calf starter.
7. Preparation of milk re placer.
8. Preparation of cropping scheme.
9. Cultivation of Maize.
10. Study of lucern and Berseem.
11. Preparation of compound feed for animals.
12. Study of Roughages and Concentrate feeds
13. Visit to.
    A) Silage making Plant.
    B) Feed Processing Unit.
    C) Sugar cane Industry.

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B.Sc. F.Y. Semester - II

Title- Chemical Quality Assurance of Milk:

Paper no. SDRSCT-1151

Marks-50/Credit 2 2Hours / week

Module No.1 8Hrs

Unit: I

1.1 Introduction to the subject.

1.2 Composition of Buffalo Milk.

1.3 Physic-chemical properties of milk.

1.4 Collection and Transportation of milk .

Module No.2 7Hrs

Unit: II

2.1 Heat stability of milk.

2.2 Pasteurization of milk and Methods.

2.3 Platform (RMRD) test of milk.

2.4 Milk lipids (fat), Importance in milk.

Module No.3 7Hrs

Unit: III

3.1 Milk proteins, Types of milk proteins and their structure.

3.2 Acidity of milk and their role in body of milk .

3.3 Clean milk production.

3.4 Factors affecting clean Milk Production .

Module No.4 8 Hrs

Unit: IV

4.1 Properties of milk constituents.

4.2 Bacteria, Classification of Bacteria.

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4.3 Detergent used in dairy industry.

4.4 Clot on Boiling test of milk.

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B.Sc. F.Y. Semester - II

Title- Practical Paper No.

SDRSCP-1151

Marks-50/credit 2 4Hours / week Total- (60 Hrs)

1. Constituents of Milk.
2. Chilling of milk, methods of milk Chilling.
3. Straining, Filtration& Clarification of Milk,.
4. Pricing of Milk and Pricing policy.
5. Packaging of Milk.
6. Heat Stability test of milk.
7. Determination of acidity of milk.
8. Determination of Specific Gravity of milk.
9. Determination of Fat and Solid not fat.
10. Determination of pH of Milk.
11. Visit to : 1. Milk Collection Center
    2 .Milk Chilling center
    3. Milk Processing Plant.
    4. Milk packaging unit.

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SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED - 431 606 (MS)

स्वामी रामानंद तीर्थ
मराठवाडा विद्यापीठ, नांदेड

(Credit Framework and Structure of Four Year UG Program with Multiple Entry and Exit Option as per NEP-2020)

UNDERGRADUATE PROGRAMME OF

SCIENCE & TECHNOLOGY

Major in **Electronics** and Minor in **DSM** (Subject)

Under the Faculty of Science & Technology

(Revised as per the Govt. Of Maharashtra circular Dt. 13th March 2024)

Effective from the Academic year 2024 – 2025

(As per NEP-2020)

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Tq.Mukhed Dist.Nanded

परिपत्रक - ५७ (1) ST

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

'ज्ञानतीर्थ', विष्णुपुरी, नांदेड - ४३१ ६०६ (महाराष्ट्र राज्य) भारत

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

'Dnyanteerth', Vishnupuri, Nanded - 431 606 (Maharashtra State) INDIA

Established on 17th September, 1994. Recognized By the U.G.C. U/s 2(f) and 12(B). NAAC Re-accredited with 'B++' grade

Fax : (02462) 215572

Phone: (02462)215542

Academic-1 (BOS) Section

website: srtmun.ac.

E-mail: bos@srtmun.ac.

विज्ञान व तंत्रज्ञान विद्याशाखे अंतर्गत राष्ट्रीय शैक्षणिक धोरण २०२० नुसार पदवी प्रथम वर्षाचे अभ्यासक्रम (Syllabus) शैक्षणिक वर्ष २०२४–२५ पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, या विद्यापीठा अंतर्गत येणा–या सर्व संलग्नित महाविद्यालयामध्ये शैक्षणिक वर्ष २०२४–२५ पासून पदवीस्तरावर राष्ट्रीय शैक्षणिक धोरण –२०२० लागू करण्याच्या दृष्टीकोनातून विज्ञान व तंत्रज्ञान विद्याशाखे अंतर्गत येणा–या अभ्यासमंडळांनी तयार केलेल्या पदवी प्रथम वर्षाचे अभ्यासक्रमांना मा. विद्यापरिषदेने दिनांक १५ मे २०२४ रोजी संपन्न झालेल्या बैठकीतील विषय क्रमांक १५/५९–२०२४ च्या ठरावान्वये मान्यता प्रदान केली आहे. त्यानुसार विज्ञान व तंत्रज्ञान विद्याशाखेतील खालील बी. एस्सी प्रथम वर्षाचे अभ्यासक्रम (Syllabus) लागू करण्यात येत आहेत.

1) B. Sc. I year - Botany
2) B. Sc. I year - Seed Technology
3) B. Sc. I year - Horticulture
4) B. Sc. I year - Geology
5) B. Sc. I year - Dairy Science
6) B. Sc. I year -Electronics
7) B. Sc. I year - Environmental Science
8) B. Sc. I year - Fishery Science
9) B. Sc. I year - Mathematics
10) B. Sc. I year - Microbiology
11) B. Sc. I year - Agricultural Microbiology
12) B. Sc. I year - Physics
13) B. Sc. I year - Food Science
14) B. Sc. I year – Computer Science (N M D College Hingoli)

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी, ही विनंती.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.:शै–१/एनइपी/विवत्रविपदवी/२०२४–२५/१९१
दिनांक १२.०६.२०२४

डॉ. सविता लोमटवार
महा.कुलसचिव
शैक्षणिक (१–अभ्यासमंडळ) विभाग

प्रत : १) मा. अधिष्ठाता, विज्ञान व तंत्रज्ञान विद्याशाखा, प्रस्तुत विद्यापीठ.
२) मा. संचालक, परीक्षा व मुल्यमापन मंडळ, प्रस्तुत विद्यापीठ.
३) मा. प्राचार्य, सर्व संलग्नित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) मा. संचालक, सर्व संकुले परिसर व उपपरिसर, प्रस्तुत विद्यापीठ
५) मा. प्राचार्य, न्यू मॉडल डिग्री कॉलेज हिंगोली.
६) सिस्टीम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ, याना देवून कळविण्यात येते की, सदर परिपत्रक संकेतस्थळावर प्रसिध्द करण्यात यावे.

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Details of the Board of Studies Members in the subject Electronics under the faculty of Science & Technology of S.R.T.M. University, Nanded

Sr No	Name of the Member	Designation	Address	Contact No.
1	Prof. A C Kumbharkhane	Chairman	School of Physical Sciences, SRTM University, Nanded	9421869112
2	Prof. Y S Joshi	Member	Lal Bahadur Shastri Mahavidyalaya, Dharmabad	9405362172
3	Prof. S M Yenorkar	Member	Shri Shivaji College Parbhani	7276532176
4	Dr S K Gore	Member	Dnyanopasak Mahavidyalya, Jintur	9422879596
5	Dr M B Swami	Member	Maharashtra Udaygiri Mahavidyalaya, Udgir	8830089774
6	Dr D B Suryawanshi	Member	Shri Havgiswami College, Udgir	9423307098
7	Dr R S Kawale	Member	Dnyanopasak Mahavidyalya, Jintur	9545231648
8	Prof. I G Shere	Member	Shri Havgiswami College, Udgir	8329792082
9	Prof. Vikas Baburao Patil	Member	Punyashlok Ahilyadevi Holkar Solapur University, Solapur	9422532521
10	Prof. Girish Mukundrao Joshi	Member	Institute of Chemical Technology (ICT), Mumbai Marathwada Campus, Jalna	8838660102
11	Prof. R L Raibagkar	Member	Deptt. of Physics, Gulbarga University, Kalburgi	9739302083
12	Shri Jagdish Arun Deshmukh	Member	Cermet Resistronics, Pvt. Ltd. Pune	9623371844
13	Shri Arun Pandit Potdar	Member	Micromax Instruments Pvt. Ltd. Pune	9822061328
14	Miss. Shruti Mahesh Tiwari	Invitee Member (UG Student)	Lal Bahadur Shastri Mahavidyalaya, Dharmabad	
15	Shrise Sayantra Maroti	Invitee Member (PG Student)	Yeshwant Mahavidyalaya, Nanded	

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Science and Technology

General Guidelines for Selection of Courses

i. The **Major subject** is the discipline or course of main focus, bachelors' degree shall be awarded in that Discipline / subject.

ii. **Minor Subject(s)** is/are the subjects from the same discipline / faculty and shall act as supporting subjects to the Major.

iii. At the entry level of the 3/4-year UG program students shall be required to choose any THREE of the available subjects in a college/institute as **Major (Optional 1), Minor 1 (Optional 2) and Minor 2 (Optional 3) subjects, respectively**

iv. No. of credits assigned to the **Major (Optional 1), Minor 1 (Optional 2) and Minor 2 (Optional 3) shall be same in Semesters I and II.**

v. **In the second year of the degree program students shall select one of the three subjects (Optional 1, 2 and 3) as a Major Subject and one as Minor Subject, while third optional shall be discontinued.**

vi. Students shall have an option to switch over from **Major to Minor or vice-versa after first year**.

vii. Once they finalize their **Major subject** in the beginning of the second year of the programme, they shall pursue their further education in that particular subject as the **Major** subject. Therefore, from second year onwards curriculum of the **Major** and **Minor** subjects shall be different.

viii. Students are required to select **Generic /Open Elective (vertical 3 in the credit framework)** compulsorily from the **faculties different than that of their Major / Minor subjects** (select from **Basket 3**).

ix. **Content and other details of the GE are available in the document prepared by the respective BOS from which the candidate has chosen his/her GE.**

x. Students shall be required to complete the Skill based courses of 06 credits in the first two years.

xi. Vocational Courses (VSEC or VSC) shall be related to the **Major** course

xii. Ability Enhancement Courses (AEC):

a) English Communication Course (Language) of 2 credits shall be offered in Semester I and III

b) Modern Indian Languages shall be of 2 credits and shall be offered in Semester II and IV

xiii. Courses marked as VEC, CI, IKS and CCC in Column Nos. 7and 8 shall be common for all the students irrespective of their faculties of studies.

xiv. Curriculum of VEC, CI, IKS and CCC shall be provided by the University separately.

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B.Sc. FY (Electronics) (Semester I)

SELECT1101 (Theory): Fundamentals of Analog & Digital Electronics

Periods: 30 Hours **Max. Marks: 50** [ESE:40 & CA:10] **Credits : 2**

Course Pre- requisite: HSC (XIIth Science) pass

Course Objectives:

1. To impart knowledge of basic concepts in analog & digital electronics.
2. To understand the various laws and concepts of network theorems for circuit analysis.
3. To learn various number systems used in digital electronics.
4. To learn & understand various logic gates and Boolean Rules & laws.

Course Outcome: After completion of this course students will be -

1. able to apply the knowledge to analyze the series and parallel circuits.
2. able to apply the knowledge of circuit analysis to real life problems.
3. able to solve complex circuits using network theorem and analyse the linear electronic circuits.
4. able to understand the fundamental concepts and techniques used in digital electronics.
5. able to perform inter conversions of the various number systems its and application in digital electronics.
6. Students will get the knowledge of Logic gates and Boolean laws.

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Curriculum Details:

SELECT1101 (Theory): Fundamentals of Analog & Digital Electronics

Module No.	Unit No.	Topic	No. of hours. required to cover the contents
1		**Basic Circuit Analysis**	**07**
	1.1	Ohm's Law: relation between voltage, current, and resistance, Kirchhoff's Current Law (KCL), Kirchhoff's Voltage Law (KVL), Sign Conventions for Battery EMF and IR Drop on resistors.	
	1.2	Series Circuits: Proportional Voltage Formula and Voltage Divider, Opens and Shorts in Series circuit.	
	1.3	Parallel Circuits: Proportional Current Formula, Opens and Shorts in Parallel circuit. (Book – 1)	
2		**Network Theorems**	**08**
	2.1	Ideal constant-voltage source, ideal constant-current source	
	2.2	Super Position theorem	
	2.3	Thevenin theorem, Norton theorem and how to Thevenize and how to Nortonise given circuit	
	2.4	Maximum Power Transfer theorem (Book – 2)	
3		**Number Systems and Codes**	**07**
	3.1	Decimal, Binary Octal and Hexadecimal number systems, inter conversions of number systems	
	3.2	Binary arithmetic (addition, subtraction, multiplication, division)	
	3.3	Codes: BCD, Gray code, Conversion of BCD to Binary,Binary to Gray code and vice versa.	
4		**Logic Gates and Boolean Laws**	**08**
	4.1	Positive logic, Negative logic	
	4.2	Definition, symbol and truth table of NOT, OR, AND, NAND, NOR, EX-OR, EX-NOR gates	
	4.3	De-Morgan's theorem	
	4.4	Universal properties of NAND and NOR gates	
	4.5	Boolean Rules and Laws.	
		Total	**30**

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Text Books:

1. Basic Electronics Solid State (Multicolor illustrative edition), by B. L. Theraja, S. Chand & Company Pvt. Ltd, New Delhi
2. A Textbook of Electrical Technology, by B.L. Theraja, Vol.1, Nirja Construction & Development Company.
3. Digital Principles & Applications by A.P. Malvino & D.P. Leach (TMH, New Delhi)
4. Modern Digital Electronics by R.P. Jain, Tata McGraw Hill Publication.
5. Digital Fundamentals by Floyd, Pearson Education.

Recommended Books/References:

1. A Text book of Applied Electronics by R. S. Sedha, Revised Edition 2013, Reprint 2017 S. Chand & Company Ltd., New Delhi
2. Principles of Electronics (Multicolour Revised Edition), by V.K. Mehta, Rohit Mehta, S. Chand & Company, Ram Nagar, New Delhi.
3. Basic Electronics (eighth edition), by Bernard Grob, Pub.: Glencoe Mc Graw Hill, Pub.Co.
4. Digital Electronics: W. H. Gothman Prentice Hall , India.
5. Fundamentals of Digital Circuits by A. Anand Kumar, 3rd Edn, PHI Learninig Pvt. Ltd. Delhi.
6. Digital Electronics with practical approach –G N Shinde, Shivani Pub. Nanded.
7. Android based App – 'Electronics' and similar
8. https://www.falstad.com/circuit/e-index.html (for circuit simulator applets).

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B.Sc. FY (Electronics) (Semester I)

SELECP1101: Electronics Lab-I: Practical based on SELECT1101

Periods :60 Hours **Max. Marks: 50** [ESE:30 & CA:20] **Credits : 2**

Course Objectives: Students are expected to:

1. Familiarize with basic electronics components, testing and measuring instruments.
2. Understand the practical use of various networks theorems
3. Study the electronics circuit analysis and verification of the circuits
4. get the practical knowledge of various logic gate ICs

Course outcomes: After completion of this course -

1. Students will get the basic knowledge of electronic components and measuring instruments and their applications.
2. Understand and analyse, linear and digital electronic circuits.
3. Review, prepare and present technological developments.

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Curriculum Details:

SELECP1101: Electronics Lab-I - Practical based on SELECT1101

Group I :

1. Identification of electronic components: Resistors, Capacitors, Inductors, transformers, diodes & transistors.
2. Study of electronic instruments: Voltmeter, Ammeter and Multimeter.
3. Study of Electronic instruments: Power supply, signal generator and CRO.
4. Determination of value of given resistors by using colour code method & verification of it by multimeter.
5. Verification of Kirchhoff's laws.
6. Determination of amplitude, frequency and time period of observed voltage waveform by using CRO.
7. Verification of Thevenin's theorem.
8. Verification of Superposition Theorem
9. Verification of Norton's theorem
10. Study of Maximum power transfer theorem and determination of internal resistance of a source.

Group II :

1. Study of basic gates (verification of truth table) using ICs.
2. Study of Universal gates (NAND & NOR) and Special gates (EX-OR & EX-NOR) using ICs.
3. Construction and verification of basic gates using NAND gates.
4. Construction and verification of basic gates using NOR gates.
5. Verification of De Morgan's theorems.
6. 4-bit Binary to Gray converter using IC 7486.
7. 4-bit Gray to Binary converter using IC 7486.

Note:

i. Every student must perform at least **10** experiments, not less than **Four** Experiments from each group.

ii. Use graphs wherever necessary.

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B.Sc. FY (Electronics) (Semester I)

SELEGE1101 [Generic Elective (GE) 1]: Electronic Components

Periods :30 Hours **Max. Marks: 50** [ESE:40 & CA:10] **Credits: 2**

Course Pre- requisite: HSC (XIIth) pass from any faculty

Course Objectives:

1. To impart basic knowledge of electronic components to the students from other faculty.
2. To familiarize students with the concepts of active and passive components and terminology in electronics.
3. To help the students to understand the role of components in simple electronic circuits.

Course Outcome: After completion of this course

1. Students can identify the various electronic components.
2. Students will understand the applications of electronic components in electronic circuits.

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Curriculum Details:

SELEGE1101 [Generic Elective 1]: Electronic components

Module No.	Unit No.	Topic	No. of hours. required to cover the contents
1		**Introduction to Electronic Components**	**08**
	1.1	Overview the use of electronics components and their importance in everyday life. Concepts of active and passive components and terminology in electronics	
	1.2	Introduction to common electronic components: resistors, capacitors, inductor, diodes, and transistors	
	1.3	Understanding the role of components in simple electronic circuits	
2		**Resistors, Inductors and Capacitors**	**09**
	2.1	Detailed exploration of resistors: types, color coding, resistance values, and applications. Understanding the behavior of resistors in circuits: Ohm's law, series and parallel connection	
	2.2	Introduction to inductor, types and values and applications of inductor	
	2.3	Introduction to capacitors: types, capacitance values, and applications	
3		**Diodes and Transistors**	**07**
	3.1	Study of diodes: types (semiconductor diode, light-emitting diodes), characteristics, and applications Understanding diode behavior: forward bias, reverse bias, and rectification	
	3.2	Introduction to transistors: types (e.g., bipolar junction transistors, field-effect transistors), configurations, and applications Exploring transistor operation modes: cutoff, saturation, and active region	
4		**Integrated Circuits**	**06**
	4.1	Overview of integrated circuits (ICs): types (e.g., logic gates, OP AMP), functionality, and applications, Introduction to IC packaging and pin configurations	
		Total	**30**

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Ta.Mukhed Dist.Nanded

Text Books:

1. Electronics Circuit Design: S. N. Talbar & Dr. T. R. Sontake
2. Basic Electronics (Eight Edition) by Bernard Grob: Glance Mc Graw Hill, Pub. Company.
3. Principal of Electronics (Multicolor revised edition) by V. K. Mehta, Rohit Mehta, S. Chand Pub.
4. Op-Amp and Linear Integrated Circuits by Ramakant Gaikwad, Prentice Hall of India Pvt Ltd
5. Handbook of Electronics by Gupta, Kumar, 44thEdn, 2017, Pragati Prakashan, Meerut.
6. Electronic Components and Materials by Madhuri Joshi, 3rd edn. Mc Press, 2010
7. Basics of Electronic Components, M B Swami & P G Hudge, Aruna Prakashan, Latur, 2024

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B.Sc. FY (Electronics) (Semester I)

SELESC1101: Electronic Measurements and Instrumentation (Skill)

Periods :60 Hours **Max. Marks: 50** [ESE:30 & CA:20] **Credits: 2**

Course Pre- requisite: HSC (XIIth) science pass

Course Objectives:

1. To introduce basic measurement instruments
2. To learn measurement of various electrical quantities.
3. To learn measuring instruments like Oscilloscope and digital meters

Course Outcomes: After completion of this course

1. Student will acquire basic knowledge about measurement systems
2. Students will able to measure ac and dc quantities.
3. Students will be able to familiar with oscilloscopes and digital meters.

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Ta.Mukhed Dist.Nanded

Curriculum Details:

SELESC1101: Electronic Measurements and Instrumentation.

Module No	Unit No	Topic	Hrs. Required to cover the contents
1		**Basic Measurement Instruments**	**15**
	1.1	Introduction: Characteristics of instruments, Static and dynamic, error, types of errors, sources of errors	
	1.2	Basic D'Arsonval meter construction and working principle of operation.	
	1.3	DC measurement. Conversion of basic meter into DC voltmeter and multimeter.	
	1.4	AC measurement: Voltmeter, ammeter Digital type voltmeter, digital multimeters.	
2		**DC and AC Bridges**	**15**
	2.1	Measurement of low resistance by Kelvin's double bridge method, Measurement of medium resistance by wheatstone bridge. Measurement of high resistance, difficulties in measurement in high resistance.	
	2.2	Measurement of self inductance: Maxwell's inductance bridge, Owen's bridge	
	2.3	Measurement of Capacitance: DeSauty's bridge	
3.		**Oscilloscopes**	**15**
	3.1	CRT, Wave form display and electrostatic focusing, time base and sweep synchronization	
	3.2	Measurement of voltage, frequency and phase by CRO	
	3.3	Sampling Oscilloscope, Digital Storage Oscilloscope	
4.		**Digital Instruments**	**15**
	4.1	Principle of working of digital meters,	
	4.2	characteristics of digital meter,	
	4.3	digital voltmeter, digital multimeter	
	4.4	Connectors and probes: low capacitance probe, high voltage probes, identifying electronic connectors- audio and video, RF, Co-axial and USB	
		Total	**60**

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Books:

1. Electronic Instrumentation by H. S. Kalsi, TMH publication.
2. Electrical and Electronic measurements and instrumentation by A. K. Sawhney, Dhanpat Rai and sons 2007.-
3. Electronic Instrumentation and Measurement Techniques, W. D. Cooper and A. D. Helfrick, Prentice Hall (2005).
4. Instrumentation Devices and Systems, S. Rangan, G. R. Sarma and V. S. Mani, Tata Mcgraw Hill
5. Instrumentation, Measurement and Analysis by B. S. Nakara and V. S. Mani (TMH)
6. Basic Electronics Solid State (Multicolor illustrative edition), B. L. Theraja, S. Chand & Company Ltd. New Delhi.

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B. Sc. FY (Electronics) (Semester II)

SELECT1151 (Theory): Electronic Devices and Digital Logic Circuits

Periods: 30 Hours **Max. Marks: 50** [ESE: 40 & CA:10] **Credits : 2**

Course Pre- requisite: SELECT1101 (Theory): Fundamentals of analog & digital Electronics

Course Objectives:

1. To impart knowledge of semiconductor devices and their characteristics
2. To learn the construction and characteristics of transistors.
3. To introduce to data processing logic circuits.
4. To introduce to various Flip-Flops.

Course Outcome: After completion of this course Students will –

1. get the knowledge of working of various semiconductor diodes and transistor.
2. understand the applications of diodes and transistors.
3. be able to use of arithmetic and data processing circuits.
4. be able to understand various types of Flip flop.

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Ta.Mukhed Dist.Nanded

Curriculum Details:

SELECT1151 (Theory): Electronic Devices and Digital Logic Circuits

Module No.	Unit No.	Topic	No. of hours. required to cover the contents
1		**Semiconductor Diodes**	**07**
	1.1	Semiconductor: Intrinsic, Extrinsic, P-type, N-type, PN junction diode –formation/construction, Formation of Depletion Layer, forward and reverse biasing and V-I characteristics.	
	1.2	Idea of static and dynamic resistance.	
	1.3	Zener diode- V-I characteristics, Zener and avalanche breakdown Reverse saturation current	
	1.4	Construction, working and characteristics of LED, photodiode, varactor diode. (Book-1)	
2		**Transistors**	**08**
	2.1	Construction and operation of BJT (NPN and PNP), Regions of operation (active, cut off and saturation), F-F, R-R, F-R biasing,	
	2.2	Current gains α_{dc} and β_{dc} of a transistor and their relationship, C-E transistor characteristics: collector curves and base curves.	
	2.3	Construction, working and characteristics of UJT. (Book-2)	
3		**Arithmetic & Data Processing Circuits**	**08**
	3.1	Half Adder, Full Adder, realization of half and full adder using Gates, 4-bit parallel binary adder. Introduction to multiplexers (MUXs), designing of 2:1 MUX, 4:1 MUX, and 8:1 MUX,	
	3.2	Introduction to demultiplexers (DEMUX), designing of 1:2 DEMUX, 1:4 DEMUX, and 1:8 DEMUX,	
	3.3	Encoders: decimal to BCD encoder, priority encoder	
	3.4	Decoders: BCD to decimal decoder, BCD to seven segment decoder	**07**
4		**Flip-Flops**	
	4.1	1-bit memory cell, S-R flip-flop, clocked S-R flip-flop, preset and clear facility in flip–flop	
	4.2	J–K flip- flop, race around condition, master-slave JK Flip Flop	
	4.3	D-type and T-type flip flop.	**30**

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Text Books:

1. Principles of electronics by V.K. Mehta & Rohit Mehta (Multicolour revised edition) S.Chand & Company.
2. Electronic principles, A.P. Malvino, Tata Mc. Graw Hill, Pub. Co.Ltd., (Third edition).
3. Digital Principles & Applications by A.P. Malvino& D.P. Leach (TMH, New Delhi)
4. Modern Digital Electronics by R.P. Jain, Tata McGraw Hill Publication.
5. Digital Fundamentals by Floyd, Pearson Education.
6. Basics of Electronic Components, M B Swami & P G Hudge, Aruna Prakashan, Latur, 2024

Recommended Books/References:

1. Basic electronics (solid state) by B.L. Theraja, (multicolour illustrative edition),S.Chand& Company Ltd., Ram Nagar, New Delhi.
2. A Text book of Applied Electronics by R. S. Sedha, Revised Edition 2013, Reprint 2017 S. Chand & Company Ltd., New Delhi
3. Basic electronics by Bernard Grob, Glencoe, (8th Edn) Mc. Graw Hill Pub.Company.
4. Digital Electronics: W. H. Gothman Prentice Hall , India.
5. Fundamentals of Digital Circuits by A. Anand Kumar, 3rd Edn, PHI Learninig Pvt. Ltd. Delhi.
6. Digital Electronics with practical approach –G N Shinde, Shivani Pub. Nanded.
7. Android based App – 'Electronics' and similar
8. https://www.falstad.com/circuit/e-index.html (for circuit simulator applets).



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SELECP1151: Electronics Lab-II: Practical based on SELECT1151

Periods :60 Hours **Max. Marks : 50** [ESE:30 & CA:20] **Credits : 2**

Course Objectives:

Students are expected to:

1. Familiarize with various Semiconductor devices.
2. To understand the behavior of semiconductor devices.
3. Understand the practical use of various semiconductor devices.

Course outcome:

Learner will be able to ….

1. Apply the concept and knowledge of Semiconductor devices.
2. Apply practical knowledge to solve real life problems of the society.
3. Understand of the course and create scientific temperament and give exposure to the students for independent use of digital integrated circuit chips for innovative applications.

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Curriculum Details:

SELECP1151: Electronics Lab-II : Practical based on SELECT1151

Group I :

1. Study of P-N junction diode characteristics and determination of bulk resistance.
2. Study of LED characteristics.
3. Study of Photo diode characteristics.
4. Study of Varactor diode characteristics.
5. Study of Zener diode characteristics and determination of breakdown voltage.
6. Study of Common-Emitter transistor characteristics and determination of βdc.
7. Study of UJT characteristics.

Group II :

1. Construction and study of half adder using NAND gates.
2. Construction and study of full adder using NAND gates.
3. Study of 4:1 Multiplexer
4. Study of 1:4 Demultiplexer
5. Study of decimal to BCD encoder
6. Construction and study of JK, T-type and D-type flip-flops using IC 7476.

Note:

i. Every student must perform at least **10** experiments, not less than **Four** Experiments from each group.

ii. Use graphs wherever necessary

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Curriculum Details : **SELEGE1152: Consumer Electronics**

Module No	Unit No	Topic	Hrs. Required to cover the contents
1		**Microphone and Speakers**	**08**
	1.1	Sound characteristics: level & loudness, pitch, sensitivity, selectivity & fidelity	
	1.2	Working principles of microphone	
	1.3	Types of microphone: carbon, condenser, crystal, electrets and tie clip	
	1.4	Working principle of speaker	
2		**DTH and Colour TV**	**08**
	2.1	Block diagram of colour TV and working	
	2.2	Working of LCD & LED TV	
	2.3	Direct To Home (DTH) receiver block diagram	
	2.4	Block diagram of OLED and function of each block	
3		**Digital Camera and Photocopier**	**07**
	3.1	Pick up Devices in digital camera and cam coder	
	3.2	Picture processing and picture storage	
	3.3	Block diagram of photocopier and its functions	
4		**Domestic Consumer Appliances**	**07**
	4.1	Microwave oven	
	4.2	Automatic washing machine: principle and working	
		Total	**30**

Textbooks:

1. Consumer Electronics by Bali S P, Pearson Education, India, 2007
2. Audio Video System: Principle, Practices and Troubleshooting, Bali Rajeev, Bali S.P., Khanna Publishers, 2014
3. Audio Video System: Principle, Maintenance and Troubleshooting, Gupta R.G., McGraw Hill, New Delhi, 2010
4. Modern Television Practice: Transmission, Reception and Applications, Gulati R.R., New Age International, New Delhi, 2015
5. Television and Video Engineering, Dhake A.M. McGraw Hill, New Delhi, 2006

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B.Sc. FY (Electronics) (Semester II)

SELESC1151: AC fundamentals & Electronic Circuits

Periods :60 Hours **Max. Marks: 50** [ESE:30 & CA:20] **Credits: 2**

Course Pre- requisite: B.Sc. I Sem Electronics Pass

Course Objectives:

1. To know basic electronic circuit designing of practical importance.
2. To equip the students with skill of circuit designing for a given requirement.
3. To impart hands on practice: circuit assembling, testing and designing.

Course Objectives: After completion of this course

1. Student can develop electronic circuits
2. Student will able to assemble, design the electronic circuits

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Curriculum Details :

SELESC1151: AC Fundamentals & Electronic Circuits

Module No	Unit No	Topic	Hrs. Required to cover the contents
1		**Phasor Algebra and AC Fundamentals**	**15**
	1.1	Symbolic notation, Significance of Operator 'j', various forms of vector representation	
	1.2	Types of alternating waveforms, cycle, time period, frequency, amplitude of ac voltage/current, Characteristics of sine wave, different values of sinewave voltage/current, phase, phase difference.	
	1.3	RL, RC and Series RLC circuit, Series resonance, Resonance curve, Bandwidth, Q-factor.	
2		**Simple Circuits**	**15**
	2.1	Series parallel combinations of resistors, capacitors and inductors and its verification through Hands on exercise,	
	2.2	Series and parallel combination of electrical sources (cell or battery) and its verification	
	2.3	Delta- Star and star –delta transformations and its verification for resistors.	
3		**AC Circuits**	**15**
	3.1	Filter circuits, RC Circuit and frequency response	
	3.2	low pass filter, high pass filter, cut off frequency	
	3.3	RL Circuit, RL low pass, high pass filter cutoff frequency.	
	3.4	LCR bandpass filter, its bandwidth, LCR band reject filter and its bandwidth	
4		**Clipper, Clamper and amplifier circuits**	**15**
	4.1	Voltage clipper, clamper circuit	
	4.2	designing of clipper and clamper circuit to clip or clamp the given waveform at particular voltage	
	4.3	Designing of single stage CE amplifier.	
		Total	**60**

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Recommended Books:

1. Basic Electronics Solid State, Multicolour edition, B. L. Theraja, S. Chand &Company, New Delhi
2. Electronic Principle by Albert Malvino, David J. Bates, 7th Edition, TMH, 2007.
3. Grob's Basic Electronics by Mitchel E. Schultz, 10th Edition, TMH, New Delhi
4. Handbook of Electronics by Gupta, Kumar Part –I 44th Edn, 2017, Pragati Prakashan, Meerut
5. Electronic Devices and Circuits, by David A Bell Fifth Edition, Oxford University Press.

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Guidelines for the Course Assessment:

A. Continuous Assessment (CA) (20% of the Maximum Marks) of theory and practical courses:

i. **For Theory Course:** CA shall form 20% of the Maximum Marks and shall be carried out over the entire semester. It shall be done by conducting **Two Tests** (Test I on 40% curriculum) and **Test II** (on remaining 40% syllabus) and average of the marks scored by a student in these two tests of a particular paper shall be taken as the **CA** score.

ii. **For Practical Course:** CA score of the practical course shall be marks scored by a student in the internal practical examination conducted by the concerned teacher.

B. End Semester Assessment (80% of the Maximum Marks) of theory and practical courses:

(For illustration a paper of 02 credits, 50 marks has been considered and shall be modified appropriately depending upon credits of the individual paper)

Question Paper Pattern of the ESA:

i. ESA Question paper shall consist 6 questions, each of 10 marks

ii. Question No.1 shall be compulsory and shall be based on the entire syllabus

iii. Students shall have to solve ***ANY THREE*** of the remaining Five Questions (i.e. from question 2 to 6)

iv. Students shall have to solve a TOTAL of 4 Questions.

C. Assessment of On Job Training (OJT) Course (for 04 credits):

a. Continuous assessment part (**40%, 40 marks out of 100**) of this course shall be done by the mentor of the student, where he /she is supposed to complete his On Job Training. This shall be based on the regularity, participation and performance of the students at the place of OJT.

b. Semester End Assessment (ESA) (**60% of the total marks, 60 marks out of 100**) of this course shall be done by a panel of examiners in two parts

i. based on the work report submitted by the student (**50% i.e. 30 marks**) and

ii. **Remaining 50%** (30 marks) shall be based on his presentation and viva-voce on the work carried to be assessed by the panel of examiners. This assessment shall be done along with practical examinations of respective courses / subjects.

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D. Assessment of Field Project (FP) and Research Project (RP) (e.g. for 02 credits)

a. Continuous assessment part (**40%, 20 marks out of 50**) of this course shall be done by the mentor of the student and shall be based on regularity, experimental work and performance of the student.

b. Semester End Assessment (ESA) (**60% of the total marks, 30 marks out of 50**) of this course shall be done shall be done by a panel of examiners in two parts

i. based on the work report submitted by the student (**50% i.e. 30 marks**) and

ii. **Remaining 50%** (30 marks) shall be based on his presentation and viva-voce on the work carried out by the student. This assessment shall be done along with practical examinations of the respective courses / subjects.

E. Assessment of Co-Curricular courses (CCC):

a. Assessment of the CCC course shall be done by the respective course coordinator as a part of CA and be based on the regularity, performance of a student and his participation in various activities as prescribed in the regulations prepared in this regard.

b. The End Semester Assessment (ESA) of the CCC courses shall be done as per the regulations prepared in this regard and shall be done on the basis of the write-up, presentation by the student on the activities that he has carried out in a semester.

c. Students shall have freedom to opt for more than one CCC courses. However, score of the best performing CC shall be considered for preparing his result.

F. Syllabi, Teaching and Examination Scheme for the courses in Column 7 and Column 8 (AEC, VEC, IKS, CI, EVS, CCCs, etc.) shall be common for all the students from different faculties.

Note: Number of lectures required to cover syllabus of a course depends on the number of credits assigned to a particular course. One credit of theory corresponds to 15 Hours lecturing and for practical course one credit corresponds to 30 Hours. For example, for a course of two credits 30 lectures of one hour duration are assigned, while that for a three credit course 45 lectures.

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SWAMI RAM SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED - 431 606

स्वामी रामानंद तीर्थ
मराठवाडा विद्यापीठ, नांदेड

(Credit Framework and Structure of Four Year UG Program with Multiple Entry and Exit Option as per NEP-2020)

UNDERGRADUATE PROGRAMME OF SCIENCE & TECHNOLOGY

SUB – FISHERY SCIENCE

Major in DSC and Minor in DSM (Subject)

Under the Faculty of Science & Technology

(Revised as per the Govt. Of Maharashtra circular dt. 13th March 2024)

With effect from June 2024

Effective from the Academic Year 2024 – 2025
(As per NEP-2020)

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॥ मा विद्या या विमुक्तये ॥

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

'ज्ञानतीर्थ', विष्णुपुरी, नांदेड - ४३१ ६०६ (महाराष्ट्र राज्य) भारत

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

'Dnyanteerth', Vishnupuri, Nanded - 431 606 (Maharashtra State) INDIA

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शैक्षणिक वर्ष २०२४-२५ पासून राष्ट्रीय शैक्षणिक धोरणानुसार लागू केलेल्या विज्ञान व तंत्रज्ञान विद्याशाखेतील पदवी प्रथम वर्षाच्या सुधारित (दुरुस्ती) अभ्यासक्रमा बाबत..

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प रि प त्र क

संदर्भ.- १. जा.क्र.शै-१/एनईपी/विज्ञानविपदवी/२०२४-२५/११२ दिनांक १२/०६/२०२४

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, संदर्भीय परिपत्रकान्वये दिनांक १५ मे २०२४ रोजी संपन्न झालेल्या मा. विद्यापरिषदेच्या बैठकीतील विषय क्र. १५/५९-२०२४ अन्वये मान्यता दिल्यानुसार विज्ञान व तंत्रज्ञान विद्याशाखे अंतर्गत राष्ट्रीय शैक्षणिक धोरणानुसार पदवी प्रथम वर्षाचे अभ्यासक्रम शैक्षणिक वर्ष २०२४-२५ पासून लागू करण्यात आलेले आहेत. तथापी वरील संदर्भीय परिपत्रका अन्वये प्रकाशित केलेल्या अभ्यासक्रमामध्ये अभ्यासमंडळांनी किरकोळ दुरुस्ती करुन अभ्यासक्रम सादर केला असून मा. अधिष्ठाता, विज्ञान व तंत्रज्ञान विद्याशाखा यांच्या मान्यतेने दुरुस्ती केलेले खालील अभ्यासक्रम लागू करण्यात येत आहेत.

01	B. Sc. I year Fishery Science

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी, ही विनंती.

डॉ. सरिता लोसरवार
सहाय्यक कुलसचिव
शैक्षणिक अभ्यासमंडळ विभाग

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड - ४३१ ६०६.
जा.क्र.:शैक्षणिक-१/परिपत्रक/एनईपीयुजीदुरुस्ती/S&T/
२०२४-२५/ 249
दिनांक : १४.१०.२०२४

प्रत माहितीस व पुढील कार्यवाहीस्तव.

०१. मा. अधिष्ठाता, विज्ञान व तंत्रज्ञान विद्याशाखा, प्रस्तुत विद्यापीठ.
०२. मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
०३. मा. संचालक, सर्व संबंधित संकुले, प्रस्तुत विद्यापीठ
०४. मा. प्राचार्य, सर्व संबंधित महाविद्यालये, प्रस्तुत विद्यापीठ
०५.मिस्टर एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ. यांना देवून कळविण्यात येते की, सदरील परिपत्रक विद्यापीठाच्या संकेतस्थळावर प्रसिध्द करण्यात यावे.

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Tq.Mukhed Dist.Nanded

Details of the Board of Studies Members in the subject Fishery Science under the faculty of Science & Technology of S.R.T.M. University, Nanded

01.	**Dr. Sunil Deoram Ahirrao** Department of Fishery Science Shri. Shivaji College, Parbhani	**Chairman**
02.	**Dr. Japrakash Manikrao Gaikwad** Department of Fishery Science Shri. Shivaji College, Parbhani	**Member**
03.	**Dr. K. S. Shillewar** Department of Fishery Science Science College, Nanded	**Member**
04.	**Dr. Seema Shesherao Korde,** Department of Fishery Science Azad Mahavidyalaya, Ausa, Dist. Latur.	**Member**
05	**Dr. Shivaji Prabhakar Chavan** School of Life Sciences, SRTM University Nanded	**Member**
06.	**Dr. Guiab D. Khedkar** Dr. Babasaheb Ambedkar Marathwada University, Sambhaji Nagar	**Member**
07.	**Dr. Madhuri Shrikant Pathak** ICAR- Central Institute of Fisheries Education (ICAR-CIFE) Panch Marg. Off Yari Road Mumbai	**Member**
08.	**Dr. Manoj M. Sharma** F/ 17-18, Raj Green Heights, Behind ICICI bank, Rander Road, Jahangirpura, Surat- 395005	**Member**
09.	**Dr. N. G. Popatwar** Department of Fishery Science D.S.M. College, Jintur	**Invitee Member**
10.	**Dr. S. U. Kadam** Department of Fishery Science D.S.M. College, Parbhani	**Invitee Member**
11.	**Dr. Dhanaji Waman Patil** Department of Fishery Science, Toshniwal Arts Commerce and Science College, Sengaon, Dist. Hingoli	**Invitee Member**
12.	**Dr. Sandip Surendra Markad** Department of Fishery Science Toshniwal Arts Commerce and Science College, Sengaon, Dist. Hingoli	**Invitee Member**
13	**Kaldate Alka Bharat (UG Student)** **C/o** Shri. Shivaji College, Parbhani	**Invitee Member** As per MPUA u/s 40(2) (d)(E)

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Late Bhimrao Chavan Arts's &
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Tq.Mukhed Dist.Nanded

Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Science & Technology

Subject: Fishery Science

B.Sc. First Year Semester I (Level 4.5)

Teaching Scheme Fishery Science

Subject	Course Code	Course Name	Credits Assigned			Teaching Scheme (Hrs/ week)	
			Theory	Practical	Total	Theory	Practical
Optional	SFISCT1101	Fish Posnd Construction and Management	02	--	**02**	02	--
	SFISCP1101	Practical based on SFISCT1101	--	02	*02*	--	04
Generic Electives *(from other Faculty)*	SFISGE1101	Culture of Indian Major Carps	02	--	**02**	02	--
Skill Based Course (related to Major)	SFISSC1101	Fish identification techniques	--	02	**02**	--	04
Total Credits			**04**	**04**	**08**	**04**	**08**

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Science & Technology

Subject: Fishery Science

B.Sc. First Year Semester I (Level 4.5)

Examination Scheme Fishery Science

[20% Continuous Assessment (*CA*) and 80% End Semester Assessment (*ESA*)]

(For illustration we have considered a paper of 02 credits, 50 marks, need to be modified depending on credits assigned to individual paper)

Subject	Course Code	Course Name	Theory				Practical		Total Col (6+7)/ Col (8+9)
			Continuous Assessment (CA)			ESA			
			Test 1	Test 2	Average of T1 & T2	Total	CA	ESA	
01	*02*	*03*	**04**	**05**	**06**	**07**	**08**	**09**	**10**
Optional	SFISCT1101	Fish Pond Construction and Management	10	10	10	**40**	--	--	**50**
	SFISCP1101	Practical based on SFISCT1101	--	--	--	--	20	30	**50**
Generic Electives *(from other Faculty)*	SFISGE1101	Culture of Indian Major Carps	10	10	10	**40**	--	--	**50**
Skill Based Course (related to Major)	SFISSC1101	Fish identification techniques	--	--	--	--	20	30	**50**
									200

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Faculty of Science & Technology

Subject: Fishery Science

B.Sc. First Year Semester II (Level 4.5)

Teaching Scheme Fishery Science

Subject	Course Code	Course Name	Credits Assigned			Teaching Scheme (Hrs/ week)	
			Theory	Practical	Total	Theory	Practical
Optional	SFISCT1151	Freshwater fish culture system	02	--	**02**	02	--
	SFISCP1151	Practical based on SFISCT1151	--	02	***02***	--	04
Generic Electives *(from other Faculty)*	SFISGE1151	Freshwater fish breeding techniques	02	--	**02**	02	--
Skill Based Course (related to Major)	SFISSC1151	Fish processing and preservation	--	02	**02**	--	04
Total Credits			**04**	**04**	**08**	**04**	**08**

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Faculty of Science & Technology

Subject: Fishery Science

B.Sc. First Year Semester II (Level 4.5)

Examination Scheme Fishery Science

[20% Continuous Assessment (*CA*) and 80% End Semester Assessment (*ESA*)]

(For illustration we have considered a paper of 02 credits, 50 marks, need to be modified depending on credits assigned to individual paper)

Subject	Course Code	Course Name	Theory				Practical		Total Col (6+7)/ Col (8+9)
			Continuous Assessment (CA)			ESA			
			Test 1	Test 2	Average of T1 & T2	Total	CA	ESA	
01	*02*	*03*	04	05	06	07	08	09	10
Optional	SFISCT1151	Freshwater fish culture system	10	10	10	40	--	--	50
	SFISCP1151	Practical based on SFISCT1151	--	--	--	--	20	30	50
Generic Electives *(from other Faculty)*	SFISGE1151	Freshwater fish breeding techniques	10	10	10	40	--	--	50
Skill Based Course (related to Major)	SFISSC1151	Fish processing and preservation	--	--	--	--	20	30	50
									200

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UNDERGRADUATE PROGRAMME

Subject: Fishery Science

Course pre-requisite:

1. Students should have a 10+2 (HSC) Examination passed.
2. Students should have Science subjects at HSC level examination

Course objectives:

1.To get the knowledge of induced breeding technique and fish seed production.

2.To get the knowledge fish farm construction and management.

3.To get the knowledge of hatcheries management.

4.To acquire the techniques regarding the fish culture methods.

Course outcomes:

1.Students will understand details about fish identification techniques

2. Students will get knowledge of Pond construction and management.

3. Students will get knowledge of Aquaculture and fish breeding Technology.

4. Students can start own fish farm and Ornamental fish production center.

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Faculty of Science and Technology,

Four Year UG Program, Fishery Science (w.e.f. 2024)
B.Sc. FY Semester-I
SYLLABUS

Periods: 30 **No. of Credits: 02** **Marks: 50**

Major course (Optional) (Theory)

SFISCT 1101: Fish Pond Construction and Management

Module	Unit	Title of topic	hrs
1		**Survey for fish farm construction site**	8
	1.1	Selection of site	
	1.2	Topography	
	1.3	Soil type	
	1.4	Water quality and supply	
	1.5	Physico chemical and biological factors affecting fish production	
2		**Layout and design of different types of pond**	7
	2.1	Breeding pond	
	2.2	Hatching pond	
	2.3	Nursery pond	
	2.4	Rearing pond	
	2.5	Stocking pond	
3		**Pre stocking Management**	7
	3.1	i.Drying, ii. Ploughing, iii. Liming, iv. Manuring, v. Fertilization	
	3.2	Eradication of aquatic weeds	
	3.3	Eradication of predatory and weed fishes	
	3.4	Eradication of predatory insects and animals	
4		**Stocking and Post stocking Management**	8
	4.1	Seed selection	
	4.2	Acclimatization	
	4.3	Conditioning	
	4.4	Stocking fish seed	
	4.5	Post-stocking Management:	
	4.6	Food and feeding management	
	4.7	Water quality management	
	4.8	Disease management	
	4.9	Harvesting	

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Faculty of Science and Technology,

Four Year UG Program, Fishery Science (w.e.f. 2024)
B.Sc. FY Semester-I
SYLLABUS

Periods: 60 **No. of Credits: 02** **Marks: 50**

Major course (Optional) (Practical)

SFISCP1101 Practical based on SFISCT1101 (Fish Pond Construction and Management)

Module	Unit	Title of Practical	hrs
1	1	Estimation Dissolved Oxygen from pond water	60
	2	Estimation Dissolved carbon dioxide from pond water	
	3	Estimation Dissolved salinity from pond water	
	4	Estimation alkalinity from pond water	
	5	Study of phytoplankton and zooplanktons	
	6	Identification of predatory and Weed fishes (Any three)	
	7	Identification predatory insects (Any three)	
	8	Identification of aquatic weeds (Any three)	
	9	Identification of fish feed ingredient (Any three)	
	10	Dissection of any locally available teleost: Digestive System	
	11	Visit to fish farm and submission of report	
	12	Preparation and submission of layout plan of fish farm	

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Four Year UG Program, Fishery Science (w.e.f. 2024)
B.Sc. FY Semester-I

SYLLABUS

Periods: 30 **No. of Credits: 02** **Marks: 50**

Generic Elective (Theory)

SFISGE 1101 (2 Credit) Culture of Indian Major Carps

Module	Unit	Title of topics	hrs
1		**History of Pisciculture**	7
	1.1	Aims, Objective, scope and importance of pisciculture	
	1.2	Water quality for fish culture	
	1.3	Types of cultivable fishes	
	1.4	Qualities of cultivable fishes	
2		**Introduction to culture practices**	8
	2.1	Culture based on commercial consideration	
	2.2	Extensive culture	
	2.3	Intensive culture	
	2.4	Semi-intensive culture	
	2.5	Cold and warm water fish culture.	
3		**Fish culture systems**	8
	3.1	Pond culture	
	3.2	Reservoir fish culture	
	3.3	Paddy fish culture.	
	3.4	Pen culture	
4		**Introduction to modern fish culture methods**	7
	4.1	Raceway culture	
	4.2	Cage culture	
	4.3	Biofloc fish culture	
	4.4	Aquaponics fish culture	

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B.Sc. FY Semester-I
SYLLABUS

Periods: 30 **No. of Credits: 02** **Marks: 50**

Skill Based Course (Practical)

SFISSC 1101: Fish identification techniques

Module	Unit	Title of topic	hrs
1	1	Introduction to fish classification	60
	2	Methods of fish preservation for museum study	
	3	Fish and its general characters	
	4	Fin and its types	
	5	Body forms in fishes	
	6	Types of scales in fishes	
	7	Fish identification technique –Definitions and measurements	
	8	Fish identification based on morphometric characters (any 4)	
	9	Fish identification based on meristic characters (any 4)	
	10	Collection of different types of fishes and their submission	
	11	Visit to fish market and submission of report.	

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Four Year UG Program, Fishery Science (w.e.f. 2024)
B.Sc. FY Semester-II
SYLLABUS

Periods: 30 **No. of Credits: 02** **Marks: 50**

Major course (Optional) (Theory)

SFISCT1151- Freshwater Fish Culture

Module	Unit	Title of topics	Hrs
1		**Introduction to aquaculture.**	7
	1.1	Objective scope and importance of aquaculture	
	1.2	Water quality for fish culture	
	1.3	Types of cultivable fishes	
	1.4	Qualities of cultivable fishes	
2		**Induced breeding by hypophysation**	7
	2.1	History of induced breeding	
	2.2	Identification & selection of brooders	
	2.3	Dissection and removal of pituitary gland	
	2.4	Preservation and storage of pituitary gland	
	2.5	Preparation of gland suspension for injection and dosage	
	2.6	Hormones responsible for induced breeding	
	2.7	Synthetic hormones used in induced breeding	
3		**Types of fish culture**	8
	3.1	Fish culture in pond	
	3.2	Fish culture in paddy fields	
	3.3	Fish culture in pens	
4		**Introduction to modern fish culture methods**	8
	4.1	Extensive culture	
	4.2	Intensive culture	
	4.3	Semi intensive culture	
	4.4	Raceway culture	
	4.5	Cage Culture	
	4.6	Recirculatory Aquaculture System(RAS)	
	4.7	Biofloc culture	

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Four Year UG Program, Fishery Science (w.e.f. 2024)
B.Sc. FY Semester-II
SYLLABUS

Periods: 30 **No. of Credits: 02** **Marks: 50**

Major course (Optional) (Practical)

SFISCP1151 Practical based on SFISCT1151 (Freshwater Fish Culture)

Module	Unit	Topic of practicals	hrs
1	1	Identification of seeds-spawn, fry and fingerlings	60
	2	Study and definitions of various morphometric and meristic dimensions of fish.	
	3	Morphometric study of bony fishes (any 4)	
	4	Meristic study of bony fishes (any 4)	
	5	Taxonomical study of Indian Major Carps: Catla catla Labeo rohita Cirrhinus mrigala	
	6	Taxonomical study of Exotic Carps: Hypophthalmichthys molitrix Ctenopharyngodon idella Cyprinus carpio	
	7	Study of weed fishes(any 3)	
	8	Permanent mounting Cycloid and Ctenoid scales (Submission)	
	9	Permanent mounting Placoid scales (Submission)	
	10	Preparation of pituitary gland extract and doses of injection.	
	11	Visit to fish market and submission of report.	

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Four Year UG Program, Fishery Science (w.e.f. 2024)
B.Sc. FY Semester-II

SYLLABUS

Periods: 60 **No. of Credits: 02** **Marks: 50**

Generic Elective (Theory)

SFISGE1151- Freshwater fish breeding techniques

Module	Unit	Title of topics	Hrs
1		**Breeding techniques**	6
	1.1	Introduction to Bundh breeding .	
	1.2	Types of bundhs –	
		i) Wet bundh ii) Dry bundh iii) Modern bundh	
	1.3	Artificial fertilization by stripping	
		i)Dry Method ii) Wet Method	
2		**Induced breeding by hypophysation**	8
	2.1	History of induced breeding	
	2.2	Identification & selection of brooders	
	2.3	Dissection and removal of pituitary gland	
	2.4	Preservation and storage of pituitary gland	
	2.5	Preparation of gland suspension for injection and dosage	
	2.6	Hormones responsible for induced breeding	
	2.7	Synthetic hormones used in induced breeding	
3		**Hatcheries and management (Principle, structure and management)**	7
	3.1		
	3.2	Hatching happa	
	3.3	Glass jar hatchery	
	3.4	CIFE D 80 model (Dwivedi – 80)	
		Chinese circular hatchery	
4		**Fish seed transportation**	8
	4.1	Open transportation system	
	4.2	Close transportation system	
	4.3	Causes of mortality in transportation	
	4.4	Use of chemicals in live-fish transportation	
	4.5	Aesthetic drugs use in transport	
	4.6	Antiseptic and antibiotics used in transportation.	

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Faculty of Science and Technology,

Four Year UG Program, Fishery Science (w.e.f. 2024)
B.Sc. FY Semester-II
SYLLABUS

Periods: 60 **No. of Credits: 02** **Marks: 50**

Skill Based Course (Practical)

SFISSC1151 Fish Processing and Preservation

Module	Unit	Topic	Hrs
	1	Fish Processing:	
		Washing,	
		Gutting,	
	2	Lowering the temperature,	
	3	Rising the temperature,	
	4	Dehydration,	
		Salting,	
		Drying,	
	5	Use of preservatives,	60
	6	Methods of Preservation:-	
	7	Drying: Sun drying, Mechanical drying.	
	8	Salting: Dry salting, Wet salting	
	9	Cold storage.	
	10	Canning	
	11	Smoking	
	12	Pickling	

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SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED
B. Sc. First Year (NEP 2020)
Effective from June 2024
Semester- I
Subject: - Fishery Science
SFISCP 1101 based on SFISCT 1101
Fish Pond Construction and Managements

Time: 4 hrs. **Marks: 30**
Batch No: **Date:**

Q.1) Dissect given fish so as to expose .....System (any locally available fish) **8**

Q.2) Analyze given water sample for estimation of Dissolved Oxygen/Free Carbon Dioxide/Salinity/Alkalinity **6**

Q.3) Identify and comment on predatory insects and aquatic weeds (Any two) **6**

Q.4) Identify and comment on fish feed ingredient (Any two) **4**

Q.5) Identify and comments on planktons (Any two) **6**

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SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

B. Sc. First Year (NEP 2020)

Effective from June 2024

Semester- II

Subject: - Fishery Science

SFISCP1151 based on SFISCT 1151 Freshwater Fish Culture

Time: 4 hrs. **Marks: 30**

Batch No: **Date:**

Q.1)	Dissect given fish to expose ..... system.	**09**
Q.2)	Permanent Mounting and identification of scales	**06**
Q.3)	Define and measure morphometric and meristic characters from the given fish (Five each)	**05**
Q.4)	Identify, Classify and describe given fish specimen (Any Two)	**06**
Q.5)	Identify and comment on fish seed (Any two)	**04**

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स्वामी रामानंद तीर्थ
मराठवाडा विद्यापीठ, नांदेड

(Credit Framework and Structure of Four Year UG Program with Multiple Entry and Exit Option as per NEP-2020)

UNDERGRADUATE PROGRAMME OF SCIENCE & TECHNOLOGY

Major in **BOTANY** and Minor in **DSM** (Subject)

Under the Faculty of Science & Technology

(Revised as per the Govt. of Maharashtra circular dt. 13th March 2024)

Principal
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शैक्षणिक वर्ष २०२४-२५ पासून लागू
व तत्सम विद्याशाखे अंतर्गत राष्ट्रीय
शैक्षणिक धोरणानुसार प्रस्तावित सुधारित अभ्यासक्रमा बाबत....

प रि प त्र क

संदर्भ :- १) जा.क्र.शै-१/अनंदी/विस्तरविस्तार/२०२४-२५/३१२ दिनांक १२/०६/२०२४

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येत की, यापूर्वीच्या परिपत्रकान्वये दिनांक १५ मे २०२४ रोजी घेण्यात आलेल्या या विद्यापरिषदेच्या बैठकीतील विषय क्र. १५/५९-२०२४ अन्वये मान्यता दिल्यानुसार विज्ञान व तत्सम विद्याशाखे अंतर्गत राष्ट्रीय शैक्षणिक धोरणानुसार अभ्यासक्रम शैक्षणिक वर्ष २०२४-२५ पासून लागू करण्यात आलेले आहेत. त्यासंदर्भात संदर्भीय परिपत्रका अन्वये प्रकाशित करण्यात B. Sc. Botany I year अभ्यासक्रमाच्या अभ्यासमंडळाची विशेषत तृतीयसह इतरही अभ्यासक्रम यापूर्वी केला असून मा. अधिष्ठाता, विज्ञान व तत्सम विद्याशाखा यांच्या अध्यक्षतेखाली संपन्न झालेल्या बैठकीत सदरील अभ्यासक्रम लागू करण्यात येत आहे.

सदरील परिपत्रक व अभ्यासक्रम हा विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी, ही विनंती.

'ज्ञानतीर्थ' परिसर,

विष्णुपुरी, नांदेड - ४३१ ६०६.

जा.क्र.शैक्षणिक-१/परिपत्रक/अनंदी/अभ्यासमंडळ/SAI/२०२४-२५/

दिनांक : ०८/०८/२०२४

डॉ. मरिता लोंमटवार
सहायक कुलसचिव
शैक्षणिक अभ्यासमंडळ विभाग

प्रत माहिती व पुढील कार्यवाहीस्तव :
१) मा. अधिष्ठाता, विज्ञान व तत्सम विद्याशाखा, प्रस्तुत विद्यापीठ
२) मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ
३) मा. प्राचार्य, सर्व संबंधित महाविद्यालये, प्रस्तुत विद्यापीठ
४) विशेष एकक्षम, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ. तथा सदर माहितीसाठी देण्यात यावा, सदरील परिपत्रक विद्यापीठाच्या संकेतस्थळावर प्रसिध्द करण्यात यावे.

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From the Desk of the Dean, Faculty of Science and Technology

Swami Ramanand Teerth Marathwada University, Nanded, enduring to its vision statement "***Enlightened Student: A Source of Immense Power***", is trying hard consistently to enrich the quality of science education in its jurisdiction by implementing several quality initiatives. Revision and updating curriculum to meet the standard of the courses at national and international level, implementing innovative methods of teaching-learning, improvisation in the examination and evaluation processes are some of the important measures that enabled the University to achieve ***the 3Es, the equity, the efficiency*** and ***the excellence*** in higher education of this region. To overcome the difficulty of comparing the performances of the graduating students and also to provide mobility to them to join other institutions the University has adopted the cumulative grade point average (CGPA) system in the year 2014-2015. Further, following the suggestions by the UGC and looking at the better employability, entrepreneurship possibilities and to enhance the latent skills of the stakeholders the University has adopted the Choice Based Credit System (CBCS) in the year 2018-2019 at graduate and post-graduate level. This provided flexibility to the students to choose courses of their own interests. To encourage the students to opt the world-class courses offered on the online platforms like, NPTEL, SWAYM, and other MOOCS platforms the University has implemented the credit transfer policy approved by its Academic Council and also has made a provision of reimbursing registration fees of the successful students completing such courses.

SRTM University has been producing a good number of high calibre graduates; however, it is necessary to ensure that our aspiring students are able to pursue the right education. Like the engineering students, the youngsters pursuing science education need to be equipped and trained as per the requirements of the R&D institutes and industries. This would become possible only when the students undergo studies with an updated and evolving curriculum to match global scenario.

Higher education is a dynamic process and in the present era the stakeholders need to be educated and trained in view of the self-employment and self-sustaining skills like start-ups. Revision of the curriculum alone is not the measure for bringing reforms in the higher education, but invite several other initiatives. Establishing industry-institute linkages and initiating internship, on job training for the graduates in reputed industries are some of the important steps that the University would like to take in the coming time. As a result, revision of the curriculum was the need of the hour and such an opportunity was provided by the New Education Policy 2020. National Education Policy 2020 (NEP 2020) aims at equipping students with knowledge, skills, values, leadership qualities and initiates them for lifelong learning. As a result the

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students will acquire expertise in specialized areas of interest, kindle their intellectual curiosity and scientific temper, and create imaginative individuals.

The curriculum given in this document has been developed following the guidelines of NEP-2020 and is crucial as well as challenging due to the reason that it is a transition from general science based to the discipline-specific-based curriculum. All the recommendations of the ***Sukanu Samiti*** given in the **NEP Curriculum Framework-2023** have been followed, keeping the disciplinary approach with rigor and depth, appropriate to the comprehension level of learners. All the Board of Studies (BoS) under the Faculty of Science and Technology of this university have put in their tremendous efforts in making this curriculum of international standard. They have taken care of maintaining logical sequencing of the subject matter with proper placement of concepts with their linkages for better understanding of the students. We take this opportunity to congratulate the Chairman(s) and all the members of various Boards of Studies for their immense contributions in preparing the revised curriculum for the benefits of the stakeholders in line with the guidelines of the **Government of Maharashtra regarding NEP-2020**. We also acknowledge the suggestions and contributions of the academic and industry experts of various disciplines.

We are sure that the adoption of the revised curriculum will be advantageous for the students to enhance their skills and employability. Introduction of the mandatory ***On Job Training, Internship program*** for science background students is praise worthy and certainly help the students to imbibe firsthand work experience, team work management. These initiatives will also help the students to inculcate the workmanship spirit and explore the possibilities of setting up of their own enterprises.

Dr. M. K. Patil
Dean
Faculty of Science and Technology

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PREAMBLE

The B.Sc. Botany semester pattern course is running in different affiliated colleges of the S.R.T.M.U. Nanded. The program is designed to encourage and support the growing demands and challenging trends in the academic environment. Our training focuses on holistic development of students to face the competitive world. The course content has been designed on NEP-2020 pattern. The program consists of Major (C), Minor (M), Generic Electives (GE), Vocational and Skill Enhancement Course (VSEC). The course content of each theory paper is divided into four units by giving appropriate titles and subtitles. For each unit, total number of periods required, weightage of maximum marks and credits are mentioned. A list of practical exercises for laboratory course work based on theory papers to be completed in the academic year is also given. A list of selected reading material and a common skeleton question paper for all the theory papers of semester-I &II are also provided at the end of the syllabus.

The programme also inculcates various attributes at the Honours level. These attributes encompass values related to emotional stability, social justice, creative and critical thinking, well-being and various skills required for employability, thus preparing students for continuous learning and sustainability. The new curriculum based on learning outcomes of BSc (Honours) Botany offers knowledge of areas including Plant Systematics, Plant Biotechnology, Resource Botany, Genetics, Ecology, Conservation biology, Physiology and Bioinformatics, Medicinal plants, Plant diseases management etc. The courses define clearly the objectives and the learning outcomes, enabling students to choose the elective subjects broadening their skills in the field of Botany. The course also offers skills to pursue research and teaching in the field of Botany and thus would produce best minds to meet the demands of society This curriculum framework for the bachelor-level program in Botany is developed keeping in view of the student-centric learning pedagogy, which is entirely outcome-oriented and curiosity-driven. To avoid a rote-learning approach and foster imagination, the curriculum is more leaned towards self-discovery of concepts. The curriculum framework focuses on the pragmatist approach whereby practical application of theoretical concepts is taught with substantial coverage of practical and field works. The addition of Generic Electives, Vocational and Skill Enhancement Courses aims to develop skills in plant sciences and practical experience in the students.

OBJECTIVES OF THE B. Sc. BOTANY PROGRAMME:

The Objective of this program are :

1. Understand the scope and importance of discipline.
2. Instill a love and curiosity for nature through living plants.

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3. To make students open-minded and curious, we try our best to nurture and develop scientific Attitude.
4. We make students fit for society by enabling them to work hard.
5. Make the students exposed to the diverse life forms.
6. Make them skilled in practical work, experiments, laboratory equipment and to interpret correctly on biological materials and data.
7. Develop interest in Biological research.
8. Encourage students to research related topics.
9. Develop a thirst for protecting natural resources and the environment.
10. Develop the ability to use the knowledge acquired in various spheres of life to make our country self-reliant
11. Appreciate and apply ethical principles to biological science research and practice.

PROGRAM SPECIFIC OUTCOMES (PSO) OF B.Sc. BOTANY:

By the end of the program the students will be able to:

PO1: Skill development for the proper description using botanical terms, identification, naming and classification of life forms especially plants and microbes.

PO2: Acquisition of knowledge on structure, life cycle and life processes that exist among plant and microbial diversity through certain model organism studies.

PO3: Understanding of various interactions that exist among plants and microbes; to develop the curiosity on the dynamicity of nature.

PO4: Understanding of the major elements of variation that exist in the living world through comparative morphological and anatomical study..

PO5: Ability to explain the diversity and evolution based on the empirical evidences in morphology, anatomy, embryology, physiology, biochemistry, molecular biology and life history.

PO6: Skill development for the collection, preservation and recording of information after observation and analysis- from simple illustration to molecular database development.

PO7: Making aware of the scientific and technological advancements- Information and Communication, Biotechnology and Molecular Biology for further learning and research in all branches of Botany..

PO8: Internalization of the concept of conservation and evolution through the channel of pirit of inquiry.

PO9: To enable the graduates to prepare for national as well as international level competitive examinations like UGC-CSIR, UPSC etc.

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PO10: To enable the students for practicing the best teaching pedagogy as a biology teacher including the latest digital modules.

PO11: The graduates should be knowledgeable and competent enough to appropriately deliver on aspects of global importance like climate change, SDGs, green technologies etc at the right opportunity.

PO12: The graduate should be able to demonstrate sufficient proficiency in the hands-on experimental techniques for their area of specialization within biology during research and in the professional career.

PO13: The program enables the students to face NET, SET, MPSC, UPSC and other competitive examinations successfully.

Dr. Saheb Laxmanrao Shinde
Chairman,
Board of Studies in Botany
Swami Ramanand Teerth Marathwada University,
Nanded

Principal
Late Bhimrao Chavan Arts's &
Science College [illegible] Parahali)

Details of the Board of Studies Members in the subject Botany under the faculty of Science & Technology of S.R.T.M. University, Nanded

Sr No	Name of the Member	Designation	Address	Contact No.
1.	**Dr. Saheb Laxmanrao Shinde**	Chairman	Yeshwant Mahavidylaya, Nanded	7588151967
2	**Dr. Babasaheb Shivmurti Surwase**	Member	School of Life Sciences, S.R.T.M.U. Nanded	9075829767
3	**Dr. B. D. Gachande**	Member	Science College, Nanded	8788727840
4	**Dr Vijay Tulshiram Gorgile**	Member	Shahir Annabhau Sathe Mahavidyalaya, Mkhed	9421762073
5	**Dr. Sudhakar V. Chate**	Member	Shivaji College, Udgir	8421241300
6	**Dr. Suresh Manoharrao Telang**	Member	Yeshwant Mahavidyalaya, Nanded	9822174684
7	**Dr. R. M. Kadam**	Member	M. G. M. Ahmedpur, Tq. Ahmedpur, Dist. Latur.	9422657976
8	**Dr. Sopan Dnyanoba Dhavale**	Member	Shahir Annabhau Sathe Mahavidyalaya, Mukhed,	9423614703
9.	**Dr. Sanjay Marotrao Dalvi**	Member	Shri Guru Buddhiswami Mahavidyalaya, Purna (Jn),	9921101210
10	**Dr. Prashant A. Gawande**	Professor from other University	Sant Gadge Baba Amravati University,Amravati.	9403622568
11	**Dr. Ambadas Sheshrao Kadam**	Experts	DSM College Parbhani.	8329151172
12	**Dr. Kanhaiya Ranganathrao Kadam**	Experts	K.K. Herbal Industries, Gut No. 252, Naleshwar Road, Limbgaon, Nanded.	9420261080
13	**Bindu Maurya**	Experts	07, Mangal Pravesh building Polt. C-16 Sector-3 Airoli, Navi Mumbai.	9987591561
14	**Shri Bhanudas Balajirao Pendkar**	Experts	K-Ferts Lab, W-4, MIDC Industrial Area, Nanded. Invitee Member	8888896710

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Science and Technology (Three Optional in the First Year)

Credit Framework for Four Year Multidisciplinary Degree Program with Multiple Entry and Exit

Subject: BOTANY (Major) /ZOOLOGY & CHEMISTRY (Minor 1 and Minor 2)

(For illustration BOT, ZOO and CHE combinations are considered, which may change for different combinations)

Year & Level	Semester	Optional 1 (Major) *(From the same Faculty)*	Optional 2 (Minor 1) *(From the same Faculty)*	Optional 3 (Minor 2) *(From the same Faculty)*	Generic Elective (GE) (select from Basket 3 of *Faculties other than Science and Technology*)	Vocational & Skill Enhancement Course	Ability Enhancement Course (AEC) (Basket 4) Value Education Courses (VEC) / Indian Knowledge System (IKS) (Basket 5) *(Common across all faculties)*	Field Work / Project/Internship/ OJT/ Apprenticeship / Case Study Or Co-curricular Courses (CCC) (Basket 6 for CCC) *(Common across all faculties)*	Credits	Total Credits
1	2	3	4	5	6	7	8	9	10	11
1 (4.5)	I	SBOTCT1101 (T 2Cr) SBOTCP1101 (P 2Cr) 4 Credits	SZOOCT1101 (T 2Cr) SZOOCP1101 (P 2Cr) 4 Credits	SCHECT1101 (T 2Cr) SCHECP1101 (P 2Cr) 4 Credits	SBOTGE1101 (2cr)	SBOTSC1101 2 Credits	AECENG1101 (2Cr) ACEMIL1101 (MAR/HIN/URD /KAN/PAL)(2Cr) IKSXXX1101 (2Cr) 6 Credits		22	44
	II	SBOTCT1151 (T 2Cr) SBOTCP1151 (P 2Cr) 4 Credits	SZOOCT1151 (T 2Cr) SZOOCP1151 (P 2Cr) 4 Credits	SCHECT1151 (T 2Cr) SCHECP1151 (P 2Cr) 4 Credits	SBOTGE1151 (2cr)	SBOTSC1151 2 Credits	AECENG1101 (2Cr) ACEMIL1151 (MAR/HIN/URD /KAN/PAL)(2Cr) VECCOI1151 (2Cr) *Constitution of India* 6 Credits		22	
	Cum. Cr.	08	08	08	04	04	12	-	44	

Exit option: **UG Certificate in Opt 1, Opt 2 and Opt 3 on completion of 44 credits** and additional **4 credits from NSQF / Internship**

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2 (5.0)	III	SBOTCT1201 (2cr) SBOTCT1202 (2cr) SBOTCP1201 (2cr) SBOTCP1202 (2cr) 8 Credits	SZOOMT1201 SZOOMP1201 (1T+1P) 2 Credits		SBOTGE1201 (2cr)	SBOTSC1201 2 Credits	ACEENG1201 (2cr) ACEMIL1201 (2Cr) (MAR/HIN/URD /KAN/PAL) 4 Credits	SBOTFP1201 (2Cr) CCCXXX1201 (2Cr) *(NCC/NSS/SPT(sports)/ CLS(Cultural Studies)/HWS(Health Wellness)/ YGE(Yoga Education) / FIT(Fitness)* 4Credits	22	
	IV	SBOTCT1251 (2cr) SBOTCT1252 (2cr) SBOTCP1251 (2cr) SBOTCP1252 (2cr) 8 Credits	SZOOMT1251 SZOOMP1251 (1T+1P) 2 Credits		SBOTGE1251 (2cr)	SBOTVC1251 2 Credits	ACEENG1201 (2cr) ACEMIL1201 (2Cr) (MAR/HIN/URD /KAN/PAL) VECEVS1251 (2Cr) 6 Credits	CCCXXX1251 (2Cr) *(NCC/NSS/SPT (sports)/ CLS(Cultural Studies)/HWS(Health Wellness)/ YGE(Yoga Education) / FIT(Fitness)* 2 Credits	22	
	Cum. Cr.	24	12	08	08	08	22	06	88	88

Exit option: UG Diploma in Major Botany and Minor DSM on completion of 88 credits and additional 4 credits NSQF / internship in Botany

3 (5.5)	V	SBOTCT1301 (T 3Cr) SBOTCT1302 (T 3Cr) SBOTIK1303 (T 2Cr) SBOTCP1301 (P 2Cr) SBOTCP1302 (P 2Cr) 12 Credits	SBOTET1301 (T 3Cr) SBOTEP1301 (P 1Cr) 4 Cr	--		--	SBOTVC1301 4 Credits	--	SBOTFP1301 (2 Cr) 2 Credits	22	
	VI	SBOTCT1351 (T 3Cr) SBOTCT1352 (T 3Cr) SBOTCT1353 (T 2Cr) SBOTCP1351 (P 2Cr) SBOTCP1352 (P 2Cr) 12 Credits	SBOTET1351 (T 3Cr) SBOTEP1352 (P 1Cr) 4 Cr	--		--	SBOTVC1351 2 Credits	--	SBOTOJ1351 4 Credits	22	
	Cum. Cr.	56		12	08	08	6 + 8 =14	22	04+08		132

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***Exit option*: B. Sc. (Bachelor in Science) with Major in Botanyand Minor in DSM**											
4 (6.0)	VII	SBOTCT1401 (T 3Cr) SBOTCT1402 (T 3Cr) SBOTCT1403 (T 3Cr) SBOTCP1401 (P 2Cr) SBOTCP1402 (P 2Cr) SBOTCP1403 (P 1Cr) **14 Credits**	SBOTET1401 (T 3Cr) SBOTEP1401 (P 1Cr) **4 Cr**	*Research Methodology* SBOTRM1401 **4 Credits**		–	–	–	–	22	
	VIII	SBOTCT1451 (T 3Cr) SBOTCT1452 (T 3Cr) SBOTCT1453 (T 3Cr) SBOTCP1451 (P 2Cr) SBOTCP1452 (P 2Cr) SBOTCP1453 (P 1Cr) **14 Credits**	SBOTET1401 (T 3Cr) SBOTEP1401 (P 1Cr) **4 Cr**	–		–	–	–	SBOTOJ1451 **4 Credits**	22	
	Cum Cr	**Honours: 92**		**12+4**	**08**	**08**	**V-08 + S-08**	**AEC-8+MIL-8 +VEC-4 +IKS-2**	**16**		**176**
***Exit option*: B. Sc. (Hons) with Major in Botany and Minor inDSM**											
4 (6.0)	VII	SBOTCH1401 (T 3Cr) SBOTCH1402 (T 3Cr) SBOTCH1401 (P 2Cr) SBOTCH1402 (P 2Cr) **(H- Honours) 10 Credits**	SBOTET1401 (T 3Cr) SBOTEP1402 (P 1Cr) **4 Cr**	*Research Methodology* SBOTRM1401 **4 Credits**		–	–	–	Research Project SBOTRP1401 **4 Credits**	22	44
	VIII	SBOTCH1451 (T 3Cr) SBOTCH1452 (T 3Cr) SBOTCH1451 (P 2Cr) SBOTCH1452 (P 2Cr) **(H- Honours) 10 Credits**	SBOTET1451 (T 3Cr) SBOTEP1452 (P 1Cr) **4 Cr**	–		–	–	–	Research Project SBOTRP1451 **8 Credits**	22	
***Exit option*: B. Sc. (Hons with Research) in Botany and Minor in DSM**											

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Total Credits	Major – 92 / 84	Minor 1 -12 + RM - 04	Minor 2- 08	GE/OE - 08	(V-08 + S-06) 14	(AEC-8 + MIL-8+VEC-4 + IKS-2)22	(CC-04+FP/CS-04+OJT-04+RP-12) 30	176

Abbreviations:

1. **DSC:** Department/Discipline Specific Core (Major)
2. **DSE:** Department/Discipline Specific Elective (Major)
3. **DSM:** Discipline Specific Minor
4. **GE/OE:** Generic/Open Elective
5. **VSEC:** Vocational Skill and Skill Enhancement Course
6. **VSC:** Vocational Skill Courses
7. **SEC:** Skill Enhancement Courses
8. **AEC:** Ability Enhancement courses
9. **RP:** Research Project/Dissertation
10. **MIL:** Modern Indian languages
11. **IKS:** Indian Knowledge System
12. **VEC:** Value Education Courses
13. **OJT:** On Job Training: (Internship/Apprenticeship)
14. **FP:** Field Projects
15. **CEP:** Community Engagement and Service
16. **CC:** Co-Curricular Courses
17. **RM:** Research Methodology

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B. Sc. First Year Semester I *(Level 4.5)*

Teaching Scheme

	Course Code	CourseName	CreditsAssigned			TeachingScheme (Hrs/ week)	
			Theory	Practical	Total	Theory	Practical
Optional 1	SBOTCT1101	**Viruses, Bacteria and Algae**	02	--	04	02	--
	SBOTCP1101	**Practical Based on SBOTCT 1101**	-	02			04
Optional 2	SZOOCT1101	**Optional 2**	02	--	04	02	--
	SZOOCP1101	**Optional 2**	-	02			04
Optional 3	SCHECT1101	**Optional 3**	02	--	04	02	--
	SCHECP1101	**Optional 3**	-	02			04
Generic Electives *(from other Faculty)*	SBOTGE1101	**Medicinal Plants and their Uses-I (Basket 3)**	02	--	02	02	--
Skill Based Course (related to Major)	SBOTSC1101	***Trichoderma* cultivation Technique**	--	02	02	--	04
Ability Enhancement Course	AECENG1101	L1 – Compulsory English	02	--	02	02	--
Ability Enhancement Course	ACEMIL1101	**(MAR/HIN/URD /KAN/PAL)**	02	--	02	02	--
Indian Knowledge System (IKS)	IKSXXX1101	Select from **Basket 5**	02	--	02	02	--
Total Credits			**14**	**08**	**22**	**14**	**16**

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B. Sc. First Year Semester I *(Level 4.5)*

Examination Scheme

[20% Continuous Assessment (*CA*) and 80% End Semester Assessment (*ESA*)]

(For illustration we have considered a paper of 02 credits, 50 marks, need to be modified depending on credits assigned to individual paper)

Subject (1)	Course Code (2)	CourseName (3)	Theory				Practical		Total Col (6+7) / Col (8+9) (10)
			Continuous Assessment (CA)			ESA			
			Test I (4)	Test II (5)	Average of T1 & T2 (6)	Total (7)	CA (8)	ESA (9)	
Optional 1	SBOTCT1101	Viruses, Bacteria and Algae	10	10	10	40	--	--	50
	SBOTCP1101	Practical Based on SBOTCT 1101	--	--	--	--	20	30	50
Optional 2	SZOOCT1101	Optional 2	10	10	10	40	--	--	50
	SZOOCP1101	Optional 2	--	--	--	--	20	30	50
Optional 3	SCHECT1101	Optional 3	10	10	10	40	--	--	50
	SCHECP1101	Optional 3	--	--	--	--	20	30	50
Generic Elective	SBOTGE1101	Medicinal Plants and their Uses-I (Basket 3)	10	10	10	40	--	--	50
Skill Based Course	SBOTSC1101	*Trichoderma* cultivation Technique	--	--	--	--	20	30	50
Ability Enhancement Course	AECENG1101	L1 – Compulsory English	10	10	10	40	--	--	50
Ability Enhancement Course	ACEMIL1101	(MAR/HIN/URD /KAN/PAL)	10	10	10	40	--	--	50
Indian Knowledge System	IKSXXX1101	Select from Basket 5	10	10	10	40	--	--	50

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B. Sc. First Year Semester II *(Level 4.5)*

Teaching Scheme

	Course Code	CourseName	CreditsAssigned			TeachingScheme (Hrs/ week)	
			Theory	Practical	Total	Theory	Practical
Optional 1	SBOTCT1151	**Fungi, Lichens and Mycorrhiza**	02	--	04	02	--
	SBOTCP1151	**Practical Based on SBOTCT 1151**	-	02			04
Optional 2	SZOOCT1151	**Optional 2**	02	--	04	02	--
	SZOOCP1151	**Optional 2**	-	02			04
Optional 3	SCHECT1151	**Optional 3**	02	--	04	02	--
	SCHECP1151	**Optional 3**	-	02			04
Generic Electives *(from other Faculty)*	SBOTGE1151	**Medicinal Plants and their Uses-II Basket 3**	02	--	02	02	--
Skill Based Course (related to Major)	SBOTSC1151	**Mushroom cultivation Technique**	--	02	02	--	04
Ability Enhancement Course	AECENG1151	L1 -- Compulsory English	02		02	02	
Ability Enhancement Course	ACEMIL1151	**(MAR/HIN/URD /KAN/PAL)**	02		02	02	
Value Education Courses	VECCOI1151	**Constitution of India**	02	--	02	02	--
Total Credits			**14**	**08**	**22**	**14**	**16**

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B. Sc. First Year Semester II *(Level 4.5)*

Examination Scheme

[20% Continuous Assessment (*CA*) and 80% End Semester Assessment (*ESA*)]

(For illustration we have considered a paper of 02 credits, 50 marks, need to be modified depending on credits assigned to individual paper)

Subject (1)	Course Code (2)	CourseName (3)	Theory				Practical		Total Col (6+7) / Col (8+9) (10)
			Continuous Assessment (CA)			ESA			
			Test I (4)	Test II (5)	Average of T1 & T2 (6)	Total (7)	CA (8)	ESA (9)	
Optional 1	SBOTCT1151	Fungi, Lichens and Mycorrhiza	10	10	10	40	--	--	50
	SBOTCP1151	Practical Based on SBOTCT 1151	--	--	--	--	20	30	50
Optional 2	SZOOCT1151	Optional 2	10	10	10	40	--	--	50
	SZOOCP1151	Optional 2	--	--	--	--	20	30	50
Optional 3	SCHECT1151	Optional 3	10	10	10	40	--	--	50
	SCHECP1151	Optional 3	--	--	--	--	20	30	50
Generic Elective	SBOTGE1151	Medicinal Plants and their Uses-II Basket 3	10	10	10	40	--	--	50
Skill Based Course	SBOTSC1151	Mushroom cultivation Technique	--	--	--	--	20	30	50
Ability Enhancement Course	AECENG1151	L1 – Compulsory English	10	10	10	40	--	--	50
Ability Enhancement Course	ACEMIL1151	(MAR/HIN/URD /KAN/PAL)	10	10	10	40	--	--	50
Value Education Courses	VECCOI1151	Constitution of India	10	10	10	40	--	--	50

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Syllabus for B. Sc. Botany, First Year

Semester – I

As Per National Education Policy- 2020

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Tq.Mukhed Dist.Nanded

To be Implemented from

Academic Year 2024-2025

National Education Policy 2020

B.Sc. Botany, I Year (Semester - I)

Major Core Theory Course

Course Code – SBOTCT 1101

Title of the Course: VIRUSES, BACTERIA AND ALGAE

[No. of Credits: 2 Credit] **[Total: 30 Hours]**

Course pre-requisite:

1. The course is offered for a student registered for undergraduate program in the Faculty of Science and Technology who had primary training in the field of biology at higher secondary school level evident in terms of certificate by CBSC/ ICSC/HSC for entry level core courses in Botany as Major subject.
2. The students should have basic knowledge of plant science.

Course objectives:

1. To study and impart knowledge about the occurrence, distribution, structure and life history of Viruses, Bacteria and Algae.
2. To instil in students an appreciation for the diversity of life forms and structural organization that exists within plant bodies that allow plants to develop and live as integrated organisms in diverse environments.

Course outcomes:

1. The students understand the morphology, structure, and evolution of various organisms like Viruses, Bacteria and Algae.
2. The students are able to differentiate between various groups of Viruses, Bacteria and Algae.
3. The students learn the importance of Viruses, Bacteria and Algae for human beings.

CURRICULUM DETAILS: SBOTCT 1101: VIRUSES, BACTERIA AND ALGAE

Module No.	Unit No.	Topic	Hrs. Required to cover the contents
1.0		**VIRUSES**	07
	1.1	Viruses –Introduction, brief history and general characters of viruses.	
	1.2	Classification of Viruses (on the basis of Host). A general introduction with special reference to the structure of the TMVand T4, viroids and prions.	
	1.3	Transmission of Viruses; Economic importance of Viruses	
	1.4	Study of Yellow Vein Mosaic of Bhendi	
2.0		**BACTERIA**	08
	2.1	Bacteria – Introduction, General characters and classification. General characteristics, types of mycoplasma.	
	2.2	Forms of Bacteria, Ultrastructure of Bacterial Cell and Flagellation.	
	2.3	Reproduction in Bacteria – asexual (Binary fission) and sexual reproduction (Conjugation).	

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	2.4	Economic importance of Bacteria. Study of Citrus Canker Disease. Economic importance of Mycoplasma: Little leaf of Brinjal.	
3.0		ALGAE-I	07
	3.1	Introduction, General characters.	
	3.2	Classification of algae (F. E. Fritch's 1935).	
	3.3	Range of thallus organization and reproduction in algae	
	3.4	Systematic position, occurrence, thallus structure, reproduction and graphic life cycle of ***Nostoc***.	
4.0		ALGAE-II	08
	4.1	Systematic position, occurrence, thallus structure, reproduction and graphic life cycle of ***Oedogonium***	
	4.2	Systematic position, occurrence, thallus structure, reproduction and graphic life cycle of ***Ectocarpus***	
	4.3	Systematic position, occurrence, thallus structure, reproduction and graphic life cycle of ***Chara.***	
	4.4	Applications of Algae in agriculture, industry, environment and food.	
		Total	**30**

Text Books and Reference Books:

1. Vashishta B. R. ,Sinha A.K. and Singh V. P. (2014). Botany for Degree Students – Algae. S. Chand and Co.Ltd., New Delhi.
2. James Graham – Lee W. Wilcox - Linda E. Graham (2008). Algae (2nd edition)
3. Kumar, H. D. (1989). Introductory Phycology. East-West Press, Madras.
4. Round, F. E. (1981). The Ecology of Algae. Cambridge University Press, London.
5. Power and Daginwala (1994). General Microbiology. Himalayan Publishing House,Bombay.
6. Mehrota, R. S. (1994). Plant Pathology. Tata McGraw Hill Publishing Co. Ltd., Delhi.
7. Pandey, B. P. (1982). A Textbook of Plant Pathology, Pathogen and Plant Diseases.S.Chand and Co. Ltd., New Delhi.
8. Dubey, R. C. and Maheshwari, D. K. (2007). A Textbook of Microbiology. S. Chand andCo. Ltd., New Delhi.
9. Sharma, P. D. (1992). Microbiology. Rastogi & Co., Meerut.
10. Staley, J. T. *et al.*. (1991). Bergey's Manual of Systematic Bacteriology. Vol. I to IV.Williams & Wilkins, London.
11. Davis, B. D., Dulbecco, R., Eiser, H. N. and Grinsberg, H. S. (1980). Microbiology.Harper & Row, New York.
12. Cooper, J. I. (1995). Viruses and the Environment. 2nd ed. Chapman & Hall, London.
13. Singh, R. S. (1990). Plant Diseases. 6th ed., Oxford & IBH, New Delhi.
14. Rangaswamy, G.(1972) Diseases of Crop Plants in India. Prentice Hall of India P Ltd.
15. Smith, K. M. (1957). A Textbook of Plant Virus Diseases. Little Borwn& Co., Boston.
16. Walker, J. C. (1952). Diseases of Vegetable Crops. McGraw Hill Book Co. Inc., NY
17. Butler, E. J. and Jones, S. G. (1949). Plant Pathology. Macmillan & Co., London.
18. Bendre and Kumar (1997). A Textbook of Practical Botany, Vol I., Rastogi Publications, Meerut.
19. Pandey B. P. (2019) Modern Practical Botany Vol. I, S. Chand and Company.

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National Education Policy 2020

B.Sc. Botany, I Year (Semester - I)

Major Practical Course

Course Code – SBOTCP 1101

Title of the Course: Practical based on SBOTCT 1101

[No. of Credits: 2 Credit] **[Total: 60 Hours]**

Course pre-requisite:

1. The course is offered for a student registered for undergraduate programme in the Faculty of Science and Technology who had primary training in the field of biology at higher secondary school level evident in terms of certificate by CBSC/ ICSC/HSC for entry level core courses in Botany as Major subject.
2. The students should have basic knowledge of plant science.

Course objectives:

1. To develop skill and technique among the students for handling microscope and different instruments in the Botany lab.
2. To study and impart knowledge about the occurrence, distribution, structure and life history Viruses, Bacteria and Algae.
3. To understand the interdependence of life forms by forming symbiotic associations.

Course outcomes:

1. Students develop skill and technique for handling microscope and different instruments in the Botany lab.
2. The students understand the morphology, structure, and interdependence of various organisms like Viruses, Bacteria and Algae.
3. The students learn the importance of Viruses, Bacteria and Algae for human beings.

CURRICULUM DETAILS: SBOTCP 1101: Practical based on SBOTCT 1101

Sr. No	Practical Exercises	Hrs. Required to cover the contents
1.	Preparation of Gram Stain.	4
2.	Study of morphology of Bacteria by Gram staining method.	4
3.	Study of Asexual reproduction in Bacteria (By using visual Charts or slides).	4
4.	Study of sexual reproduction in Bacteria (By using visual Charts or slides).	4
5.	Study of citrus canker disease.	4
6.	Study of symptoms of yellow vein mosaic of Bhendi.	4
7.	Study of symptoms of Little leaf of Brinjal.	4
8.	Identification, classification and description external and Internal structure of the *Nostoc.*	4
09.	Identification, classification and description external and Internal structure of the *Oedogonium.*	4

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10.	Identification, classification and description external and Internal structure of the ***Ectocarpus.***	4
11.	Identification, classification and description external and Internal structure of the ***Chara.***	4
12.	Excursion/ study tour for specimen collection of Algae	8
13.	Excursion/ study long tour.	8
	Total	**60**

Text Books and Reference Books:

1. Vashishta B. R. ,Sinha A.K. and Singh V. P. (2014). Botany for Degree Students – Algae. S. Chand and Co.Ltd., New Delhi.
2. Davis, B. D., Dulbecco, R., Eiser, H. N. and Grinsberg, H. S. (1980). Microbiology.Harper & Row, New York.
3. Carpenter, P. L. (1967). Microbiology. Saunders Co., Philadelphia, USA.
4. Cooper, J. I. (1995). Viruses and the Environment. 2nd ed. Chapman & Hall, London.
5. Bilgrami, K. S. and Dube, H. C. (1990). A Textbook of Modern Plant Pathology. VikasPublishing House Pvt. Ltd., New Delhi.
6. Singh, R. S. (1990). Plant Diseases. 6th ed., Oxford & IBH, New Delhi.
7. Rangaswamy, G. and Soumini Rajagopalan. (1973). Bacterial Plant Pathology. TamilNadu Agricultural University, Coimbatore.
8. Rangaswamy, G.(1972) Diseases of Crop Plants in India. Prentice Hall of India P Ltd.
9. Smith, K. M. (1957). A Textbook of Plant Virus Diseases. Little Borwn& Co., Boston.
10. Walker, J. C. (1952). Diseases of Vegetable Crops. McGraw Hill Book Co. Inc., NY
11. Bendre and Kumar (1997). A Textbook of Practical Botany, Vol I., Rastogi Publications, Meerut.
12. Bendre and Kumar (1997). A Textbook of Practical Botany, Vol II., Rastogi Publications, Meerut.
13. Pandey B. P. (2019) Modern Practical Botany Vol. I, S. Chand and Company.
14. Pandey B. P. (2019) Modern Practical Botany Vol. II, S. Chand and Company

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National Education Policy 2020

B.Sc. Botany, I Year (Semester - I)

Generic Elective Course

Course Code – SBOTGE 1101

Title of the Course: MEDICINAL PLANTS AND THEIR USES-I

[No. of Credits: 2 Credit] **[Total: 30 Hours]**

Course pre-requisite:

1. The course is offered for a student registered for undergraduate programme in the Faculty of Science and Technology who had primary training in the field of biology at higher secondary school level evident in terms of certificate by CBSC/ ICSC/HSC for entry level core courses in Botany as Major subject.
2. The students should have basic knowledge of plant science.

Course objectives:

1. To make the students aware of various herbal plants that can be grown in their area, be able to identify different plants and understand the economical and medicinal uses of these plants.
2. To develop the creativity of student by research and education in this aspect and reinforce the message of protection and care for the plants.

Course outcomes:

1. Understand history, Scope and Importance of Medicinal Plants & indigenous Medicinal Sciences
2. Describe the common medicinal plants in the neighbourhood for therapeutical use.
3. Conserve endangered and endemic medicinal plants.
4. Efficient in modern tool use to get additional knowledge from the internet.

CURRICULUM DETAILS: SBOTGE 1101: MEDICINAL PLANTS AND THEIR USES-I

Module No.	Unit No.	Topic	Hrs. Required to cover the contents
1.0		**MEDICINAL PLANTS: INTRODUCTION**	08
	1.1	Medicinal plants: definition, history, importance and future prospects.	
	1.2	Medicinal Plants – past and present status in India.	
	1.3	Medicinal plant conservation – issues and approaches.	
	1.4	Traditional System of Medicine (TSM) in India. Introduction, Concept and Principles of Ayurveda, Siddha, Unani and, Homeopathy;	
2.0		**IMPORTANT MEDICINAL PLANTS OF MARATHWADA-I**	07
	2.1	Systematics, distribution and medicinal uses: Tulsi(*Ocimum* sp),Pudina ((*Mentha* sp)	
	2.2	Systematics, distribution and medicinal uses: Neem(*Azedirachta sp),* Gulvel (*Tinospora* sp)	

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	2.3	Systematics, distribution and medicinal uses: Adulsa (*Adhatoda* sp), Kadechirayat (*Andrographis* sp)	
	2.4	Systematics, distribution and medicinal uses: Nirgudi (*Vitex*sp)	
3.0		**IMPORTANT MEDICINAL PLANTS OF MARATHWADA-II**	07
	3.1	Systematics, distribution and medicinal uses: Shatavari (*Asparagus* sp), *Aloe* sp.	
	3.2	Systematics, distribution and medicinal uses: Turmeric (*Curcuma* sp, Ginger (*Zingiber* sp)	
	3.3	Systematics, distribution and medicinal uses: Panfuti (*Bryophyllum* sp), Jakhamjodi (*Tridax* sp)	
	3.4	Systematics, distribution and medicinal uses: Shevga (*Moringa* sp)	
4.0		**IMPORTANT MEDICINAL PLANTS OF MARATHWADA-III**	08
	4.1	Systematics, distribution and medicinal uses: Hirda(*Terminaliachebula*), Behda (*Terminaliabelerica*)	
	4.2	Systematics, distribution and medicinal uses. Awala (*Phyllanthes* sp); Lemon (*Citrus*sp)	
	4.3	Systematics, distribution and medicinal uses: Ashwagandha (*Withania* sp).	
	4.4	Systematics, distribution and medicinal uses: Gudmar(*Gymnema* sp).	

Text Books and Reference Books:

1. Medicinal Plants of Indian Himalaya by S.S. Samant and U. Dha.
2. Medicinal Plants by P.C. Trivedi (2009).
3. Handbook of Medicinal and Aromatic Plants by S.K. Bhattacharjee (2004).
4. Recent Progress in Medicinal Plants Vol.12, Globalization of Herbal Health by A.K. Sharma
5. (2006).
6. Handbook of Ayurvedic Medicinal Plants by L.D. Kapoor (2005).
7. Indian Medicinal Plants (Vol 1- 4) by K.R. Kirtikar and B.D. Basu (2006).
8. Glossary f Medicinal Plants Used in Ayurveda by Amrutpal Singh Saroya (2006).
9. Indigenous Medicinal Plants Social Forestry & Tribals by M.P. Singh et al. (2003).
10. Ayurvedic Drugs and their Plant Sources by V.V. Sivarajan & I. Balachandran, Oxford &
11. IBH (1994).
12. 10.The Handbook of Ayurveda Shantha by Godagama, Bishen Singh Mahendrpal Singh, Dehradun (2004).

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National Education Policy 2020

B.Sc. Botany, I Year (Semester - I)

Skill Enhancement Course

Course Code – SBOTSC1101

Title of the Course: *TRICHODERMA* CULTIVATION TECHNIQUE

[No. of Credits: 2 Credit] **[Total: 60 Hours]**

Course pre-requisite:

1. The course is offered for a student registered for undergraduate programme in the Faculty of Science and Technology who had primary training in the field of biology at higher secondary school level evident in terms of certificate by CBSC/ ICSC/HSC for entry level core courses in Botany as Major subject.
2. The students should have basic knowledge of plant science.

Course objectives:

1. To inculcate concepts of *Trichoderma.*
2. To understand techniques in *Trichoderma* technology.
3. To increase employability of the students.
4. To improve the soil quality by promoting the biofertilizers.

Course outcomes:

1. Understanding the role of organic farming.
2. Understanding the potential of *Trichoderma* as an alternative to chemical fertilizers
3. Role of *Trichoderma* in protecting the environment and managing the waste.

CURRICULUM DETAILS: SBOTSC 1101: *TRICHODERMA* CULTIVATION TECHNIQUE

Sr. No	Practical Exercises	Hrs. Required to cover the contents
1.	Introduction of biocontrol	4
	Trichoderma: introduction, systematic position and thallus structure.	
2.	Cultivation details of *Trichoderma*	4
3.	*Trichoderma* as biopesticides, biofertilizers	4
4.	*Trichoderma*as growth stimulating agent and in management of agricultural wastes	4
5.	Characteristics of *Trichoderma*for formulation development	4
6.	Model methods for the mass multiplication of *Trichoderma*	4
7.	Shelf life of *Trichoderma* formulations	4
8.	Improvement of formulation efficacy	4

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9.	Delivery of *Trichoderma*for disease management: seed treatment, seed biopriming, soil treatment, root treatment, etc	4
10.	Commercialization of *Trichoderma* as biocontrol agent	4
11.	Constraints to commercialization	4
12.	Strategies to promote commercialization	4
13.	Visit to a *Trichoderma* cultivation laboratory in nearby area	12
	Total	**60**

Text Books and Reference Books:

1. Anil K Sharma and Pratibha Sharma (2020) *Trichoderma*- Host Pathogen Interactions and Applications, Springer.
2. Singh, Archana U & S P Tiwari (2021) *Trichoderma* Research and Development , Today & Tomorrows Printers and Publishers
3. Krishnendu Acharya , Surjit Sen and Manjula Rai (2019) Biofertilizers and Biopesticides, Techno World.
4. Harmon GE, Bjoorman T (1998), Potential and existing uses of *Trichoderma* and *Gliocladium* for plant disease control and plant growth enhancement . In : *Trichoderma* and *Gliocladium* , vol. II. G.E. Harman and C.K. Kubicek, (Eds), 229, London: Taylor and Francis Ltd. http://dx.doi.org/10.1099/mic.0.052274-0
5. Jeyarajan R, Nakkeeran S (2000). Exploitation of microorganisms and viruses as biocontrol agents for crop disease mangement. *In:* Biocontrol Potential and their Exploitation in Sustainable agriculture,(Ed. Upadhyay et al.,) Kluwer Academic/ Plenum Publishers, USA pp. 95-116. http://dx.doi.org/10.1007/978-1-4615-4209-4_8
6. Jeyarajan R, Ramakrishnan G, Dinakaran D, Sridar R (1994). Development of products of *Trichoderma viride* and *Bacillus subtilis* for biocontrol of root rot diseases. In "Biotechnology in India" (Ed Dwivedi B.K.) Bioved Research Society, Allahabad. pp. 25-36.
7. Jeyarajan R (2006). Prospects of indigenous mass production and formulation of *Trichroderma*, In Current Status of Biological Control of Plant diseases using antagonistic organisms in India (Eds Rabindra RJ Ramanujam B), Project Directorate of Biological Control, Bangalore, pp. 74-80, 445.

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Syllabus for B. Sc. Botany, First Year

Semester – II

As Per National Education Policy- 2020

To be Implemented from

Academic Year 2024-2025

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National Education Policy 2020

B.Sc. Botany, I Year (Semester - II)

Major Core Theory Course

Course Code – SBOTCT 1151

Title of the Course: FUNGI, LICHENS AND MYCORRHIZA

[No. of Credits: 2 Credit] **[Total: 30 Hours]**

Course pre-requisite:

1. The course is offered for a student registered for undergraduate programme in the Faculty of Science and Technology who had primary training in the field of biology at higher secondary school level evident in terms of certificate by CBSC/ ICSC/HSC for entry level core courses in Botany as Major subject.
2. The students should have basic knowledge of plant science.

Course objectives:

1. To study and impart knowledge about the occurrence, distribution, structure and life history Fungi, Lichens and Mycoplasma.
2. To understand the interdependence of life forms by forming symbiotic associations.

Course outcomes:

1. The students understand the morphology, structure, and interdependence of various organisms like Fungi, Lichens and Mycorrhiza.
2. The students are able to differentiate between various groups of Fungi, Lichens and Mycoplasma.
3. The students learn the importance of Fungi, Lichens and Mycoplasma for human beings.

CURRICULUM DETAILS: SBOTCT 1151: FUNGI, LICHENS AND MYCORRHIZA

Module No.	Unit No.	Topic	Hrs. Required to cover the contents
1.0		**FUNGI-I**	**07**
	1.1	Introduction and General Characteristics of Fungi, Classification of Fungi (as per Alexopolous & Mims, 1979)	
	1.2	Thallus organization, Cell wall composition, nutrition and reproduction in Fungi	
	1.3	Systematic position, occurrence, structure of mycelium, reproduction and graphic life cycle of ***Albugo.***	
	1.4	Systematic position, occurrence, structure of mycelium, reproduction and graphic life cycle of ***Eurotium.***	
2.0		**FUNGI – II**	**08**
	2.1	Systematic position, occurrence, structure of mycelium, reproduction and graphic life cycle of ***Agaricus.***	
	2.2	Systematic position, occurrence, structure of mycelium, reproduction and graphic life cycle of ***Alternaria***	

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	2.3	Fungal plant diseases: Leaf spot of tomato and White rust of Mustard.	
	2.4	Application of fungi in food industry (Flavour & texture, Fermentation, Baking, Organic acids, Enzymes, Mycoproteins); Agriculture (Biofertilizers; Medical mycology.	
3.0		**LICHENS**	08
	3.1	Lichens: Occurrence; General Characters.	
	3.2	Classification of Lichens and Types of Lichens	
	3.3	Growth forms and range of thallus organization; Nature of associations of algal and fungal partners.	
	3.4	Economic importance of Lichens (Lichens as food, Bioremediation, Ecological indicators, Pollution indicators, Lichen in Soil formation)	
4.0		**MYCORRHIZA**	07
	4.1	General Characters of mycorrhiza	
	4.2	Classification of mycorrhiza	
	4.3	Types of mycorrhizae	
	4.4	Economic importance of mycorrhiza.	
		Total	30

Text Books and Reference Books:

1. Vashishta B. R. and Sinha A.K. (2014). Botany for Degree Students – Fungi. S. Chand andCo.Ltd., New Delhi.
2. R.M. Johri, Sneh Lata and Kavita Tyagi, (2011). A Textbook of Fungi.
3. C.S. Chandoliya (2009). Fungi: Biological Diversity Cyber Tech Pub.
4. John Webster and Roland Weber (2007). Introduction to Fungi.
5. Mehrotra, R. S and Aneja, K. R. (1990). An Introduction of Mycology. Wiley EasternLtd., New Delhi.
6. Hale, M. E. Jr. (1983). Biology of Lichens. Edward Arnold, Maryland.
7. Alexopoulus, C. J. and Mims, C. W. (1979). Introductory Mycology. Wiley Eastern Ltd.,New York.
8. Pelczar, M. J., Chan, E. C. S. and Krieg, N. R. (1993). Microbiology. Tata McGraw HillPublishing Co. Ltd., New Delhi.
9. Mehrota, R. S. (1994). Plant Pathology. Tata McGraw Hill Publishing Co. Ltd., Delhi.
10. Pandey, B. P. (1982). A Textbook of Plant Pathology, Pathogen and Plant Diseases.S.Chand and Co. Ltd., New Delhi.
11. Dubey, R. C. and Maheshwari, D. K. (2007). A Textbook of Microbiology. S. Chand andCo. Ltd., New Delhi.
12. Sharma, P. D. (1992). Microbiology. Rastogi & Co., Meerut.
13. Bilgrami, K. S. and Dube, H. C. (1990). A.Textbookof Modern Plant Pathology. VikasPublishing House Pvt. Ltd., New Delhi.
14. Singh, R. S. (1990). Plant Diseases. 6th ed., Oxford & IBH, New Delhi.
15. Rangaswamy, G.(1972) Diseases of Crop Plants in India. Prentice Hall of India P Ltd.
16. Walker, J. C. (1952). Diseases of Vegetable Crops. McGraw Hill Book Co. Inc., NY
17. Butler, E. J. and Jones, S. G. (1949). Plant Pathology. Macmillan & Co., London.
18. Bendre and Kumar (1997). A Textbook of Practical Botany, Vol I., Rastogi Publications, Meerut.
19. Pandey B. P. (2019) Modern Practical Botany Vol. I, S. Chand and Company.

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National Education Policy 2020

B.Sc. Botany. I Year (Semester -II)

Major Practical Course

Course Code :- SBOTCP 1151

Title of the Course: Practical based on SBOTCT 1151

[No. of Credits: 2 Credit] **[Total: 60 Hours]**

Course pre-requisite:

1. The course is offered for a student registered for undergraduate programme in the Faculty of Science and Technology who had primary training in the field of biology at higher secondary school level evident in terms of certificate by CBSC/ ICSC/HSC for entry level core courses in Botany as Major subject.
2. The students should have basic knowledge of plant science.

Course objectives:

4. To develop skill and technique among the students for handling microscope and different instruments in the Botany lab.
5. To study and impart knowledge about the occurrence, distribution, structure and life history Viruses, Bacteria, Algae, Fungi, Lichens and Mycoplasma.
6. To understand the interdependence of life forms by forming symbiotic associations.

Course outcomes:

4. Students develop skill and technique for handling microscope and different instruments in the Botany lab.
5. The students understand the morphology, structure, and interdependence of various organisms like Viruses, Bacteria, Algae, Fungi, Lichens and Mycoplasma.
6. The students learn the importance of Fungi, Lichens and Mycoplasma for human beings.

CURRICULUM DETAILS: SBOTCP 1151: Practical based on SBOTCT 1151

Sr. No	Practical Exercises	Hrs. Required to cover the contents
1.	Preparation of Stains (Cotton blue, Lactophenol, Crystal violet, light green).	4
2.	Isolation and identification of fungi from Air.	4
3.	Isolation and identification of fungi from Soil by dilution plate technique.	4
4.	Isolation and identification of fungi from diseased plants.	4
5.	Study of Leaf spot of tomato and White rust of Mustard.	4
6.	*Albugo:* systematic position, external and internal features.	4
7.	*Eurotium:* systematic position, external and internal features.	4
8.	*Agaricus*: systematic position, external and internal features.	4
9.	*Alternaria:* systematic position, external and internal features.	4

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10.	Study of different forms of Lichens.	4
11.	Study of ectomycorrhiza and endomycorrhiza.	4
12.	Industrial Visit	4
13.	Excursion/ study tour for specimen collection of Fungi	4
14.	Excursion/ study tour for specimen collection of lichens and mycorrhiza	8
	Total	**60**

Text Books and Reference Books:

15. Vashishta B. R. ,Sinha A.K. and Singh V. P. (2014). Botany for Degree Students – Algae. S. Chand and Co.Ltd., New Delhi.
16. Vashishta B. R. and Sinha A.K. (2014). Botany for Degree Students – Fungi. S. Chand andCo.Ltd., New Delhi.
17. Vashishta, B. R. *et al.* (2014). Botany for Degree Students – Bryophytes. S. Chand and Co.Ltd., New Delhi.
18. Davis, B. D., Dulbecco, R., Eiser, H. N. and Grinsberg, H. S. (1980). Microbiology.Harper & Row, New York.
19. Carpenter, P. L. (1967). Microbiology. Saunders Co., Philadelphia, USA.
20. Cooper, J. I. (1995). Viruses and the Environment. 2nd ed. Chapman & Hall, London.
21. Bilgrami, K. S. and Dube, H. C. (1990). A Textbook of Modern Plant Pathology. VikasPublishing House Pvt. Ltd., New Delhi.
22. Singh, R. S. (1990). Plant Diseases. 6th ed., Oxford & IBH, New Delhi.
23. Rangaswamy, G. and Soumini Rajagopalan. (1973). Bacterial Plant Pathology. TamilNadu Agricultural University, Coimbatore.
24. Rangaswamy, G.(1972) Diseases of Crop Plants in India. Prentice Hall of India P Ltd.
25. Smith, K. M. (1957). A Textbook of Plant Virus Diseases. Little Borwn& Co., Boston.
26. Walker, J. C. (1952). Diseases of Vegetable Crops. McGraw Hill Book Co. Inc., NY
27. Butler, E. J. and Jones, S. G. (1949). Plant Pathology. Macmillan & Co., London.
28. Bendre and Kumar (1997). A Textbook of Practical Botany, Vol I., Rastogi Publications, Meerut.
29. Bendre and Kumar (1997). A Textbook of Practical Botany, Vol II., Rastogi Publications, Meerut.
30. Pandey B. P. (2012) Modern Practical Botany Vol. I, S. Chand and Company.

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National Education Policy 2020

B.Sc. Botany, I Year (Semester - II)

Generic Elective Course

Course Code :- SBOTGE 1151

Title of the Course: MEDICINAL PLANTS AND THEIR USES-II

[No. of Credits: 2 Credit**]** **[Total:** 30 Hours**]**

Course pre-requisite:

1. The course is offered for a student registered for undergraduate programme in the Faculty of Science and Technology who had primary training in the field of biology at higher secondary school level evident in terms of certificate by CBSC/ ICSC/HSC for entry level core courses in Botany as Major subject.
2. The students should have basic knowledge of plant science.

Course objectives:

1. To make the students aware of various herbal plants that can be grown in their area, be able to identify different plants and understand the economical and medicinal uses of these plants.
2. To develop the creativity of student by research and education in this aspect and reinforce the message of protection and care for the plants.

Course outcomes:

1. Understand history, Scope and Importance of Medicinal Plants & indigenous Medicinal Sciences
2. Describe the common medicinal plants in the neighbourhood for therapeutical use.
3. Conserve endangered and endemic medicinal plants.
4. Efficient in modern tool use to get additional knowledge from the internet.

CURRICULUM DETAILS: **SBOTGE 1151:** MEDICINAL PLANTS AND THEIR USES-II

Module No.	Unit No.	Topic	Hrs. Required to cover the contents
1.0		**IMPORTANT MEDICINAL PLANTS-I**	08
	1.1	Distribution and medicinal uses of: Gung (*Abrus precatorius*), Kal-lavi (*Gloriosa superba*)	
	1.2	Distribution and medicinal uses of:Naie (*Enicostema axillare*)	
	1.3	Distribution and medicinal uses of:Bel (*Aegle sp*), Karwand (*Carissa sp*)	
	1.4	Distribution and medicinal uses of: Kandvel (*Cissus sp*)	
2.0		**IMPORTANT MEDICINAL PLANTS-II**	07
	2.1	Distribution and medicinal uses of: Gawati chaha (*Cymbopogon sp*), Chamkura (*Colocasia sp*)	
	2.2	Distribution and medicinal uses of: Kattha (*Acacia sp*)	
	2.3	Distribution and medicinal uses of: Sitafal (*Annona sp*)	
	2.4	Distribution and medicinal uses of :Mehandi (*Lawsomia sp*)	
3.0		**IMPORTANT MEDICINAL PLANTS-III**	08
	3.1	Distribution and medicinal uses of : Kadhipatta (*Myrayya sp*)	

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	3.2	Distribution and medicinal uses of : Safed Musli (*chlorophytum sp*), Ritha (*Sapindus sp*),	
	3.3	Distribution and medicinal uses of :Noni (*Morinda citrifolia*)	
	3.4	Distribution and medicinal uses of :Jambhul (*Sizijium sp*), Sarata/Gokharu(*Tribulus terrestris*).	
4.0		**IMPORTANT MEDICINAL PLANTS-IV**	
	4.1	Distribution and medicinal uses of : Muradsheng (*Helicteres sp*), Guggul (*Commiphora sp*)	**07**
	4.2	Distribution and medicinal uses of : Umber (*Ficus sp*)	
	4.3	Distribution and medicinal uses of : Kawath (*Limonia asp*)	
	4.4	Distribution and medicinal uses of : Moha (*Madhuca sp*)	
		Total	**30**

Text Books and Reference Books:

1. Medicinal Plants of Indian Himalaya by S.S. Samant and U. Dha.
2. Medicinal Plants by P.C. Trivedi (2009).
3. Handbook of Medicinal and Aromatic Plants by S.K. Bhattacharjee (2004).
4. Recent Progress in Medicinal Plants Vol.12, Globalization of Herbal Health by A.K. Sharma
5. (2006).
6. Handbook of Ayurvedic Medicinal Plants by L.D. Kapoor (2005).
7. Indian Medicinal Plants (Vol 1- 4) by K.R. Kirtikar and B.D. Basu (2006).
8. Glossary f Medicinal Plants Used in Ayurveda by Amrutpal Singh Saroya (2006).
9. Indigenous Medicinal Plants Social Forestry & Tribals by M.P. Singh et al. (2003).
10. Ayurvedic Drugs and their Plant Sources by V.V. Sivarajan & I. Balachandran. Oxford &
11. IBH (1994).
12. 10.The Handbook of Ayurveda Shantha by Godagama, Bishen Singh Mahendrpal Singh, Dehradun (2004).

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National Education Policy 2020

B.Sc. Botany, I Year (Semester - II)

Skill Enhancement Course

Course Code – SBOTSC 1151

Title of the Course: MUSHROOM CULTIVATION TECHNIQUE

[No. of Credits: 2 Credit**]** **[Total:** 30 Hours**]**

Course pre-requisite:

1. The course is offered for a student registered for undergraduate programme in the Faculty of Science and Technology who had primary training in the field of biology at higher secondary school level evident in terms of certificate by CBSC/ ICSC/HSC for entry level core courses in Botany as Major subject.
2. The students should have basic knowledge of plant science.

Course objectives:

1. To inculcate concepts of Mushroom Cultivation.
2. To understand techniques in Mushroom Cultivation.
3. To increase employability of the students.

Course outcomes:

1. Students understand mushroom cultivation technique
2. Students understand the potential of mushroom cultivation as a source of food.
3. Students understand the potential of mushroom cultivation as a source of self-employment.

CURRICULUM DETAILS: SBOTSC 1151: MUSHROOM CULTIVATION TECHNIQUE

Sr. No	Practical Exercises	Hrs. Required to cover the contents
1.	Introduction of Mushrooms, Different parts of a typical mushroom & variations in mushroom morphology. & Hypogenous, Natural Habitats- Humicolous, Lignicolous & Coprophilous	4
2.	Key to differentiate Edible from Poisonous mushrooms. Based on occurrence- Epigenous	4
3.	Mushroom: Structure and texture of fruit bodies-gilled fungal & pore fungal	4
4.	Button, Straw& Oyster- General morphology, distinguishing characteristics, spore germination and life cycle.	4
5.	Mushroom: Protein, aminoacids, calorific values, carbohydrates , fats, vitamins & minerals.	4
6.	Mushroom Farm structure, Design and Layout: Mushroom Houses, Selection, layout and construction of Mushroom farm, construction of infrastructure, pasteurization chamber/ tunnel, casing pasteurization chamber, cropping rooms- lighting arrangements, spawn laboratory, Post harvesting unit.	4
7.	Spawn- Principles and Technique of spawn production: Kinds of spawn and material used, modern manufacture of spawn, preparation of spawn, storage	4

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	and transportation of spawn, qualities of a good spawn.	
8.	principle and techniques of compost and composting process: Goals of composting, materials suitable for composting, methods of preparation of compost- long method of composting, short method of composting, machinery and other basic pre-requisites to the composting process, characteristics of good compost, characteristics of compost after phase I & before filling, indoor filling.	4
9.	Method of spawning: Mixed spawning, shake-up spawning, super spawning surface spawning, optimal quantity of spawn, casing- requirement & characteristics of good casing soils, casing spawned bags	4
10.	Study of Casing and Cropping	4
11.	Study of harvesting of mushroom.	4
12.	Study of preservation methods of mushroom.	4
13.	Cultivation of Oyster mushroom (*Pleurotus sajor-caju*): Composting, Spawning, Casing, Cropping, Harvesting, Preservation	4
14.	Cultivation of Button mushroom (*Agaricus*): Composting, Spawning, Casing, Cropping, Harvesting, Preservation	4
15.	Visit to Mushroom cultivation center.	4
	Total	**60**

Text Books and Reference Books:

1. Marimuthu, T. *et al* (1991). Oyster mushroom, Dept of plant pathology Tamil Nadu. Agriculture University, Coimbatore.
2. Pandy R. K, S. K Ghosh,1996. A Handbook on mushroom cultivation. Emkey publication.
3. Panthak V. N & Yadav N. (1998). Mushroom production & processing technology AGROBIOS JAIPUR.
4. Nitha Bhal (2000). Handbook on mushroom 2nd. ed. vol.1 and 2. Oxford and IBH publication co. pvt ltd. New Delhi.
5. Tewari Pankaj Kapoor, S. C. (1988). Mushroom cultivation. Mittal publication, New Delhi.
6. V. Npathak, Nagendra Yadavu and Maneesha Gaur, Mushroom production and processing technology vedams Ebook PVT–Ltd NEW DELHI. (2008)
7. A hand book of edible mushroom, S.Kannaiyan & K.Ramasamy (1980). Today & Tomorrows printers & publishers, New Delhi
8. Handbook on Mushrooms, Nita Bahl, oxford & IBH Publishing Co
9. Mushroom Cultivation, Tripathi, D. P. (2005) Oxford & IBH Publishing Co. PVT.LTD, New Delhi.

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Guidelines for the Course Assessment:

A. Continuous Assessment (CA) (20% of the Maximum Marks) of theory and practical courses:

i. **For Theory Course:** CA shall form 20% of the Maximum Marks and shall be carried out over the entire semester. It shall be done by conducting **Two Tests** (Test I on 40% curriculum) and **Test II** (on remaining 40% syllabus) and average of the marks scored by a student in these two tests of a particular paper shall be taken as the **CA** score.

ii. **For Practical Course:** CA score of the practical course shall be marks scored by a student in the internal practical examination conducted by the concerned teacher.

B. End Semester Assessment (80% of the Maximum Marks) of theory and practical courses:

(For illustration a paper of 02 credits, 50 marks has been considered and shall be modified appropriately depending upon credits of the individual paper)

Question Paper Pattern of the ESA:

i. **ESA Question paper shall consist 6 questions, each of 10 marks**
ii. **Question No.1 shall be compulsory and shall be based on the entire syllabus**
iii. Students shall have to solve ***ANY THREE*** of the remaining Five Questions (i.e. from question 2 to 6)
iv. **Students shall have to solve a TOTAL of 4 Questions.**

C. Assessment of On Job Training (OJT) Course (for 04 credits):

a. Continuous assessment part (**40%, 40 marks out of 100**) of this course shall be done by the mentor of the student, where he /she is supposed to complete his On Job Training. This shall be based on the regularity, participation and performance of the students at the place of OJT.

b. Semester End Assessment (ESA) (**60% of the total marks, 60 marks out of 100**) of this course shall be done by a panel of examiners in two parts

i. based on the work report submitted by the student (**50% i.e. 30 marks**) and

ii. **Remaining 50%** (30 marks) shall be based on his presentation and viva-voce on the work carried to be assessed by the panel of examiners. This assessment shall be done along with practical examinations of respective courses / subjects.

D. Assessment of Field Project (FP) and Research Project (RP) (e.g. for 02 credits)

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a. Continuous assessment part (**40%, 20 marks out of 50**) of this course shall be done by the mentor of the student and shall be based on regularity, experimental work and performance of the student.

b. Semester End Assessment (ESA) (**60% of the total marks, 30 marks out of 50**) of this course shall be done shall be done by a panel of examiners in two parts

i. based on the work report submitted by the student (**50% i.e. 30 marks**) and

ii. **Remaining 50%** (30 marks) shall be based on his presentation and viva-voce on the work carried out by the student. This assessment shall be done along with practical examinations of the respective courses / subjects.

E. Assessment of Co-Curricular courses (CCC):

a. Assessment of the CCC course shall be done by the respective course coordinator as a part of CA and be based on the regularity, performance of a student and his participation in various activities as prescribed in the regulations prepared in this regard.

b. The End Semester Assessment (ESA) of the CCC courses shall be done as per the regulations prepared in this regard and shall be done on the basis of the write-up, presentation by the student on the activities that he has carried out in a semester.

c. Students shall have freedom to opt for more than one CCC courses. However, score of the best performing CC shall be considered for preparing his result.

F. Syllabi, Teaching and Examination Scheme for the courses in Column 7 and Column 8 (AEC, VEC, IKS, CI, EVS, CCCs, etc.) shall be common for all the students from different faculties.

Note: Number of lectures required to cover syllabus of a course depends on the number of credits assigned to a particular course. One credit of theory corresponds to 15 Hours lecturing and for practical course one credit corresponds to 30 Hours. For example, for a course of two credits 30 lectures of one hour duration are assigned, while that for a three credit course45 lectures.

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SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

SYLLABUS

(As per NEP-2020)

Faculty of Science and Technology

Structure for Four Year Multidisciplinary Degree Program with Multiple Entry and Exit

Subject: CHEMISTRY

In force from June - 2024

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॥ मा विद्या या विमुक्तये ॥

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

'ज्ञानतीर्थ', विष्णुपुरी, नांदेड - ४३१ ६०६ (महाराष्ट्र राज्य) भारत

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

'Dnyanteerth', Vishnupuri, Nanded - 431 606 (Maharashtra State) INDIA

Established on 17th September, 1994, Recognized By the U.G.C. U/s 2(f) and 12(B), NAAC Re-accredited with 'B++' grade

Phone: (02462)215541 **Academic-I (BOS) Section** website: srtmun.ac.in

E-mail: bos@srtmun.ac.in

शैक्षणिक वर्ष २०२४-२५ पासून राष्ट्रीय शैक्षणिक धोरणानुसार लागू केलेल्या विज्ञान व तंत्रज्ञान विद्याशाखेतील पदवी प्रथम वर्षाच्या सुधारित (तुरुस्ती) अभ्यासक्रमा बाबत..

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प रि प त्र क

संदर्भ:- १. जा.क्र.शै-१/एनईपी/विषयविषयदवी/२०२४-२५/१२३ दिनांक २०/०६/२०२४

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, सदर्भीय परिपत्रकान्वये दिनांक १५ मे २०२४ रोजी संपन्न झालेल्या मा. विद्यापरिषदेच्या बैठकीतील विषय क्र. १५/५९-२०२४ अन्वये मान्यता दिल्यानुसार विज्ञान व तंत्रज्ञान विद्याशाखे अंतर्गत राष्ट्रीय शैक्षणिक धोरणानुसार पदवी प्रथम वर्षाचे अभ्यासक्रम शैक्षणिक वर्ष २०२४-२५ पासून लागू करण्यात आलेले आहेत. तथापी वरील संदर्भीय परिपत्रका अन्वये प्रकाशित केलेल्या अभ्यासक्रमामध्ये अभ्यासमंडळांनी किरकोळ दुरुस्ती करुन अभ्यासक्रम सादर केला असून मा. अधिष्ठाता, विज्ञान व तंत्रज्ञान विद्याशाखा यांच्या मान्यतेने दुरुस्ती केलेले खालील अभ्यासक्रम लागू करण्यात येत आहेत.

01	B. Sc. I year Agrochemical and Fertilizer
02	B. Sc. I year Chemistry (General)
03	B. Sc. I year Biochemistry

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी, ही विनंती.

सहाय्यक कुलसचिव
शैक्षणिक अभ्यासमंडळ विभाग

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड - ४३१ ६०६.
जा.क्र.:शैक्षणिक-१/परिपत्रक/एनईपी/ज्ञीदुरुस्ती/S&T/
२०२४-२५/२८५
दिनांक : ०८.१०.२०२४

प्रत माहिती व पुढील कार्यवाहीस्तव.
०१. मा. अधिष्ठाता, विज्ञान व तंत्रज्ञान विद्याशाखा, प्रस्तुत विद्यापीठ.
०२. मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
०३. मा. संचालक, सर्व संलग्नित संकुले, प्रस्तुत विद्यापीठ.
०४. मा. प्राचार्य, सर्व संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
०५. सिस्टम एनालिस्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ. यांना देवून कळविण्यात येते की, सदरील परिपत्रक विद्यापीठाच्या संकेतस्थळावर प्रसिध्द करण्यात यावे.

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The subject of chemistry has reached center stage in view of the tremendous strides in technological developments worldwide and specifically India. The frontline developments in pharmaceuticals, semiconductors, solar and other renewable energy resources, communication and computational revolutions, rare earth materials and their new finds have opened limitless potential for chemistry. The need to develop new materials for changings needs of humans and green objectives for environment has brought the basic and applied chemistry in frontline again. The revised curriculum of Chemistry under NEP has broadly taken into consideration above needs of future and contemporary world. This curriculum would prepare the students to be future ready for the envisioned progress of the Nation.

PROGRAM OUTCOMES

The students graduating with degree having chemistry as a major or Minor should be able to acquire/have:

1. Core competency in subject chemistry and in allied subject areas.
2. Students are expected to have coherent understanding of fundamental principles, current trends as well as future opportunities in subject area.
3. Knowledge of basic principles in instrumental techniques used laboratory.
4. Capability to characterize, identify and separate components of unknown compounds using modern instrumental methods.
5. Competency in critical thinking after identifying assumption that frames our thinking and action, checking out their degree of accuracy, validity and finally our response from different Perspective.
6. Skill to apply role of chemistry in safe handling of chemicals, environmental issues and other societal concerns.
7. Awareness of different value systems including our own, understand moral dimensions of our decision and accept responsibility for them.
8. The ability to engage in lifelong learning in broadest context of socio-technological change
9. Ability to elicit views of others, mediate disagreements and come up with healthy conclusion in group discussion.

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Details of the Board of Studies Members in the subject Chemistry under the faculty of Science & Technology of S.R.T.M. University, Nanded

Sr. No.	Name of the Member	Designation	Address	Contact No.
1	Dr. D. R. Munde	Chairman	Science College Nanded	9421756689
2	Dr. B. S. Dawane	Member	School of chemical Sciences SRTMU Nanded	9423584000
3	Dr. Krishna Chaitanya	Member	School of Chemical Sciences SRTMU Nanded	7385721802
4	Dr. S. B. Sirsat	Member	Yeshwant Mahavidyalaya Nanded	9890374904
5	Dr. Jaman A. Angulwar	Member	Dayanand Science College Latur	9423246209
6	Dr. S. D. Dhage	Member	S.S.J.E.S. ACS College Gangakhed	9404864600
7	Dr. N. S. Kaminwar	Member	L.B.S. College Dharmabad	7588524845
8	Dr. A. S. Bondge	Member	Shivneri Mahavidyalaya Shirur Anantpal	9423577771
9	Dr. A. B. Chidrawar	Member	Degloor College Degloor	9423140093
10	Dr. Y. S. Nalwar	Member	Toshniwal ACS College Sengaon	9421292020
11	Dr. S. P. Hangirgekar	Member	Shivaji University Kolhapur	7276689374
12	Dr. S. V. Bhosle	Member	IICT Hydrabad	9490065673
13	Dr. B. C. Khade	Member	D.S.M. College Parbhani	9423443275
14	Dr. P. Bhaskar Reddy	Member	Bio Phore India Pharmaceuticals Hydrabad	9160744744
15	Miss. Goge Reshma Vikram	Member	Dyanand Science College Latur	
16	Miss. Tompe Pragati P.	Member	Yeshwant mahavidyalaya Nanded	

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Distribution of credits for Chemistry

Faculty of Science and Technology

Four Year UG Syllabus structure

Semester Pattern (CBCS) effective from June, 2024

Subject: Chemistry

Total credits semester I and II: 08

Sem.		Paper Number	Name ofthe Course	Instruction Hrs. /Week	Total period	Internal CA	ESA	Total Marks	Credits
I	Optional -I	SCHECT 1101	Organic Chemistry + Inorganic Chemistry **(Theory)**	02	30	10	40	50	2
		SCHECP 1101	Organic Chemistry + Inorganic Chemistry **(Practical)**	04	60	20	30	50	2
	Generic Electives *(other than Faculty)*	SCHEGE 1101	Everyday Chemistry	02	30	10	40	50	2
	Skill Course (Basket - 3)	SCHESC 1101	Fundamentals of Chemistry Laboratory OR Water Pollution	04	60	20	30	50	2
II		SCHECT 1151	Physical Chemistry + Inorganic Chemistry **(Theory)**	02	30	10	40	50	2
		SCHECP 1151	Physical Chemistry + Inorganic Chemistry **(Practical)**	04	60	20	30	50	2
	Generic Electives *(other than Faculty)*	SCHEGE 1151	Soil and Fertilizer Chemistry	02	30	10	40	50	2
	Skill Course (Basket - 3)	SCHESC 1151	Common Laboratory Techniques OR Soil Pollution	04	60	20	30	50	2

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NOTE:

- The syllabus is based on **two theory** periods per division and **four practical** periods per batch per week. Candidates should require passing separately in theory and practical examinations.
- End Semester Examination (ESE) 40 marks.
- Continuous Assessment (CA) 10 marks (Average of two test examinations conducted).
- At least fifteen practicals should be engaged in **I**st semester: **05** practicals from Inorganic Chemistry, **10** fromOrganic Chemistry.
- At least fifteen practicals should be engaged in **II**nd semester: **05** practicals from Inorganic Chemistry, **10** from Physical Chemistry.

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B. Sc. First Year Semester I *(Level 4.5)*

Teaching Scheme

	Course Code	CourseName	CreditsAssigned			TeachingScheme (Hrs/ week)	
			Theory	Practical	Total	Theory	Practical
Optional I	SCHECT1101	Organic Chemistry & Inorganic Chemistry	02	--	02	02	--
	SCHECP1101	Practical Based on SCHECT 1101	-	02	02	--	04
Generic Electives *(from other Faculty)*	SCHEGE1101	Generic Elective (GE) Paper First Everyday Chemistry (Basket 3)	02	--	02	02	--
Skill Based Course (related to Major)	SCHESC1101	Fundamentals of Chemistry Laboratory OR Water Pollution	--	02	02	--	04

B. Sc. First Year Semester I *(Level 4.5)*

Examination Scheme

Subject (1)	Course Code (2)	CourseName (3)	Theory				Practical		Total Col (6+7) / Col (8+9) (10)
			Continuous Assessment (CA)			ESA			
			Test I (4)	Test II (5)	Average of T1 & T2 (6)	(7)	CA (8)	ESA (9)	
Optional 1	SCHECT1101	Organic Chemistry & Inorganic Chemistry	10	10	10	40	--	--	50
	SCHECP1101	Practical Based on SCHECT 1101	--	--	--	--	20	30	50
Generic Elective	SCHEGE1101	Generic Elective (GE) Paper First Everyday Chemistry (Basket 3)	10	10	10	40	--	--	50
Skill Based Course	SCHESC1101	Fundamentals of Chemistry Laboratory OR Water Pollution	--	--	--	--	20	30	50

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B. Sc. First Year Semester II *(Level 4.5)*

Teaching Scheme

	Course Code	CourseName	CreditsAssigned			TeachingScheme (Hrs/ week)	
			Theory	Practical	Total	Theory	Practical
Optional 1	SCHECT1151	Physical Chemistry & Inorganic Chemistry	02	--	02	02	--
	SCHECP1151	Practical Based on SCHECT 1151	-	02	02		04
Generic Electives *(from other Faculty)*	SCHEGE1151	Soil and Fertilizer Chemistry (Basket 3)	02	--	02	02	--
Skill Based Course (related to Major)	SCHESC1151	Common Laboratory Techniques OR Soil Pollution	--	02	02	--	04

B. Sc. First Year Semester I *(Level 4.5)*

Examination Scheme

Subject (1)	Course Code (2)	CourseName (3)	Theory				Practical		Total Col (6+7) / Col (8+9) (10)
			Continuous Assessment (CA)			ESA			
			Test I (4)	Test II (5)	Average of T1 & T2 (6)	(7)	CA (8)	ESA (9)	
Optional 1	SCHECT1151	Organic Chemistry & Inorganic Chemistry	10	10	10	40	--	--	50
	SCHECP1151	Practical Based on SCHECT 1151	--	--	--	--	20	30	50
Generic Elective	SCHEGE1151	Soil and Fertilizer Chemistry (Basket 3)	10	10	10	40	--	--	50
Skill Based Course	SCHESC1151	Common Laboratory Techniques OR Soil Pollution	--	--	--	--	20	30	50

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UG Chemistry (Semester-I)

Paper- (SCHECT 1101):

Organic Chemistry & Inorganic Chemistry

(Theory)

Credits: 02 **Periods: 30**

Module: 1. An introduction to Organic reactions: **07 P**

1.1 Basic terms: Substrate and Reagents, types of reagents (Electrophilic and Nucleophilic).Notation of arrows: curved arrow, half headed arrow, double headed arrow, straight arrow.

1.2 Electronic displacement effects:- Inductive Effect , Resonance Effect And Hyperconjugation and their Applications in A) Acidic Strength B) Basic Strength

1.3 Bond fission: Homolytic and heterolytic fission.

1.4 Types of reactions and Reaction intermediates: Carbocation, Carbanion, Free radical, carbene, (Introduction, structure & Stability), nitrene & benzyne (only introduction).

Module: 2. Aromatic Hydrocarbons and Aromaticity **05P**

2.1 Introduction, Nomenclature, kekule and resonance structure of benzene, stability, Orbital picture of benzene.

2.2 Aromaticity, antiaromaticity and homoaromaticity by Huckel's Rule for homocyclic and hetrocyclic compounds.

2.3 Electrophilic Substitution reaction of benzene (with mechanism): Nitration, Halogenation, Friedel Craft alkylation and acylation.

2.4 Orientation effect: Effect of activating and deactivating groups (-OH, NO_2, CH_3, Cl) on aromatic electrophilic (Nitration) substitution reaction (with mechanism).

Module: 3. Alcohols, Epoxides and Phenols: **08 P**

3.1 Alcohols: Introduction, Nomenclature and Classification.

3.2 Dihydric alcohol (ethylene glycol): Preparation methods: i) Hydroxylation of alkene ii) 1,2-dihaloalkane. Chemical reactions: 1) $Pb(OAc)_4$, 2) $P_2O_5/ZnCl_2$.

3.3 Trihydric alcohol (Glycerol): Preparation methods from: 1) Oils and fats 2) Propene. Chemical reactions: action of 1) Nitric acid, 2) Acetylchloride on tryhydric alcohol.

3.4 Epoxides: Introduction and nomenclature. Preparation methods: a) Oxidation of ethene in presence of Ag catalyst, b) Epoxidation of ethene with peracetic acid.

3.5 Chemical reactions: a) Ring opening reactions of propylene oxide. a) Hydrolysis in acidic and basic medium. b) Action of Grignard reagent.

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3.6 Phenols: Introduction, classification and acidic character of phenol (compare with ethanol). Chemical reactions with mechanism: Reimer-Tiemann reaction, Acetylation, Fries rearrangement, Kolbe's carboxylation reaction.

Module: 4. Periodic Table And Periodicity: **10 P**

4.1 Brief introduction to development of periodic table. Modern periodic law, long form of the periodic table, Sketch, Cause of periodicity. Division and general characteristics of s, p, d and f block elements.

4.2 Atomic and Ionic size: Definition and explanation of atomic radius, ionic radius, covalent radius, Vander Waals radius. Variation of atomic size along a period and in a group.

4.3 Ionization Energy (Ionization enthalpy): Definition and Explanation, Successive ionization energy, Factors affecting ionization energy. Variation of ionization energy along a period and in a group. Applications of ionization energy to chemical behavior of an element.

4.4 Electron Affinity (Electron gain enthalpy): Definition and Explanation, Successive electron affinity, Factors affecting electron affinity. Variation of electron affinity along a period and in a group. Applications of electron affinity to chemical behavior of an element.

4.5 Electronegativity: Definition and Explanation, Factors affecting electronegativity. Variation of electronegativity along a period and in a group. Pauling's approach of electronegativity. Calculations of electronegativity by Pauling's method (Numerical), Mulliken's approach. Applications of electronegativity to bond properties such as percent ionic character, bond length, bond angle.

Course Outcomes:

Students will gain an understanding of:

1. The basic things for chemical reactions i.e. Substrate and Reagents Types of reagents Electrophilic and Nucleophilic Homolytic and heterolytic fission. Electronic displacement effect.
2. Aromatic, antiaromatic and nonaromatic for organic compounds.
3. The different intermediates in chemical reactions and their uses in synthesis
4. Appreciate the concept of grouping elements in accordance to their properties led to the development of Periodic Table.
5. compare the reactivity of elements and correlate it with their occurrence in nature;
6. Understand the ideas related to periodic properties of elements such as atomic radii, ionization enthalpy, electron gain enthalpy, electronegativity.

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References:

1. A New Pattern Text Book of Organic Chemistry for Competition: O.P.Tandon and A.K.Virmani (G.R.Bathla& Sons Publication) 2009 Edition
2. Chemistry for Degree Students: R.L.Madan (S.Chand Publication) 2010 Edition
3. A Textbook of Organic Chemistry: ArunBahl and B.S. Bahl (S.Chand Publication) 2011 Revised Colour Edition.
4. Organic chemistry: S M Mukherji and S P Singh, (New Age International Publication) vol. I, Second edition, 2010.
5. Principles of Organic Chemistry by R.O.C. Norman and J.M. Coxon.
6. Organic Chemistry by Robert Thornton Morrison and Robert Neilson Boyd
7. A Guide book to mechanism on Organic Chemistry: Peter Sykes.
8. Text Book of organic Chemistry: P. L. Soni.
9. Organic Chemistry : T. W. Graham Solomons, Sixth edition.
10. Modern Organic Chemistry: M. K. Jain and S. C. Sharma.
11. Principles of inorganic chemistry by Puri, Sharma and Kalia, Milestone Publishers and Distribution.
12. Inorganic Chemistry by Shriver and Atkins' Oxford University press 5th edition.
13. Advanced inorganic chemistry by Gurudeep Raj and ChatwalAnand.
14. Concise Inorganic Chemistry by J. D. Lee.
15. Basic Inorganic Chemistry by F. A. Cotton, G. Wilkinson and P. L. Gaus.
16. Inorganic Chemistry by A. G. Sharp.
17. Inorganic Chemistry by G. L. Miessler and D. A. Tarr.
18. Chemistry for degree students by Dr. R.L. Madan, (S. Chand)

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Chemistry (Semester-I)

Paper- (SCHECP1101):

Organic Chemistry & Inorganic Chemistry

(Practicals)

Credits: 02 **Periods: 60**

1. I) Preparations (Any Four)

   a) Phthalimide from phthalic anhydride and urea. b)Acetanilide from aniline.

   c) Iodoform from acetone. d) Phenyl – azo – β –naphthol from aniline.

   e) m-Dinitobenzene from nitrobenzene. f) Phthalic anhydride from phthalic acid.

   (Recrystallization and Melting point of product is compulsory)

2. A) Determination of Physical constant of Organic liquids (Any Two)

   Aniline, Ethanol, Toluene, Benzene, ortho and meta toluidine, Chlorobenzene, Nitrobenzene.

   B) Demonstration on purification by (Any Two)

   a) Recrystallization of Phthalic acid/Benzoic acid from hot water.

   b) Distillation of Ethyl alcohol. c) Sublimation of Napthalene.

3. Identification of Two acidic and Two basic radicals by Semi-micro qualitative analysis technique.(Including interfering radicals). (Any Seven)

4. Spot- tests (of each radical) are compulsory.

Course Outcomes:

After successfully performing practicals, students will be able to:

1. Identify type of titration and estimation of ions.
2. Prepare required standard solution.
3. Determine hardness of any water sample.
4. Handle protocol for the synthesis of organic compound.
5. Select suitable purification method for synthesized organic compound.
6. Determine physical constant of solid/liquid.

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2024-2025
B. Sc. First Year (First Semester)
Chemistry
Generic Elective (GE) Paper First
(SCHEGE 1101)

Everyday Chemistry

Objective:

- to learn the chemistry behind the product which we use in our day to day life.
- to impart chemical literacy among the students.
- to generate curiosity among the readers to know more about chemicals.

Outcomes: After studying this students will be able

- to understand the chemistry behind the product which we use in our day to day life.
- enlightened about the pros and cons of using processed food.
- to create curiosity among the readers about chemicals.

Everyday Chemistry

1. Soaps, Detergents and cosmetics. **20 P**

Soaps: Introduction, fats and oils used in soaps, types of soaps, liquid soaps, synthesis of soaps, total fatty matter, cleaning action of soaps.

Detergents: Introduction, classification, synthesis, additive in detergents, enzymatic detergents, cleaning action of detergents.

Cosmetics: Introduction, toothpaste, shampoos, hair dyes, creams and lotions, lipstick, perfumes, shaving cream, after shave lotion, deodorants, bath oil, talcum powder.

Toxicity of cosmetics.

2. Food additives and flavouring agents. **20 P**

Introduction, food colours, flavouring agents, emulsifying agents, preservative, leavening agents, test enhancers, antioxidants. Government regulations.

Soft drinks, its ingredients and health effects.

Food adulteration, food laws and standards.

Prevention of food adulteration (PFA) Act 1954

Essentials commodities act 1955

Food and safety and standards act 2006

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3. Chemistry of plastics **10 P**

Introduction,

Plastic in everyday life, plastic and polymers, classification of polymers, polymerization reaction.

Application of plastics: Polyethylene, low density polyethylene, high density polyethylene, polypropylene, polyvinyl chloride, polyethylene terephthalate and acrylonitrile-butadiene-styrene.

Environmental hazards and recycling of plastics.

4. Drugs chemistry. **10 P**

Introduction

Classification of drugs.

Analgesics, antipyretics, antihistamines, antacids, tranquilizers, sedatives, antibiotics, antifertility drugs.(Name, structure, simple one preparation and uses are expected)

Reference books:

1. Advanced chemistry by Philip Matthews Cambridge low price editions.

2.Organic chemistry by Maitland Jones Jr.,Steven A.Fleming fourth edition,Intrnational student edition .

3.Principles of inorganic chemistry Puri Sharma Kalia, Milestone publishers and distributors,

4.Principles of environmental chemistry second edition,James E.Girad by Jones and Bartlett student edition.

5.Chemistry in everyday life by G,D, Gem Matjew, Vishal publishing co.

6. Foye's Principles of medicinal chemistry by Thomas L.Lemke, David A.Williams,Victoria F.Rocho and S.William Zito, International edition.

7.Every day chemistry by Julia Sooy ,illustrated by Bonnie Pang.

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SYLLABUS

SEMESTER -1 SCHESC1101

Unit	Topic/s
I (Theory)	**Fundamentals of Chemistry Laboratory** **(05 Hours)** General introduction of chemistry laboratory, common instruction for safe working in chemical laboratories, Lab design, Storage, ventilation, lighting, fume, cupboard, arrangement of store, Safety provisions, Organization of practical work, Maintenance of laboratory, equipment/ apparatus Cleaning of laboratories and preparation room. **Introduction of Lab Apparatus** **(05 Hours)** *Glass apparatus* - Beaker, Test tube, boiling tube, funnel, separating funnel, filtration flask, round CHEtom flask, flat CHEtom flask, condenser Liebig flask,watch glass etc. measuring conical or condenser, petridish, desiccator. *Volumetric Apparatus* - Measuring cylinder, burette, pipette, Volumetric flask, analytical balance, single-pan electronic balance/ electrical analytical balance etc. *Miscellaneous apparatus*- Buchner funnel, Bunsen burner, burette stand, retort clamp, china dish/evaporating basin, wire gauze, cork borers, filter pumps, crucible, mohr clip, pipe clay triangle, pestle and mortar, sprit lamp, spatulas, thermometer, pH meter/pH paper etc. *and* laboratory centrifuge. *Apparatus for heating*: Bunsen burner, water bath, oil bath hot plate, sand bath, hot air oven, heating mantle etc. *Handling and storage of glass apparatus* *Kipp's apparatus* **Solution Preparation** **(05 Hours)** Water as a solvent, types of water, solutions, components of a solution, types of solution, solubility, concentration of solutions: percentage, molarity, normality, molality (in ppm) calculation of masses and volumes for preparation of solutions solids, liquids.
II (Practical)	*1.* Handling of common laboratory equipment **(30 Hours)** *2.* Cork boring experiment *3.* Calibration of volumetric glassware *4.* Weighing of chemicals using analytical balance *5.* Preparation of solutions, indicators and reagents. *6.* Preparation of buffer solutions and determination of their pH Values. *7.* Preparation of some organic compound and determination of their boiling point and melting point.
III (Tutorials)	*Activity 1:* Cleaning of laboratories and preparation room. **(15 Hours)** *Activity 2*: Classification of apparatus in store. *Activity 3*: Cleaning of glassware. *Activity 4:* Organization of practical work. *Activity 5:* A brief report on Safety provisions in laboratories.

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OR

(SCHES1101)

UG Ist Year Semester I

Skill Enhancement Course

Water Pollution

PREREQUISITES

This course is intended for undergraduates students. It is a chemistry based course that the students to be comfortable with mathematical calculations and eligibility criteria for admission to this course is (10+2) science passing.

COURSE DESCRIPTION

This course provides an introduction to major aspects of water quality science and its control technology, including an overview of the main pollutants and their effects, typical wastewater characteristics (CHEh municipal and industrial wastewater) and how those characteristics may affect relevant unit operations (physical, chemical and biological). It also focuses on how to combine these operations to control water pollution and to meet effluent requirements. It will cover the analysis of different physical and chemical water parameters.

OBJECTIVES

The main aim of the course is to provide students with a scientific and technical background in water quality monitoring, pollution control technologies and environmental management. This course focuses on unit operations for municipal and industrial wastewater treatment. Specific objectives are listed below.

1. Provide information on the basic concepts of water pollution and its effects on human and ecosystem health
2. Demonstrate how to interpret laboratory analysis to establish whether the water fulfills the quality requirements for different uses.
3. Show how to look at the major water pollutants, their sources, physical, chemical and biological transformations and impacts.
4. Assist with exploring how natural ecosystems respond to changes in water characteristics, including the self-purification capacity of oxygen-demanding materials and filtration of solid components.

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5. Facilitate the learning of strategies to control common water pollutants in municipal and industrial wastewater.
6. Present detailed information about the design characteristics of unit operations for wastewater control, including pre-treatment, primary treatment and secondary treatment.
7. Help to provide an insight into the fundamentals of some of the most widely used advanced treatments

Module: 1. Pollution: 08 periods

Pollution: - Introduction, Definition, Sources & effect of water pollution. Control measures ofwater pollutions.

Module: 2. Analysis of water pollution:- Theory: 07 periods

Physical Parameters

a) Temperature
b)Electrical Conductance
c) Total Suspended Solids
d) Total dissolved Solids
e) Oil & Greases.

Module: 3. Chemical Parameters:- Practicals: 45 periods

a) P^H
b) Dissolve Oxygen
c) Chemical Oxygen demand
d) Bio-Chemical Oxygen demand
e) Hardness
f) Chloride
g) Sulphate
h) TDS

SKILLS/ COMPETENCIES / LEARNING OUTCOMES

Upon completion of this course, students should be able to:

1. List the main water pollutants and their effects on human health and the environment.
2. Discuss several types of water pollution problems and their chemical aspects affecting them.
3. Interpret the results of laboratory analysis for water characterization.
4. Develop a broad overview understanding of the strategies, regulations and policies to manage water pollution.
5. Describe unit operations used for wastewater treatment.
6. Select methods to control and prevent water pollution to meet effluent requirements within realistic constraints, such as economic, environmental and social aspects, health and safety.
7. Design and optimize various unit operations and unit processes used in water treatment and configure processes in a treatment plant. This includes obtaining and applying appropriate design values and making appropriate assumptions when needed

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Reference books

1. Environmental Pollution -A.K. De
2. Environmental Pollution - Khitoliya R.K.
3. Water Pollution -Salpekar Aradhana
4. Introducation to Waste Water Treatment Process -Jindal M.
5. Water Pollution -Sharma B.K.
6. Environmental Chemistry -Sharma B.K
7. Environmental Chemistry -Bhagi Ajaykumar
8. Environmental Chemistry-Kaver H.
9. Environmental Chemistry-Banerji S.K.
10. Water Pollution - Kudesia V.P.

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UG Chemistry (Semester-II)

Paper- (SCHECT1151)

Physical Chemistry & Inorganic Chemistry

(Theory)

Credits: 02 **Periods: 30**

Module: 1. Atomic structure **06 P**

1.1. Introduction, Rutherford's alpha particle scattering experiment, Rutherford's atomic model and its drawbacks.

1.2. Bohr's theory of hydrogen atom: Bohr's atomic model-Postulates, Derivation for radius of an orbit and energy of an electron. Energy difference in terms of wave number and Rydberg constant. Bohr's explanation of hydrogen spectrum. Merits and demerits of Bohr's theory.

1.3. Quantum numbers, Electronic configuration of elements: Aufbau principle, Pauli's Exclusion principle, Hund's rule of maximum multiplicity.

1.4. Numericals on radius and energy.

Module: 2. Gaseous State **07 P**

2.1 Kinetic theory of gases: Postulates of kinetic molecular theory of gases. Ideal and non-ideal gases.

2.2 Deviation of gases from Ideal behavior and Compressibility factor (Z), Boyle's Temperature (Tb) Inversion Temperature (Ti). Derivation of Vander-Waals equation, Units for Vander-Waals constants.

2.3 Critical phenomenon: Definitions of critical constants. Relation between critical constants (Tc, Vc, Pc) and Vander-Waals constants (a, b). Units of critical constants.

2.4 Molecular velocities-Root mean square, average and most probable velocities, Relation between molecular velocities, Numericals on Root mean square velocity.

Module: 3. Adsorption and Colloids **07 P**

3.1 Introduction, Definition of Adsorbate, Adsorbent, Adsorption, factors affecting adsorption. Difference between adsorption and absorption. Types of adsorption: Physical adsorption and chemical adsorption.

3.2 Introduction, Definition of Dispersed phase (dp) and Dispersion medium (dm) Classification of colloidal systems.

3.3 Sols: Types of sols, Properties of sols- Colour, Optical (Tyndall effect), Kinetic (Brownian movement) and electrical properties (electrophoresis and electro osmosis).

3.4 Coagulation of colloidal solution, Hardy-Schulze rule's. Protective action of sol and Gold Number.

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3.5 Gels: Classification of gels, preparation and properties gel.

3.6 Emulsions: Types of emulsions, preparation of emulsion, Emulsifier.

3.7 Applications of colloids.

Module: 4.

A. Oxidation and reduction: **05P**

4.1 Definition of oxidation, Reduction, Oxidizing agent and reducing agents according to classical concept, electronic concept, oxidation number concept.

4.2 Rules for assigning oxidation number.

4.3 Balancing of redox reaction by 1) Ion-electron method and 2) Oxidation number method.

B. Noble Gas Chemistry: **05P**

4.4 Introduction and Position in the Periodic table.

4.5 Electronic configuration.

4.6 Compounds of noble gases, under excited condition, through coordination, by physical trapping (Clathrates).

4.7 Fluorides of xenon: Preparation, properties and structure of XeF_2, XeF_4, XeF_6.

4.8 Uses of Noble gases.

Course Outcomes:

After studying mentioned topics students will able to know:

1. Intermolecular forces of interactions.
2. Distinguish between true solution, colloidal solution and suspension solution.
3. Applications of adsorption and colloids.
4. Define the acidic and basic radicals.
5. Uses of noble gases in diversified fields.
6. Explain the role of common ion effect, solubility product and complex formation during the separation metal ions.
7. Define the terms oxidation, reduction, oxidising agent and reducing agent.
8. Use the concept of oxidation number to identify oxidant and reductant in a reaction.
9. Balance chemical equations using (i) ion electron method (ii) oxidation number method.

Reference book

1. Principles of inorganic chemistry by Puri, Sharma and Kalia, Milestone Publishers and

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Distribution.

2. Inorganic Chemistry by Shriver and Atkins' Oxford university press 5th edition.
3. Inorganic chemistry by Gary L. Miessler and Donald Tarr Pearson publication third edition.
4. Inorganic Chemistry by Shriver and Atkins' Oxford University press 5th edition.
5. Mathematical preparation for physical Chemistry .By F. Daniel, Mc. Graw Hill publication.
6. University General Chemistry. By C.N. R. Rao Mc. Millan Publication.
7. Principles of Physical Chemistry. By Maron and Pruton 4th Ed. Oxford and IBH publication.
8. Physical Chemistry. By G.M. Barrow. 5th Edn
9. Essentials of Physical Chemistry .By B. S. Bahl, G. D. Tuli, ArunBahl (S. Chand and Co Ltd.) (25 edition)
10. Elements of Physical Chemistry.By S. Glasstone and D. Lewis (The Macmillan Press Ltd.)
11. Physical Chemistry. By Robert A. Alberty(John Willey and Sons)
12. Principles of Physical Chemistry. By Puri– Sharma.
13. The Elements of Physical Chemistry .By P. W. Atkins
14. Advanced Physical Chemistry.By Harish Gurudeep.

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UG Chemistry (Semester-II)

Paper- (SCHECP1151)

Physical Chemistry & Inorganic Chemistry

(Practicals)

Credits: 02 **Periods: 60**

Laboratory Work (Practicals):

1. Determination of the viscosity of liquid by Ostwald's viscometer.
2. To determine the surface tension of a given liquid by stalagmometer method.
3. Determine the equivalent weight of magnesium by hydrogen displacement method using Eudiometer.
4. To study kinetics of hydrolysis of ester in presence of mineral acid like HCl.
5. To study kinetics of cooling of hot water.
6. To study distribution of benzoic acid between benzene and water.
7. To study critical solution temperature (CST) of phenol water system.
8. Determination of Heat of solution of KNO3/NH4Cl.
9. Determination of Heat of reaction of displacement of copper by zinc.
10. Preparation of Arsenic sulphide (As_2S_3) sol.
11. Determine volumetrically the amounts of sodium carbonate and sodium hydroxide present together in the given solution provided 0.1 N HCl solution.
12. Determine the percentage of $CaCO_3$ in the chalk sample, provided 1 N HCl and 0.1N NaOH.
13. Estimate the strength of the given sample of $KMnO_4$ Solution in g/lit. Prepare a standard solution of N/10 Mohr's salt or N/10 Sodium Oxalate solution.
14. Estimate volumetrically the strength of Ferrous and ferric ion in the given solution provided N/10 $KMnO_4$ Solution.
15. Determination of Nickel using muroexide as an indicator (Direct method).
16. Prepare standard solution of Zn ion standardize the give EDTA solution and estimate the amount of unknown Zn ion concentration.
17. To determine the total, permanent and temporary hardness of water by complexometric method using EDTA.

Course Outcomes:

After Performing experiments students will able to know:

1. Properties of water i.e. surface tension, viscosity, density etc.

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2. To prepare solutions of desired concentrations.
3. Nature of aqueous solution of substance i.e. acidic, basic or natural.
4. The quantity of solute in solution using different titrimetric techniques.
5. The ideas to identify acidic or basic radicals qualitatively.

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Four year multiple degree programme with multiple entry and exit.
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B. Sc. First Year (Second Semester)
Chemistry
Generic Elective (GE) Paper Second
(SCHEGE 1151)
Soil and Fertilizer Chemistry

Objective:

- To understand the concept of soil and fertilizer.
- To increases the awareness about the soil and effect of excessive fertilizers.
- To emphasise the importance of agriculture on global economy.
- To understand the seriousness of agro problems.

Outcome:

After completion of syllabus students will be able to understand following outcomes.

- To define the concept of soil and fertilizer.
- To aware about the soil and effect of excessive fertilizers.
- To understand the importance of agriculture on global economy.
- To explain the seriousness of agro problems.

Soil and fertilizers chemistry.

1. Fundamentals of Soil: **10 P**

Introduction, soil classification, chemical composition of soil, composition of Earth's crust, soil minerals: primary, secondary minerals, elemental composition of soils.

Essential nutrients: introduction, essential, functions and deficiency symptoms of nutrients, beneficial element's.

2. Soil analysis and management. **20 P**

Soil acidity ,sources of hydrogen and hydroxyl ions, nature of acidity, soil reaction correlation, acid forming factors, determination of soil pH, genesis, occurrence and characteristics of acid soils, naturally occurring liming materials, management of acid soils.

Soil salinity and alkalinity, introduction, common sources of salts, origin of salt affected soils, characterization, classification, effect of salts on plant growth, management of soil salinity and alkalinity problem.

Analysis of soil: Introduction, extraction techniques, soil analysis.

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3. Fertilizers at a glance. **10 P**

Introduction, manures in ancient India, fertilizers in Indian agriculture, history of fertilizer production. Classification of fertilizers, nitrogenous fertilizers, phosphatic fertilizers, potash fertilizers, secondary nutrients, mixed fertilizers, characteristics of fertilizers.

4. Soil fertility managements and sustainable farming. **20 P**

Introduction, soil fertility constraints, management of soil fertility, optimum fertilizer rates, balanced use of fertilizer nutrients.

Efficient use of fertilizer, nutrient needs of cropping systems, integrated nutrient management.

Soil pollution and its control.

Reference books:

1. Fundamentals of soil science, Indian society of soil science.

2. Soil and fertilizers at a glance by L.L.Somani, P.C.Kanthaliya, agrotech publishing academy Udaipur.

3. Principles of environmental chemistry second edition by James E.Girad Jones and Bartlett student edition.

4. Principles of inorganic chemistry by Puri, Sharma and Kalia, Milestone Publishers and Distributors Delhi.

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SEMESTER -2

SCHESC1151

Unit	Topic/s
I (Theory)	**Common Laboratory Techniques** **(05 Hrs.)** *Refluxing:* Apparatus with interchangeable ground glass joints (Quick fit), *Filtration*: Techniques and filter media, filter paper, simple filtration, *Recrystallization*: Choice of solvent and precautions with flammable solvents, *Distillation*: recovery of solvents through partial distillation, distillation under reduced pressure, and *Determination of Boiling Point* **Chemistry Laboratory Safety** **(03 Hours)** *Fire Hazards:* Causes of fires, classification of fires, fire prevention protocols and measures, fire alarms, fire escapes, fire Extinguishers and their uses. *Chemical Hazards*: Classification and handling of hazardous chemicals, storage of chemicals, transfer from large containers *Gas Hazards:* usage of LPG and CNG safer in the laboratory, detection and handling of Gas Leakage, health hazards of gases **Use of Computer in Laboratory** **(03 Hours)** Hardware in computer, CPU, I/O devices, data input, data processing, data output, application MS office software and Internet. **Stock and Inventory Control** **(02 Hours)** Arranging stock, locating and referencing, shelf arrangement of stock, order books, inventory. **Files and Records** **(02 Hours)** *Filing Systems*- Classification of files, filing methods, filing system for equipments and chemicals, filing of printed and written material, preparation of lab manuals. *Records system* : Stock records, recording stock (used and misused), record of use of listed poisons, record of use of alcohol, record of breakages, information about equipment serial numbers, record maintenance, miscellaneous records.
II (Practical)	**1.** Preparation of hydrogen sulphide (H_2S) gas using Kipp's apparatus. **(30 Hours)** 2. Simple acid-base titration. 3. Preparation of distilled/deionized water. 4. Purification of organic compounds by recrystallization. 5. Preparation of inorganic double salts. 6. Experiments based on chromatography
III (Tutorials)	*Activity 1*: Classification of chemicals in laboratory/store. **(15 Hours)** *Activity 2*: Classification hazardous chemicals based on the information given on the labels. *Activity 3*: Preparation of comparative chart. *Activity 4*: To learn the use of a carbon dioxide fire extinguisher. *Activity 5*: Preparation of stock register on MS-Excel.

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Bibliography:

1. Vogels Qualitative Inorganic Analysis, A. I. Vogel, *Prentice Hall,*.
2. Vogels textbook of chemical quantitative analysis, *Longman Scientific*
3. The golden book of chemistry experiments, R. Brent, *Golden press, NY*
4. Comprehensive Practical Organic Chemistry, V. K. Ahluwalia, & R. Aggarwal, *Universities Press.*
5. Lab Manual of Organic Chemistry, R. K. Bansal, *New Age Pub.*
6. Senior Practical Physical Chemistry, B. D. Khosla, R. *Chand & Co*
7. Chemistry Practical, O. P. Pandey, D.N. Bajpai, S. Giri, *S. Chand*
8. Advanced practical chemistry, J . Singh etal. *Pragati Prakashan*
9. Computer fundamental , B Ram, *New Age Pub.*

OR

(SCHES 1151)

UG Ist Year Semester II
Skill Enhancement Course

Soil Pollution

OBJECTIVES 60 Period

1. Knowledge of soil environment, soil degradation and pollution affecting the society; preventing and improving method.
2. Evaluating the causes of soil pollution and proposing appropriate improving methods.
3. Conceiving ideas of soil environment improvement, proposing, designing soil sedimentation methods.

Module: 1. General geology and soil formation **05P**

Definition of soil environment, Soil formation process, Physical and chemical of soil environment Summary of teaching methodology, Soil structure, texture and energy, Composition of gas and water phases in soil, metabolism in soil environment, Gas phase, Water in soil, Colloid, Soil solution, Biological composition in soil.

Module: 2. Soil degradation and prevention and conservation methods **05P**

Soil degradation Soil acidicity Soil salinity Soil desertification Soil erosion, Prevention and conservation methods

Module: 3. Soil pollution and prevention methods **05P**

Soil pollution Soil pollution by agricultural waste Soil pollution by industrial waste Soil pollution by oil and effects of oil pollution Soil pollution due to natural and biological factors, Self cleaning ability of soil environment, Land use planning methods to prevent soil pollution, Methods to prevent soil pollution.

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Module: 4 Laboratory Work **45 P**

1. Determination of pH of different types of soil samples
2. Determination of electrical conductivity of different types of soil samples.
3. Determination of total alkalinity of soil.
4. Determination of total organic matter in the given soil Sample.
5. Determination of available nitrogen of the soil sample
6. Determination of total Phosphorous of the soil sample
7. Determination of Ca (II) and Mg(II) ions from soil sample.
8. Determination of Fe (II) and Fe (III) ions from soil sample.
9. Determination of K from soil sample by flame photometry
10. Determination of Na from soil sample by flame photometry
11. Determination of available sulphur in soils

Learning Outcomes

1. Apply knowledge of soil structure and soil formation to address soil environment issues.
2. Apply physical and chemical parameters of soil environment in the process of soil degradation and pollution assessment.
3. Evaluate the soil degradation, advantages and disadvantages of preventing and improving methods for soil pollution.
4. Assess the causes and sources of pollution to treat soil contamination.
5. Read English documents for describing soil degradation and pollution phenomena.
6. Practise the role and responsibility of an environemntal engineerer in soil environment toward the society.
7. Conceive ideas of soil environment improvement in soil degradation and pollution.

Text book

1. Ibrahim A. Mirsal, Soil Pollution Origin, Monitoring & Remediation, Springer-Verlag Berlin Heidelberg, 2008.

References :

1. R. E. White, Principles and Practice of Soil Science, The soil as a natural resource. 4th Ed., Blackwell Publishing, 2006.
2. Le Van Khoa, Nguyen Xuân Cu, Le Duc, Tran Khac Hiep, Tran Cam Van, Dat va Moi Truong, NXB Giao Duc – 2003.
3. Ku. Jeff, Practical Design Calculations for Groundwater and Soil Remediation, CRC Press LLC, 1999Vietnam environmental protect law, HCM Tonghop Publisher, 2015.

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Guidelines for Course Assessment:

A. Continuous Assessment (CA) (20% of the Maximum Marks):

This will form 20% of the Maximum Marks and will be carried out throughout the semester. It may be done by conducting **Two Tests** (Test I on 40% curriculum) and **Test II** (remaining 40% syllabus). Average of the marks scored by a student in these two tests of the theory paper will make his **CA** score (col. 6).

B. End Semester Assessment (80% of the Maximum Marks):

(For illustration we have considered a paper of 04 credits, 100 marks and need to be modified depending upon credits of an individual paper)

1. **ESA Question paper will consists of 6 questions, each of 10 marks.**
2. **Students are required to solve a total of 4 Questions.**
3. **Question No.1 will be compulsory and shall be based on entire syllabus.**
4. Students need to solve **ANY THREE** of the remaining Five Questions (Q.2 to Q.6) and shall be based on entire syllabus.

Note: Number of lectures required to cover syllabus of a course depends on the number of credits assigned to a particular course. One credit of theory corresponds to 15 Hours lecturing and for practical course one credit corresponds to 30 Hours. For example, for a course of two credits 30 lectures of one hour duration are assigned, while that for a three credit course 45 lectures.

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SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED - 431 606 (MS)

स्वामी रामानंद तीर्थ
मराठवाडा विद्यापीठ, नांदेड

(Credit Framework and Structure of Four Year UG Program with Multiple Entry and Exit Option as per NEP-2020)
B. Sc. First Year

UNDERGRADUATE PROGRAMME OF SCIENCE & TECHNOLOGY

Major in **PHY (Physics)** and Minor in **DSM** (Subject)

Under the Faculty of Science & Technology

(Revised as per the Govt. of Maharashtra circular dt. 13th March 2024)

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Science College Chavawadi(Barahali)
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स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

'ज्ञानतीर्थ', विष्णुपुरी, नांदेड – ४३१ ६०६ (महाराष्ट्र राज्य) भारत

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

'Dnyanteerth', Vishnupuri, Nanded - 431 606 (Maharashtra State) INDIA

Established on 17th September, 1994, Recognized By the U.G.C. U/s 2(f) and 12(B), NAAC Re-accredited with 'B++' grade

Phone: (02462)215541 **Academic-1 (BOS) Section** website: srtmun.ac.in

E-mail: bos@srtmun.ac.in

शैक्षणिक वर्ष २०२४–२५ पासून राष्ट्रीय शैक्षणिक धोरणानुसार लागू केलेल्या विज्ञान व तंत्रज्ञान विद्याशाखेतील पदवी प्रथम वर्षाच्या सुधारित (दुरूस्ती) अभ्यासक्रमा बाबत..

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प रि प त्र क

संदर्भ – १. जा.क्र.शै–१/एनईपी/विविधपदवी/२०२४–२५/११२ दिनांक १२/०६/२०२४

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, संदर्भीय परिपत्रकान्वये दिनांक १५ मे २०२४ रोजी संपन्न झालेल्या मा. विद्यापरिषदेच्या बैठकीतील विषय क्र. १५/५९–२०२४ अन्वये मान्यता दिल्यानुसार विज्ञान व तंत्रज्ञान विद्याशाखे अंतर्गत राष्ट्रीय शैक्षणिक धोरणानुसार पदवी प्रथम वर्षाचे अभ्यासक्रम शैक्षणिक वर्ष २०२४–२५ पासून लागू करण्यात आलेले आहेत. तथापी वरील संदर्भीय परिपत्रका अन्वये प्रकाशित केलेल्या अभ्यासक्रमामध्ये अभ्यासमंडळांनी किरकोळ दुरूस्ती करून अभ्यासक्रम सादर केला असून मा. अधिष्ठाता, विज्ञान व तंत्रज्ञान विद्याशाखा यांच्या मान्यतेने दुरूस्ती केलेले खालील अभ्यासक्रम लागू करण्यात येत आहेत.

01	B. Sc. I year Physics

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी, ही विनंती.

सहाय्यक.कुलसचिव
शैक्षणिक अभ्यासमंडळ विभाग

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.:शैक्षणिक–१/परिपत्रक/एनईपीबीजीदुरूस्ती/S&T/
२०२५–२६/139
दिनांक : १८.०६.२०२५

प्रत माहिती व पुढील कार्यवाहीस्तव.

०१. मा. अधिष्ठाता, विज्ञान व तंत्रज्ञान विद्याशाखा, प्रस्तुत विद्यापीठ.
०२. मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
०३. मा. संचालक, सर्व संबंधित संकुले, प्रस्तुत विद्यापीठ.
०४. मा. प्राचार्य, सर्व संबंधित महाविद्यालये, प्रस्तुत विद्यापीठ.
०५. सिस्टम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ. यांना देवून कळविण्यात येते की, सदरील परिपत्रक विद्यापीठाच्या संकेतस्थळावर प्रसिध्द करण्यात यावे.

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From the Desk of the Dean, Faculty of Science and Technology

Swami Ramanand Teerth Marathwada University, Nanded, enduring to its vision statement "***Enlightened Student: A Source of Immense Power***", is trying hard consistently to enrich the quality of science education in its jurisdiction by implementing several quality initiatives. Revision and updating curriculum to meet the standard of the courses at national and international level, implementing innovative methods of teaching-learning, improvisation in the examination and evaluation processes are some of the important measures that enabled the University to achieve ***the 3Es, the equity, the efficiency*** and ***the excellence*** in higher education of this region. To overcome the difficulty of comparing the performances of the graduating students and also to provide mobility to them to join other institutions the University has adopted the cumulative grade point average (CGPA) system in the year 2014-2015. Further, following the suggestions by the UGC and looking at the better employability, entrepreneurship possibilities and to enhance the latent skills of the stakeholders the University has adopted the Choice Based Credit System (CBCS) in the year 2018-2019 at graduate and post-graduate level. This provided flexibility to the students to choose courses of their own interests. To encourage the students to opt the world-class courses offered on the online platforms like, NPTEL, SWAYM, and other MOOCS platforms the University has implemented the credit transfer policy approved by its Academic Council and also has made a provision of reimbursing registration fees of the successful students completing such courses.

SRTM University has been producing a good number of high calibre graduates; however, it is necessary to ensure that our aspiring students are able to pursue the right education. Like the engineering students, the youngsters pursuing science education need to be equipped and trained as per the requirements of the R&D institutes and industries. This would become possible only when the students undergo studies with an updated and evolving curriculum to match global scenario.

Higher education is a dynamic process and in the present era the stakeholders need to be educated and trained in view of the self-employment and self-sustaining skills like start-ups. Revision of the curriculum alone is not the measure for bringing reforms in the higher education, but invite several other initiatives. Establishing industry-institute linkages and initiating internship, on job training for the graduates in reputed industries are some of the important steps that the University would like to take in the coming time. As a result, revision of the curriculum was the need of the hour and such an opportunity was provided by the New Education Policy 2020.

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National Education Policy 2020 (NEP 2020) aims at equipping students with knowledge, skills, values, leadership qualities and initiates them for lifelong learning. As a result, the students will acquire expertise in specialized areas of interest, kindle their intellectual curiosity and scientific temper, and create imaginative individuals.

The curriculum given in this document has been developed following the guidelines of NEP-2020 and is crucial as well as challenging due to the reason that it is a transition from general science based to the discipline-specific-based curriculum. All the recommendations of the ***Sukanu Samiti*** given in the **NEP Curriculum Framework-2023** have been followed, keeping the disciplinary approach with rigor and depth, appropriate to the comprehension level of learners. All the Board of Studies (BoS) under the Faculty of Science and Technology of this university have put in their tremendous efforts in making this curriculum of international standard. They have taken care of maintaining logical sequencing of the subject matter with proper placement of concepts with their linkages for better understanding of the students. We take this opportunity to congratulate the Chairman(s) and all the members of various Boards of Studies for their immense contributions in preparing the revised curriculum for the benefits of the stakeholders in line with the guidelines of the **Government of Maharashtra regarding NEP-2020**. We also acknowledge the suggestions and contributions of the academic and industry experts of various disciplines.

We are sure that the adoption of the revised curriculum will be advantageous for the students to enhance their skills and employability. Introduction of the mandatory ***On Job Training, Internship program*** for science background students is praise worthy and certainly help the students to imbibe firsthand work experience, team work management. These initiatives will also help the students to inculcate the workmanship spirit and explore the possibilities of setting up of their own enterprises.

Dr. M. K. Patil

Dean

Faculty of Science and Technology

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Tq.Mukhed Dist.Nanded

From Desk of Chairman, Board of Studies of the Subject Physics

Preamble:

The education system is India has acquired a new form with inclusion of job oriented work skill in combination with traditional fundamental core subjects along with multiple entries and choice based exit system. The development of vocational work skill amongst the aspirants being one of the major goal for seeking the livelihood in short spam while competing with the world class education systems. Inclusion of multifold courses as clubbing of majors, minors, electives with skills must take cognizant for following the education quality mandates too. To achieve this, the thrust of quality needs to be addressed, discussed and carried forward in a systemic manner. Accreditation is the principal means of quality assurance in higher education and reflects the fact that in achieving recognition, the institution or program of study is committed and open for external review to meet certain minimum specified standards. The major emphasis of this accreditation process is to measure the outcomes of the program that is being accredited. Program outcomes are essentially a range of skills and knowledge that a student will have at the time of graduation from the program. A graduate program must ensure that, the passing students understand the basic concepts of Physics, have gone through one field in department of appreciate and use its methodologies of analyses and design, and have acquired skills for life-long learning. The transformation of students from one program to other at any level of education exit must make him/her self reliable. UG program in Physics program must therefore have a mission statement which is in conformity with program objectives and program outcomes that are expected for specific educational process. The outcomes of a program must be measureable and must be assessed regularly through proper feedback for improvement of the program. There must be a quality assurance process in place within the Institute to make use of the feedback for improvement of the program. The curriculum must be constantly refined and updated to ensure that the defined objectives and outcomes are achieved. Students must be encouraged to comment on the objectives and outcomes and the role played by the individual courses in achieving them. In line with this Faculty of Science and Technology of Swami Ramanand Teerth Marathwada University, Nanded has taken lead in incorporating philosophy of outcome based education in the process of curriculum development. I, as Chairman, Board of Studies in Physics Swami Ramanand Teerth Marathwada University, Nanded, happy to state that, course objectives, expected outcomes were finalized in a meeting and are stated as below:

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- To provide students with a strong foundation in the mathematical, scientific and physical science fundamentals necessary to formulate, solve and analyze problems and to prepare them for graduate studies.
- To prepare students to demonstrate an ability to identify, formulate and solve problems pertaining to physical science concepts and fundamentals.
- To prepare students to demonstrate ability to understand the responsibility towards energy conservation and utilization of renewable energy sources.
- To promote awareness among students for the life-long learning and to introduce them to professional ethics and codes of professional practice.
- To develop ability for resolving the fundamental aspects relating to general physical concepts and theories.
- To develop ability in identifications of physical qualities and their measurements techniques too.
- To make them aware about working of different physical instruments and gadgets and capability to increase the working efficiency of the same.

In addition to Program Objectives, for each course of undergraduate program, objectives and expected outcomes from learner's point of view are also included in the curriculum to support the philosophy of outcome based education. I believe strongly that small step taken in right direction will definitely help in providing quality education to the stake holders.

Dr. K. S. Kanse
Chairman,
Board of Studies of the Physics
Swami Ramanand Teerth Marathwada
University, Nanded

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Details of the Board of Studies Members in the subject Physics under the faculty of Science & Technology of S.R.T.M. University, Nanded

Sr. No	*Name of the Member*	*Designation*	*Address*	*Contact No.*
1.	Dr. K. S. Kanse	Chairman	Department of Physics, Lal Bahadur Shastri Mahavidyalaya, Dharmabad, Dist. Nanded	Mob: 09850924426 Email: kskanse@gmail.com
2.	Dr. M. K. Patil	Professor	School of Physical Sciences, S.R.T.M. University, Nanded	Mob: 08308298063 Email: patil@associates.iucaa.in
3.	Dr. Ms. M. P. Mahabole	Professor	School of Physical Sciences, S.R.T.M. University, Nanded	Mob: 9421850549 Email: mpmsrtmunsps@gmail.com
4.	Dr. S. N. Keshatti,	Professor	Department of Physics, Shivaji Mahavidyalaya, Parbhani	Mob: 9422743448 Email: keshatti.shrinivas@gmail.com
5.	Dr. C. T. Londhe	Assistant Professor	Department of Physics, Mahatma Gandhi Mahavidyalaya, Ahmedpur Dist. Latur	Mob: 9850136648 Email: londhect@gmail.com
6.	Dr. M. A. Giri	Associate Professor	Department of Physics, Gramin (ACS) Mahavidyalaya, Vasantnagar Kotygal Tq. Mukhed Dist Nanded	Mob: 9423440996 Email: drmadangiri@gmail.com
7.	Dr. V. D. Mote	Assistant Professor	Department of Physics, Dayanand Science College, Latur	Mob: 9960639169 Email: vmote.physics@gmail.com
8.	Dr. A. A. Yadav	Associate Professor	Department of Physics, Rajarshi Shahu Mahavidyalaya (Autonomous), Latur Tq. Dist. Latur	Mob: 9975213852 Email: aav_physics@yahoo.co.in
9.	Dr. R. A. Joshi	Assistant Professor	Department of Physics, Toshniwal Arts, Commerce and Science College, Sengaon Dist Hingoli	Mob.: 9096655278 Email: urajoshi@gmail.com

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10.	Dr. S. S. Jadhav	Associate Professor	Department of Physics, D.S.M. Arts, Commerce and Science College, Jintur Dist Parbhani	Mob: 9405209939 Email: santosh.jadhav28@yahoo.com
11.	Dr. M. D. Shirsat	Professor	Department of Physics Dr. Babasaheb Ambedkar Marathwada University, Aurangabad	Mob: 9422291987 Email: mdshirsat.phy@bamu.ac.in
12.	Dr. S. P. Yawale	Professor	Department of Physics, Govt. Vidarbha Institute of Science and Humanities, Amravati	Mob: 9423125231 Email: spyawale@rediffmail.com
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14.	Dr. Ram Chitalkar	Industry expert	Morganite crucible (India) Ltd. Morganite crucible (India)	Mob: 9325078845 Email: ram_chitalkar@yahoo.com
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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Science and Technology (Three Optional in the First Year)

Credit Framework for Four Year Multidisciplinary Degree Program with Multiple Entry and Exit

Subject: DSC (Major) /DSM (Minor 1 and Minor 2)

(For illustration PHY, CHE and ELE combinations are considered, which may change for different combinations)

Year & Level	Semester	Optional 1 (Major) *(From the same Faculty)*	Optional 2 (Minor 1) *(From the same Faculty)*	Optional 3 (Minor 2) *(From the same Faculty)*	Generic Elective (GE) (select from Basket 3 of *Faculties other than Science and Technology*)	Vocational & Skill Enhancement Course	Ability Enhancement Course (AEC) (Basket 4) Value Education Courses (VEC) / Indian Knowledge System (IKS) (Basket 5) *(Common across all faculties)*	Field Work / Project/Internship/ OJT/ Apprenticeship / Case Study Or Co-curricular Courses (CCC) (Basket 6 for CCC) *(Common across all faculties)*	Credits	Total Credits
1	2	3	4	5	6	7	8	9	10	11
1 (4.5)	I	SPHYCT1101 (T 2Cr) SPHYCP1101 (P 2Cr) 4 Credits	SCHECT1101 (T 2Cr) SCHECP1101 (P 2Cr) 4 Credits	SELECT1101 (T 2Cr) SELECP1101 (P 2Cr) 4 Credits	SPHYGE1101 2 Credits	SPHYSC1101 2 Credits	AECENG1101 (2Cr) ACEMIL1101 (2Cr) IKSXXX1101 (2Cr) 6 Credits		22	44
	II	SPHYCT1151 (T 2Cr) SPHYCP1151 (P 2Cr) 4 Credits	SCHECT1151 (T 2Cr) SCHECP1151 (P 2Cr) 4 Credits	SELECT1151 (T 2Cr) SELECP1151 (P 2Cr) 4 Credits	SPHYGE1151 2 Credits	SPHYSC1151 2 Credits	AECENG1151 (2Cr) ACEMIL1151 (2Cr) VECCOI1151 (2Cr) *Constitution of India* 6 Credits		22	
	Cum. Cr.	08	08	08	04	04	12		44	

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Exit option: UG Certificate in Opt 1, Opt 2 and Opt 3 **on completion of 44 credits** and additional **4 credits from NSQF / Internship**										
2 (5.0)	**III**	**SPHYCT1201 (2cr) SPHYCT1202 (2cr) SPHYCP1203 (2cr) SPHYCP1204 (2cr) 8 Credits**	**SCHEMT1201 SCHEMP1201 (1T+1P) 2 Credits**		**SPHYGE1201 (2cr) SPHYGE1202 (2cr) 4 Credits**	**SPHYSC1201 2 Credits**	**ACEXXX1201 (MAR/HIN/URD /KAN/PAL) (2Cr) 2 Credits**	**SPHYFP1201 (2Cr) CCCXXX1201 (2Cr) 4Credits**	**22**	
	IV	**SPHYCT1251 (2cr) SPHYCT1252 (2cr) SPHYCP1253 (2cr) SPHYCP1254 (2cr) 8 Credits**	**SCHEMT1251 SCHEMP1251 (1T+1P) 2 Credits**		**SPHYGE1251 2 Credits**	**SPHYVC1251 2 Credits**	**ACEXXX1251 (MAR/HIN/URD /KAN/PAL) (2Cr) VECEVS1251 (2Cr) 4 Credits**	**SPHYFP1351 (2Cr) CCCXXX1151(2Cr) 4 Credits**	**22**	
	Cum. Cr.	**24**	**12**	**08**	**10**	**06**	**14**	**12**	**88**	
Exit option: UG Diploma in Major DSC and Minor DSM **on completion of 88 credits and** additional **4 credits NSQF / internship in DSC**										**88**
3 (5.5)	**V**	**SPHYCT1301** (T 3Cr) **SPHYCT1302** (T 3Cr) **SPHYIK1303** (T 2Cr) **SPHYCP1304** (P 2Cr) **SPHYCP1305** (P 2Cr) **12 Credits**	**SPHYET1301** (T 3Cr) **SPHYEP1301** (P 1Cr) **4 Cr**	--		--	**SPHYVC1301 4 Credits**	--	**SPHYFP1301 (2 Cr) 2 Credits**	**22**	
	VI	**SPHYCT1351** (T 3Cr) **SPHYCT1352** (T 3Cr) **SPHYCT1353** (T 2Cr) **SPHYCP1354** (P 2Cr) **SPHYCP1355** (P 2Cr) **12 Credits**	**SPHYET1351** (T 3Cr) **SPHYEP1351** (P 1Cr) **4 Cr**	--		--	**SPHYVC1351 2 Credits**	--	**SPHYOJ1351 4 Credits**	**22**	
	Cum. Cr.	**56**		**12**	**08**	**10**	**6 + 8 =14**	**14**	**18**		**132**

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Exit option: **B. Sc. (Bachelor in Science) with Major in DSCand Minor in DSM**											
4 (6.0)	**VII**	**SPHYCT1401** (T 4Cr) **SPHYCT1402** (T 4Cr) **SPHYCT1403** (T 2Cr) **SPHYCP1404** (P 4Cr) **14 Credits**	**SPHYET1401** (T 3Cr) **SPHYEP1401** (P 1Cr) **4 Cr**	*Research Methodology* **SPHYRM1401** **4 Credits**		--	--	--	--	**22**	
	VIII	**SPHYCT1451** (T 4Cr) **SPHYCT1452** (T 4Cr) **SPHYCT1453** (T 2Cr) **SPHYCP1454** (P 4Cr) **14 Credits**	**SPHYET1401** (T 3Cr) **SPHYEP1401** (P 1Cr) **4 Cr**	--		--	--	--	**SPHYOJ1451** **4 Credits**	**22**	
	Cum Cr	**Honours: 92**		**18+4**	**08**	**10**	**V-08 + S-06**	**AEC-4+MIL-4 +VEC-4 +IKS-2**	**22**		**176**
Exit option: **B. Sc. (Hons) with Major in DSCand Minor inDSM**											
4 (6.0)	**VII**	**SPHYCH1401** (T 3Cr) **SPHYCH1402** (T 3Cr) **SPHYCH1403** (T 4Cr) **(H- Honours)** **10 Credits**	**SPHYET1401** (T 3Cr) **SPHYEP1401** (P 1Cr) **4 Cr**	*Research Methodology* **SPHYRM1401** **4 Credits**		--	--	--	Research Project **SPHYRP1401** **4 Credits**	**22**	**44**
	VIII	**SPHYCH1451** (T 3Cr) **SPHYCH1452** (T 3Cr) **SPHYCH1453** (T 4Cr) **(H- Honours)** **10 Credits**	**SPHYET1451** (T 3Cr) **SPHYEP1451** (P 1Cr) **4 Cr**	--		--	--	--	Research Project **SPHYRP1451** **8 Credits**	**22**	
Exit option: **B. Sc. (Hons with Research) in DSCand Minor in DSM**											
Total Credits		**Major – 92 / 84**	**Minor 1 -18 + RM - 04**		**Minor 2 08**	**GE/OE - 10**	**(V-08 + S-06) 14**	**(AEC-8 + VEC-4 + IKS-2)14**	**(CC-08+FP/CS-06+OJT-04+RP-12) 30**	**176**	

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Abbreviations:

1. **DSC:** Department/Discipline Specific Core (Major)
2. **DSE:** Department/Discipline Specific Elective (Major)
3. **DSM:** Discipline Specific Minor
4. **GE/OE:** Generic/Open Elective
5. **VSEC:** Vocational Skill and Skill Enhancement Course
6. **VSC:** Vocational Skill Courses
7. **SEC:** Skill Enhancement Courses
8. **AEC:** Ability Enhancement courses
9. **MIL:** Modern Indian languages
10. **IKS:** Indian Knowledge System
11. **VEC:** Value Education Courses
12. **OJT:** On Job Training: (Internship/Apprenticeship)
13. **FP:** Field Projects
14. **CEP:** Community Engagement and Service
15. **CC:** Co-Curricular Courses
16. **RM:** Research Methodology
17. **RP:** Research Project/Dissertation

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B. Sc. First Year Semester I *(Level 4.5)*

Teaching Scheme

	Course Code	Course Name	Credits Assigned			Teaching Scheme (Hrs/ week)	
			Theory	Practical	Total	Theory	Practical
Optional 1	SPHYCT1101	Fundamental of Physics- I	02	--	**04**	02	--
	SPHYCP1101	Practical –I	-	02			04
Optional 2	SDSCMT1101	--	02	--	**04**	02	--
	SDSCMP1101	Title of paper 2 (practical)	-	02			04
Optional 3	SDSCMT1101	--	02	--	**04**	02	--
	SDSCMP1101	Title of paper 2 (practical)	-	02			04
Generic Electives *(from other Faculty)*	SDSCGE1101	Renewable Energy **(Basket 3 of respective Faculty)**	02	--	**02**	02	--
Skill Based Course (related to Major)	SPHYSC1101	Computational Physics	--	02	**02**	--	04
Ability Enhancement Course	AECENG1101	L1 – Compulsory English	02	--	**02**	02	--
Indian Knowledge System (IKS)	IKSXXX1101	Select from **Basket 5**	02	--	**02**	02	--
Language	ACEMIL1101		02	--	**02**	02	
Total Credits			**14**	**08**	**22**	**14**	**16**

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B. Sc. First Year Semester I *(Level 4.5)*

Examination Scheme

[20% Continuous Assessment (*CA*) and 80% End Semester Assessment (*ESA*)]

(For illustration we have considered a paper of 02 credits, 50 marks, need to be modified depending on credits assigned to individual paper)

Subject (1)	Course Code (2)	CourseName (3)	Theory				Practical		Total Col (6+7) / Col (8+9) (10)
			Continuous Assessment (CA)			ESA			
			Test I (4)	Test II (5)	Average of T1 & T2 (6)	Total (7)	CA (8)	ESA (9)	
Optional 1	SPHYCT1101	Fundamental of Physics-I	10	10	10	40	--	--	50
	SPHYCP1101	Practical I	--	--	--	--	20	30	50
Optional 2	SDSCMT1101	--	10	10	10	40	--	--	50
	SDSCMP1101	Title of paper 2 Practical	--	--	--	--	20	30	50
Optional 3	SDSCMT1101	--	10	10	10	40	--	--	50
	SDSCMP1101	Title of paper 2 practical	--	--	--	--	20	30	50
Generic Elective	SDSCGE1101	Renewable Energy **(Basket 3)**	10	10	10	40	--	--	50
Skill Based Course	SPHYSC1101	Computational Physics	--	--	--	--	20	30	50
Ability Enhancement Course	AECENG1101	**L1 – Compulsory English**	10	10	10	40	--	--	50
Indian Knowledge System	IKSXXX1101	Title **(Basket 5)**	10	10	10	40	--	--	50
Language	ACEMIL1101		10	10	10	40	--	--	50

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B. Sc. First Year Semester II *(Level 4.5)*

Teaching Scheme

	Course Code	CourseName	CreditsAssigned			TeachingScheme (Hrs/ week)	
			Theory	Practical	Total	Theory	Practical
Optional 1	SPHYCT1151	Fundamental of Physics- II	02	--	**04**	02	--
	SPHYCP1151	Practical –II	-	02			04
Optional 2	SDSCMT1151	--	02	--	**04**	02	--
	SDSCMP1151	Title of paper 2 (practical)	-	02			04
Optional 3	SDSCMT1151	--	02	--	**04**	02	--
	SDSCMP1151	Title of paper 2 (practical)	-	02			04
Generic Electives *(from other Faculty)*	SDSCGE1151	Wonders in the sky **(Basket 3 of respective Faculty)**	02	--	**02**	02	--
Skill Based Course (related to Major)	SDSCSC1151	Electrical Measurements	--	02	**02**	--	04
Ability Enhancement Course	AECENG1151	L1 – Compulsory English	02	--	**02**	02	--
Indian Knowledge System (IKS)	IKSXXX1151	Select from **Basket 5**	02	--	**02**	02	--
Constitution of India	VECCOI1151		02	--	**02**	02	
Total Credits			**14**	**08**	**22**	**14**	**16**

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B. Sc. First Year Semester II *(Level 4.5)*

Examination Scheme

[20% Continuous Assessment (*CA*) and 80% End Semester Assessment (*ESA*)]

(For illustration we have considered a paper of 02 credits, 50 marks, need to be modified depending on credits assigned to individual paper)

Subject (1)	Course Code (2)	Course Name (3)	Theory				Practical		Total Col (6+7) / Col (8+9) (10)
			Continuous Assessment (CA)			ESA			
			Test I (4)	Test II (5)	Average of T1 & T2 (6)	Total (7)	CA (8)	ESA (9)	
Optional 1	SPHYCT1151	Fundamental of Physics II	10	10	10	40	--	--	50
	SPHYCP1151	Practical II	--	--	--	--	20	30	50
Optional 2	SDSCMT1151	--	10	10	10	40	--	--	50
	SDSCMP1151	Title of paper 2 Practical	--	--	--	--	20	30	50
Optional 3	SDSCMT1151	--	10	10	10	40	--	--	50
	SDSCMP1151	Title of paper 2 practical	--	--	--	--	20	30	50
Generic Elective	SDSCGE1151	Wonders in the sky **(Basket 3)**	10	10	10	40	--	--	50
Skill Based Course	SPHYSC1151	Electrical Measurements	--	--	--	--	20	30	50
Ability Enhancement Course	AECENG1151	L1 – Compulsory English	10	10	10	40	--	--	50
Indian Knowledge System	IKSXXX1151	Title **(Basket 5)**	10	10	10	40	--	--	50
Constitution of India	VECCOI1151		10	10	10	40	--	--	50

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SPHYCT1101: *Fundamentals of Physics-I*

Teaching Scheme

Course Code	Course Name (Paper Title)	Teaching Scheme (Hrs.)		Credits Assigned		
		Theory	Practical	Theory	Practical	Tota l
SPHYCT1101	Fundamentals of Physics-I	02	--	02	--	02

Major 1 -Assessment Scheme

Course Code	Course Name	Theory				Practical		Total
		CA			ESA			
		Test I	Test II	Avg of T1 & T2		CA	ESA	
SPHYCT1101	Fundamentals of Physics-I	10	10	10	40	--	--	50

Course pre-requisite:

1. Aspirant should have basic knowledge of Physics and properties of materials.
2. Should be able to understand the terminologies of physical sciences and its applications in everyday life.
3. The pre-requisite for this course is knowledge of gravitations, fluid, sound and semiconductors.

Course Objectives:

- To introduce students with concepts of fundamentals of physics in brief and properties of materials that exists in different phases i.e., solid, liquid and gas.
- To make students understand laws of motion and its applications to various systems.
- To enable students with physical properties depending on aspects of temperature, pressure etc. on fluid, sound etc

Course Outcomes:

- Students will be able to understand the fundamental nature of Physics.
- Students will be enabled to handle different types of problems and other advanced courses in Physics and Chemistry.

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SPHYCT1101: Fundamentals of Physics-I

Module No.	Unit No.	Topic	Hrs. Required
1.0		**Unit I: Gravitation**	07
	1.1	Newton's law of gravitation – statement and derivation.	
	1.2	Motion of a particle in a central force field (motion is in a plane, angular momentum is conserved, areal velocity is constant).	
	1.3	Gravitational Field and Gravitational potential.	
	1.4	Gravitational potential due to spherical shell inside and outside.	
	1.5	Kepler's Laws (statement only).	
2.0		**Unit II: Fluids**	08
	2.1	Fluids, Density, and Pressure, Measuring Pressure	
	2.2	Pascal's Principle and Hydraulics	
	2.3	Archimedes' Principle and Buoyancy	
	2.4	Fluid Dynamics, Bernoulli's Equation, Viscosity, streamline flow.	
3.0		**Unit III: Sound**	08
	3.1	Introduction: Origin of Sound, Types of sound waves based on frequency.	
	3.2	Velocity of sound in Air and water	
	3.3	Newton's formula for velocity of sound	
	3.4	Laplace correction	
	3.5	Sound Intensity	
	3.6	Effect of Temperature, Pressure, Humidity on the velocity of sound	
4.0		**Unit IV: Semiconductor Physics**	07
	4.1	Introduction, Intrinsic semiconductor	
	4.2	Extrinsic semiconductors: P-type, and N-type	
	4.3	P-N junction diode and V-I characteristics	
	4.4	Zener diode, its characteristics, reverse breakdowns, Zener diode as a voltage regulator	
	4.5	LED (V-I characteristics), photodiode (operation and characteristics	
		Total	30

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SPHYCP1101: *Practical- I (based on Fundamentals of Physics I)*

Teaching Scheme

Course Code	Course Name (Paper Title)	Teaching Scheme (Hrs.)		Credits Assigned		
		Theory	Practical	Theory	Practical	Total
SPHYCP 1101	Practical I	--	04 (60 Hr)	--	02	02

Assessment Scheme

Course Code	Course Name	Theory				Practical		Total
		CA			ESA			
		Test I	Test II	Avg (T1+T2)/2		CA	ESA	
SPHYCP1101	Practical	--	--	--	--	20	30	50

Course pre-requisite:

1. Knowledge of Principles of work
2. Basic information about instruments, gadgets etc.
3. Knowledge of precautionary measures.

Course objectives:

- The main objective of practical course is to engage the student in the subject and help them get a better understudying of the topic studies in Physics lesson.
- To allow hand on experiments to learn and understand fundamental principle of operation.
- To develop the scientific attitude amongst student.

Course outcomes:

- ✓ Students will be able to understand different concepts and principles of Physical instrumentations.
- ✓ Student will learn about validity of concepts by doing the experiment.

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SPHYCP1101: *Practical- I (based on Fundamentals of Physics I)*

Experiments based on Unit I:

1. Bar pendulum
2. Spiral spring – determination of 'Y'.
3. Tensional pendulum

Experiments based on Unit II:

4. Coefficient of viscosity by Searls viscometer
5. S.T. by Jagger's method

Experiments based on Unit III:

6. Resonance tube
7. Velocity of sound in air by Resonating bottle

Experiments based on Unit IV:

8. P-N junction diode V-I characteristics
9. Zener diode Reverse bias characteristics
10. Zener diode as a voltage regulator

STUDENT SHOULD PERFORM AT LEAST 10 (TEN) EXPERIMENTS FROM THE ABOVE LIST

****Note: Any two experiments can be added as per availability of instruments at the College.***

Books Recommended:

1. Mechanics by D.S Mathur.
2. Mechanics by J.C. Upadhaya.
3. Properties of matter by D.S. Mathur
4. Properties of matter by Brijilal and Subramanyam.
5. Waves and Oscillations – N. Subrahmanyam, Brij Lal, Second Edition, Vikas Publishing House.
6. Sound - Khanna and Bedi.
7. University Physics Volume 1- Samuel J. Ling, William Moebs, Jeff Sanny , 2016
8. Basic Electronics by V. K. Mehta
9. Basic Electronics: Solid state by B. L. Theraja

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- SPHYSC1101 (Skill): Computational Physics

Teaching Scheme

Course Code	Course Name (Paper Title)	Teaching Scheme (Hrs.)		Credits Assigned		
		Theory	Practical	Theory	Practical	Total
SPHYSC 1101	Computational Physics	--	04	--	02	02

Assessment Scheme

Course Code	Course Name	Theory				Practical		Total
		CA			ESA			
		Test I	Test II	Avg (T1+T2)/2		CA	ESA	
SPHYSC 1101	Computational Physics	--	--	--	--	20	30	50

Course pre-requisite:

Prerequisite for this course is the knowledge of elementary mathematics, calculus and computer.

Course objectives:

- To impart skills related to the use of computer and allied software and encourage them to employ that software as a part of the Physics Learning.
- To introduce the students to perform their own algorithms and flow chart, write computer programs to solve mathematical expressions using computers, make decisions, etc.

Course outcomes:

- ✓ This course being pre requisite for many advance courses hence students will be able to learn hand on experiments, program designing.
- ✓ Students will be made aware with computer systems and its functioning.

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SPHYSC1101 (Skill): Computational Physics

Module No.	Unit No.	Topic	Hrs. Required
1.0		**Algorithms and Flowcharts**	15
	1.1	Algorithm- definition and development	
	1.2	Flowchart Concept, Symbols, Algorithm and Flowcharts for roots of quadratic equation	
	1.3	sum of two matrices, sum and product of finite series	
	1.4	calculation of Sin (x) as series	
2.0		**Scientific Programming**	15
	2.1	Fortran: character set, Constants, Variables	
	2.2	Arithmetic expressions, Library functions, Arithmetic statements	
	2.3	Structure of program	
	2.4	FORMAT specification, READ, WRITE	
	2.5	Terminating a program, programming style, Unformatted I/O statements	
3.0		**Control Statements**	15
	3.1	Unconditional GOTO, Computed GOTO	
	3.2	Arithmetic IF, Logical if, IF-THEN-ELSE, Nested IF-THENELSE, ELSE-IF-THEN	
	3.3	Rules for DO loops, CONTINUE, Nested Do loops, DATA Statement	
	3.4	Double precision, Logical data, CPMPLEX data, String manipulation, WHILE structure, Array declarative statements	
	3.5	Implied Do loops, One & multidimensional array, Function subprograms, Subroutine subprograms	
	3.6	COMMON, EQUIVALENCE, Data file organization	
	3.7	OPEN a file, READ from a file, WRITE in a file, Closing a file, File creation programs, File processing programs.	
4.0		**Hands on Experiments**	15
	4.1	Centigrade to Fahrenheit conversion.	
	4.2	Area of a triangle.	
	4.3	Velocity and acceleration.	
	4.4	Fibonacci Numbers	
	4.5	Quadratic equation.	
	4.6	Sum of series.	
	4.7	Sum of sine series.	
	4.8	Greatest common divisor.	
	4.9	Matrix addition.	
	5.0	Matrix multiplication.	
		Total	60

Reference Books:

1. Introduction to Numerical Analysis, S S Sastry, 5th edition, 2012, PHI Learning Pvt. Ltd.
2. Computer programming in Fortran 77, V. Rajaraman, PHI Publisher
3. Computational Physics: An Introduction, R. C. Verma, New Age International Publisher, New Delhi.

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SPHYGE1101 (Elective): Renewable Energy

Teaching Scheme

Course Code	Course Name (Paper Title)	Teaching Scheme (Hrs.)		Credits Assigned		
		Theory	Practical	Theory	Practical	Total
SPHYGE1101	Renewable Energy	02	--	02	--	02

Assessment Scheme

Course Code	Course Name	Theory				Practical		Total
		CA			ESA			
		Test I	Test II	Avg (T1+T2)/2		CA	ESA	
SPHYGE1101	Renewable Energy	10	10	10	40	--	--	50

Course pre-requisite:

1. Knowledge of environment and energy requirements.
2. Introductory idea of renewable energy sources.
3. Aware about the light, energy requirements for household applications.

Course objective:

- To provide knowledge and awareness amongst students about need of energy conservation and make them environment consciousness.
- To introduce and create awareness among the students about use of the non-conventional energy sources such as solar energy, wind energy, tidal energy, biomass, etc.

Course outcome:

- ✓ After completing this course the students will gain knowledge of various non-conventional energy sources.
- ✓ Students will be able to understand use of renewable energy sources in day to life.
- ✓ Hand on experiments will provide them an expertise to resolve the basic issues of functioning of renewable energy source.
- ✓ Students will be trained to harvest non-conventional energy sources and design their own gadgets to convert and use them for their house hold purposes.

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SPHYGE1101 (Generic Elective): Renewable Energy

Module No.	Unit No.	Topic	Hrs. Required
1.0		**Fossil Fuels and Alternate Sources of Energy**	07
	1.1	Fossil fuels, Need of renewable energy	
	1.2	Non-conventional energy sources	
	1.3	Wind Energy, Tidal Energy	
	1.4	Solar Energy, Biomass Energy	
2.0		**Solar Energy and Harvesting**	08
	2.1	Importance, Storage of Solar Energy	
	2.2	Applications of Solar Energy	
	2.3	Solar Water Heater, Solar Distillation, Solar Cooker, Solar Greenhouses	
	2.4	Solar cell characteristics of Photovoltaic (PV) Systems	
3.0		**Wind Energy Harvesting**	08
	3.1	Fundamentals of Wind Energy	
	3.2	Wind Turbines and Electrical Machines in Wind Turbines	
	3.3	Power Electronic, Interfaces and Grid Interconnection Technologies	
4.0		**Ocean Energy**	07
	4.1	Ocean Energy, Potential against Wind and Solar Energy	
	4.2	Wave Energy Devices, Geothermal Energy Technologies	
	4.3	Hydropower Technologies	
		Total	**30**

Reference Books:

1. Non-conventional energy sources - G.D Rai - Khanna Publishers, New Delhi
2. Solar energy - M P Agarwal - S Chand and Co. Ltd.
3. Solar energy - Suhas P Sukhative Tata McGraw - Hill Publishing Company Ltd.
4. Renewable Energy, Power for a sustainable future, Godfrey Boyle, 2004, Oxford University Press, in association with The Open University.
5. Solar Energy: Resource Assesment Handbook, 2009 by Dr. P Jayakumar,
6. Photovoltaics, Lawrence J Goodrich (USA), J.Balfour, M.Shaw and S. Jarosek,

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SPHYCT1151: *Fundamentals of Physics II*

Teaching Scheme

Course Code	Course Name (Paper Title)	Teaching Scheme (Hrs.)		Credits Assigned		
		Theory	Practical	Theory	Practical	Total
SPHYCT1151	Fundamentals of Physics-II	02	--	02	--	02

Major 1 -Assessment Scheme

Course Code	Course Name	Theory				Practical		Total
		CA			ESA			
		Test I	Test II	Avg of T1 & T2		CA	ESA	
SPHYCT1151	Fundamentals of Physics-II	10	10	10	40	--	--	50

Course pre-requisite:

1. Aspirant should have basic knowledge of Physics and properties of materials.
2. Should be able to understand the terminologies of physical sciences and its applications in everyday life.
3. The pre-requisite for this course is knowledge of Optics, electromagnetic, electrical circuit analysis and kinetic theory of matters.

Course Objectives:

- To introduce students with concepts of fundamentals of physics in brief and properties of materials that includes optics, electromagnetic properties and kinetic theory of matters.
- To make students understand laws of light interactions, and electronic motion and its applications to various systems.

Course Outcomes:

- Students will be able to understand the fundamental nature of Physics.
- Students will be enabled to handle different types of problems and other advanced courses in Physics.

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SPHYCT1151: *Fundamentals of Physics II*

Module No.	Unit No.	Topic	Hrs. Required
1.0	**Unit I: Optical Instruments**		**07**
	1.1	Objective and eyepieces, Huygens eyepiece, Ramsden eyepiece (Cardinal points omitted), comparison of Huygens eyepiece and Ramsden eyepiece	
	1.2	compound microscope, telescope	
	1.3	reflecting telescope, constant deviation spectrometer	
2.0	**Unit II: Electromagnetism**		**08**
	2.1	Introduction	
	2.2	Faraday's law, Lenz's law	
	2.3	Self-induction and self-inductance	
	2.4	Self-inductance of a coil, self-inductance of a solenoid	
	2.5	Mutual induction and mutual inductance	
	2.6	Mutual inductance of a pair of co-axial coils, mutual inductance of a pair of co-axial solenoids	
3.0	**Unit III: Electrical Circuit Analysis**		**08**
	3.1	Concepts of R, L and C elements	
	3.2	Ohm's Law	
	3.3	Kirchhoff 's Laws	
	3.4	Resistors in series and parallel circuits	
	3.5	Superposition theorem	
	3.6	Thevenin's theorem	
	3.7	Norton's Theorem	
	3.8	Maximum power transfer theorem	
4.0	**Unit IV: Kinetic Theory of Matter**		**07**
	4.1	Introduction, Three states of matter, Ideal gas, Kinetic model	
	4.2	Pressure exerted by gas, r.m.s. speeds of molecules	
	4.3	Deduction of Boyl's law,	
	4.4	Derivation of gas equation	
	4.5	Derivation of gas laws	
		Total	**30**

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SPHYCP1151: *Practical-II (based on Fundamentals of Physics II)*

Teaching scheme

Course Code	Course Name (Paper Title)	Teaching Scheme (Hrs.)		Credits Assigned		
		Theory	Practical	Theory	Practical	Total
SPHYCP 1151	Practical II	--	04 (60 Hr)	--	02	02

Assessment Scheme

Course Code	Course Name	Theory				Practical		Total
		CA			ESA			
		Test I	Test II	Avg (T1+T2)/2		CA	ESA	
SPHYCP1151	Practical II	--	--	--	--	20	30	50

Course pre-requisite:

1. Knowledge of Principles of work
2. Basic information about instruments, gadgets etc.
3. Knowledge of precautionary measures.

Course objectives:

- The main objective of practical course is to engage the student in the subject and help them get a better understudying of the topic studies in Physics lesson.
- To allow hand on experiments to learn and understand fundamental principle of operation.
- To develop the scientific attitude amongst student.

Course outcomes:

✓ Students will be able to understand different concepts and principles of Physical instrumentations.

✓ Student will learn about validity of concepts by doing the experiment.

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- SPHYCP1151: *Practical- II (based on Fundamentals of Physics II)*

Experiments based on Unit I:

1. Introduction to spectrometer and measurement of direct reading.
2. Introduction to spherometer and measurement of radius of convex lens.
3. Introduction to travelling microscope and measurement of bore of capillary.
4. Determination of angle of prism.

Experiments based on Unit II:

5. Low resistance by potentiometer
6. Resistivity by Carry-Foster's bridge
7. Field along axis of circular coil.
8. C1/C2 by Desauty's method

Experiments based on Unit III:

9. Verification of KIRCHHOFF'S current and voltage laws

Experiments based on Unit IV:

10. Thermal conductivity by Lees disc method

STUDENT SHOULD PERFORM AT LEAST 10 (TEN) EXPERIMENTS FROM ABOVE LIST

Note: Any two experiments can be added as per availability of instruments at the College.

Recommended list of Books:

1. Basic Electronics- Bernard Grob, International student edition, Fourth Edition, McGraw Hill, 1977
2. Charles K. Alexander, Mathew N.O. Sadiku, Fundamentals of Electric Circuit, McGraw Hill, 2019.
3. Electric Circuits, S. A. Nasar, Schaum's outline series, Tata McGraw Hill (2004)
4. Electrical Circuits, M. Nahvi and J. Edminister, Schaum's Outline Series, Tata McGrawHill (2005)
5. A textbook of optics by N. Subrahmanyam, Brijlal, M. N. Avadhanulu S. Chand Publications.
6. University Physics Volume 2 by Samuel J. Ling, Jeff Sanny, William Moebs, Open Stax.
7. Heat, Thermodynamics and statistical Physics Revised Edition (Multicolour), by Brijlal, N. Subrahmanyam and P.S. Hemne, S. Chand and Company Ltd.

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SPHYSC1151 (Skill): Electrical Measurements

Teaching Scheme

Course Code	Course Name (Paper Title)	Teaching Scheme (Hrs.)		Credits Assigned		
		Theory	Practical	Theory	Practical	Total
SPHYSC1151	Electrical Measurement	--	04	--	02	02

Assessment Scheme

Course Code	Course Name	Theory				Practical		Total
		CA			ESA			
		Test I	Test II	Avg (T1+T2)/2		CA	ESA	
SPHYSC1151	Electrical Measurement	--	--	--	--	20	30	50

Course pre-requisite:

1. Knowledge of basic electrical working principles and symbols.
2. Wiring principles and connections including phases.
3. Aware about the safety measures and handling of tools.

Learning objectives:

- To provide knowledge about the electrical gadgets and their working principles.
- To introduce about the electrical wiring systems at domestic and household appliances.
- To provide hand on experiments for electrical installations, maintenance and wiring repairs.

Learning outcome:

- ✓ After completing this course the students will gain knowledge of various electrical gadget installations at domestic levels.
- ✓ Students will be able to understand wiring systems and electrical connections of different phases at house hold appliances.
- ✓ Hand on experiments will provide them an expertise for electrical installations, maintenance and wiring repairs.

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SPHYSC1151 (Skill): Electrical Measurements

Module No.	Unit No.	Topic	Hrs. Required
1.0		**Types of Wires and Protective Devices**	16
	1.1	Types of wires, size of wire, Concept of gauge of wire, current carrying capacity, comparison between copper and aluminum wire, Choice of conductor material.	
	1.2	Different types of switches for electrical purposes.	
	1.3	Ordinary fuse, cartridge fuse, HRC fuse, cut out, Determination of Fuse size according to the load of circuit and its location, Use of Miniature circuit breaker (MCB), Earth leakage circuit breaker (ELCB).	
2.0		**Domestic Wiring Installation**	16
	2.1	Wiring accessories, Main switch, Distribution board, Junction box, Switch board, Sub circuit	
	2.2	Positioning of wiring accessories, Simple light & Fan circuit	
	2.3	Power circuit, Staircase lighting circuits, Electrical wiring installation in buildings.	
3.0		**Testing of Installation**	16
	3.1	Insulation resistance test between installation & earth	
	3.2	Insulation resistance test between conductors.	
	3.3	Rules for installation of power circuit, Guidelines for power circuit wiring in small industries. Concept of three phase supply, Phase voltage, line voltage, testing of three phase voltage with test lamp and multimeter.	
4.0		**Hands on experiments**	12
	4.1	Measurement of guage of wire.	
	4.2	Electrical Fuse Testing	
	4.3	Measurements of earth resistance	
	4.4	Testing of three phase supply using multimeter	
	4.5	Measurement of resistance using color code	
	4.6	Insulation resistance measurements	
		Total	**60**

Reference Books:

1. Electrical Estimating & costing – J.B.Gupta- S.K.Kataria Publication
2. Electrical Estimating & costing – S.R.Chakraborty
3. Electrical Estimating & costing – S.Singh- Dhanpat Rai Publication
4. Installation Commissioning & Maintenance of Electrical equipment – Tarlok singh - S.K.Kataria Publication

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SPHYGE1151 (Elective): Wonders in the Sky

Teaching Scheme

Course Code	Course Name (Paper Title)	Teaching Scheme (Hrs.)		Credits Assigned		
		Theory	Practical	Theory	Practical	Total
SPHYGE 1151	Wonders in the Sky	02	--	02	--	02

Assessment Scheme

Course Code	Course Name	Theory				Practical		Total
		CA			ESA			
		Test I	Test II	Avg (T1+T2)/2		CA	ESA	
SPHYGE 1151	Wonders in the Sky	10	10	10	40	--	--	50

Course pre-requisite:

None this course is open to all the students, hence have no pre-requisite

Course objective:

- To inculcate the scientific awareness about the vastness of the space
- To introduce the learners about the world of astronomy
- To explore and compare the properties of planets in solar system
- Too understand the structure of universe and our position in it

Course outcome:

- ✓ Identify the objects visible to the unaided eye in the night sky
- ✓ Explain the phenomenon like seasons on earth, solar and lunar eclipse
- ✓ Explain the dynamics of planet in solar system, use the orbital properties to estimate mass of the sun
- ✓ Compare and contrast the terrestrial planets and the Jovian planets
- ✓ Derive the scientific understanding and explain the observed properties of starts and estimate their temperature, mass, size etc
- ✓ Describe the scale of universe and relative sizes of the different objects within the Universe
- ✓ Describe the Earth's place in the solar system, Galaxy and Universe.

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SPHYGE1151 (Elective): Wonders in the Sky

Module No.	Unit No.	Topic	Hrs. Required
1.0		**Observational Astronomy**	07
	1.1	Contribution of Ptolemy, Copernicus, Tycho Brahe, Johannes Kepler, Galileo Galilei	
	1.2	Concept of positional astronomy: celestial sphere, cardinal points, circle of celestial sphere, alt azimuth, equatorial coordinate system (Introd)	
	1.3	Sidereal, Apparent and Mean solar time and their relations	
	1.4	Constellation and nomenclature of starts: Aries, Pisces, Orion, Canis major, Taurus, Leo, Summer Triangle and Big Dipper (Saptarsi)	
2.0		**The Solar Family**	08
	2.1	Sun & its atmosphere, planetary system, elliptical orbits & Kepler's laws	
	2.2	Terrestrial laws Jovian planets, characteristics of Terrestrial laws Jovian planets, asteroids, meteors and meteorites, comets (elementary ideas)	
	2.3	Phases and motion of moon, solar and lunar eclipses, seasons	
	2.4	Origin of the solar system-the nebular model	
3.0		**The World of Stars**	08
	3.1	Stellar distance scale, distance of stars by trigonometric parallax	
	3.2	Brightness and luminosities- innerves square laws, apparent magnitude, relation between brightness and apparent magnitude, absolute magnitude	
	3.3	Black body approximation to the continuous radiations, planks laws	
	3.4	Color index and temperature of stars, classification of stars, H-R diagram and silent features	
4.0		**Vastness of the Universe**	07
	4.1	Milky way's shape, size and structure, our position in it, rotation of the milky ways (elementary ides)	
	4.2	Other galaxies in the universe- type and properties	
	4.3	Concept of red shift, Hubble laws of expanding universe, age of universe	
	4.4	Origin of the universe-the big bang theory (elementary ides)	
		Total	30

Text Books:

1. V. B. Bhatia , *Textbook of Astronomy and Astrophysics with Elements of Cosmology*, Narosa Publishing House, New Delhi.
2. K. D. Abhyankar, *Astrophysics: Stars and Galaxies*, Tata McGraw Hill Publication
3. Baidyanath Basu, *An Introduction to astrophysics*, PHI Learning Pvt. Ltd.
4. Frank H. Shu, *The Physical Universe*, University of California, Berkeley

Reference Books:

1. Jayant Vishnu Narlikar, *Seven Wonders of the Sky*, Cambridge University Press
2. A. Unsold and B. Boschek, *The New Cosmos: An Introduction to Astronomy and Astrophysics*, 5th ed. Springer-Verlag, Berling
3. Bardley W. Caroll and Dale A Ostlie, *An Introduction to Modern Astrophysics*, 2nd Edition, Pearson Publishers

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Guidelines for the Course Assessment:

A. Continuous Assessment (CA) (20% of the Maximum Marks) of theory and practical courses:

i. **For Theory Course:** CA shall form 20% of the Maximum Marks and shall be carried out over the entire semester. It shall be done by conducting **Two Tests** (Test I on 40% curriculum) and **Test II** (on remaining 40% syllabus) and average of the marks scored by a student in these two tests of a particular paper shall be taken as the **CA** score.

ii. **For Practical Course:** CA score of the practical course shall be marks scored by a student in the internal practical examination conducted by the concerned teacher.

B. End Semester Assessment (80% of the Maximum Marks) of theory and practical courses:

(For illustration a paper of 02 credits, 50 marks has been considered and shall be modified appropriately depending upon credits of the individual paper)

Question Paper Pattern of the ESA:

i. **ESA Question paper shall consist 6 questions, each of 10 marks**
ii. **Question No.1 shall be compulsory and shall be based on the entire syllabus**
iii. Students shall have to solve ***ANY THREE*** of the remaining Five Questions (i.e. from question 2 to 6)
iv. **Students shall have to solve a TOTAL of 4 Questions.**

C. Syllabi, Teaching and Examination Scheme for the courses in Column 7 and Column 8 (AEC, VEC, IKS, CI, EVS, CCCs, etc.) shall be common for all the students from different faculties.

Note: Number of lectures required to cover syllabus of a course depends on the number of credits assigned to a particular course. One credit of theory corresponds to 15 Hours lecturing and for practical course one credit corresponds to 30 Hours. For example, for a course of two credits 30 lectures of one hour duration are assigned, while that for a three credit course 45 lectures.

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Question Paper Pattern

Semester End Assessment
B. Sc. First/Second Year Physics

Time: 02 Hrs **(NEP – 2020 Pattern)** **Total Marks: 40**

Note: i) All questions are carry equal marks.
ii) Question 1. is compulsory.
iii) Solve ANY THREE of the remaining Five Questions (Q.2 to Q.6).
iv) Figures to the right indicates full marks.

Question 1 – Solve the following questions **(Each questions 2.5 mark) 10 marks**

a) *This question will be based on Module I*

b) *This question will be based on Module II*

c) *This question will be based on Module III*

d) *This question will be based on Module IV*

Question 2 – *This question will be based on* ***Module I*** **(Each sub questions 5 mark) 10 marks**

a)

b)

Question 3 – *This question will be based on* ***Module II*** **(Each sub questions 5 mark) 10 marks**

a)

b)

Question 4 – *This question will be based on* ***Module III*** **(Each sub questions 5 mark) 10 marks**

a)

b)

Question 5 – *This question will be based on* ***Module IV*** **(Each sub questions 5 mark) 10 marks**

a)

b)

Question 6 – Write short note on any two **(2x5 mark) 10 marks**

a) *This question will be based on Module I*

b) This question will be based on Module II

c) *This question will be based on Module III*

d) This question will be based on Module IV

(*Dr. K. S. Kanse*)
Chairman, BOS in Physics

Principal
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SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED - 431 606 (MS)

स्वामी रामानंद तीर्थ
मराठवाडा विद्यापीठ, नांदेड

(Credit Framework and Structure of Four Year UG Program with Multiple Entry and Exit Option as per NEP-2020)

UNDERGRADUATE PROGRAMME OF SCIENCE & TECHNOLOGY

SUB - ZOOLOGY

Major in DSC and Minor in DSM (Subject)

Under the Faculty of Science & Technology

(Revised as per the Govt. Of Maharashtra circular dt. 13th March 2024)

With effect from June 2024

Effective from the Academic Year 2024 – 2025

(As per NEP-2020)

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॥ सा विद्या या विमुक्तये ॥

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

'ज्ञानतीर्थ', विष्णुपुरी, नांदेड - ४३१ ६०६ (महाराष्ट्र राज्य) भारत

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

'Dnyanteerth', Vishnupuri, Nanded - 431 606 (Maharashtra State) INDIA

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Academic-1 (BOS) Section

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शैक्षणिक वर्ष २०२४–२५ पासून राष्ट्रीय शैक्षणिक धोरणानुसार लागू केलेल्या विज्ञान व तंत्रज्ञान विद्याशाखेतील पदवी प्रथम वर्षाच्या सुधारित (दुरूस्ती) अभ्यासक्रमा बाबत..

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प रि प त्र क

संदर्भ – १. जा.क्र.शै–१/एनईपी/विज्ञानविपदवी/२०२४–२५/१२३ दिनांक २०/०६/२०२४

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, संदर्भीय परिपत्रकान्वये दिनांक १५ मे २०२४ रोजी संपन्न झालेल्या मा. विद्यापरिषदेच्या बैठकीतील विषय क्र. १५/५९–२०२४ अन्वये मान्यता दिल्यानुसार विज्ञान व तंत्रज्ञान विद्याशाखे अंतर्गत राष्ट्रीय शैक्षणिक धोरणानुसार पदवी प्रथम वर्षाचे अभ्यासक्रम शैक्षणिक वर्ष २०२४–२५ पासून लागू करण्यात आलेले आहेत. तथापी वरील संदर्भीय परिपत्रका अन्वये प्रकाशित केलेल्या अभ्यासक्रमामध्ये अभ्यासमंडळांनी किरकोळ दुरूस्ती करून अभ्यासक्रम सादर केला असून मा. अधिष्ठाता, विज्ञान व तंत्रज्ञान विद्याशाखा यांच्या मान्यतेने दुरूस्ती केलेले खालील अभ्यासक्रम लागू करण्यात येत आहेत.

01	B. Sc. I year Zoology

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी, ही विनंती.

'ज्ञानतीर्थ' परिसर,

विष्णुपुरी, नांदेड – ४३१ ६०६.

जा.क्र.:शैक्षणिक–१/परिपत्रक/एनईपीबीएस्सी/S&T/२०२४–२५/३०८

दिनांक : १४.१०.२०२४

डॉ. सरिता लोसरवार
सहाय्यक कुलसचिव
शैक्षणिक अभ्यासमंडळ विभाग

प्रत माहिती व पुढील कार्यवाहीस्तव,

०१. मा. अधिष्ठाता, विज्ञान व तंत्रज्ञान विद्याशाखा, प्रस्तुत विद्यापीठ.
०२. मा. समन्वयक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
०३. मा. संचालक, सर्व संबंधित संकुले, प्रस्तुत विद्यापीठ.
०४. मा. प्राचार्य, सर्व संबंधित महाविद्यालये, प्रस्तुत विद्यापीठ.
०५. सिस्टम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ. यांना देवून कळविण्यात येते की, सदरील परिपत्रक विद्यापीठाच्या संकेतस्थळावर प्रसिध्द करण्यात यावे.

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Tq.Mukhed Dist.Nanded

From the Desk of the Dean, Faculty of Science and Technology

Swami Ramanand Teerth Marathwada University, Nanded, enduring to its vision statement "***Enlightened Student: A Source of Immense Power***", is trying hard consistently to enrich the quality of science education in its jurisdiction by implementing several quality initiatives. Revision and updating curriculum to meet the standard of the courses at national and international level, implementing innovative methods of teaching-learning, improvisation in the examination and evaluation processes are some of the important measures that enabled the University to achieve ***the 3Es, the equity, the efficiency*** and ***the excellence*** in higher education of this region. To overcome the difficulty of comparing the performances of the graduating students and also to provide mobility to them to join other institutions the University has adopted the cumulative grade point average (CGPA) system in the year 2014-2015. Further, following the suggestions by the UGC and looking at the better employability, entrepreneurship possibilities and to enhance the latent skills of the stakeholders the University has adopted the Choice Based Credit System (CBCS) in the year 2018-2019 at graduate and post-graduate level. This provided flexibility to the students to choose courses of their own interests. To encourage the students to opt the world-class courses offered on the online platforms like, NPTEL, SWAYM, and other MOOCS platforms the University has implemented the credit transfer policy approved by its Academic Council and also has made a provision of reimbursing registration fees of the successful students completing such courses.

SRTM University has been producing a good number of high calibre graduates; however, it is necessary to ensure that our aspiring students are able to pursue the right education. Like the engineering students, the youngsters pursuing science education need to be equipped and trained as per the requirements of the R&D institutes and industries. This would become possible only when the students undergo studies with an updated and evolving curriculum to match global scenario.

Higher education is a dynamic process and in the present era the stakeholders need to be educated and trained in view of the self-employment and self-sustaining skills like start-ups. Revision of the curriculum alone is not the measure for bringing reforms in the higher education, but invite several other initiatives. Establishing industry-institute linkages and initiating internship, on job training for the graduates in reputed industries are some of the important steps that the University would like to take in the coming time. As a result, revision of the curriculum was the need of the hour and such an opportunity was provided by the New Education Policy 2020. National Education Policy 2020 (NEP 2020) aims at equipping students with knowledge,

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skills, values, leadership qualities and initiates them for lifelong learning. As a result the students will acquire expertise in specialized areas of interest, kindle their intellectual curiosity and scientific temper, and create imaginative individuals.

The curriculum given in this document has been developed following the guidelines of NEP-2020 and is crucial as well as challenging due to the reason that it is a transition from general science based to the discipline-specific-based curriculum. All the recommendations of the ***Sukanu Samiti*** given in the **NEP Curriculum Framework-2023** have been followed, keeping the disciplinary approach with rigor and depth, appropriate to the comprehension level of learners. All the Board of Studies (BoS) under the Faculty of Science and Technology this university have put in their tremendous efforts in making this curriculum of international standard. They have taken care of maintaining logical sequencing of the subject matter with proper placement of concepts with their linkages for better understanding of the students. We take this opportunity to congratulate the Chairman(s) and all the members of various Boards of Studies for their immense contributions in preparing the revised curriculum for the benefits of the stakeholders in line with the guidelines of the **Government of Maharashtra regarding NEP-2020**. We also acknowledge the suggestions and contributions of the academic and industry experts of various disciplines.

We are sure that the adoption of the revised curriculum will be advantageous for the students to enhance their skills and employability. Introduction of the mandatory ***On Job Training, Internship program*** for science background students is praise worthy and certainly help the students to imbibe firsthand work experience, team work management. These initiatives will also help the students to inculcate the workmanship spirit and explore the possibilities of setting up of their own enterprises.

Prof. Dr. M. K. Patil
Dean
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Principal
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Tq.Mukhed Dist.Nanded

From Desk of Chairman, Board of Studies of the Subject Zoology

Preamble:

Education is fundamental for achieving full human potential, developing an equitable and just society, and promoting national development. NEP-2020, New Education Policy lays particular emphasis on the development of the creative potential of each individual. It is based on the principle that education must develop not only cognitive capacities - both the 'foundational capacities' of literacy and numeracy and 'higher-order' cognitive capacities, such as critical thinking and problem solving – but also social, ethical, and emotional capacities and dispositions.

The basic science education in India in general is expanding in manifolds. Now, the challenge is to ensure its quality to the stakeholders along with the expansion. To meet this challenge, the issue of quality needs to be addressed, debated and taken forward in a systematic manner. Program outcomes are essentially a range of skills and knowledge that a student will have at the time of graduation from the program. The basic science program must ensure that its graduates understand the basic concepts of science, and use its methodologies of analyses and design, and have acquired skills for life - long learning.

An all Basic Science program must therefore have a mission statement which is in conformity with program objectives and program outcomes that are expected of the educational process. The outcomes of a program must be measureable and must be assessed regularly through proper feedback for improvement of the programme. The curriculum must be constantly refined and updated to ensure that the defined objectives and outcomes are achieved. Students must be encouraged to comment on the objectives and outcomes and the role played by the individual courses in achieving them.

I, as a Chairman, Board of Studies in Zoology, SRTM University, Nanded happy to state that, Program Educational Objectives were finalized with the help of our BOS members, of Zoology. The Program Educational Objectives finalized for undergraduate program in Zoology are listed below;

- To provide students with a strong foundation in the basic science, scientific and fundamentals necessary to formulate, solve and analyze problems and to prepare them for undergraduate studies.
- To prepare students to demonstrate an ability to identify, formulate and solve basic science problems.
- To prepare students to demonstrate ability to design systems and conduct experiments, analyze and interpret data.
- To prepare students to demonstrate for successful career in industry to meet needs

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of Indian and multi-national companies.

- To develop the ability among students to synthesize data and technical concepts.
- To provide opportunity for students to work as part of teams on multidisciplinary projects.
- To promote awareness among students for the life-long learning and to introduce them to professional ethics and codes of professional practice.

In addition to Program Educational Objectives, for each course of undergraduate program, objectives and expected outcomes from learner's point of view are also included in the curriculum to support the philosophy of outcome based education. I believe strongly that small step taken in right direction will definitely help in providing quality education to the stake holders.

Prof. Dr. H. S. Jagtap
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Faculty of Science and Technology

Details of the Board of Studies Members in the subject **Zoology** under the Faculty of Science & Technology of S.R.T.M. University, Nanded

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9	Dr. Deepak Pandurang Katore	Member	Nagnath Arts, Commerce & Science College, Aundha Nagnath, Dist. Hingoli	9765737373, 9134737373 katoredeepak@gmail.com
10	Dr. Ramrao Janardhanrao Chavan	Member	Dr. Babasaheb Ambedkar Marathwada University, Aurangabad	chavanrj@gmail.com 9423030859
11	Dr. Ranjitsingh Krishnarao Nimbalkar	Member	Government Institute of Forensic Science, Aurangabad	rknimbalkar@gmail.com 9422345234
12	Dr. Karmveer Nagnathrao Kadam	Member	Shri Kumarswami Mahavidyalaya, Ausa Dist. Latur.	karmbeernk@gmail.com 9970129919
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15	Pandhrpure Laxmi Gurunath (UG Merit Student, Zoology)	Invitee Member	C/o. Maharashtra Mahavidyalaya Nilanga	9529251388
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B.Sc. First Year Zoology Semester I *(Level 4.5)*

Teaching Scheme

	Course Code	Course Name	Credits Assigned			Teaching Scheme (Hrs/ week)	
			Theory	Practical	Total	Theory	Practical
Optional	SZOOCT1101	Biodiversity of Non-chordates	02	--	**02**	02	--
	SZOOCP1101	Based on SZOOCC1101 (Biodiversity of Non-chordates)	-	02	**02**		04
Generic Electives (GE or OE)	SZOOGE1101	Animal Diversity - I	02	--	**02**	02	--
Skill Enhancement Course	SZOOSC1101	Parasites of Public Health Importance Or Vermiculture & Vermicomposting		02	**02**		04
Total Credits			**04**	**04**	**08**	**04**	**08**

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B.Sc. First Year Zoology Semester I *(Level 4.5)*

Examination Scheme

Subject (1)	Course Code (2)	Course Name (3)	Theory				Practical		Total Col (6+7) / Col (8+9) (10)
			Continuous Assessment (CA)			ESA			
			Test I (4)	Test II (5)	Avg of (T1+T2)/2 (6)	Total (7)	CA (8)	ESA (9)	
Optional	SZOOCT1101	Biodiversity of Non-chordates	10	10	10	40	--	--	50
	SZOOCP1101	Based on SZOOCC1101 (Biodiversity of Non-chordates)	--	--	--	--	20	30	50
Generic Electives (GE or OE)	SZOOGE1101	Animal Diversity – I	10	10	10	40	--	--	50
Skill Enhancement Course	SZOOSC1101	Parasites of Public Health Importance Or Vermiculture & Vermicomposting					20	30	50
									200

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B.Sc. First Year Zoology Semester II *(Level 4.5)*

Teaching Scheme

	Course Code	Course Name	Credits Assigned			Teaching Scheme (Hrs/ week)	
			Theory	Practical	Total	Theory	Practical
Optional	SZOOCT1151	Biodiversity of Chordates	02	--	**02**	02	--
	SZOOCP1151	Based on SZOOCC1151 (Biodiversity of Chordates)		02	**02**	--	04
Generic Electives (GE or OE)	SZOOGE1151	Animal Diversity - II	02	--	**02**	02	--
Skill Enhancement Course	SZOOSC1151	Aquarium Keeping Or Animal Museology		02	**02**		04
Total Credits			**04**	**04**	**08**	**04**	**08**

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B.Sc. First Year Semester II *(Level 4.5)*

Examination Scheme

Subject (1)	Course Code (2)	Course Name (3)	Theory				Practical		Total [Col (6+7) / Col (8+9)] (10)
			Continuous Assessment (CA)			ESA			
			Test I (4)	Test II (5)	Avg of (T1+T2)/2 (6)	Total (7)	CA (8)	ESA (9)	
Optional	SZOOCT1151	Biodiversity of Chordates	10	10	10	40	--	--	50
	SZOOCP1151	Based on SZOOCC1151 (Biodiversity of Chordates)	--	--	--	--	20	30	50
Generic Electives (GE or OE)	SZOOGE1151	Animal Diversity - II	10	10	10	40	--	--	50
Skill Enhancement Course	SZOOSC1151	Aquarium Keeping Or Animal Museology					20	30	50
									200

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Science and Technology,

Four Year UG Program, Zoology (w.e.f. June -2024)

B. Sc. First Year, Semester-I

SZOOCT1101 : Biodiversity of Non-chordates

Periods : 30 **No. of Credits: 02 (Marks: 50)**

Course objectives:

1. To broadly understand biodiversity, habitat, adaptation, anatomical organization and taxonomic status of non-chordates phyla in relation to other animal taxa.
2. Understanding the basic of biological classification and its conceptual framework.
3. Appreciating the structural and functional correlation between different non-chordates groups.

Course outcomes:

1. The student will be able to identify a given non-chordates upto class level.
2. Ability to understand the contribution of non-chordates in the biodiversity index of any given habitat.
3. Ability to understand and appreciate the ecological and economic importance of non-chordates.
4. Ability to identify and describe external morphology and internal anatomical features of representative non-chordates species.

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SZOOCT1101 : Biodiversity of Non-chordates : Course Contents

ModuleNo.	UnitNo.	Topic	Hrs. Required to cover the contents
1. 0			
	1.1	Introduction of Non-chordates Protozoa: General characters and classification up to class level with suitable examples; Locomotory Organelles and locomotion in Protozoa.	7
	1.2	Brief account of each of Structure, Life Cycle, Pathogenicity and Control Measures of *Plasmodium vivax.*	
	1.3	Porifera:-General characters and classification up to class level with suitable examples;	
	1.4	Canal System in *Sycon;* Economic importance of Porifera.	
2.0			
	2.1	Coelenterata: General characters and classification up to class level with suitable examples; Polymorphism in Hydrozoa. Platyhelminthes: General characters and classification up to class level with suitable examples;	8
	2.2	Brief account of each of Structure, Life Cycle, Pathogenicity and Control Measures of *Taenia solium.*	
	2.3	Nemathelminthes: General characters and classification up to class level with suitable examples;	
	2.4	Brief account of each of Structure, Life Cycle, Pathogenicity and Control Measures of *Ascaris lumbricoides.*	
3.0			
	3.1	Annelida: General characters and classification up to class level with suitable examples; Metamerism in Annelida; vermiculture and vermicomposting.	7
	3.2	Arthropoda: General characters and classification up to class level with suitable examples;	
	3.3	Metamorphosis in Insects.	
	3.4	Cockroach- External Morphology, Digestive system, Respiratory system, Nervous system. Economic importance of insects.	
4.0			
	4.1	Mollusca: General characters and classification up to class level with suitable examples; Economic importance of mollusca.	8
	4.2	Echinodermata: General characters and classification up to class level with suitable examples;	
	4.3	Star Fish- External Morphology, Larval forms in Echinoderms.	
	4.4	Hemichordata:General Characters and Affinities.	
		Total	**30**

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Text Books

1. Sedgwick, A.A. 'Students Text Book of Zoology', Vol. I, II and III. Central Book Depot, Allahabad.
2. Parker, T.J., Haswell, W.A. 'Text Book of Zoology', Macmillan Co., London.
3. Sedgwick, A.A., Students Text Book of Zoology, Vol.II

Reference Books

1. Hyman L.H. 'The Invertebrates. Vol I-Protozoa through Ctenophora', McGraw Hill Co, New York.
2. Hyman, L.H. 'The Invertebrates Vol-II', McGraw Hill Co., New York.
3. Hyman, L.H. 'The Invertebrates. Vol-VIII', McGraw Hill Co., New York and London.
4. Barnes, R.D. 'Invertebrate Zoology, 3rd edition', W.B. Saunders Co., Philadelphia.
5. Barrington, E.J.W. 'Invertebrate Structure and Function', Thomas Nelson and Sons Ltd., London.
6. Boume, G.H., The Structure and functions of nervious tissue academic Press, New York.
7. Eecles, J.C., The understanding of the brain, McGraw Hill CO., New York and London.
8. Torrey, T.W., Morphogenesis of erthates, John Wiley & Sons Inc., New York.
9. Davidson, E.H. 'Gene activity during early development'Academic press, New York

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Science and Technology,

Four Year UG Program, Zoology (w. e. f. June -2024)

B. Sc. First Year, Semester-I

SZOOCP1101 : Biodiversity of Non-Chordates (Based on Paper No. SZOOCT1101)

Periods : 60 **No. of Credits: 02 (Marks: 50)**

Objectives:

1. To understand the anatomical organization of any species.
2. To identify and handle different body parts of non-chordates.
3. To understand and perform temporary and permanent mountings.

Outcomes:

1. Ability to understand the anatomical organization of organs and systems in representative species.
2. Ability to identify and describe structure and functions of different body parts of non-chordates.
3. Students would be able to prepare temporary and permanent mountings of biological material.
4. Students would make observations of organisms in their natural environment and document them.

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1. Study of at least two museum specimens from non-chordates Phyla. (Protozoa to Echinodermata and Hemichordata).
2. Demonstration based on Models, Charts and Computer Aided Techniques:
i) Cockroach: Digestive system, Respiratory system and Nervous system.
ii) Earthworm : Alimentary canal, Reproductive system and Nerve ring
3. Permanent Mountings - i) Mouth parts of Cockroach; ii) Trachea of Cockroach; iii) Salivary glands of Cockroach; iv) Nereis Parapodia;
4. An "Animal Album" containing photographs, cut outs, with appropriate write up about the different taxa. Different taxa/ topics may be given to different sets of students for this purpose.
5. Short excursion/ study Tour is compulsory.
6. Submission:
i) Practical record book duly signed by the teacher in charge/Head of the Department.
ii) Five permanent stained micro preparations.
iii) Animal Album.
iv) Excursion report.

(Demonstration of animal Dissections through Models, Charts or Computer Aided Techniques as per U.G.C Guidelines)

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Faculty of Science and Technology,

Four Year UG Program, Zoology (w.e.f. June -2024)

B. Sc. First Year, Semester – I

Generic Elective (GE/OE)

SZOOGE1101: Animal Diversity - I

Periods : 30 **No. of Credits: 02 (Marks: 50)**

Course objectives :

Zoology is the scientific study of animal life. Animals are the most diverse creatures on this planet.

1. This course gives a framework for understanding the diversity within different groups, and interrelationship among different species and genera within each group.
2. The aim of this course is to understand the importance of animal kingdom in context to hierarchy, body plan and their role in ecological development.
3. This course provides an overview of the invertebrate, including sponges, cnidarians, flatworms, nematodes, annelids, molluscs, arthropods, echinoderms etc.
4. Provide knowledge of coelom formation, different level of organization, different modes of living, evolutionary changes of Non-chordates and their salient features.
5. Also impart knowledge on different classes of non-chordates.
6. After completion of this course, the learners will have a framework for understanding all of the different types of animals, and the characteristics of each.

Course Outcomes :

Upon completion of the course, students will be able to:

1. Distinguish between major phyla of animals through a demonstrated understanding of their taxonomic classification and diversity.
2. Describe the distinguishing characteristics of all major phyla.
3. Understand the fundamental differences among animal body plans and relate them to function, taxonomic classification, and evolutionary relationships among phyla.
4. Illustrate lifecycles, structure, function and reasons for importance of few representative organisms from different groups of animals.
5. Identify anatomical structures from prepared tissues.
6. Observe living animals in the environment and relate observations to theory from the course.
7. Recognize major animal phyla and animals on the basis of their external characteristics.

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SZOOGE1101: Animal Diversity-I : Course Contents

ModuleNo.	Unit No.	Topic	Hrs. Required to cover the contents
1. 0			
	1.1	Protista : General characters of Protozoa; Life cycle of Plasmodium	7
	1.2	Porifera: General characters and canal system in Porifera	
	1.3	Radiata: General characters of Cnidarians and polymorphism	
	1.4	Aceolomates: General characters of Helminthes;	
2.0			
	2.1	Life cycle of *Taenia solium*. Platyhelminthes.	8
	2.2	Pseudocoelomates: General characters of Nemethehelminthes	
	2.3	Parasitic adaptations.	
	2.4	External structure of *Ascaris lumbricoides*	
3.0			
	3.1	Coelomate Protostomes : General characters of Annelida, Metamerism.	7
	3.2	Vermiculture & Vermicomposting.	
	3.3	Arthropoda: General characters, Social life in insects.	
	3.4	External morphology of Palaemon (Prawn)	
4.0			
	4.1	Mollusca: General characters of mollusca; Pearl Formation.	8
	4.2	Economic importance of Mollusca. External morphology of Pila.	
	4.3	Coelomate Deuterostomes : General characters of Echinodermata	
	4.4	Water Vascular system in Starfish. External morphology of Starfish.	
		Total	**30**

Reference Books

1. Barnes, R.D. (1992). Invertebrate Zoology. Saunders College Pub. USA.
2. Ruppert, Fox and Barnes (2006) Invertebrate Zoology. A functional Evolutionary Approach 7th Edition, Thomson Books/Cole
3. Campbell & Reece (2005). Biology, Pearson Education, (Singapore) Pvt. Ltd.
4. Kardong, K. V. (2002). Vertebrates Comparative Anatomy. Function and Evolution. Tata McGraw Hill Publishing Company. New Delhi.
5. Raven, P. H. and Johnson, G. B. (2004). Biology, 6th edition, Tata McGraw Hill Publications. New Delhi.

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Science and Technology,

Four Year UG Program, Zoology (w.e.f. June -2024)

B. Sc. First Year, Semester – I

Skill Enhancement Course in Zoology

SZOOSC1101: (A) Parasites of Public Health Importance

Periods : 60 **No. of Credits: 02 (Marks: 50)**

Course Objectives:

1. The main learning objectives of this skill course include study of parasites of public health importance.
2. This course is intended to a detailed treatment of parasites with emphasis on almost all major features of Biology of these parasites.
3. The outbreak and spread of these parasitic diseases is found across the globe and that too on a large scale.
4. To provide knowledge about biology of parasites of public health importance.
5. To study the medical importance of common arthropods with special emphasis on diseases caused by them.
6. To impart training of collection, processing, identification and reporting of parasites of public health importance.

Course Outcomes:

1. Due to this, the study of these parasites is of paramount significance, to which this skill set attempts to address.
2. Knowledge and understanding of biology of parasites of public health importance.
3. Recognize and appreciate the medical importance of common arthropods and diseases caused by them.
3. Flawlessly perform collection, processing, identification and reporting of parasites of public health importance.

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SZOOSC1101: (A) Parasites of Public Health Importance

Course Contents:

ModuleNo.	Unit No.	Topic	Hrs. Required to cover the contents
1. 0			15
	1.1	Brief introduction of Parasitology, Parasitism, Parasite, Host, Vector.	
	1.2	**Malarial Parasites** History, Geographic distribution, Taxonomic position of different Species of malarial parasites.	
	1.3	Distinguishing characters of different species of human malarial parasites, Life cycle, Pathogenicity, Prevention and control measures of Malarial parasites.	
	1.4	**Practical's:** 1. Preparation of stains- JSB I and II, Leishman and Giemsa. 2. Preparation of blood smears (thick and thin) and staining with JSB, Leishman and Giemsa for malaria parasite infection. 3. Dissection and examination of mosquitoes for malaria parasite infection. 4. Identification of various stages of malaria parasites: (I) Plasmodium vivax (II) P. falciparum (III) P. malariae (IV) P. ovale	
2.0			15
	2.1	**Parasitic Platyhelminthes** History, Geographic distribution , Morphology	
	2.2	Life Cycle, Pathogenicity	
	2.3	Prevention and control measures of Schistosoma haematobium and Taenia solium.	
	2.4	**Practicals:** 1. Examination of Urine and stool sample for assessment of presence and intensity of Schistosoma infection. 2. Collection and preservation of Cestodes from locally available hosts intestines. 3. Staining, Mounting, drawing and identification of Cestode Parasites. 4. Identification, classification and description of Parasitic platyhelminths (Schistosoma haematobium and Taenia solium) through permanent slides/photomicrographs or specimens.	
3.0			15

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	3.1	**Lymphatic Filarial Parasites** - Wuchereria bancrofti. History, Geographic distribution of lymphatic filariasis	
	3.2	Taxonomic position of Filarial worm (Wuchereria bancrofti), Distinguishing characters,	
	3.3	Life cycle, Pathogenicity, Prevention and control measures.	
	3.4	**Practicals** 1. Dissection and examination of mosquitoes for filarial parasite (Wuchereria bancrofti) infection. 2. Staining and examination of blood smears for detection of microfilariae. 3. Identification, classification and description of Lymphatic Filarial Parasites- Wuchereria bancrofti through permanent slides / photomicrographs or specimens.	
4.0			
	4.1	**Insects of Medical Importance** Morphology, Medical importance and Control of Pediculus humanus,	
	4.2	Xenopsylla cheopis Anopheles	
	4.3	Culex, Aedes.	
	4.4	**Practicals** 1.Study of arthropod vectors associated with human diseases: Pediculus, Xenopsylla, Culex, Anopheles, Aedes. 2.Study of different kinds of mouth parts of insects 3.Study of following insect vectors through permanent slides/ photographs: Pediculus humanus, Xenopsylla cheopis, Aedes, Culex, Anopheles. 4. Study of different diseases transmitted by insect vectors. 5. Preparation of slide mounts of insects and their mouth parts. **Submission of a brief report on parasites of Public health importance**	**15**
		Total	**60**

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Tq.Mukhed Dist.Nanded

Reference Books

1. A Modern Text Book of Parasitology- Dr.A.N.Latey, Narendra Prakashan, Pune.
2. Textbook of Parasitology- Kochhar S. K., Dominant Publishers and Distributors, New Delhi, 2004.
3. Handbook of Entomology-T.V. R. Ayyar.

Reference Books

1. Introduction to Parasitology- Chandler and Reid.
2. Parasitology – K. D. Chatterjee.
3. Essentials of Parasitology- Gerald D. Schmidt, 4th Edition, Universal Book Stall, New Delhi, 1990.
4. An Introduction to Parasitology- Bernard E. Mathews, Cambridge University, Press, 1998.
5. Applied Parasitology- A Practical Manual – C. J. Hiware, B. V. Jadhav, A. D. Mohekar, Mangaldeep Publication, Jaipur.
6. Parasitic Insects-B. D. Patnaik, Dominant Publishers and Distributors, New Delhi, 2001.
7. Protozoology- Kudo.
8. Clinical Parasitology- Faust.
9. Medical Helminthology- Watson.
10. Indian Insect Life- Lefrey.
11. General Parasitology- Cheng.
12. Bench Aids for the diagnosis of malaria- WHO, 1985.
13. Human Parasitology- Burton J. Bogistch, Clint E. Carter, Thomas N. Oeltmann. 2005. Third Edition, Elsevier Academic press.
14. Malaria: Principles and Practice of Malariology. Vol. I and II,- Warnsdorfer W.H. and Sri. Mc Gregor, I. 1998. Churchill Livingstone, New York.
15. Parasitology (Medical Zoology)- H.S.Singh and P.Rastogi. Rastogi Publications. Meerut.
16. Medical Parasitology- N.C. Dey and T.K.Dey. Allied Agency, Kolkatta
17. Medical Zoology-R.C.Sobti,Shoban Lal Nagin Chand & Co., Jalandhar.

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Tq.Mukhed Dist.Nanded

Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Science and Technology,

Four Year UG Program, Zoology (w.e.f. June -2024)

B. Sc. First Year, Semester – I

Skill Enhancement Course in Zoology

SZOOSC1101: (B) Vermiculture & Vermicomposting

Periods : 60 **No. of Credits: 02 (Marks: 50)**

Course Objectives:

1. Study the morphology and biology of different species of earthworms used in vermiculture.
2. Acquire knowledge and skill of rearing earthworms and using them in vermicomposting at different scales and under different culture conditions.
3. Train in the operation and use of implements and equipment used in vermicomposting.

Course Outcomes:

1. Knowledge of morphology and biology of earthworms used in vermiculture.
2. Ability and skill of rearing earthworms and using them in vermicomposting.
3. Proper operating of implements and equipment used in vermicomposting.

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SZOOSC1101: (B) Vermiculture & Vermicomposting

Course Contents:

ModuleNo.	Unit No.	Topic	Hrs. Required to cover the contents
1. 0			
	1.1	1. Vermiculture – Definition, History, scope and economic importance.	**15**
	1.2	2. Earthworms-Taxonomic Position and Diversity of different species of earthworms.	
	1.3	3. *Eisenia fetida*- Systematic position, Morphology and Life cycle.	
	1.4	**Practicals:** 1. To Study different species of earthworms. 2. To Study morphological features of composting earthworm, *Eisenia fetida* 3. To study Life cycle of *Eisenia fetida.* 4. Identification of Earthworm cocoons and vermi casts	
2.0			
	2.1	1. Common species for Vermiculture; Environmental requirements; culture methods	**15**
	2.2	2. Applications of Vermiculture. 3. Earthworm Pests and Diseases.	
	2.3	**Practicals:** 1. Collection and identification of common species of earthworms for vermiculture.	
	2.4	2. Study of Earthworm Pests and diseases.	
3.0			
	3.1	**VERMICOMPOSITING** 1. Vermicomposting Materials 2. **Types of vermicomposting:** a) Small Scale Vermicomposting b) Large Scale Vermicomposting	**15**
	3.2	3. **Methods of Vermicomposting:** Bed Method, Pit Method.	
	3.3	4. Phases and Steps of Vermicomiposting.	
	3.4	**Practicals:** 1. Study of Vermicompost equipments, devices. 2. Preparation of Vermibeds. 3. Demonstration of preparation pit method. 4. Preparation of vermicomposting pits at local area (college or home gardens)	
4.0			
	4.1	**VERMICOMPOSTING** 1. Harvesting 2. Nutrient Content of Vermicompost	**15**

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	4.2	3. Advantages of Vermicompost 4. Vermiwash, Preperation and Applications	
	4.3	5. Prospects of vermi-culture as self employment venture	
	4.4	**Practicals:** 1. Collection of vermiwash and use of vermiwash. 2. To study the effect of vermicompost on any plant. 3. Visit to Agricultural Farm/Field to nearby Krishi Vidnyan Kendra to study vermicultures and vermicomposting Units.	
		Total	**60**

Text Books

1. Sultan Ahmed Ismail, - The Earthworm Book, Second Revised Edition. Other India Press, Goa, India.

Reference Books

1. R.K. Bhatnagar & R.K. Palta- Earthworm Vermiculture and Vermicomposting, Kalyani Publishers, No. 1, Mahalakshmi Street, T. Nagar, Chennai -600 017.
2. P.K. Gupta - Vermi Composting for Sustainable Agriculture. AGROBIOS (India), Agro House, Behind Nasrani Cinema, Chopasani Road, Jodhpur – 342 002.
3. Sathe, T. V.- Vermiculture and Organic Farming. Daya Publishing House
4. Bhatt J.V. & S.R. Khambata (1959)- Role of Earthworms in Agriculture. Indian Council of Agricultural Research, New Delhi.
5. Dash, M.C., B.K.Senapati, P.C. Mishra (1980) - Verms and Vermicomposting. Proceedings of the National Seminar on Organic Waste Utilization and Vermicomposting Dec. 5-8, 1984, (Part B), School of Life Sciences, Sambalpur University, Jyoti Vihar, Orissa.
6. Edwards, C.A. and J.R. Lofty (1977)- Biology of Earthworms. Chapman and Hall Ltd., London.
7. Lee, K.E. (1985)- Earthworms: Their ecology and Relationship with Soils and Land Use Academic
Press, Sydney.
8. Kevin, A and K.E.Lee (1989)- Earthworm for Gardeners and Fisherman" (CSIRO, Australia,
Division of Soils)
9. Rahudakar V.B. (2004)- Gandul khatashivay Naisargeek Paryay, Atul Book Agency, Pune.
10. Satchel, J.E. (1983)- Earthworm Ecology Chapman Hall, London.
11. Wallwork, J.A. (1983)-Earthworm Biology. Edward Arnold (Publishers) Ltd. London.

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Science and Technology,

Four Year UG Program, Zoology (w.e.f. June -2024)

B. Sc. First Year, Semester-II

SZOOCT1151 : Biodiversity of Chordates

Periods : 30 **No. of Credits: 02 (Marks: 50)**

Course objectives:

1. To understand Biodiversity, Habitat, Adaptation organization and taxonomic status of Chordates.
2. Explaining the basic aspects of classification of chordates.
3. Develop the ability to understand structural and functional details of Chordates.
4. Develop a broad and correlated view of all chordate groups: extinct and living.
5. Acquire the skill to correlate anatomical and morphological aspects of different chordate groups.

Course outcomes:

1. The student will be able to identify and understand the Biodiversity of Chordates.
2. Ability to understand anatomical relation between different vertebrate classes.
3. The learner will be able to understand the economic importance of Chordates.

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Ta.Mukhed Dist.Nanded

SZOOCT1151 : Biodiversity of Chordates : Course Contents

ModuleNo.	Unit No.	Topic	Hrs. Required to cover the contents
1. 0			
	1.1	**Introduction of Chordates** Salient features and classification of chordates up to class level. Origin and Ancestry of Chordata	7
	1.2	**Protochordata: Urochordata-**General features and Phylogeny of Urochordata; **Cephalochordata-** General features and Phylogeny of Cephalochordata.	
	1.3	**Agnatha :** General characters and classification of Agnatha with suitable examples.	
	1.4	**Cyclostomata:** General characters with suitable examples.	
2.0			
	2.1	**Pisces:** General characters and classification up to order level with suitable examples;	8
	2.2	**Scoliodon (Dogfish):** External morphology, Digestive system, Respiratory system,	
	2.3	Circulatory System, Nervous system, Urinogenital system. Economic importance of Fishes.	
	2.4	**Amphibia:** General characters and classification up to order level with suitable examples; Parental care in Amphibians; Hibernation and aestivation in Frog.	
3.0			
	3.1	**Reptiles:** General characters and classification up to order level with suitable examples;	7
	3.2	Poisonous and non-poisonous snakes; Biting mechanism in snakes; Importance of snake Venom.	
	3.3	**Aves:** General characters and classification up to order level with suitable examples;	
	3.4	Flight adaptations in birds; Migration in birds.	
4.0			
	4.1	**Mammals:** General characters and classification up to order level with suitable examples.	8
	4.2	**Rat**- External characters, Digestive system,	
	4.3	Respiratory system, Circulatory system,	
	4.4	Nervous system - Brain and spinal cord, Eye and Ear.	
		Total	30

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Text Books

1. Sedgwick, A.A. 'Students Text Book of Zoology', Vol. I, II and III. Central Book Depot, Allahabad.
2. Parker, T.J., Haswell, W.A. 'Text Book of Zoology', Macmillan Co., London.
3. R.L. Kotpal, Modern text Book of Zoology vertebrates, Rastogi publications Meerut 10th Edition revised
4. Sedgwick, A.A., Students Text Book of Zoology, Vol.II

Reference Books

1. E.L.Jordan and P.S.Verma, Chordate Zoology. S.Chand Publication
2. Boume, G.H., The Structure and functions of nervious tissue academic Press, New York.
3. Carter, G.S., Structure and habit in vertebrate evolution, Sedgwick and Jackson, London.
4. Eecles, J.C., The understanding of the brain, McGraw Hill CO., New York and London.
5. Malcom Jollie, Chordata morphology, East-West press Ltd., New Delhi.
6. Milton Hilderbrand, Analysis of vertebratestructure-IV, Ed. Johan Wily and Sons Ine., New York.
7. Smith, H.S., Evolution of chordara structure, Hold Rinehart and Winstoin Inc, New York.
8. Torrey, T.W., Morphogenesis of erthates, John Wiley & Sons Inc., New York.
9. Walters, H.E. and Sayles, L.D., Ecology of vertebrates, Machillan and Co., New York.
10. Eolstenhoint, E.W. and Knight J. (Ed), Taste and smell in vertebrates, J & A, Churchill, London.
11. Romer, A.S., Vertebrate Body, IInd Edition, W.B. Saunders CO., Philadelphia.
12. Young, J.Z., Life of mammals, Oxford University press, London.
13. Colbert, E.H., Evolution of the vertebrates, Johan Wiley and Sons Inc., New York.
14. Davidson, E.H. 'Gene activity during early development'Academic press, New York

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Faculty of Science and Technology,

Four Year UG Program, Zoology (w. e. f. June -2024)

B. Sc. First Year, Semester-II

SZOOCP1151 : Biodiversity of Chordates (Based on Paper No. SZOOCT1151)

Periods : 60 **No. of Credits: 02 (Marks: 50)**

Objectives:

1. To understand the anatomical organization of any species.
2. To identify and handle different body parts of vertebrates.
3. To understand and perform temporary and permanent mountings.
4. To identify and describe structure and functions of different bones.

Outcomes:

1. Ability to understand the anatomical organization of organs and systems in representative species.
2. Ability to identify and describe structure and functions of different body parts of vertebrates.
3. Students would be able to prepare temporary and permanent mountings of biological material.
4. Students would be able to relate different bones and be able to articulate them to form an skeleton.
5 Students would make observations of organisms in their natural environment and document them.

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1. Study of at least two museum specimens from Protochordata to Mammalia.
2. Demonstration based on Models, Charts and Computer Aided Techniques:

i) Scoliodon: Digestive system, Heart and ventral Aorta, Afferent arteries, Brain.

ii) Demonstration of rat so as to expose its digestive system, reproductive system.

3. Key for Identification of poisonous and non-poisonous snakes.
4. Permanent Mountings - i) Mounting of different types Scales (From Locally Available Fishes): Cycloid, Ctenoid and Placoid.
5. Osteology: a) Disarticulated skeleton of fowl and rabbit/rat; b) Carapace and plastron of turtle /tortoise; c) Mammalian skulls: One herbivorous and one carnivorous animal. (Models / Charts); d) Preparation of articulated complete skeleton of any locally available animal.
6. An "Animal Album" containing photographs, cut outs, with appropriate write up about the different taxa. Different taxa/ topics may be given to different sets of students for this purpose.
7. Short excursion/ study Tour is compulsory.
8. Submission:

i) Practical record book duly signed by the teacher in charge/Head of the Department.

ii) Five permanent stained micro preparations.

iii) Animal Album ***or*** Articulated complete skeleton of any locally available animal

iv) Excursion report.

(Demonstration of animal Dissections through Models, Charts or Computer Aided Techniques as per U.G.C Guidelines)

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Faculty of Science and Technology,

Four Year UG Program, Zoology (w.e.f. June -2024)

B. Sc. First Year, Semester – II

Generic Elective (GE/OE)

SZOOGE1151: Animal Diversity - II

Periods : 30 **No. of Credits: 02 (Marks: 50)**

Course objectives :

Zoology is the scientific study of animal life. Animals are the most diverse creatures on this planet.

1. This course gives a framework for understanding the diversity within different groups, and interrelationship among different species and genera within each group.
2. The aim of this course is to understand the importance of animal kingdom in context to hierarchy, body plan and their role in ecological development.
3. This course provides an overview of the vertebrate animals, including amphibians, reptiles, birds, and mammals.
4. Provide knowledge of coelom formation, different level of organization, different modes of living, evolutionary changes of chordates and their salient features.
5. Also impart knowledge on different classes of chordates.
6. After completion of this course, the learners will have a framework for understanding all of the different types of animals, and the characteristics of each.

Course Outcomes

Upon completion of the course, students will be able to:

1. Distinguish between major phyla of animals through a demonstrated understanding of their taxonomic classification and diversity.
2. Describe the distinguishing characteristics of all major phyla.
3. Understand the fundamental differences among animal body plans and relate them to function, taxonomic classification, and evolutionary relationships among phyla.
4. Illustrate lifecycles, structure, function and reasons for importance of few representative organisms from different groups of animals.
5. Identify anatomical structures from prepared tissues.
6. Observe living animals in the environment and relate observations to theory from the course.
7. Recognize major animal phyla and animals on the basis of their external characteristics.

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SZOOGE1151: Animal Diversity-II : Course Contents

ModuleNo.	Unit No.	Topic	Hrs. Required to cover the contents
1. 0			7
	1.1	Protochordates – Silent features	
	1.2	Hemichordata – General characters, classification	
	1.3	Balanoglossus-Habit and Habitat	
	1.4	Affinities of Hemichordata	
2.0			8
	2.1	Cepahalochordata and Urochordata	
	2.2	Cephalochordata - General characters, classification; Branchistoma (Amphioxus) Habit & Habitat; Morphology, Affinities of cephalochordate	
	2.3	Urochordata - General characters, classification; Herdmania - Habit & Habitat; Morphology,	
	2.4	Affinities of urochordata	
3.0			7
	3.1	Pisces : General characters, *Labeo rohita* – Classification, external morphology,	
	3.2	Scoliodon - General characters, Classification, external morphology. Parental care in fishes.	
	3.3	Amphibia: General characters, Adaptations for terrestrial life, Parental care in Amphibia.	
	3.4	Frog – External morphology, life cycle.	
4.0			8
	4.1	Reptiles: General characters	
	4.2	Poisonous and Non-poisonous snakes	
	4.3	Aves: General characters, Flight adaptations in birds	
	4.4	Mammalia: General characters, Classification of Human, Dentition in mammals	
		Total	**30**

Reference Books

1. Barnes, R.D. (1992). Invertebrate Zoology. Saunders College Pub. USA.
2. Ruppert, Fox and Barnes (2006) Invertebrate Zoology. A functional Evolutionary Approach 7th Edition, Thomson Books/Cole
3. Campbell & Reece (2005). Biology, Pearson Education, (Singapore) Pvt. Ltd.
4. Kardong, K. V. (2002). Vertebrates Comparative Anatomy. Function and Evolution. Tata McGraw Hill Publishing Company. New Delhi.
5. Raven, P. H. and Johnson, G. B. (2004). Biology, 6th edition, Tata McGraw Hill Publications. New Delhi.

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Science and Technology,

Four Year UG Program, Zoology (w.e.f. June -2024)

B. Sc. First Year, Semester – II

Skill Enhancement Course in Zoology

SZOOSC1151: (C) Aquarium Keeping

Periods : 60 **No. of Credits: 02 (Marks: 50)**

Course Objectives:

1. Explore different types of aquariums and material used to fabricate them.
2. Acquire skill to handle and process material and accessories for aquarium fabrication and installation.

Course Outcomes:

1. Describe different types of aquariums and raw material used to fabricate them.
2. Ability to properly handle material and accessories for aquarium fabrication and installation.
3. Identify water parameters and adjust them to normal conditions.

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SZOOSC1151: (C) Aquarium Keeping : Course Contents

ModuleNo.	UnitNo.	Topic	Hrs. Required to cover the contents
1. 0			
	1.1	Introduction to Aquarium Keeping, Aquarium – Definition, importance	15
	1.2	Aquarium –Shape and size	
	1.3	Types of aquarium- wooden, Steel, fibre glass, plastic acrylic, iron frame, full glass, garden pool etc.	
	1.4	**Practicals:** 1. To study different types of aquarium 2. Visit to Aquaria	
2.0			
	2.1	**Construction of aquarium-** Design and fabrication	15
	2.2	**Materials** - Aluminum/ Iron angle, Hack sow, blade, drilling machine, Hammer, glass, glass cutter,	
	2.3	tape, file, set square, angle cutter, sticky tape, aquarium cement, silicon tube, silicon gun etc.	
	2.4	**Practicals:** 1. Angle cutting for frame of aquarium. 2. Rivetting of angle to form a side of aquarium. 3. Fixing of glass of one side in the frame of aquarium with the help of bitumen/ aquarium cement / silicon etc. 4. Cutting of glasses of given size	
3.0			
	3.1	**Setting of Aquarium-** Selection of place for aquarium, table or stand, cover for aquarium, light,	15
	3.2	watering, planting, preparation of bed-sand, gravels, rocks, coarals, back glass painting or poster,	
	3.3	**Aquarium accessories-** Aerator, air-stone, toys, filtration, hand net, rubber tube and connectors. Thermometer, heater etc.	
	3.4	**Practicals:** 1. Identification of various aquarium tools 2. Identification of various aquarium accessories 3. Preparation of aquarium bed. 4. Watering of aquarium 5. Planting of aquarium 6. Lighting of aquarium	
4.0			
	4.1	**Maintenance** 1. Water parameters/ test and monitor, cycling of water. 2. Cleaning of aquarium, light management 3. Food - live food and dry food	15
	4.2	4. Preparation of supplementary food for aquarium fishes.	
	4.3	5. Aquarium fishes 6. Significance of aquarium.	
	4.4	**Practicals:** 1. Cleaning of aquarium 2. Identification of aquarium fishes 3. Preparation of supplementary food from grains for aquarium fishes 4. Checking fish health 5. Marketing	
		Total	60

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Text Books

1. A Text Book of Pisciculture and Aquarium Keeping- Dhananjay Jadhav, Mohan Babre.
2. A Text Book of Pisciculture & Aquarium Keeping- H. S. Jagtap, S. N. Mukherjee & V. K. Garad., Daya Publishing House, New Delhi.
3. Practical Manual of Pisciculture and Aquarium Keeping- H. S. Jagtap, S. N. Mukherjee & S. S. Nanware, Daya Publishing House, New Delhi
4. The complete book of the Fresh water aquarium-Vincent Hargreaves
5. The Complete aquarium Book- Nilliam T. Innes.
6. Hand Book of Fish aquarium- Hiware and Sonwane,

Reference Books

1. Guide to keeping and breeding the aquarium fishes (1968). Bombay aquarium Society, Mumbai.
2. Fresh water aquarium, Dawes, J.A., Roberts Royee Ltd. London
3. How to maintain your fresh water aquarium-Thoms Riggson

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Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Science and Technology,

Four Year UG Program, Zoology (w.e.f. June -2024)

B. Sc. First Year, Semester – II

Skill Enhancement Course in Zoology

SZOOSC1151: (D) Animal Museology

Periods : 60 **No. of Credits: 02 (Marks: 50)**

Course Objectives:

1. The aim of the course is to develop knowledge related to various techniques of preservation of natural history specimens.
2. Record the information and preserve specimens for taxonomic studies.

Course Outcomes:

1. After completion of the course the students self-sufficient in the preservation techniques of biological specimens, which would be an asset for safeguarding artifacts derived from animal and plants act as to provide great opportunity for self-employment.
2. Learners are expected to be able to handle museum objects, identify the factors and causes of deterioration and be able to take proper preservative measures.
3. Job opportunity as a curator.

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SZOOSC1151: (D) Animal Museology : Course Contents

ModuleNo.	UnitNo.	Topic	Hrs. Required to cover the contents
1. 0			
	1.1	General Introduction of Museum Definition of museum, Origin, history of museum, need of museology, Museum development in India Types of museum, importance of museum. Nature and composition of Biological Specimens. Causes of deterioration of Natural History collection. Biodeterioration and its control measures.	15
	1.2	Definition of Preservation. Types of Preservation; Dry and wet Preservation	
	1.3	Preservatives and their types. Advantage and disadvantage of liquid preservatives like Alcohol, Formalin etc.	
	1.4	Storage of Biological Specimens in a Museums Ethics of collection : Issues related to community and law Types of collection Modes of collection : Fieldwork, purchase/donation/gift, loan, exchange etc. **Practicals** : To study the types of museum and its significance. Preparation of different types of preservatives. Collection and preservation of dead animals.	
2.0			
	2.1	Different type of Preservation techniques Dry preservation of Natural History specimens	15
	2.2	Micro techniques for Biological Specimens	
	2.3	Preservation of Insect collection	
	2.4	Definition of Plastination; Plastic embedding and Plastic infiltration **Practicals**: Study of insect preservation, preparation of plastic embedding. Study of microtechniques.	
3.0			
	3.1	Stuffing	15
	3.2	Cleaning and Mounting of skeletons	
	3.3	Definition of Taxidermy. Preparation of cabinet skin	
	3.4	Freeze Drying Technique. **Practicals** : To study preservation of skeletons.	
4.0			
	4.1	Methods of wet preservation. Wet preservation of Animals. Color preservation techniques. Alizarin Mount Technique Steps for the preservation of specimens for scientific study. (Euthanizing,Injection and slitting,fixing, labelling,storage etc.)	15
	4.2	Fabrication Techniques of Natural History Specimens	
	4.3	Definition of Insecticides and their classification	
	4.4	Preventive and curative methods of deterioration **Practicals**: To study wet preservation of animals. Case study of at least two museum objects with regard to causes and types of deterioration and preventive measures. To study steps for the preservation of specimens for scientific study. Hands-on-training (at least 5 objects) creating complete set of museum documentation records. **Visit to Zoological Museums.**	
		Total	60

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Reference Books

1. Biological museum methods (vol. I & II) by G. Hangry & M. Dingle
2. Manual of curatorship in natural history museums by Geffery Steinsfield
3. Museum Basics by T. Ambrose & C. Paine
4. Museum Environment by Garry Thomson
5. An introduction to museum work by G. E. Burcaw
6. Museum management by Kevin Moore
7. Biodetoriation of Cultural property by O. P. Agarwal

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Swami Ramanand Teerth Marathwada University, Nanded			
Faculty of Science & Technology			
Summer/Winter-20-------, Examination			
Name of Subject:		Zoology	
Subject Code : (as per examination time table):			
Class:	B.Sc. First Year	Semester:	I & II
Paper Title and Paper No (as per examination time table):		..... Paper No. .....(NEP-2020 Pattern)	
Time:	2 Hours	Maximum Marks:	40

Important Instructions:

i. Question Number 1 is compulsory.
ii. Out of remaining 5 Questions (Q. No. 2 to Q. No. 6) answer any 3 Questions.
iii. All Questions carry equal marks.
iv. Illustrate your answers with suitable labeled diagrams, wherever necessary.

Q.1 Answer each of the following: **10 Marks**

a) (Based on Module 1)
b) (Based on Module 2)
c) (Based on Module 3)
d) (Based on Module 4)

Q.2 Long Question (Based on Module 1) **10 Marks**

Q.3 Long Question (Based on Module 2) **10 Marks**

Q.4 Long Question (Based on Module 3) **10 Marks**

Q.5 Long Question (Based on Module 4) **10 Marks**

Q.6 Answer each of the following: **10 Marks**

a) (Based on Module 1)
b) (Based on Module 2)
c) (Based on Module 3)
d) (Based on Module 4)

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SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

CHOICE BASED CREDIT SYSTEM (CBCS)

SEMESTER PATTERN

Faculty of Science & Technology

Practical Examination Winter / Summer 20----

B. Sc. First Year Zoology (Semester – I) as per NEP-2020; (w.e.f. June 2024)

Practical (SZOOCP1101)

Based On

(Paper : SZOOCT1101: Biodiversity of non-chordates)

Center : Batch No.:

Date : Time : 4 Hrs

Exam Seat Number : Marks : 30

Q.1). Spotting: Identify, classify and describe as per instructions. (1-05 Spots) (10)
(Invertebrates)

Q. 2). Demonstrate Cockroach so as to explain its Digestive System / Respiratory System/Nervous System and leave a labelled diagram. (08)

OR

Demonstrate Earthworm so as to explain its Alimentary canal / Reproductive system /Nerve ring and leave a labelled diagram.

Q.3). Prepare Permanent Stained Micro Preparation of material provided (Identify, draw labelled diagram and comment). (08)
(Mounting of Mouth parts/Trachea/ Salivary glands of Cockroach/ Nereis Parapodia)

Q.4). Viva-voce (04)

Note: 1. Practical Internal Evaluation (Continuous Assessment CA) = 20 Marks
i) Submission of Record book & Excursion Report = 10 Marks;
ii) Animal Album & permanent slides=10 Marks;
2. Demonstration of animal Dissections through Models, Charts or Computer Aided Techniques as per U.G.C Guidelines.

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Name & Signature
Examiner – 1

Name & Signature
Examiner – 2

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

CHOICE BASED CREDIT SYSTEM (CBCS)

SEMESTER PATTERN

Faculty of Science & Technology

Practical Examination Winter / Summer 20----

B. Sc. First Year Zoology (Semester – II) as per NEP-2020; (w.e.f. June 2024)

Practical (SZOOCP1151)

Based On

(Paper : SZOOCT1151: Biodiversity of Chordates)

Center : Batch No.:

Date : Time : 4 Hrs

Exam Seat Number : Marks : 30

Q.1). Spotting: Identify, classify and describe as per instructions. (1-05 Spots) (Vertebrates) (10)

Q.2). Demonstrate Scoliodon so as to explain its Digestive System / Heart &Ventral Aorta / Afferent arteries / Brain and leave a labelled diagram.

OR

Demonstrate Rat so as to expose its Reproductive system / Digestive system and leave a well labelled diagram. (08)

Q.3). Prepare Permanent Stained Micro Preparation of material provided (Identify, draw labelled diagram and comment). (Scales of locally available fishes, any One) (08)

Q.4). Viva-voce (04)

Note: 1. Practical Internal Evaluation (Continuous Assessment CA) = 20 Marks
i) Submission of Record book & Excursion Report = 10 Marks;
ii) Animal Album or Articulated complete skeleton & permanent slides =10 Marks
2. Demonstration of animal Dissections through Models, Charts or Computer Aided Techniques as per U.G.C Guidelines.

Name & Signature
Examiner – 1

Name & Signature
Examiner - 2

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Late Bhimrao Chavan Arts's &
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Tq.Mukhed Dist.Nanded

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Faculty of Science & Technology

B. Sc. First Year Syllabus w.e.f. June, 2024 (NEP-2020)

SKILL ENHANCEMENT COURSE ZOOLOGY (SECZ)

CONTINUOUS ASSESSMENT (CA)

Zoology

Semester- I

SZOOSC1101 - SECZ- I : (A) Parasites of Public Health Importance

Or

SECZ- I : (B) Vermiculture & Vermicomposting

Centre: **Date:**

Marks: 20

SEAT NUMBER :----------

Sr. No.	Continuous Assessment (CA)	Maximum Marks	Marks Obtained
1	Seminar Presentation	10	
2	Test	10	
	Total Marks	**20**	

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SKILL ENHANCEMENT COURSE ZOOLOGY (SECZ)

CONTINUOUS ASSESSMENT (CA)

Zoology

Semester- II

SZOOSC1151 - SECZ- II : (C) Aquarium Keeping

Or

SECZ- II : (D) Animal Museology

Centre: **Date:**

Marks: 20

SEAT NUMBER :----------

Sr. No.	Continuous Assessment (CA)	Maximum Marks	Marks Obtained
1	Seminar Presentation	10	
2	Test	10	
	Total Marks	**20**	

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SKILL ENHANCEMENT COURSE ZOOLOGY (SECZ)

END SEMESTER ASSESSMENT (ESA)

Zoology

Semester- I

SZOOSC1101 - SECZ- I : (A) Parasites of Public Health Importance

Or

SECZ- I : (B) Vermiculture & Vermicomposting

Centre: **Date:**

Marks: 30

SEAT NUMBER :----------

Sr. No.	Continuous Assessment (CA)	Maximum Marks	Marks Obtained
1	Skill Work Report Submission	10	
2	Overall Skill Judgment	10	
3	Skill Work Presentation	10	
	Total Marks	**30**	

Name & Signature
Examiner – 1

Name & Signature
Examiner - 2

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SKILL ENHANCEMENT COURSE ZOOLOGY (SECZ)

END SEMESTER ASSESSMENT (ESA)

Zoology

Semester- II

SZOOSC1151 - SECZ- II : (C) Aquarium Keeping

Or

SECZ- II : (D) Animal Museology

Centre: **Date:**

Marks: 30

SEAT NUMBER :----------

Sr. No.	Continuous Assessment (CA)	Maximum Marks	Marks Obtained
1	Skill Work Report Submission	10	
2	Overall Skill Judgment	10	
3	Skill Work Presentation	10	
	Total Marks	**30**	

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Guidelines for Course Assessment:

A. Continuous Assessment (CA) (20% of the Maximum Marks):

This will form 20% of the Maximum Marks and will be carried out throughout the semester. It may be done by conducting **Two Tests** (Test I on 40% curriculum) and **Test II** (remaining 40% syllabus). Average of the marks scored by a student in these two tests of the theory paper will make his **CA** score (col 6).

B. End Semester Assessment (80% of the Maximum Marks):

(For illustration we have considered a paper of 02 credits, 50 marks and need to be modified depending upon credits of an individual paper)

1. **ESA Question paper will consists of 6 questions, each of 10 marks.**
2. **Students are required to solve a total of 4 Questions.**
3. **Question No.1 will be compulsory and shall be based on entire syllabus.**
4. Students need to solve **ANY THREE** of the remaining Five Questions (Q.2 to Q.6) and shall be based on entire syllabus.

C. Assessment of Co-Curricular courses (CC):

a. Continuous Assessment (CA) of the CC course shall be done by the respective course coordinator depending on the regularity, performance of a student and his participation in the international, national, state, university, college level events or camps, wherever applicable.

b. End Semester Assessment (ESA) shall be done on the basis of the write-up and presentation by the student on the activities that he has carried out throughout the semester.

c. Students have freedom to take more than one CC courses, however, score of the best performing CES shall be considered for final assessment.

D. Syllabi, Teaching Scheme and Examination Scheme for the courses in Column 7 and Column 8 (AEC, VEC, IKS, CI, EVS, CCs, etc.) shall be common for all the students from different faculties.

Note: Number of lectures required to cover syllabus of a course depends on the number of credits assigned to a particular course. One credit of theory corresponds to 15 Hours lecturing and for practical course one credit corresponds to 30 Hours. For example, for a course of two credits 30 lectures of one hour duration are assigned, while that for a three credit course 45 lectures.

%%%

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Basket 3 : Generic Elective Course (GE)

Note: *Each BOS shall suggest Generic Elective Courses (at least one each for Group A and Group B) for semesters I and II*

* Students will choose one GE course each from Group A and B of Basket 2 (other than subjects DSC and DSM in col. 3 and 4). (For e.g. Refer table below)

Semester	BOS proposing GE	Group A		Group B	
		CODE	Title of the Corse	CODE	Title of the Corse
Sem I	BOS in Zoology	SZOOGE1101	Animal Diversity - I		
Sem II	BOS in Zoology	SZOOGE1151	Animal Diversity - II		

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