



**Anekant Education Society's
Tuljaram Chaturchand College of Arts, Science and Commerce, Baramati
(Empowered Autonomous)**

**Four Year B.A. Degree Program in Geography
(Faculty of Science & Technology)**

**CBCS Syllabus
TYBA (Geography) Semester V
For Department of Geography
Tuljaram Chaturchand College of Arts, Science and Commerce, Baramati**

**Choice Based Credit System Syllabus (2024 Pattern)
(As Per NEP 2020)**

To be implemented from Academic Year 2026-2027

Preamble

AES's Tuljaram Chaturchand College has made the decision to change the syllabus of across various faculties from June, 2024 by incorporating the guidelines and provisions outlined in the National Education Policy (NEP), 2020. The NEP envisions making education more holistic and effective and to lay emphasis on the integration of general (academic) education, vocational education and experiential learning. The NEP introduces holistic and multidisciplinary education that would help to develop intellectual, scientific, social, physical, emotional, ethical and moral capacities of the students. The NEP 2020 envisages flexible curricular structures and learning based outcome approach for the development of the students. By establishing a nationally accepted and internationally comparable credit structure and courses framework, the NEP 2020 aims to promote educational excellence, facilitate seamless academic mobility, and enhance the global competitiveness of Indian students. It fosters a system where educational achievements can be recognized and valued not only within the country but also in the international arena, expanding opportunities and opening doors for students to pursue their aspirations on a global scale.

In response to the rapid advancements in science and technology and the evolving approaches in various domains of Geography and related subjects, the Board of Studies in Geography at Tuljaram Chaturchand College, Baramati - Pune, has developed the curriculum for the Geography, which goes beyond traditional academic boundaries. The syllabus is aligned with the NEP 2020 guidelines to ensure that students receive an education that prepares them for the challenges and opportunities of the 21st century. This syllabus has been designed under the framework of the Choice Based Credit System (CBCS), taking into consideration the guidelines set forth by the National Education Policy (NEP) 2020, LOCF (UGC), NCrF, NHEQF, Prof. R.D. Kulkarni's Report, Government of Maharashtra's General Resolution dated 20th April and 16th May 2024, and the Circular issued by SPPU, Pune on 31st May 2024.

A Geography degree equips students with the knowledge and skills necessary for a diverse range of fulfilling career paths. Graduates in Geography find opportunities in various fields, including urban planning, GIS analysis, disaster preparedness, teaching, environmental science, remote sensing analysis, transportation planning, demography, hydrology, and many other domains. Throughout their three-year degree program, students explore the spatial organization of both natural and human phenomena across different scales, from local to global. They learn to identify and analyze features on the Earth's surface, understand their

spatial patterns, and compare similarities and differences between different places. The curriculum also delves into the intricate relationship between humans and the environment, examining how physical and cultural landscapes evolve over time. Students specializing in physical geography gain an understanding of the processes that shape Earth's climate, create landforms, and influence the distribution of plant and animal life. By acquiring these comprehensive skills and knowledge, graduates are well-prepared to embark on rewarding careers that contribute to a better understanding of our world and address the challenges of our ever-changing planet.

Overall, revising the geography syllabus in accordance with the NEP 2020 ensures that students receive an education that is relevant, comprehensive, and prepares them to navigate the dynamic and interconnected world of today. It equips them with the knowledge, skills, and competencies needed to contribute meaningfully to society and pursue their academic and professional goals in a rapidly changing global landscape.

Programme Specific Outcomes POS

1. Ability of Problem Analysis: Student will be able to analyse the problems of physical as well as cultural environments of both rural and urban areas. Moreover, they will try to find out the possible measures to solve those problems.
2. Conduct Social Survey Project: They will be eligible for conducting social survey project, which is necessity for the assessment of development status of a particular group or section of the society.
3. Individual and Teamwork: Works effectively as an individual and as a member or leader in diverse teams and in multidisciplinary settings.
4. Application of Modern Instruments: Students will be able to apply various modern instruments for data collection and field survey.
5. Application of GIS and Modern Geographical Map Making Techniques: Students will learn how to prepare map based on GIS by using the modern geographical map-making techniques.
6. Critical Thinking: Students will be able to understand and solve the critical problems of physical and cultural environment.
7. Development of Observation Power: As a student of Geography, they will be capable to develop their observation power through field experience and in future, they will be able to identify the socio-environmental problems of a locality.
8. Development of Communication Skill and Interaction Power: After the completion of the course, they will be efficient in their communication skill as well as power of social interaction.
9. Effective Citizenship: Demonstrate empathetic social concern and equity-centre national development and the ability to act with an informed awareness of issues and participate in civic life through volunteering.
10. Enhancement of the Ability of Management: Demonstrate knowledge and understanding of the management principles and apply these to their own work, as a member and leader in a team, to manage projects. They will perform effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
11. Ethics: Recognize different value systems including your own, understand the moral dimensions of your decisions and accept responsibility for them.
12. Understand Environmental Ethics and Sustainability: Understand the impact of the acquired knowledge in societal and environmental contexts and demonstrate the knowledge of need for sustainable development.
13. Self-directed and Life-long Learning: Acquire the ability to engage in independent and life-long learning in the broadest context social, environmental and technological changes.
14. Presentation Skill: Students are being able to understand and write effective reports and design credentials, make effective demonstrations, give and receive clear instruction.

Anekant Education Society's
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(Empowered Autonomous)

Board of Studies (BOS) in Geography

2025-2028

Sr. No.	Name of Member	Designation
1.	Dr. Arun S. Magar , Head & Associate Professor, Department of Geography, T. C. College, Baramati.	Chairman
2.	Dr. Asaram S. Jadhav Associate Professor, Department of Geography, T. C. College, Baramati	Internal Member
3.	Mr. Vinayak D. Chavan Assistant Professor, Department of Geography, T. C. College, Baramati	Internal Member
4.	Ms. Sayali Pawar Assistant Professor, Department of Geography, T. C. College, Baramati	Internal Member
5.	Ms. Priyanka Pawar Assistant Professor, Department of Geography, T. C. College, Baramati	Internal Member
6.	Dr. Savita Kulkarni Head & Associate Professor, Department of Geography, Annasaheb Magar College, Hadapsar, Pune	Vice-Chancellor Nominee, Subject Expert, SPPU Pune
7.	Dr. Tukaram P. Shinde Head & Associate Professor, Department of Geography, Mudhoji College, Phaltan	Subject Expert from Outside the Parent University
8.	Dr. Prashant Patil Associate Professor, Department of Geography, Shivaji University, Kolhapur	Subject Expert from Outside the Parent University
9.	Dr. Shrikant Gabale Managing Director, Graphias Solutions Pvt. Ltd., Pune	Representative from Corporate Sector
10.	Ms. Akshata Raje , GIS Expert	Member of the College Alumni
11.	Ms. Pranita Kale , Class: TYBA	UG Student
12.	Ms. Rucha Tilekar , Class: M.A./M.Sc. -II	PG Student

**Credit Distribution Structure for Three/Four Year Honours/Honours with Research Degree Programme
With Multiple Entry and Exit options as per National Education Policy (2024 Pattern as per NEP-2020)**

Level/ Difficulty	Sem	Subject DSC-1				Subject DSC-2	Subject DSC-3	GE/OE	SEC	IKS	AEC	VEC	CC	Total
4.5/100	I	2(T)+2(P)				2(T)+2(P)	2(T)+2(P)	2(T)	2 (T/P)	2(T) (Generic)	2(T)	2(T)	--	22
	II	2(T)+2(P)				2(T)+2(P)	2(T)+2(P)	2(P)	2 (T/P)	--	2(T)	2(T)	2(T)	22
Exit option: Award of UG Certificate in Major with 44 credits and an additional 4 credits core NSQF course/Internship OR Continue with Major and Minor Continue option: Student will select one subject among the (subject 1, subject 2 and subject 3) as major and other as minor and third subject will be dropped.														
Level/ Difficulty	Sem	Credits Related to Major				Minor	--	GE/OE	SEC	IKS	AEC	VEC	CC	Total
		Major Core	Major Elective	VSC	FP/OJT/CE P/RP									
5.0/200	III	4(T)+2(P)	--	2 (T/P)	2(FP)	2(T)+2(P)	--	2(T)	--	2(T)	--	2(T)	22	
	IV	4(T)+2(P)	--	2 (T/P)	2(CEP)	2(T)+2(P)	--	2(P)	2 (T/P)	--	2(T)	--	2(T)	22
Exit option: Award of UG Diploma in Major and Minor with 88 credits and an additional 4credits core NSQF course/Internship OR Continue with Major and Minor														
5.5/300	V	8(T)+4(P)	2(T)+2(P)	--	4 (OJT)	2(T)	--	--	--	--	--	--	22	
	VI	8(T)+4(P)	2(T)+2(P)	2 (T) + 2 (P)	2 (FP/CEP)	--	--	--	--	--	--	--	22	
Total 3Years		44	8	8	10	18	8	8	6	4	8	4	6	132
Exit option: Award of UG Degree in Major with 132 credits OR Continue with Major and Minor														
6.0/400	VII	6(T)+4(P)	2(T)+2 (T/P)	--	4(RP)	4(RM)(T)	--	--	--	--	--	--	22	
	VIII	6(T)+4(P)	2(T)+2 (T/P)	--	6(RP)	--	--	--	--	--	--	--	22	
Total 4Years		64	16	8	22	22	8	8	6	4	8	4	6	176
Four Year UG Honours with Research Degree in Major and Minor with 176 credits														
6.0/400	VII	10(T)+4(P)	2(T)+2 (T/P)	--	--	4(RM) (T)	--	--	--	--	--	--	22	
	VIII	10(T)+4(P)	2(T)+2 (T/P)	--	4 (OJT)	--	--	--	--	--	--	--	22	
Total 4Years		72	16	8	14	22	8	8	6	4	8	4	6	176
Four Year UG Honours Degree in Major and Minor with 176 credits														
<p>T = Theory P = Practical DSC = Discipline Specific Course OE = Open Elective SEC = Skill Enhancement Course IKS = Indian Knowledge System AEC = Ability Enhancement Course VEC = Value Education Course CC = Co-curricular Course VSC= Vocational Skill Course OJT= On Job Training CEP= Community Engagement Project FP= Field Project RP= Research Project</p>														

Structure and Credit Distribution of UG Programme

Credit Distribution Structure for FYBA-2024-2025 (Geography)

Level	Semester	Sub. DSC-I Languages	Sub. DSC-II Social Science-I	Sub. DSC-III Social Science-II	GE / OE	SEC	IKS	AEC	VEC	CC	Degree/ Cum.Cr.
4.5/100	I	MAR-101-GEN (4 T)	ECO-101-GEN (4 T)	GEO-101-GEN: Physical Geography (2 T) + GEO-102-GEN: Practical in Physical Geography (2 P)	2 T (from other faculty) For other faculty students GEO-103-OE: Tourism Geography (2 T)	GEO-104-SEC: Google Map (2 T)	2 T (Generic)	2 T (C. Eng.)	2 T (Indian Constitution / EVS)	--	22
	II	MAR-151-GEN (4 T)	ECO-151-GEN (4 T)	GEO-151-GEN: Human Geography (2 T) + GEO-152-GEN: Practical in Human Geography (2 P)	2 T /P (from other faculty) For other faculty students GEO-153-OE: Practical in Tourism Geography (2 T)	GEO-154-SEC: Google Earth (2 P)	--	2 T (C. Eng.)	2 T (Indian Constitution / EVS)	2 T YOG/PES/ CUL/NSS/ NCC	22

Credit Distribution Structure for S.Y.B.A.-2025-2026 (Geography)

Level	Semester	Major		Minor	OE	VSC, SEC, (VSEC)	AEC, VEC, IKS	OJT, FP, CEP, CC, RP	Cum. Cr/Sem	Degree/ Cum.Cr.
		Mandatory	Elective							
5.0/200	III	GEO-201-MRM Fundamentals of Geomorphology [2T]	--	GEO-206-MN Geography of India [2 T]	GEO-208-OE Disaster Management [2 T]	GEO-204-VSC Fundamentals of Remote Sensing [2 T]	AEC MAR/HIN/SAN- 210-AEC [2 T]	GEO-205-FP (2 P)	22	UG 44 credits
		GEO-202-MRM Fundamentals of Oceanography [2T]					GEO-209-IKS Indian Geographical Thoughts	CC (Yoga/PES /CUL/NSS/ NCC- 211-CC [2 T])		
		GEO-203-MRM Practical in Scale & Projection [2 P]					GEO-207-MN Cartographic Techniques for data representation [2 P]			
	IV	GEO-251-MRM Fundamentals of Population Geography [2T]	--	GEO-256-MN Geography of Maharashtra [2T]	GEO-258-OE Practical in Disaster Management [2 P]	GEO-254-VSC Practical in Remote Sensing [2P]	AEC MAR/HIN/SAN- 260-AEC [2 T]	CC (Yoga/PES /CUL/NSS/ NCC [2 T])	22	
		GEO-252-MRM Fundamentals of Settlement Geography [2T]						GEO-255-CEP Community Engagement Project (2P)		
		GEO-253-MRM Statistical Techniques in Geography [2P]						GEO-257-MN Land Measurement [2 P]		

Credit Distribution Structure for T.Y.B.A.-2026-2027 (Geography)

Level	Semes	Major		Minor	OE	VSC, SEC, (VSEC)	AEC, VEC, IKS	OJT, FP, CEP, CC, RP	Cum. Cr/Sem	Degree/ Cum.Cr.	
		Mandatory	Elective								
5.5/300	V	GEO-301-MRM Physical Geography of India [2T]	GEO-308-MJE (A) Fundamentals of Climatology [2T] Or GEO-308-MJE (B) Watershed Management [2T]	--	--	--	--	GEO-310-OJT: On-Job Training [4 P]	22	UG 44 credits	
		GEO-302-MRM Physical Geography of Maharashtra [2T]									
		GEO-303-MRM Fundamentals of Economic Geography [2 T]									
		GEO-304-MRM Tourism Geography [2 T]	GEO-309-MJE (A) Practical in Climatology [2 P] Or GEO-309-MJE (B) Practical in Watershed Management [2 P]								
		GEO-305-MRM Practical in SOI Toposheet [2 P]									
		GEO-306-MRM Practical in Surveying [2 P]									
	VI	GEO-351-MRM Human Geography of India [2T]	GEO-358-MJE (A) Geography of Soil [2T] Or GEO-358-MJE (B) Geography of Rural Development [2T]	--	--	--	GEO-360-VSC Google Map and Google Earth [2 T]	GEO-362-FP Field Project [2 P]	22		
		GEO-352-MRM Human Geography of Maharashtra [2T]									
		GEO-353-MRM Agricultural Geography [2 T]									
		GEO-354-MRM Contemporary Issues and Geography [2 T]	GEO-359-MJE (A) Practical in Soil Geography [2 P] Or GEO-359-MJE (B) Practical in Rural Development [2 P]								GEO-361-VSC Practical in GIS [2 P]
		GEO-355-MRM Practical in Daily Weather Map [2 P]									
		GEO-356-MRM Practical in Advanced Surveying [2 P]									

F.Y.B.A. Geography

NEP-2.0

Course Structure for F.Y.B.A. Geography (2024 Pattern)

Sem	Course Type	Course Code	Course Title	Theory / Practical	Credits
I	DSC-I (General)	-101-GEN	-----	Theory	04
	DSC-II (General)	-101-GEN	-----	Theory	04
	DSC-III (General)	GEO-101-GEN	Physical Geography	Theory	02
		GEO-102-GEN	Practical in Physical Geography	Practical	02
	Open Elective (OE)	GEO-103-OE	Tourism Geography	Theory	02
	Skill Enhancement Course (SEC)	GEO-104-SEC	Fundamentals of Google Map	Theory	02
	Ability Enhancement Course (AEC)	ENG-104-AEC	-----	Theory	02
	Value Education Course (VEC)	GEO-105-VEC	Environment Education	Theory	02
	Generic Indian Knowledge System (GIKS)	GEN-106-IKS	-----	Theory	02
Total Credits					22
II	DSC-I (General)	-151-GEN	-----	Theory	04
	DSC-II (General)	-151-GEN	-----	Theory	04
	DSC-III (General)	GEO-151-GEN	Human Geography	Theory	02
		GEO-152-GEN	Practical in Human Geography	Practical	02
	Open Elective (OE)	GEO-153-OE	Practical in Tourism Geography	Practical	02
	Skill Enhancement Course (SEC)	GEO-154-SEC	Practical in Google Earth	Practical	02
	Ability Enhancement Course (AEC)	ENG-154-AEC	-----	Theory	02
	Value Education Course (VEC)	GEO-155-VEC	Environmental Awareness	Theory	02
	CC	YOG/PES/CUL/NSS/NCC-156-CC	To be selected from the CC Basket	Theory	02
Total Credits					22
Grand Total Sem I + Sem II					44

Course Structure for S.Y.B.A. Geography (2024 Pattern)

Sem.	Course Type	Course Code	Course Name	Theory/ Practical	Credits
III	Major Mandatory	GEO-201-MRM	Fundamentals of Geomorphology	Theory	02
	Major Mandatory	GEO-202-MRM	Fundamentals of Oceanography	Theory	02
	Major Mandatory	GEO-203-MRM	Practical in Scale & Projection	Practical	02
	Vocational Skill Course (VSC)	GEO-204-VSC	Fundamentals of Remote Sensing	Theory	02
	Field Project (FP)	GEO-205-FP	Field Project	Practical	02
	Minor (MN)	GEO-206-MN	Geography of India	Theory	02
	Minor (MN)	GEO-207-MN	Cartographic Techniques for data representation	Practical	02
	Open Elective (OE)	GEO-208-OE	Disaster Management	Theory	02
	Generic IKS	GEO-209-IKS	Indian Geographical Thoughts	Theory	02
	Ability Enhancement Course (AEC)	MAR-210-AEC		Theory	02
		HIN-210-AEC			
		SAN-210-AEC			
Co-curricular Course (CC)	YOG/PES/CUL/NS S/NCC-211-CC	To be selected from the Basket	Theory	02	
Total Credits Sem-I					22
IV	Major Mandatory	GEO-251-MRM	Fundamentals of Population Geography	Theory	02
	Major Mandatory	GEO-252-MRM	Fundamentals of Settlement Geography	Theory	02
	Major Mandatory	GEO-253-MRM	Practical in Statistical Techniques	Practical	02
	Vocational Skill Course (VSC)	GEO-254-VSC	Practical in Remote Sensing	Practical	02
	Community Engagement Project (CEP)	GEO-255-CEP	Community Engagement Project	Practical	02
	Minor	GEO-256-MN	Geography of Maharashtra	Theory	02
	Minor	GEO-257-MN	Practical in Land Measurement Techniques	Practical	02
	Open Elective (OE)	GEO-258-OE	Practical in Disaster Management	Practical	02
	Skill Enhancement Course (SEC)	GEO-259-SEC	Practical in Computer Cartography	Practical	02
	Ability Enhancement Course (AEC)	MAR-260-AEC		Theory	02
		HIN-260-AEC			
		SAN-260-AEC			
Co-curricular Course (CC)	YOG/PES/CUL/NS S/NCC-261-CC	To be selected from the Basket	Theory	02	
Total Credits					22
Grand Total Sem III + Sem IV					44

Course & Credit Structure for T.Y.B.A. Geography (2024 Pattern)

Sem.	Course Type	Course Code	Course Title	Theory/ Practical	Credits
V	Major Mandatory	GEO-301-MRM	Physical Geography of India	Theory	02
	Major Mandatory	GEO-302-MRM	Physical Geography of Maharashtra	Theory	02
	Major Mandatory	GEO-303-MRM	Fundamentals of Economic Geography	Theory	02
	Major Mandatory	GEO-304-MRM	Tourism Geography	Theory	02
	Major Mandatory	GEO-305-MRM	Practical in SOI Toposheet	Practical	02
	Major Mandatory	GEO-306-MRM	Practical in Surveying	Practical	02
	Minor (MN)	GEO-307-MN	Tourism Geography	Theory	02
	Major Elective	GEO-308-MJE (A)	Fundamentals of Climatology	Any One	02
	Major Elective	GEO-308-MJE(B)	Watershed Management	Theory	
	Major Elective	GEO-309-MJE (A)	Practical in Climatology	Any One	02
	Major Elective	GEO-309-MJE(B)	Practical in Watershed Management	Practical	
	On-Job-Training	GEO-310-OJT	On-Job Training	Practical	04
	Total Credits Sem-V				
VI	Major Mandatory	GEO-351-MJM	Human Geography of India	Theory	02
	Major Mandatory	GEO-352-MRM	Human Geography of Maharashtra	Theory	02
	Major Mandatory	GEO-353-MRM	Agricultural Geography	Theory	02
	Major Mandatory	GEO-354-MRM	Contemporary Issues and Geography	Theory	02
	Major Mandatory	GEO-355-MRM	Practical in Daily Weather Map	Practical	02
	Major Mandatory	GEO-356-MRM	Practical in Advanced Surveying	Practical	02
	Major Elective	GEO-358-MJE (A)	Geography of Soil	Any One	02
	Major Elective	GEO-358-MJE(B)	Geography of Rural Development	Theory	
	Major Elective	GEO-359-MJE (A)	Practical in Soil Geography	Any One	02
	Major Elective	GEO-359-MJE(B)	Practical in Rural Development	Practical	
	Vocational Skill Course	GEO-360-VSC	Google Map and Google Earth	Theory	02
	Vocational Skill Course	GEO-361-VSC	Practical in GIS	Practical	02
	Field Project	GEO-362-FP	Field Project	Practical	02
Total Credits Sem-VI					22
Grand Total Sem V + Sem VI					44

**CBCS Syllabus as per NEP 2020 for T.Y.B.A. Semester-V
(2024 Pattern)**

Name of the Programme	: TYBA Geography
Programme Code	: UAGEO
Class	: TYBA
Semester	: V
Course Type	: Major Mandatory (Theory)
Course Code	: GEO-301-MRM
Course Title	: Physical Geography of India
No. of Credits	: 02
No. of Teaching Hours	: 30

Course Objectives:

1. To make students well aware of the basic concepts of human geography.
2. To understand the Demographic Transition Theory and basic concepts related to the population with special reference to India.
3. To acquaint the knowledge of types and patterns of rural settlement.
4. To recognize the concept of urbanization with special reference to Maharashtra and India.
5. To understand economic sector available in India.
6. To recognize factors affecting location of industries.
7. To study major types of industries in India.

Course Outcomes:

By the end of the course students will able to

- CO1.** Know about the location and extent of India.
- CO2.** Know salient features of the India.
- CO3.** Understand physiographic of India.
- CO4.** Familiarize with the climatic characteristics and importance of the country.
- CO5.** Aware of the drainage pattern in the view of sustainable development
- CO6.** Well aware of the adjoin countries of India and their relation.
- CO7.** Understand difference between Himalayan and peninsular drainage system.

Topics and Learning points

Unit 1: Location and Physiography	Teaching Hours
1.1 Location and extent of India	10
i. Absolute Location	
ii. Relative Location	
1.2 India and neighboring countries	
1.3 Physiographic divisions of India and their characteristics and importance	
i. The Northern Mountain	
ii. The Northern Plains	
iii. The Peninsular Plateau	
iv. The Coastal Plains	
v. The Islands	
Unit 2: Drainage System	10
2.1 Definition and Concept of Drainage System	
2.2 The Himalayan River System	
i. East flowing rivers (Ganga, Brahmaputra)	
ii. West flowing rivers (Indus)	
2.3 The Peninsular River System	
i. East flowing rivers (Godavari, Krishna and Mahanadi)	
ii. West flowing rivers (Narmada and Tapi)	
Unit 3: Climate	10
3.1 Main seasons and associated weather conditions	
i. The winter	
ii. The summer	
iii. The rainy/ monsoon	
iv. The retreat of monsoon	
3.2 Monsoon: Origin and Mechanism	
3.3 El- Nino and La- Nina	
i. Concept and mechanism	
ii. Impact on Indian monsoon	

Reference

1. Khullar R. D. (2007): India- A Compressive Geography, Kalayani Publisher.
2. Aher A.B, Chaodhari A. P & Chaodhari Archna. Regional Geography of India Prashant Publication Jalgaon 2015.
3. Khullar, D. R. (2006): India. A Comprehensive Geography. Kalyani Publishers., New Delhi.
4. Krishnan, M. S. (1968): Geology of India and Burma. 4th edition. Higgin Bothams Private. Ltd., Madras
5. Nag, P. and Gupta S. S. (1992): Geography of India. Concept Publishing. Company, New Delhi.
6. Singh, R. L. (ed.) (1971): India. A Regional Geography. National Geographical Society of India, Varanasi.

Mapping of Program Outcomes with Course Outcomes

Weightage: 1= Weak or low relation, 2= Moderate or partial relation, 3= Strong or direct relation

COs / POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	2	1	1	1	1	1	1	1	1
CO2	3	2	1	1	1	2	1	1	1	1
CO3	3	2	2	2	1	2	1	1	1	1
CO4	3	2	2	2	2	2	1	1	1	1
CO5	2	2	1	2	3	3	1	2	1	2
CO6	2	2	3	1	1	2	1	1	1	2
CO7	3	2	1	2	2	3	1	1	1	1

Justification for the mapping

PO1: Critical and Creative Thinking

CO1 to CO7 develop critical thinking by helping students understand location, physiography, climate, drainage systems, and regional differentiation of India.

PO2: Communication Skills

CO1 to CO7 enhance communication skills through map reading, diagram interpretation, and explanation of physical geographical concepts.

PO3: Multicultural Competence

CO3, CO4, and CO6 promote understanding of regional diversity, neighbouring countries, and varied physical and cultural settings.

PO4: Research Skills

CO3, CO4, CO5, and CO7 strengthen research aptitude through observation, comparison, interpretation, and analysis of physical features and systems.

PO5: Environmental Awareness

CO4, CO5, and CO7 strongly contribute by creating awareness about climate, water resources, drainage patterns, and sustainable development.

PO6: Problem-Solving Abilities

CO2, CO5, and CO7 enhance problem-solving abilities by analyzing environmental issues such as water management, floods, and regional imbalances.

PO7: Collaboration and Teamwork

CO1 to CO7 moderately support teamwork through group discussions, map work, and classroom activities.

PO8: Value Inculcation

CO5 mainly contributes by fostering values related to sustainability, conservation of water resources, and environmental responsibility.

PO9: Digital and Technological Skills

CO1 to CO7 moderately support digital skills through the use of digital maps, atlases, and basic geospatial tools.

PO10: Community Engagement and Service

CO5 and CO6 contribute by linking geographical knowledge with community concerns such as water resources, regional cooperation, and national integration.

**CBCS Syllabus as per NEP 2020 for T.Y.B.A. Semester-V
(2024 Pattern)**

Name of the Programme	: TYBA Geography
Programme Code	: UAGEO
Class	: TYBA
Semester	: V
Course Type	: Major Mandatory (Theory)
Course Code	: GEO-302- MRM
Course Title	: Physical Geography of Maharashtra
No. of Credits	: 02
No. of Teaching Hours	: 30

Course Objectives:

1. To understand the geological structure and formation of Maharashtra's landforms.
2. To analyze the drainage systems, including major rivers and their basins in Maharashtra.
3. To study the climate patterns and their variations across different regions of Maharashtra.
4. To explore the physiographic divisions of Maharashtra.
5. To examine the soil types and their distribution across Maharashtra.
6. To assess the natural vegetation and forest types found in various parts of Maharashtra.
7. To investigate the occurrence and impact of natural hazards in Maharashtra.

Course Outcomes:

By the end of the course students will be able to

CO 1: Explain the geological structure and formation of Maharashtra's landforms.

CO 2: Analyze and describe the major drainage systems and river basins in Maharashtra.

CO 3: Interpret climate patterns and understand their regional variations across Maharashtra.

CO 4: Identify and differentiate the physiographic divisions of Maharashtra, including the Western Ghats, Deccan Plateau, and coastal plains.

CO 5: Classify and describe the various soil types and their distribution in Maharashtra.

CO 6: Assess and categorize the natural vegetation and forest types found in Maharashtra.

CO 7: Evaluate the occurrence and impacts of natural hazards such as floods and droughts in Maharashtra.

Topics and Learning Points	Teaching Hours
Unit 1: Introduction of Maharashtra	10
1.1 Historical and Political Background of the state	
1.2 Geographical location of State	
1.3 Adjoining States	
1.4 Physical and Administrative Divisions	
Unit 2: Physical Setting of Maharashtra	10
2.1 Geological Structure of Maharashtra	
2.2 Physical Structure (Mountain, Plateau, Plains)	
2.3 Drainage Pattern (East and West Flowing Rivers)	
2.4 Major Soil Types and Distribution	
Unit 3: Climate of Maharashtra	10
3.1 Climatic Regions of Maharashtra	
3.2 Distribution of Rainfall	
3.3 Draught prone Areas: problems and Management	
3.4 Flood Areas: Problems and Management	

Reference:

1. S.G. Khedkar, 2014, Maharashtra: A Political History, New Century Book House.
2. M.R. Karanjkar, 2010, Maharashtra: History and Culture, Shubhi Publications.
3. V.S. Kulkarni, 2007, Geography of Maharashtra, Concept Publishing Company.
4. A.V. Deshmukh, 2012 Maharashtra: Geography, History and Culture, Prabhat Prakashan.
5. N. S. Apte, 2015, Maharashtra: A Comprehensive Overview, Mapin Publishing.
6. N.V. Chitnis, 2008, Geology of Maharashtra, University of Pune Press.
7. S. R. Subhedar, 2011, The Geology of Maharashtra: An Introduction, Himalaya Publishing House.

Mapping of Program Outcomes with Course Outcomes

Weightage: 0= No Relation 1= Weak or low relation 2= Moderate or partial relation,
3= Strong or direct relation

COs / POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	2	3	3	3	2	3	2	2
CO2	3	3	2	3	2	3	2	2	1	1
CO3	3	2	1	3	2	2	1	1	1	1
CO4	3	3	2	3	3	3	2	3	2	2
CO5	2	2	1	2	3	3	3	2	3	2
CO6	2	2	1	2	3	3	3	2	3	3
CO7	3	2	2	3	3	3	3	2	2	3

Justification:

PO1: Critical and Creative Thinking: CO1, CO2, CO3, and CO4 strongly relate to critical and creative thinking by requiring complex analysis of geological, drainage, and climatic data. CO5 and CO6 involve moderate critical thinking for data evaluation, while CO7 requires strong critical thinking for assessing natural hazards.

PO2: Communication Skills: Effective communication is crucial for CO1, CO2, and CO4 in explaining geographical concepts. CO3 and CO7 need clear presentation of climate and hazard data, with a moderate need for CO5 and CO6 in describing soil and vegetation.

PO3: Multicultural Competence: CO1 and CO2 support multicultural understanding through regional insights, while CO6 and CO7 emphasize ecological and community values, contributing to global awareness.

PO4: Research Skills: CO1, CO2, CO3, and CO7 strongly relate to research skills for hypothesis testing and data analysis. CO5 and CO6 require moderate research skills for soil and vegetation studies.

PO5: Environmental Awareness: CO1 and CO4 enhance environmental awareness through understanding landforms, while CO5 and CO6 support conservation. CO7 addresses environmental degradation and disaster management.

PO6: Problem-Solving Abilities: CO1, CO2, CO3, and CO4 solve issues related to landforms, drainage, and climate. CO5 and CO6 address soil and vegetation management, and CO7 focuses on disaster management.

PO7: Collaboration and Teamwork: CO1 and CO4 involve teamwork in geological and physiographic research. CO5 and CO6 require team-based efforts for soil and vegetation assessments, and CO7 may need collaborative work for hazard management.

PO8: Value Inculcation: CO1 and CO4 promote ethical practices in research and conservation. CO5 and CO6 encourage responsible stewardship, while CO7 includes ethical considerations for disaster response.

PO9: Digital and Technological Skills: CO1 and CO5 use digital tools for analysis, while CO6 and CO7 involve technology for mapping and analyzing vegetation and hazards.

PO10: Community Engagement and Service: CO1 and CO4 inform community conservation efforts, and CO6 and CO7 engage communities in environmental protection and disaster preparedness.

**CBCS Syllabus as per NEP 2020 for T.Y.B.A. Semester-V
(2024 Pattern)**

Name of the Programme	: TYBA Geography
Programme Code	:UAGEO
Class	: TYBA
Semester	: V
Course Type	: Major Mandatory (Theory)
Course Code	: GEO-303- MRM
Course Title	: Fundamentals of Economic Geography
No. of Credits	: 02
No. of Teaching Hours	: 30

Course Objectives:

1. To understand the definition, nature, and scope of Economic Geography.
2. To compare traditional and modern approaches in Economic Geography.
3. To analyze recent trends and developments in Economic Geography.
4. To classify different types of economic activities and understand their significance.
5. To identify and evaluate factors affecting the location of economic activities.
6. To apply Weber's and Von Thunen's models to understand the spatial organization of economic activities.
7. To recognize the importance of natural, human, and non-conventional resources for sustainable development.

Course Outcomes:

By the end of the course, students will be able to:

CO1: Explain the meaning, nature, and scope of Economic Geography.

CO2: Distinguish between traditional and modern approaches of Economic Geography.

CO3: Examine recent trends and emerging themes in Economic Geography.

CO4: Classify economic activities and analyze their role in development.

CO5: Identify factors affecting the location of economic activities.

CO6: Apply Weber's and Von Thunen's models to spatial economic analysis.

CO7: Analyze the role of resources in sustainable development.

Topics and Learning points	Teaching Hours
Unit 1: Introduction to Economic Geography	10
1.1 Definition, Nature and Scope	
1.2 Approaches: Traditional and Modern	
1.3 Recent Trends in Economic Geography	
Unit 2: Economic Activities	10
2.1 Definition and Classification of Economic Activities	
2.2 Factors affecting on Location of Economic Activities	
2.3 Economic Models of Location: Weber's and Von Thunen's Models	
Unit 3: Resources	10
3.1 Definition and Classification of Resources	
3.2 Significance of Natural and Human Resources in Economic Development	
3.3 Importance of Non-conventional Energy Resources for Sustainable Development	

References:

1. Alexander, J.W. (1977): Economic Geography, Prentice Hall of India Pvt. Ltd., New Delhi.
2. Chorley, R.J. and Haggett, P. (1970): Socio Economic Models in Geography, Concept Publishing Company Pvt. Ltd., New Delhi.
3. Garnier, B.J. and Delobez, A. (1979): Geography of Marketing, Longman.
4. Hartshorne, T.A. and Alexander, J.W. (2010): Economic Geography, PHI Learning, New Delhi.
5. Kanan Chatterjee (2015): Basics of Economic Geography.
6. Knox, P., Agnew, J. and McCarthy, L. (2008): The Geography of the World Economy, Hodder Arnold, London.
7. Lloyd, P. and Dicken, B. (1972): Location in Space: A Theoretical Approach to Economic Geography, Harper and Row, New York Methuen.
8. Mitra, A. (2002): Resource Studies, Sreedhar Publishers, Kolkata.
9. Patil, S.G., Suryawanshi, R.S., Pacharne, S., and Choudhar, A.H. (2014): Economic Geography, Atharav Prakashan, Pune.
10. Ray, P.K. (1997): Economic Geography, New Central Book Agency (P) Ltd., Calcutta.

Mapping of Program Outcomes with Course Outcomes

Weightage: 0= No relation, 1= Weak relation, 2= Moderate relation, 3= Strong relation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	2	1	3	2	2	1	1	3	1
CO2	3	2	1	3	2	3	1	1	3	1
CO3	3	2	1	3	2	3	1	1	3	1
CO4	3	2	1	2	3	3	1	1	3	1
CO5	3	2	1	3	3	2	1	1	3	1
CO6	2	2	1	2	3	2	2	1	3	1
CO7	2	2	1	2	3	2	2	1	3	1

Justification for CO-PO Mapping

PO1 (Critical and Creative Thinking)

CO1, CO2, and CO3 foster critical thinking by analyzing the definition, approaches, and recent trends in Economic Geography. CO4, CO5, CO6, and CO7 encourage creative thinking by applying models, evaluating factors, and assessing resources for sustainable development.

PO2 (Communication Skill)

CO1 and CO2 involve explaining the nature, scope, and approaches of Economic Geography, requiring clear communication. CO3 to CO7 engage students in presenting findings from analyzing models and resource evaluations effectively.

PO3 (Multicultural Competence)

All COs promote multicultural competence by analyzing the impact of economic activities and resource management in diverse geographical and cultural settings.

PO4 (Research Skills)

CO3 develops research skills through the interpretation of recent trends. CO1, CO2, CO4,

CO5, CO6, and CO7 involve applying theories, models, and techniques that require data analysis and evaluation.

PO5 (Environmental Awareness)

CO4, CO5, CO6, and CO7 promote environmental awareness by emphasizing resource management and sustainable practices. CO1, CO2, and CO3 contribute by understanding the environmental impact of economic activities.

PO6 (Problem-solving Abilities)

CO3 and CO4 involve solving challenges related to economic trends and activities.

CO1, CO2, CO5, CO6, and CO7 require applying theoretical models and evaluating sustainable solutions.

PO7 (Collaboration and Teamwork)

CO6 and CO7 encourage teamwork in analyzing models and evaluating resources. CO1 to CO5 may also involve group activities to develop strategic insights.

PO8 (Value Inculcation)

All COs instill values by emphasizing ethical approaches to economic geography, resource management, and sustainable practices.

PO9 (Digital and Technological Skills)

All COs strengthen digital and technological skills by applying analytical models, GIS tools, and remote sensing techniques.

PO10 (Community Engagement and Service)

All COs equip students to engage with communities by applying sustainable solutions and contributing to environmental protection through resource management.

**CBCS Syllabus as per NEP 2020 for T.Y.B.A. Semester-V
(2024 Pattern)**

Name of the Programme	: TYBA Geography
Programme Code	:UAGEO
Class	: TYBA
Semester	: V
Course Type	: Major Mandatory
Course Code	: GEO-304- MRM
Course Title	: Tourism Geography
No. of Credits	: 02
No. of Teaching Hours	: 30

Course Objectives:

1. To understand the diverse nature and broad scope of Tourism Geography.
2. To provide understanding of recent and emerging types of Tourism.
3. To gain insights into specialized forms of tourism.
4. To understand the characteristics and sustainability of tourism.
5. To explore the socio-cultural determinants of tourism.
6. To classify and analyse diverse tourism trends,
7. To enabling the students with the dynamic nature of the tourism industry.

Course Outcomes:

By the end of the course, students will be able to:

- CO1.** Understand of the definition, nature, and scope of tourism.
- CO2.** Recognize and articulate the economic, social, and cultural importance of tourism.
- CO3.** Categorize tourism based on nationality, understanding the distinctions between domestic and international tourism.
- CO4.** Analyse the impact of physical determinants such as relief, climate, forests, and water bodies on tourism development and experiences.
- CO5.** Identify and evaluate the influence of religious, historical, and cultural factors on tourist attractions and destination choices.
- CO6.** classify and analyse diverse tourism trends.
- CO7.** Understand the dynamic nature of the tourism industry.

Topics and Learning Points	Teaching Hours
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UNIT 1: Introduction to Tourism Geography

- | | |
|---|-----------|
| 1.1 Definition and concept of tourism | 10 |
| 1.2 Nature and Scope of Tourism Geography | |
| 1.3 Importance of Tourism in Geography | |

UNIT 2: Determinants of Tourism Development **10**

- | | |
|---|--|
| 2.1 Physical (Relief, Climate, Forest, Water) | |
| 2.2 Socio-Cultural (Religious, Historical) | |
| 2.3 Political (Policies) | |
| 2.4 Other (Accessibility, Safety of Tourist) | |

UNIT 3: Classification of Tourism **10**

- | | |
|--|--|
| 3.1 Classification of Tourism based on Nationality | |
| 3.2 Classification of Tourism based on Travel Period | |
| 3.3 Classification of Tourism based on Tourists | |
| 3.4 Classification of Tourism based on Purpose | |

References:

1. Cooper, C. and Hall, M., (2008). *Tourism and Leisure: Issues and Challenges*. Channel View Publications, Bristol.
2. Goeldner, C. R. and Ritchie, J. R. B., (2017). *Tourism: Principles, Practices, Philosophies*. John Wiley & Sons, Hoboken.
3. Singh, V. and Joshi, S., (2012). *Tourism Planning and Development: Concepts and Issues*. Sterling Publishers, New Delhi.
4. Page, S. and Connell, J., (2009). *Tourism: A Modern Synthesis*. Cengage Learning, Hampshire.
5. Seth P.N., (1985), *Successful Tourism Management*, Sterling Publisher Ltd., New Delhi.
6. Mhatre, S., (2015), *Tourism Geography: An Integrated Approach*. Himalaya Publishing House, Mumbai.

Mapping of Program Outcomes with Course Outcomes

Weightage: 0= No Relation, 1= Weak or low relation, 2= Moderate or partial relation, 3= Strong or direct relation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	2	2	1	0	0	0	0	0	0	2
CO2	2	2	1	1	1	0	0	0	0	1
CO3	1	1	3	0	0	0	0	0	0	2
CO4	1	1	2	3	2	0	0	0	1	0
CO5	1	1	1	2	3	0	0	0	0	0
CO6	1	1	1	1	1	3	1	0	0	0
CO7	1	1	1	1	1	1	3	0	0	0

Justification:

PO1 Critical and Creative Thinking:CO1 and CO2 require critical thinking about tourism definitions and economic impacts. CO3 involves understanding cultural differences in tourism, requiring diverse thinking approaches.CO4 to CO7 involve factual knowledge and industry dynamics more than critical or creative thinking.

PO2 Communication Skill:CO1 and CO2 require effective communication about tourism concepts and economic impacts.CO3 involves communicating effectively across cultural differences. CO4 to CO7 focus more on factual knowledge and industry-specific terminology.

PO3 Multicultural Competence:CO3 is directly related to understanding cultural differences in tourism. CO1 and CO2 relate to multicultural aspects through understanding tourism definitions and economic impacts. CO4 to CO7 have less direct relation to multicultural competence.

PO4 Research Skills: CO4 requires research skills to analyze physical determinants of tourism. CO5 involves research in cultural influences on tourism. CO1 to CO3 and CO6 to CO7 involve less research and more practical or observational skills.

PO5 Environmental Awareness: CO4 and CO5 require understanding environmental impacts and conservation in tourism. CO1 and CO2 touch on environmental sustainability in tourism. CO3 and CO6 to CO7 have less emphasis on environmental issues.

PO6 Problem-solving Abilities: CO6 requires problem-solving in analyzing tourism trends and challenges. CO1 and CO2 involve problem-solving related to economic impacts and policy analysis. CO3 to CO5 and CO7 involve less direct problem-solving.

PO7 Collaboration and Teamwork: CO7 involves teamwork in understanding the dynamic nature of the tourism industry. CO1 and CO2 touch on collaboration in economic and policy contexts. CO3 to CO6 involve less direct collaboration skills.

PO9 Digital and Technological Skills: CO4 involves using technology to analyze physical determinants of tourism.

PO10 Community Engagement and Service: CO1 and CO3 relate to community engagement in understanding tourism impacts and cultural interactions. CO2 involves community engagement in economic and cultural benefits of tourism. CO4 to CO7 involve less direct community engagement and service activities

**CBCS Syllabus as per NEP 2020 for T.Y.B.A. Semester-V
(2024 Pattern)**

Name of the Programme	: TYBA Geography
Programme Code	: UAGEO
Class	: TYBA
Semester	: V
Course Type	: Major Mandatory (Practical)
Course Code	: GEO-305-MRM
Course Title	: Practical in SOI Toposheet
No. of Credits	: 02
No. of Teaching Hours	: 60

Course Objectives:

1. To introduce students to Survey of India (SOI) toposheets and their importance.
2. To understand marginal information, conventional signs and symbols of toposheets.
3. To develop skills in reading and interpreting SOI toposheets of different physical regions.
4. To enable identification and analysis of physical and cultural features from toposheets.
5. To provide field-based orientation for correlating toposheet information with ground realities.
6. To develop practical skills in preparing cross profiles and longitudinal river profiles.
7. To enhance analytical and observational skills through practical and field-based exercises.

Course Outcomes:

By the end of the course, students will be able to:

CO1: Explain the purpose, structure, and significance of Survey of India toposheets.

CO2: Interpret marginal information, conventional signs, symbols, and indexing of SOI toposheets.

CO3: Read and analyze toposheets of plain, plateau, mountainous, and desert regions.

CO4: Identify and interpret physical and cultural geographical features using toposheets.

CO5: Correlate field observations with toposheet information through field excursion reports.

CO6: Prepare and analyze cross profiles from SOI toposheets.

CO7: Construct and interpret longitudinal profiles of rivers using toposheet data.

Topics and Course Points	Teaching Hours
Unit – 1: Introduction to Toposheets	
1.1 Introduction to Survey of India (SOI) toposheets	15
1.2 Marginal Information,	
1.3 Conventional signs and symbols	
1.4 Types of toposheet/Indexing of toposheets	
Unit – 2: SOI Toposheet Reading and Interpretation	30
Reading of at least one toposheet of each region	
2.1 Mountain	
2.2 Plateau	
2.3 Plain	
2.4 Coastal	
2.5 Identification of landforms on Google Map	
2.6 One day field Excursion for orientation of toposheet, observation and identification of geographical features and preparation of a brief report	
Unit – 3: Profile and Grid Reference System	15
3.1 Cross Profile	
3.2 Longitudinal Profile of the river	
3.3 Two, Four and Six numbers Grid Reference	

Reference Books and Websites:

1. Singh Lehraj, (1973): Map Work and Practical Geography, Central Book Depot –Allahabad
2. D. Y. Ahirrao and E. K. Karanjkehele, (2002): Pratyakshik Bhugol, SudarshanPublication, Nashik
3. Arjun Kumbhare (1994), Practical Geography, Sumeru Publication, Mumbai.
4. Pijushkanti Saha & ParthaBasu (2007): Advanced Practical Geography, Booksand Allied (P) Ltd., Kolkata.
5. Heywood, I., Cornelius, S. and Carver, S. (2011) An Introduction to GeographicalInformation Systems. Prentice Hall, Fourth Edition.
6. <https://surveyofindia.gov.in/>
7. <https://mausam.imd.gov.in/>
8. <https://www.imdpune.gov.in/>
9. <https://www.esri.com/en-us/home>
10. <https://youtube.com/c/GeoDeltaLabs>
11. <https://www.google.com/earth/>
12. <https://www.google.com/maps>
13. <http://studymaterial.unipune.ac.in:8080/jspui/handle/123456>

Mapping of Program Outcomes (POs) with Course Outcomes (COs)

Weightage: 0 = No relation, 1 = Weak, 2 = Moderate, 3 = Strong

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	2	1	2	2	1	1	1	2	1
CO2	3	2	1	2	2	2	1	1	2	1
CO3	3	2	1	3	2	3	1	1	2	1
CO4	3	2	1	2	3	3	1	1	2	1
CO5	3	2	1	3	3	2	1	1	3	1
CO6	2	2	1	2	3	2	2	1	3	1
CO7	2	2	1	2	3	2	2	1	3	1

Justification for CO–PO Mapping

PO1 (Critical and Creative Thinking): CO1, CO2, and CO3 involve understanding, reading, and interpreting SOI toposheets of different regions, enhancing analytical and critical thinking. CO4 to CO7 further strengthen problem-solving skills through interpretation of landforms, field observations, and profile construction.

PO2 (Communication Skills)

CO1 and CO2 develop the ability to explain toposheet components, symbols, and marginal information. CO3 to CO7 enhance written and oral communication through interpretation, field reports, and profile presentation.

PO3 (Multicultural Competence)

All COs promote understanding of geographical diversity by studying toposheets of plains, plateaus, mountainous, and desert regions, fostering respect for regional variations.

PO4 (Research Skills)

CO3 and CO5 emphasize interpretation of toposheets and field-based observations, encouraging inquiry and research orientation. Other COs support basic research skills through map analysis and profile preparation.

PO5 (Environmental Awareness): CO4, CO5, CO6, and CO7 promote environmental awareness by analyzing physical features, drainage patterns, relief, and land use. **CO1 to CO3** build foundational environmental understanding through map reading.

PO6 (Problem-Solving Abilities): CO3 and CO4 require interpretation of complex topographical data, while **CO5 to CO7** enhance practical problem-solving through field correlation and profile analysis.

PO7 (Collaboration and Teamwork): CO6 and CO7 involve group-based practical work in profile preparation. **CO1 to CO5** encourage teamwork during toposheet interpretation and field excursions.

PO8 (Value Inculcation): All COs foster ethical values, discipline, and responsibility through accurate map use, fieldwork ethics, and respect for natural resources.

PO9 (Digital and Technological Skills): All COs involve technical skills such as map reading, interpretation techniques, and basic geospatial understanding, especially **CO1, CO2, CO5, and CO6**.

PO10 (Community Engagement and Service): All COs prepare students to apply toposheet knowledge in real-life planning, regional studies, and sustainable development initiatives benefiting society.

**CBCS Syllabus as per NEP 2020 for T.Y.B.A. Semester-V
(2024 Pattern)**

Name of the Programme	: B.A. Geography
Programme Code	: UAGEO
Class	: T.Y.B.A.
Semester	: V
Course Type	: Major Mandatory (Practical)
Course Code	: GEO-306-MRM
Course Title	: Practical in Surveying
No. of Credits	:02
No. of Teaching Hours	:60

Course Objectives:

1. To introduce basic concepts, directions, and types of north in surveying.
2. To classify different surveys and explain their geographical importance.
3. To understand plane table surveying and apply radiation and intersection methods.
4. To learn prismatic compass surveying and traverse methods.
5. To understand principles and applications of dumpy and auto levels.
6. To apply suitable survey techniques for accurate field measurements.
7. To develop practical skills through hands-on surveying fieldwork

Course Outcomes:

By the end of this course, the student will be able to:

CO1: Explain basic concepts, directions, and types of surveys.

CO2: Identify and apply appropriate survey methods.

CO3: Conduct and interpret plane table surveys.

CO4: Perform and analyze prismatic compass traverses.

CO5: Determine elevations using dumpy level methods.

CO6: Apply suitable techniques for accurate field data collection.

CO7: Demonstrate practical and problem-solving skills through field surveys.

Topics and Course Points	Teaching Hours
Unit 1: Introduction to Surveying	
1.1 Definition of Surveying	20
1.2 Directions (4 and 8 Directions)	
1.3 Types of North Direction (True, Magnetic and Grid North)	
1.4 Types of Survey	
Unit 2: Plane Table Survey	20
2.1 Introduction to Plane Table Survey and their instruments	
2.2 Plane table survey- Radiation Method	
2.3 Plane table survey- Intersection Method	
Unit 3: Prismatic Compass Survey	20
3.1 Introduction to Prismatic Compass Survey and their instruments	
3.2 Prismatic Compass survey- Open Traverse Method	
3.3 Prismatic Compass survey- Closed Traverse Method	

Reference Books:

1. Sharma J. P., 2010, Prayogic Bhugol, Rastogi Publishers, Meerut.
2. Singh R. L. and Singh R. P. B., 1999, Elements of Practical Geography, Kalyani Publishers.
3. Slocum T. A., McMaster R. B. and Kessler F. C., 2008, Thematic Cartography and Geovisualization (3rd Edition), Prentice Hall.
4. Tyner J. A., 2010, Principles of Map Design, the Guilford Press.
5. Sarkar A., 2015, Practical Geography: A Systematic Approach, Orient Black Swan Private Ltd., NewDelhi
6. Singh R. L. and Dutta P. K., 2012, Prayogatama Bhugol, Central Book Depot, Allahabad
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8. Saptarshi P. G., Jog S. R., Statistical Methods,
9. Karlekar S. N., 2008, Statistical Methods, Diamond Publication, Pune
10. Kanetkar T. P., Kulkarni S. V., 1986, Surveying and Leveling, Pune Vidyarthi Griha Publication, Pune
11. Kumbhare A., Practical Geography,
12. Saha P., Basu P., 2007, Advanced Practical Geography, Books and Allied (P) Ltd, Kolkata
13. Advanced Practical Geography: 2007, Saha P., Basu P. Books and Allied (P) Ltd, Kolkata

Mapping of Program Outcomes with Course Outcomes

Weightage: 0 = No relation, 1 = Weak relation, 2 = Moderate relation, 3 = Strong relation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	2	1	2	1	1	1	1	2	1
CO2	3	2	1	2	2	2	1	1	2	1
CO3	3	2	1	3	2	3	1	1	2	1
CO4	3	2	1	3	2	3	1	1	2	1
CO5	3	2	1	3	3	3	1	1	3	1
CO6	2	2	1	2	3	3	2	1	3	1
CO7	2	2	1	2	3	3	2	1	3	1

Justification for CO-PO Mapping

PO1 (Critical and Creative Thinking)

CO1, CO2, and CO3 foster critical thinking by enabling students to analyze survey types, interpret data from plane table and prismatic compass surveys, and make informed decisions. CO4, CO5, CO6, and CO7 further develop critical thinking by requiring students to assess complex surveying techniques and analyze real-world field data.

PO2 (Communication Skill)

CO1 and CO2 involve explaining survey concepts and classifying survey types, enhancing communication skills. CO3 to CO7 engage students in presenting and interpreting field data, survey findings, and graphical results, improving their ability to communicate technical information effectively.

PO3 (Multicultural Competence)

All COs contribute to multicultural competence by promoting the understanding of diverse geographic features, landforms, and environmental contexts across different regions, fostering awareness of cultural diversity in geographical surveys.

PO4 (Research Skills)

CO3 and CO4 involve conducting and analyzing plane table and prismatic compass surveys, requiring data collection, interpretation, and research-based inquiry. CO1, CO2, CO5, CO6,

and CO7 engage students in exploring survey techniques, fostering research skills through field-based activities.

PO5 (Environmental Awareness)

CO4, CO5, CO6, and CO7 promote environmental awareness by emphasizing the importance of accurate survey data in land management, resource planning, and environmental assessment. CO1, CO2, and CO3 contribute to understanding geographical and environmental contexts.

PO6 (Problem-solving Abilities)

CO3 and CO4 involve analyzing and interpreting survey data, enhancing problem-solving skills. CO5, CO6, and CO7 encourage students to apply appropriate techniques in solving real-world surveying challenges and evaluating field data for accuracy.

PO7 (Collaboration and Teamwork)

CO6 and CO7 encourage teamwork during field surveys, as students collaborate to execute survey methods and analyze results. CO1 to CO5 also promote group discussions and cooperative learning during practical and theoretical sessions.

PO8 (Value Inculcation)

All COs instill ethical values and responsibility by promoting accuracy and integrity in data collection, interpretation, and reporting. They foster an understanding of the significance of precise surveying techniques in sustainable development and land management.

PO9 (Digital and Technological Skills)

CO1, CO2, CO5, and CO6 develop technological skills by introducing modern surveying tools and software used for accurate measurements and data analysis. CO3, CO4, and CO7 enhance these skills through the practical application of survey techniques.

**CBCS Syllabus as per NEP 2020 for T.Y.B.A. Semester-V
(2024 Pattern)**

Name of the Programme	: TYBA Geography
Programme Code	: UAGEO
Class	: TYBA
Semester	: V
Course Type	: Minor
Course Code	: GEO-307- MN
Course Title	: Tourism Geography
No. of Credits	: 02
No. of Teaching Hours	: 30

Course Objectives:

1. To understand the diverse nature and broad scope of Tourism Geography.
2. To provide understanding of recent and emerging types of Tourism.
3. To gain insights into specialized forms of tourism.
4. To understand the characteristics and sustainability of tourism.
5. To explore the socio-cultural determinants of tourism.
6. To classify and analyse diverse tourism trends,
7. To enabling the students with the dynamic nature of the tourism industry.

Course Outcomes:

By the end of the course, students will be able to:

- CO1.** Understand of the definition, nature, and scope of tourism.
- CO2.** Recognize and articulate the economic, social, and cultural importance of tourism.
- CO3.** Categorize tourism based on nationality, understanding the distinctions between domestic and international tourism.
- CO4.** Analyse the impact of physical determinants such as relief, climate, forests, and water bodies on tourism development and experiences.
- CO5.** Identify and evaluate the influence of religious, historical, and cultural factors on tourist attractions and destination choices.
- CO6.** classify and analyse diverse tourism trends.
- CO7.** Understand the dynamic nature of the tourism industry.

Topics and Learning Points	Teaching Hours
UNIT 1: Introduction to Tourism Geography	
1.1 Definition and concept of tourism	10
1.2 Nature and Scope of Tourism Geography	
1.3 Concept of Tourist and Tourism	
1.4 Importance of Tourism in Geography	
UNIT 2: Determinants of Tourism Development	10
2.1 Physical (Relief, Climate, Forest, Water)	
2.2 Socio-Cultural (Religious, Historical)	
2.3 Political (Policies)	
2.4 Other (Accessibility, Safety of Tourist)	
UNIT 3: Classification of Tourism	10
3.1 Classification of Tourism based on Nationality	
3.2 Classification of Tourism based on Travel Period	
3.3 Classification of Tourism based on Tourists	
3.4 Classification of Tourism based on Purpose	

References:

1. Cooper, C. and Hall, M., (2008). *Tourism and Leisure: Issues and Challenges*. Channel View Publications, Bristol.
2. Goeldner, C. R. and Ritchie, J. R. B., (2017). *Tourism: Principles, Practices, Philosophies*. John Wiley & Sons, Hoboken.
3. Singh, V. and Joshi, S., (2012). *Tourism Planning and Development: Concepts and Issues*. Sterling Publishers, New Delhi.
4. Page, S. and Connell, J., (2009). *Tourism: A Modern Synthesis*. Cengage Learning, Hampshire.
5. Seth P.N., (1985), *Successful Tourism Management*, Sterling Publisher Ltd., New Delhi.
6. Mhatre, S., (2015), *Tourism Geography: An Integrated Approach*. Himalaya Publishing House, Mumbai.

Mapping of Program Outcomes with Course Outcomes

Weightage: 0= No Relation, 1= Weak or low relation, 2= Moderate or partial relation, 3= Strong or direct relation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	2	2	1	0	0	0	0	0	0	2
CO2	2	2	1	1	1	0	0	0	0	1
CO3	1	1	3	0	0	0	0	0	0	2
CO4	1	1	2	3	2	0	0	0	1	0
CO5	1	1	1	2	3	0	0	0	0	0
CO6	1	1	1	1	1	3	1	0	0	0
CO7	1	1	1	1	1	1	3	0	0	0

Justification:

PO1 Critical and Creative Thinking:CO1 and CO2 require critical thinking about tourism definitions and economic impacts. CO3 involves understanding cultural differences in tourism, requiring diverse thinking approaches.CO4 to CO7 involve factual knowledge and industry dynamics more than critical or creative thinking.

PO2 Communication Skill:CO1 and CO2 require effective communication about tourism concepts and economic impacts.CO3 involves communicating effectively across cultural differences. CO4 to CO7 focus more on factual knowledge and industry-specific terminology.

PO3 Multicultural Competence:CO3 is directly related to understanding cultural differences in tourism. CO1 and CO2 relate to multicultural aspects through understanding tourism definitions and economic impacts. CO4 to CO7 have less direct relation to multicultural competence.

PO4 Research Skills: CO4 requires research skills to analyze physical determinants of tourism. CO5 involves research in cultural influences on tourism. CO1 to CO3 and CO6 to CO7 involve less research and more practical or observational skills.

PO5 Environmental Awareness: CO4 and CO5 require understanding environmental impacts and conservation in tourism. CO1 and CO2 touch on environmental sustainability in tourism. CO3 and CO6 to CO7 have less emphasis on environmental issues.

PO6 Problem-solving Abilities: CO6 requires problem-solving in analyzing tourism trends and challenges. CO1 and CO2 involve problem-solving related to economic impacts and policy analysis. CO3 to CO5 and CO7 involve less direct problem-solving.

PO7 Collaboration and Teamwork: CO7 involves teamwork in understanding the dynamic nature of the tourism industry. CO1 and CO2 touch on collaboration in economic and policy contexts. CO3 to CO6 involve less direct collaboration skills.

PO9 Digital and Technological Skills: CO4 involves using technology to analyze physical determinants of tourism.

PO10 Community Engagement and Service: CO1 and CO3 relate to community engagement in understanding tourism impacts and cultural interactions. CO2 involves community engagement in economic and cultural benefits of tourism. CO4 to CO7 involve less direct community engagement and service activities

**CBCS Syllabus as per NEP 2020 for T.Y.B.A. Semester-V
(2024 Pattern)**

Name of the Programme	: TYBA Geography
Programme Code	: UAGEO
Class	: TYBA
Semester	: V
Course Type	: Major Elective (Theory)
Course Code	: GEO-308- MJE (A)
Course Title	: Fundamentals of Climatology
No. of Credits	: 02
No. of Teaching Hours	: 30

Course Objectives:

1. To describe climatology, explore its branches, and understand its significance in atmospheric studies.
2. To describe the composition and vertical structure of the atmosphere and analyze its climatic influence.
3. To examine the processes of solar and terrestrial radiation and assess their impact on Earth's heat balance.
4. To analyze factors controlling temperature variations, including lapse rate and temperature inversion.
5. To understand the distribution of atmospheric pressure and explain the general circulation patterns.
6. To discuss atmospheric moisture, its measurement, and the processes of condensation and precipitation.
7. To study global wind circulation, weather patterns, and their role in shaping climatic systems.

Course Outcomes:

By the end of the course, students will be able to:

CO1. Accurately describe the concept of climatology, explore its branches, and explain its significance in understanding atmospheric processes.

CO2. Explain the composition and vertical structure of the atmosphere and analyze their impact on climatic patterns.

CO3. Examine the processes of solar and terrestrial radiation and assess their influence on Earth's heat budget.

CO4. Analyze factors controlling temperature variations, including lapse rate, heat transfer, and temperature inversion.

CO5. Understand the distribution of atmospheric pressure and describe the general circulation patterns of the atmosphere.

CO6. Discuss atmospheric moisture, its measurement techniques, and the processes of condensation and precipitation.

CO7. Study global wind circulation, identify major wind patterns, and assess their role in shaping climatic system.

Topics and Learning Points	Teaching Hours
UNIT 1: Introduction to Climatology	10
1.1 Definition of Climatology	
1.2 Branches of Climatology	
1.3 Composition of atmosphere	
1.4 Structure of atmosphere	
UNIT 2: Insolation and Temperature	10
2.1 Solar and terrestrial radiation	
2.2 Temperature measurements and controls	
2.3 Heat Budget	
2.4 Lapse rate and temperature inversion	
UNIT 3: Atmospheric Pressure and Moisture	10
3.1 Factors affecting horizontal distribution of pressure	
3.2 General circulation of the atmosphere	
3.3 Atmospheric moisture and measurements	
3.4 Forms of condensation	

References:

1. Singh, S. (2005). Climatology. Prayag Pustak Bhawan, Allahabad.
2. Singh, R. L. (1999). Climatology and Oceanography. Central Book Depot, Allahabad.
3. Das, P. K. (1987). The Monsoons. National Book Trust, India.
4. Lal, D. S. (2014). Climatology: A Textbook of Atmosphere and Weather. Sharda Pustak Bhawan, Allahabad.
5. Guhathakurta, P. (2010). Trends and Periodicities of Rainfall over India. Indian Meteorological Department (IMD), Pune.
6. Siddhartha, K. (2001). Atmosphere, Weather and Climate. Kisalaya Publications, New Delhi.
7. Singh, Y. (2012). Geography of India. Lakshmi Narain Agarwal Publishers, Agra.
8. Indian Meteorological Department. (Annual Reports). Climatic and Weather Reports of India and Maharashtra. IMD, Pune.

Mapping of Program Outcomes with Course Outcomes

Weightage: 0= No relation, 1= Weak relation, 2= Moderate relation, 3= Strong relation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	2	1	2	2	1	1	1	1	1
CO2	3	2	1	2	2	2	1	1	1	1
CO3	3	2	1	3	2	3	1	1	1	1
CO4	3	2	1	2	3	3	1	1	1	1
CO5	3	2	1	2	3	2	1	1	1	1
CO6	2	2	1	2	3	2	2	1	1	1
CO7	2	2	1	2	3	2	2	1	1	1

Justification for Ratings

PO1 (Critical and Creative Thinking): CO1, CO2, CO3, CO4, and CO5 involve analyzing, interpreting, and critically assessing atmospheric processes, radiation, and climatic patterns. CO6 and CO7 require critical evaluation of moisture processes and wind circulation, encouraging the application of analytical skills to understand climatic phenomena.

PO2 (Communication Skill): CO1 and CO2 require effectively communicating climatological concepts and atmospheric processes. CO3 to CO7 involve explaining and presenting findings related to atmospheric dynamics, climatic processes, and environmental patterns in a clear and organized manner.

PO3 (Multicultural Competence): All COs contribute to understanding climatology and atmospheric dynamics, which inherently require an awareness of global contexts and diverse environmental conditions across regions. Studying global wind patterns, climatic systems, and environmental challenges fosters multicultural awareness and sensitivity.

PO4 (Research Skills): CO3 involves detailed analysis of solar and terrestrial radiation, requiring advanced research and analytical skills. CO1, CO2, CO4, CO5, CO6, and CO7 engage students in investigating, analysing, and interpreting atmospheric phenomena, fostering an inquiry-based approach to **scientific exploration**.

PO5 (Environmental Awareness): CO4, CO5, CO6, and CO7 emphasize understanding environmental issues such as temperature variations, atmospheric moisture, and wind

circulation, which contribute to environmental knowledge. CO1, CO2, and CO3 explore fundamental atmospheric processes that enhance awareness of environmental dynamics.

PO6 (Problem-solving Abilities): CO4 involves analysing factors controlling temperature variations, which require solving complex atmospheric challenges. CO3, CO5, CO6, and CO7 require identifying and understanding various factors influencing climate and weather patterns. CO1 and CO2 contribute to addressing fundamental climatological concepts.

PO7 (Collaboration and Teamwork): CO6 and CO7 involve collaboration in studying and interpreting atmospheric processes, wind patterns, and moisture processes. CO1 to CO5 may require some collaborative effort, though less extensively, in discussing and analysing climatic and environmental concepts.

PO8 (Value Inculcation): All COs foster value inculcation by promoting an understanding of environmental processes and their implications for sustainable practices. They encourage ethical thinking regarding climate change, environmental preservation, and responsible decision-making.

PO9 (Digital and Technological Skills): All COs indirectly involve the use of digital tools, data interpretation techniques, and climate simulation models, promoting familiarity with technology and enhancing students' ability to work with meteorological data and computational analysis.

PO10 (Community Engagement and Service): All COs contribute to enhancing awareness of climate-related challenges, which can be applied to educate communities and participate in climate action initiatives. Understanding climatology equips students to engage in environmental service and community-based solutions.

**CBCS Syllabus as per NEP 2020 for T.Y.B.A. Semester-V
(2024 Pattern)**

Name of the Programme	: TYBA Geography
Programme Code	: UAGEO
Class	: TYBA
Semester	: V
Course Type	: Major Elective (Theory)
Course Code	: GEO-308- MJE (B)
Course Title	: Watershed Management
No. of Credits	: 02
No. of Teaching Hours	: 30

Course Objectives:

1. To define the concept of a watershed, explain watershed management, and discuss its principles.
2. To understand the necessity of watershed management and identify associated challenges and problems.
3. To explain the hydrological cycle, identify its stages, and analyze its importance in watershed management.
4. To examine the processes involved in interception and evaluate the concept of water balance.
5. To describe the meaning and importance of water conservation in the context of watershed management.
6. To understand the concept of soil conservation and explore techniques used for its preservation.
7. To apply various water and soil conservation techniques to enhance watershed sustainability.

Course Outcomes:

By the end of the course, students will be able to:

CO1. Define the concept of a watershed, explain watershed management, and describe its guiding principles.

CO2. Analyze the necessity of watershed management and identify the key challenges involved in its implementation.

CO3. Explain the hydrological cycle, identify its stages, and assess its role in maintaining watershed balance.

CO4. Evaluate the processes of interception and analyze the concept of water balance in a watershed.

CO5. Describe the meaning and significance of water conservation and apply relevant techniques in watershed management.

CO6. Understand the concept of soil conservation and implement various techniques to prevent soil degradation.

CO7. Apply appropriate water and soil conservation techniques to promote sustainable watershed management.

Topics and Learning Points	Teaching Hours
Unit 1: Concept of watershed management	
1.1 Definition and concepts of watershed management	10
1.2 Principle of watershed management	
1.3 Necessity of watershed management	
1.4 Problems in watershed management	
Unit 2: Hydrological process in watershed	10
2.1 Concept of Hydrological Cycle	
2.2 Stages involves in Hydrological Cycle	
2.3 Process of Interception	
2.4 Water Balance	
Unit 3: Water and Soil Conservation in watershed	10
3.1Meanng and Concept of Water Conservation	
3.2 Meaning and Concept of Soil Conservation	
3.3 Water Conservation Techniques	
3.4 Soil Conservation Techniques	

References:

1. Tideman, E. M. (1996). *Watershed Management: Guidelines for Indian Conditions*. Omega Scientific Publishers, New Delhi.
2. Sharma, R. K. & Sharma, T. K. (2002). *Watershed Planning and Management*. Dhanpat Rai Publications, New Delhi.
3. Narayanaswamy, N. (2008). *Soil and Water Conservation in India*. ICAR Publications, New Delhi.
4. Wani, S. P., Rockström, J., & Oweis, T. (2009). *Rainfed Agriculture: Unlocking the Potential*. International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Hyderabad.
5. Kale, V. S. (1998). *Introduction to Geomorphology and Hydrology of Peninsular India*. Universities Press, Hyderabad.
6. Gawande, S. S. (2015). *Watershed Development and Management*. Nirali Prakashan, Pune.
7. Indian Council of Agricultural Research (ICAR). (2010). *Handbook of Agriculture*. New Delhi.
8. Maharashtra State Water Policy Reports. Government of Maharashtra Publications.

Mapping of Program Outcomes with Course Outcomes

Weightage: 0= No relation, 1= Weak relation, 2= Moderate relation, 3= Strong relation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	2	1	2	2	1	1	1	1	1
CO2	3	2	1	2	2	2	1	1	1	1
CO3	3	2	1	3	2	3	1	1	1	1
CO4	3	2	1	2	3	3	1	1	1	1
CO5	3	2	1	2	3	2	1	1	1	1
CO6	2	2	1	2	3	2	2	1	1	1
CO7	2	2	1	2	3	2	2	1	1	1

Justification for CO-PO Mapping

PO1 (Critical and Creative Thinking): CO1, CO2, and CO3 involve defining watershed concepts, analysing challenges in watershed management, and assessing the role of the hydrological cycle in maintaining watershed balance. CO4, CO5, CO6, and CO7 encourage evaluating interception processes, applying conservation techniques, and promoting sustainable watershed management, fostering critical and creative thinking.

PO2 (Communication Skill): CO1 and CO2 require explaining watershed principles and discussing challenges involved in its implementation, promoting effective communication of ideas. CO3 to CO7 involve presenting hydrological processes, conservation techniques, and sustainable management practices, enhancing the ability to articulate scientific concepts.

PO3 (Multicultural Competence): All COs promote understanding of watershed management practices across diverse geographical and cultural contexts. The application of conservation techniques and the evaluation of environmental challenges in different regions enhance multicultural competence by fostering sensitivity toward environmental diversity.

PO4 (Research Skills): CO3 involves assessing the hydrological cycle and evaluating its impact on watershed balance, encouraging research-based analysis. CO1, CO2, CO4, CO5,

CO6, and CO7 engage students in investigating and implementing appropriate conservation techniques, promoting research skills through inquiry and evidence-based practice.

PO5 (Environmental Awareness): CO4, CO5, CO6, and CO7 emphasize the significance of water and soil conservation and their role in maintaining watershed balance. CO1, CO2, and CO3 build environmental awareness by introducing watershed management principles and highlighting the importance of sustainable practices.

PO6 (Problem-solving Abilities): CO4 involves analysing interception processes and evaluating water balance, which requires applying problem-solving techniques. CO3, CO5, CO6, and CO7 emphasize identifying and addressing challenges in maintaining watershed stability through appropriate conservation techniques. CO1 and CO2 contribute by identifying and analysing key challenges in watershed management.

PO7 (Collaboration and Teamwork): CO6 and CO7 involve applying water and soil conservation techniques in a collaborative environment to promote sustainable watershed management. CO1 to CO5 encourage collaborative discussions and analyses of watershed processes and challenges, fostering teamwork and knowledge-sharing.

PO8 (Value Inculcation): All COs foster value inculcation by promoting the importance of environmental stewardship, sustainability, and responsible management of natural resources. Understanding watershed management principles encourages ethical decision-making and the adoption of sustainable practices.

PO9 (Digital and Technological Skills): All COs indirectly contribute to enhancing digital and technological skills by encouraging the use of digital tools, data analysis, and geospatial techniques to assess watershed conditions and apply conservation techniques.

PO10 (Community Engagement and Service): All COs enhance knowledge of watershed management, enabling students to engage with communities and implement sustainable solutions. Understanding conservation techniques equips them to participate in community-based watershed management initiatives and contribute to environmental improvement.

**CBCS Syllabus as per NEP 2020 for T.Y.B.A. Semester-V
(2024 Pattern)**

Name of the Programme	: TYBA Geography
Programme Code	: UAGEO
Class	: TYBA
Semester	: V
Course Type	: Major Elective (Practical)
Course Code	: GEO-309- MJE (A)
Course Title	: Practical in Climatology
No. of Credits	: 02
No. of Teaching Hours	: 60

Course Objectives:

1. To introduce the concept of wind rose diagrams and develop the ability to prepare and interpret simple and compound wind rose diagrams.
2. To understand the process of temperature measurement and analyze climatic variations through hythergraph and climograph.
3. To develop skills in constructing and interpreting climatographs to understand climatic patterns and trends.
4. To explain the concept of water balance and identify its key components in the context of hydrological analysis.
5. To perform calculations for water budget and evaluate the water balance of a region using appropriate methods.
6. To analyze the seasonal distribution of temperature, precipitation, and humidity through various graphical techniques.
7. To interpret climatic data, identify patterns, and apply analytical techniques for understanding climate variability.

Course Outcomes:

By the end of the course, students will be able to:

CO1. Prepare and interpret simple and compound wind rose diagrams to analyze wind patterns and frequency.

CO2. Measure temperature variations and construct hythergraphs and climographs to analyze seasonal climatic trends.

CO3. Construct and interpret climatographs to understand and compare climatic variations.

CO4. Explain the concept of water balance, identify its components, and assess its role in watershed management.

CO5. Calculate the water budget of a region and evaluate the balance of hydrological components.

CO6. Analyze and compare seasonal climatic data through graphical representation and interpretation.

CO7. Interpret climatic data and apply analytical methods to assess climate variability and trends.

Topics and Learning Points	Teaching Hours
Unit 1: Wind Analysis	
1.1 Introduction to Wind Rose Diagram	20
1.2 Preparation and Interpretation of Simple Wind Rose Diagram	
1.3 Preparation and Interpretation of Compound Wind Rose Diagram	
Unit 2: Temperature and Humidity Data Analysis	20
2.1 Temperature and its Measurement	
2.2 Construction and Interpretation of Hythergraph	
2.3 Construction and Interpretation of Climograph	
2.4 Construction and Interpretation of Climatograph	
Unit 3: Water Budget Analysis	20
3.1 Introduction to Water Balance/Budget	
3.2 Components of Water Budget	
3.3 Calculation of Water Budget	
3.4 Interpretation and Application of Water Budget	

References:

1. Chow, V. T. (1964). Handbook of Applied Hydrology. McGraw-Hill, New York.
2. Barry, R. G. & Chorley, R. J. (2003). Atmosphere, Weather, and Climate (8th Edition). Routledge, London.
3. Singh, Savindra. (2005). Practical Geography: A Systematic Approach. Prayag Pustak Bhawan, Allahabad.
4. Ghosh, A. (1996). Practical Geography: A Laboratory Manual. Orient Longman, Kolkata.
5. Reddy, M. A. (2016). A Textbook of Hydrology. Laxmi Publications, New Delhi.
6. Das, P. K. (1987). The Monsoons. National Book Trust, India.
7. Singh, R. L. & Singh, R. P. B. (1991). Elements of Practical Geography. Kalyani Publishers, New Delhi.
8. Rao, D. P. (2002). Remote Sensing and GIS for Environmental Studies. Tata McGraw Hill, New Delhi.

Mapping of Program Outcomes with Course Outcomes

Weightage: 0= No relation, 1= Weak relation, 2= Moderate relation, 3= Strong relation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	2	1	2	2	1	1	1	2	1
CO2	3	2	1	2	2	2	1	1	2	1
CO3	3	2	1	3	2	3	1	1	2	1
CO4	3	2	1	2	3	3	1	1	2	1
CO5	3	2	1	2	3	2	1	1	2	1
CO6	2	2	1	2	3	2	2	1	2	1
CO7	2	2	1	2	3	2	2	1	2	1

Justification for CO-PO Mapping

PO1 (Critical and Creative Thinking): CO1, CO2, and CO3 involve constructing and interpreting various climatological diagrams such as wind rose diagrams, hythergraphs, and climographs, which require critical thinking and analytical skills. CO4, CO5, CO6, and CO7 engage students in interpreting climatic data, analysing water balance, and evaluating hydrological components, encouraging problem-solving and creative approaches to understanding climate variability.

PO2 (Communication Skill): CO1 and CO2 involve presenting and explaining graphical representations of climatic trends, improving the ability to communicate complex data. CO3 to CO7 require interpreting and analysing climatological information, enhancing the students' ability to articulate their findings and observations effectively.

PO3 (Multicultural Competence): All COs contribute to understanding climatic variations and hydrological patterns across different regions and contexts, fostering multicultural awareness. The study of global climate patterns and variations encourages sensitivity to diverse environmental conditions and geographic diversity.

PO4 (Research Skills): CO3 emphasizes constructing and interpreting climatographs, which

require in-depth research and data analysis. CO1, CO2, CO4, CO5, CO6, and CO7 involve analysing climatic trends, evaluating hydrological components, and applying analytical techniques, promoting inquiry and research-oriented learning.

PO5 (Environmental Awareness): CO4, CO5, CO6, and CO7 focus on understanding water balance, analysing seasonal climatic data, and evaluating climate variability, all of which contribute to enhancing environmental awareness. CO1, CO2, and CO3 reinforce awareness by emphasizing the analysis of wind patterns and climate trends.

PO6 (Problem-solving Abilities): CO4 involves analysing water balance and evaluating its role in watershed management, which requires problem-solving skills. CO5, CO6, and CO7 emphasize the application of analytical methods to assess climate variability and trends, encouraging the development of solutions for hydrological challenges. CO1, CO2, and CO3 contribute by enhancing analytical and interpretative skills.

PO7 (Collaboration and Teamwork): CO6 and CO7 involve analysing seasonal climatic data and interpreting trends, which may require collaborative teamwork in data collection and interpretation. CO1 to CO5 encourage collaborative discussions while analysing climatic patterns, water balance, and hydrological processes.

PO8 (Value Inculcation): All COs promote value inculcation by fostering awareness of climate variability, water balance, and the importance of sustainable watershed management. Understanding and applying analytical methods encourages ethical decision-making and sustainable environmental practices.

PO9 (Digital and Technological Skills): All COs contribute to enhancing digital and technological skills by requiring the use of data analysis, statistical techniques, and digital tools to construct, interpret, and analyse climatological diagrams and hydrological data.

PO10 (Community Engagement and Service): All COs equip students with the knowledge and analytical skills necessary to assess climatic trends and hydrological processes, enabling them to engage with communities and contribute to environmental sustainability and climate adaptation effort.

**CBCS Syllabus as per NEP 2020 for T.Y.B.A. Semester-V
(2023 Pattern)**

Name of the Programme	: TYBA Geography
Programme Code	: UAGEO
Class	: TYBA
Semester	V
Course Type	: Major Elective (Practical)
Course Code	: GEO-309- MJE (B)
Course Title	: Practical in Watershed Management
No. of Credits	02
No. of Teaching Hours	60

Course Objectives:

1. To develop skills in watershed delineation using both traditional and digital methods.
2. To perform and interpret morphometric analysis of watersheds to understand their characteristics.
3. To analyze stream networks and surface water flow within watersheds using hydrological models.
4. To assess the impact of land use changes on water resources within a watershed.
5. To utilize GIS and remote sensing tools for accurate watershed mapping and analysis.
6. To conduct land use and land cover mapping using remote sensing data.
7. To apply GIS techniques in evaluating watershed health and developing management strategies.

Course Outcomes:

By the end of the course, students will be able to:

- CO1:** Demonstrate the ability to delineate watersheds using both traditional methods and digital tools.
- CO2:** Perform and accurately interpret morphometric analysis to assess watershed characteristics.
- CO3:** Analyze stream networks and simulate surface water flow using hydrological models within a watershed.

- CO4:** Evaluate the effects of land use changes on the availability and quality of water resources in a watershed.
- CO5:** Utilize GIS and remote sensing tools to conduct precise watershed mapping and analysis.
- CO6:** Conduct and interpret land use and land cover mapping using remote sensing techniques.
- CO7:** Apply GIS techniques to evaluate watershed health and formulate effective management strategies.

Topics and Learning points	Teaching Hours
Unit 1: Watershed Delineation and Stream Order	
1.1 Delineation of Watershed	20
1.2 Stream ordering Methods	
1.3 Calculation of Bifurcation Ratio	
1.4 Slope analysis in Watershed	
Unit 2: Morphometric analysis of Watershed	20
2.1 Linear Characteristics of Watershed	
2.2 Areal Characteristics of watershed	
2.3 Relief Characteristics of Watershed	
Unit 3: Areal Precipitation and Water Balance	20
3.1 Isohyetal Method of Areal Precipitation	
3.2 Thiessen Polygon Methods of Areal Precipitation	
3.3 Calculation of Water Balance	

References:

1. Murthy, J. V. S. (1994): Watershed Management in India, Wiley Eastern Ltd., New Delhi
2. Pranjape, S., Joy, K. J., Machado, T., Varma, A. K. and Swaminathan, S. (1998): Watershed-Based Development, Bharat Gyan Vigyan Samithi, New Delhi
3. Mutreja, K. N. (1990): Applied Hydrology, Tata McGraw-Hill Pub. Co. Ltd., New Delhi
4. Singh, R. J. (2000): Watershed Planning and Management, Yash Publishing House, Bikaner
5. Strahler, A. N. (1964): Handbook of Applied Hydrology, Ven Te Chow, Ed., Section -- 4 II, McGraw-Hill Book Company, New York

Mapping of Program Outcomes with Course Outcomes

Weightage: 0= No relation, 1= Weak relation, 2= Moderate relation, 3= Strong relation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	2	1	3	2	2	1	1	3	1
CO2	3	2	1	3	2	3	1	1	3	1
CO3	3	2	1	3	2	3	1	1	3	1
CO4	3	2	1	2	3	3	1	1	3	1
CO5	3	2	1	3	3	2	1	1	3	1
CO6	2	2	1	2	3	2	2	1	3	1
CO7	2	2	1	2	3	2	2	1	3	1

Justification for CO-PO Mapping

PO1 (Critical and Creative Thinking): CO1, CO2, and CO3 require critical thinking by engaging students in delineating watersheds, performing morphometric analysis, and simulating surface water flow using hydrological models. CO4, CO5, CO6, and CO7 further enhance critical thinking by evaluating the effects of land use changes, conducting GIS-based watershed mapping, and applying analytical techniques to develop management strategies for watershed health.

PO2 (Communication Skill): CO1 and CO2 involve interpreting and explaining the outcomes of watershed delineation and morphometric analysis, requiring effective communication of technical information. CO3 to CO7 engage students in presenting and explaining results from hydrological models, land use mapping, and GIS-based watershed assessments, strengthening their ability to communicate scientific findings clearly.

PO3 (Multicultural Competence): All COs contribute to multicultural competence by examining the effects of land use changes and watershed characteristics in diverse geographic contexts. The application of GIS and remote sensing tools to study environmental variations across regions promotes an understanding of multicultural environmental challenges.

PO4 (Research Skills): CO3 involves simulating surface water flow using hydrological models, which requires research and data analysis. CO1, CO2, CO4, CO5, CO6, and CO7 engage students in exploring and applying GIS and remote sensing techniques to assess

watershed characteristics and evaluate management strategies, fostering strong research skills through data interpretation and evidence-based analysis.

PO5 (Environmental Awareness): CO4, CO5, CO6, and CO7 promote environmental awareness by emphasizing the assessment of land use changes, water quality, and watershed health. CO1, CO2, and CO3 contribute to understanding the impact of watershed characteristics and hydrological processes on environmental sustainability.

PO6 (Problem-solving Abilities): CO3 and CO4 involve analysing hydrological processes and assessing land use impacts, requiring problem-solving skills to develop appropriate solutions. CO1, CO2, CO5, CO6, and CO7 encourage applying GIS and remote sensing tools to solve complex watershed management challenges, promoting analytical and problem-solving abilities.

PO7 (Collaboration and Teamwork): CO6 and CO7 involve collaborative efforts in applying GIS and remote sensing techniques for land use mapping and watershed evaluation, encouraging teamwork in data collection and analysis. CO1 to CO5 may involve group work in interpreting watershed data and developing management strategies.

PO8 (Value Inculcation): All COs foster value inculcation by promoting the importance of sustainable watershed management, environmental stewardship, and ethical use of GIS and remote sensing technologies. Understanding the effects of land use changes and hydrological processes instils a sense of responsibility for environmental protection.

PO9 (Digital and Technological Skills): All COs contribute to developing digital and technological skills by incorporating GIS, remote sensing, and hydrological modelling into watershed analysis. Mastering these techniques enhances students' ability to use technology effectively for environmental management.

PO10 (Community Engagement and Service): All COs enhance knowledge of watershed management, empowering students to engage with communities and apply GIS-based solutions for sustainable water resource management. Understanding the effects of land use changes.

OJT Format

GEO-310-OJT: On-Job Training

Anekant Education Society's
**Tuljaram Chaturchand College of Arts, Science and Commerce,
Baramati**

(Empowered Autonomous, NAAC 'A++' Grade)

On-the-Job Training (OJT) Completion Report

Under NEP 2020

Number of Credits: 04

Course Code : -----

Department of

On-the-Job Training completion report submitted by

Name: -----

Class : -----

Semester - -----

Under the Supervision of

Name of supervisor: -----

Company / Institute Address: -----

Mentor

Prof./Dr.-----

Department of -----

T.C. College, Baramati

Academic Year 2025-2026



Anekant Education Society's
**Tuljaram Chaturchand College of Arts, Science and Commerce,
Baramati**
(Empowered Autonomous, NAAC 'A++' Grade)

DECLARATION BY THE STUDENT

I, **(Name of the Student)**, hereby declare that the On-the-Job Training (OJT) report submitted by me in partial fulfilment of the requirements for the award of the Degree of **T.Y.B.A./B.Com./B.Sc./B.Voc./B.B.A./B.C.A./BBA(C.A.)/M.A./M.Sc./M.Com./M.Voc.** in **(Name of the Department)**, is an original record of work carried out by me during Semester V of the Academic Year 2026-2027.

The said work was completed under the supervision of **(Name of the Company Supervisor)** at **(Name of the Company/Institution)** and under the academic mentorship of **(Name of the Faculty Mentor)**. I further declare that this report has not previously formed the basis for the award of any degree, diploma, certificate, or fellowship of this or any other university, institution, or organization.

I also declare that I have successfully completed 120 hours of On-the-Job Training at **(Name of the Company/Institution)** during the period from _____ to _____.

Furthermore, I affirm that the information presented in this OJT Report has been obtained by me during the course of my On-the-Job Training. All secondary data, references, and information obtained from other sources have been duly acknowledged and cited in the report.

Place:

Date:

Signature of Student:

Name of the student:



Anekant Education Society's
Tuljaram Chaturchand College of Arts, Science and Commerce,
Baramati
 (Empowered Autonomous, NAAC 'A++' Grade)

CERTIFICATE OF THE SUPERVISOR & MENTOR

This is to certify that the On-the-Job Training (OJT) report submitted by **(Name of the Student)**, has been successfully completed under our guidance and supervision at **(Name and Address of the Company/Institution)**.

The data and information incorporated in this report are the outcome of the candidate's work carried out during the course of the On-the-Job Training. All secondary data, references, and materials drawn from other sources have been appropriately acknowledged and cited in the OJT Report in accordance with academic standards.

This OJT report constitutes a mandatory component of **(Course Code)** prescribed for **T.Y.B.A./B.Com./B.Sc./B.Voc./B.B.A./B.C.A./BBA(C.A.)/M.A./M.Sc./M.Com./M.Voc. in (Name of the Subject)** under the curriculum designed and implemented in accordance with the National Education Policy (NEP) 2020.

Place:

Date:

Signature of the Mentor :

Signature of the Supervisor

Name of Mentor :

Name of Supervisor:

T.C.College, Baramati

Name of Company :

Internal Examiner

External Examiner

(On Letter Head of the Company)

COMPLETION CERTIFICATE OF ON-THE-JOB TRAINING

This is to certify that Mr./Ms. **(Name of the Students)**, a student of the Department of **(Name of the Department)**, Tuljaram Chaturchand College of Arts, Science and Commerce (Empowered Autonomous), Baramati, has successfully completed the On-the-Job Training (OJT) at **(Name of the Company/Institution)** during the period **from** _____ **to** _____.

During this period, the student underwent 120 hours of structured training in our organization. Throughout the training tenure, the student was actively associated and was diligently involved in the tasks and projects assigned.

The student demonstrated a commendable level of commitment, sincerity, initiative, and a strong willingness to learn. **His/ Her** contributions were valuable and positively supported the functioning of the organization.

This certificate is awarded in recognition of the student's dedicated efforts, meaningful contribution, and eagerness to acquire professional skills during the training period. We wish him/her every success in future academic and professional endeavors.

Place:

Date:

**Name, Stamp & Signature of Authorized
Signatory**

Seal of the Company



Anekant Education Society's
**Tuljaram Chaturchand College of Arts, Science and Commerce,
Baramati**

(Empowered Autonomous, NAAC 'A++' Grade)

ACKNOWLEDGEMENT

The successful completion of the On-the-Job Training (OJT) report has been made possible through the guidance, cooperation, and support of several individuals and institutions. I gratefully acknowledge the assistance received at various stages of this OJT report work.

First and foremost, I express my sincere gratitude to **(Name of the Company Supervisor)** for providing me with the opportunity to undergo On-the-Job Training at **(Name of the Company/Institution)** and for offering valuable guidance, encouragement, and continuous support throughout the training period and project work. I am equally thankful to my academic mentor, **(Name and Department of the Faculty Mentor)**, for **his/her** constructive suggestions, constant motivation, and scholarly guidance up to the successful completion of this report.

I wish to place on record my respectful gratitude to **Prof. Dr. Avinash Jagtap, Principal**, AES's Tuljaram Chaturchand College of Arts, Science and Commerce (Empowered Autonomous), Baramati, for his encouragement and institutional support, which facilitated the smooth completion of this OJT work.

I am also thankful to the Head of the Department, **(Name of the HoD)**, and Departmental OJT Coordinator **(Name of the Departmental OJT Coordinator)** for his/her cooperation, support, and timely guidance during the course of this OJT work.

I extend my appreciation to all the teachers in the department, my friends and any other individuals who directly or indirectly contributed to the successful completion of this On-the-Job Training work.

Once again, I sincerely thank everyone who supported and guided me throughout the present work.

Signature of Student :

Name of the student:

EXECUTIVE SUMMARY

(Write in one page)

Signature of Student : _____

Name of the student: _____

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4.	Job Profile Assigned During the OJT	
5.	Details of Actual Work Performed During the OJT	
6.	Key Learnings and Skills Acquired During the OJT	
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8.	Conclusion	
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10.	Appendices <ul style="list-style-type: none"> I. College (HEI) outreach letter II. Offer Letter of the Company III. Undertaking of the student (for college) IV. Undertaking of the student (for company) V. Task Assignment and work plan VI. Student Diary (Log) recording VII. Attendance Sheet VIII. Supervisor's Feedback on the Student IX. Student Feedback on On-the-Job Training (OJT) X. Completion Certificate of OJT 	

1. Introduction

The National Education Policy (NEP)-2020 has brought many positive changes in higher education. It focuses on learning by doing, skill development, and connecting education with industry. One important part of NEP-2020 is On-the-Job Training (OJT), which is made compulsory for undergraduate students.

For Semester VI students, OJT is a 4-credit course, and students must complete 120 hours of practical training in an industry or organization related to their subject. This training helps students learn how their subject is used in real work situations.

OJT is not only useful for technical learning. It also helps students develop soft skills such as teamwork, communication, discipline, and professional behavior. By working in an industry, students understand how organizations function. They learn to follow rules, manage time, take responsibility, and solve problems. These skills are very important for their future careers.

For third year students of bachelor degree programme, OJT is a valuable learning experience. It helps them connect classroom knowledge with practical industrial work. OJT improves their practical skills, confidence, and overall personality. This programme prepares students to become skilled, confident, and industry-ready graduates, as expected under the vision of NEP-2020.

2. Objectives of the On-the-Job Training (OJT)

1. To provide hands-on industrial exposure to students in the field of -----
--
2. To develop practical skills, professional ethics, and work discipline
3. To familiarize students with food safety standards, quality control, and hygiene protocols followed in the dairy industry
4. To enhance students' employability and industry readiness in the sector

3. Profile of the Company / Organization

4. Job Profile Assigned During the OJT

5. Details of Actual Work Performed During the OJT

6. Key Learnings and Skills Acquired During the OJT

7. Contribution Made Towards Improved Functioning of the Organization

8. Conclusion

9. Geo-Tagged Photographs with caption



Principal
Prof. Dr. Avinash S. Jagtap
 M.Sc. Ph.D.

॥ सिद्धिलोकान्वात् ॥

Anekant Education Society's

TULJARAM CHATURCHAND COLLEGE
of Arts, Science and Commerce, Baramati - 413102

Affiliated to Savitribai Phule Pune University (Formerly University of Pune)

Empowered Autonomous

E-mail : principal.tccollege@gmail.com principal@tccollege.org	Religious Minority Institute	NAAC Reaccredited 'A++' Grade in the 4th Cycle		
Phone : (02112) 222405, 223035	<ul style="list-style-type: none"> • UGC - CPE Status • ISO 21001:2018 Certified 	<ul style="list-style-type: none"> • Best College Award • DBT - Star College Scheme 	<ul style="list-style-type: none"> • DST FIST 'O' Level • UGC - Vocational Programmes 	
Univ. College Code : 032	Id No. PUPN/ASC016/1962	PUN ID : CAAP010100	HSC Board Code : J 11.02.001(1976-77)	UDISE No. 27250211827

Ref. No: AES/TCC/_____

Date :

Appendix I: HEI OUTREACH LETTER

To,
 The (Manager, HR)

.....

Subject: Request for Permission to Undertake 120 Hours of On-the-Job Training

Dear Sir/ Madam,

Tuljaram Chaturchand College, Baramati, established in 1962, is a premier higher education institution committed to academic excellence, skill development, and industry-oriented learning. The college has been reaccredited with an 'A++' Grade by NAAC in its Fourth Cycle (October 2025) in recognition of its overall academic performance, infrastructure, and student-centric initiatives. In accordance with the curriculum prescribed under the National Education Policy (NEP) 2020, On-the-Job Training (OJT) has been introduced as a mandatory component of the undergraduate programme.

In view of the above, I request your good self to allow our following (no. of students) students for practical training in your esteemed organization. Kindly accord your permission and give at least one week time for students to join On-Job-Training after confirmation.

S. No.	Name	Class	Roll no.	Department	Academic Year

The resumes of these students are attached with this letter. A line of confirmation will be highly appreciated.

Yours sincerely,

Departmental OJT Coordinator

Head of the Department

Principal

On Company Letter Head

Appendix II - OFFER LETTER

To,
The Principal
Tuljaram Chaturchand College,
Baramati

Subject: Offer Letter for 120 Hours of On-the-Job Training for Students in Our Organization

Dear Sir/Madam,

With reference to your letter requesting permission for On-the-Job Training (OJT), we are pleased to inform you that our organization/institution has granted permission to the following students of your college to undergo On-the-Job Training at our organization.

S. No.	Name	Class	Roll no.	Department	Academic Year

The above-mentioned students are permitted to undergo 120 hours of On-the-Job Training in our organization, subject to the rules and regulations of the organization. They are required to maintain discipline, punctuality, and confidentiality throughout the training period.

We shall provide the students with necessary guidance and practical exposure relevant to their academic curriculum. Kindly instruct the students to report to the undersigned **on _____ (date)** for further formalities.

We wish them a productive and enriching learning experience.

Thanking you.
sincerely,

Yours

(Signature)

Name: _____
Designation: **Manager (HR) / Authorized Signatory**

Organization Seal

Appendix III - UNDERTAKING BY THE STUDENT (For College)

To,
The Principal,
Tuljaram Chaturchand College, Baramati

Respected Sir,

I wish to inform you that I am a student of Semester VI, **T.Y.B.A. / T.Y.B.Com. / T.Y.B.Sc. (Name of the Department)** for the Academic Year 2025–2026. I have been permitted to undergo 120 hours of On-the-Job Training (OJT) at **(Name of the Organization)** and shall be joining the organization for the said training programme during the period **from _____ to _____**.

I hereby assure you that I shall strictly abide by all the rules, regulations, guidelines, and instructions prescribed by the training organization. I also accept full responsibility for maintaining proper conduct, discipline, punctuality, and satisfactory performance throughout the duration of the On-the-Job Training.

My details are as follows:

Name :

_____ Department _____

Class and Roll Number: _____

Residential Address: _____

Contact Number Student : _____ Parent : _____

Email ID: _____

Thank you.

Yours obediently,

Date:

Place:

(Name & Signature of Parent)
Student)

(Name & signature of the

Appendix IV - UNDERTAKING BY THE STUDENT (For Company / Institution)

To,
The Manager / HR
(Name of Company)

Respected Sir / Madam,

I am a student of Tuljaram Chaturchand College of Arts, Science and Commerce, Baramati, currently studying in Semester VI of **T.Y.B.A./B.Com./B.Sc. (Name of the Department)**. I wish to inform you that I am going to join your esteemed organization for my 120 Hours On-the-Job Training (OJT) Programme **from** _____ **to** _____.

I hereby assure you that I shall strictly adhere to all the rules, regulations, and instructions issued by your organization. I shall be solely responsible for my conduct, discipline, and performance during the On-Job Training period.

Further, I undertake that I will maintain complete confidentiality and shall not disclose any information made available to me during or after the On-the-Job Training period to any individual or organization.

Name :

_____ Department _____

Class and Roll Number: _____

Residential Address: _____

Contact Number Student: _____ Parent: _____

Email ID: _____

Thank you.

Yours faithfully,

Date:

Place:

(Name & Signature of the Student)

Appendix V - TASK ASSIGNMENT AND WORK PLAN

Student Details	
Student Name	
HEI Name	
Department	
Class & Roll No.	
Year	
Email ID	
Mobile No.	

OJT Details	
Start Date	
End Date	
Duration	
Location	
Assigned Company/ Institution	
Name of Supervisor	

Work Plan					
Tasks	Detailed Sub-Tasks	Due Date	Completed (Yes/No)	Student Remarks	Supervisor Remark
Task One					
Task Two					
Task Three					
Task Four					
Task Five					

Name & Signature of Student

Name & Signature of OJT supervisor

Organization Stamp/ Seal

Appendix VI - STUDENT DIARY

Daily Log of Activities Performed During On-the-Job Training

Days	Date & Time	Total Hours	Task Assigned	Activities Performed	Key Learning
1	01/01/2026 10:00 AM to 06:00 PM	08			
2	01/01/2026 10:00 AM to 06:00 PM	08			
3	01/01/2026 10:00 AM to 06:00 PM	08			
4	01/01/2026 10:00 AM to 06:00 PM	08			
5	01/01/2026 10:00 AM to 06:00 PM	08			
6	01/01/2026 10:00 AM to 06:00 PM	08			
7	01/01/2026 10:00 AM to 06:00 PM	08			
8	01/01/2026 10:00 AM to 06:00 PM	08			
9	01/01/2026 10:00 AM to 06:00 PM	08			
10	01/01/2026 10:00 AM to 06:00 PM	08			
11	01/01/2026 10:00 AM to 06:00 PM	08			
12	01/01/2026 10:00 AM to 06:00 PM	08			
13	01/01/2026 10:00 AM to 06:00 PM	08			
14	01/01/2026 10:00 AM to 06:00 PM	08			
15	01/01/2026 10:00 AM to 06:00 PM	08			
Total Hours		120			

Name & Signature of Student

Name & Signature of OJT Supervisor

Organization Stamp/ Seal

Appendix VII - ATTENDANCE SHEET

(On Company Letter Head)

Name & Address of Organization:

Name & Department of the Student	
Class & Roll Number	
Date of Commencement of Training	
Date of Completion of Training	

Month & Year: January, 2026

Week	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1				1/1/2026	2/1/2026	3/1/2026
2	5/1/2026	6/1/2026 A	7/1/2026	8/1/2026	9/1/2026	10/1/2026
3	12/1/2026	13/1/2026	14/1/2026	15/1/2026	16/1/2026	17/1/2026
4	19/1/2026	20/1/2026	21/1/2026	22/1/2026	23/1/2026	24/1/2026
5	26/1/2026	27/1/2026	28/1/2026	29/1/2026	30/1/2026	31/1/2026

- Attendance Sheet should remain affixed in Daily Training Diary. Do not remove or tear it off.
- Holidays should be marked in Red Ink in attendance column. Absent should be marked as 'A' in Red Ink.

Name & Signature of OJT Supervisor

Organization Stamp/ Seal

Appendix VIII - SUPERVISOR'S EVALUATION ON THE STUDENT**(Company Letter Head)**

Student Name: _____ Date: _____

Work Supervisor: _____ Position: _____

Organization: _____

Address of OJT: _____

Dates of On-the-Job Training: From _____ to _____

Please evaluate student by indicating the frequency with which you observed the following behaviors:

Parameters	Needs Improvement	Satisfactory	Good	Excellent
Behaviors				
Cooperates with co-workers				
Shows interest in work				
Learns quickly				
Shows initiative				
Accepts responsibility				
Demonstrates organizational skills				
Uses technical knowledge & expertise				
Demonstrates creativity/originality				
Analyzes problems effectively				
Communicates & Writes effectively				
Has a professional attitude				
Gives a professional appearance				
Is punctual				
Uses time effectively				
Produces Quality Work				

Overall performance of student (circle one): (Needs improvement/Satisfactory/Good /Excellent)

Signature of OJT Supervisor

HR Manager

APPENDIX IX – STUDENT'S FEEDBACK ON OJT

(To be filled by Students after OJT completion)

Student Name: _____ **Date:** _____**Industrial Supervisor:** _____ **Position:** _____**Supervisor Email:** _____**Organization:** _____**Company / Institute Address:** _____**Faculty Coordinator:** _____ **Department :** _____**Dates of OJT :** From _____ To _____**Was your OJT experience related to your major area of study?**

- Yes, to a large degree
- Yes, to a slight degree
- No, not related at all

OJT : Paid or Unpaid

Indicate the degree to which you agree or disagree with the following statements.

This experience has:	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
Given me the opportunity to explore a career field					
Allowed me to apply classroom theory to practice					
Helped me develop my decision-making and problem-solving skills					
Expanded my knowledge about the work world prior to permanent employment					
Helped me develop my written and oral communication skills					
Provided a chance to use leadership skills (influence others, develop ideas with others, stimulate decision-making and action)					
Made it possible for me to be more confident in new situations					
Given me a chance to improve my interpersonal skills					
Helped me learn to handle responsibility and use my time wisely					
Helped me develop new interests and abilities					
Helped me clarify my career goals					
Provided me with contacts which may lead to future employment					

Signature of Student**Name :** _____ **Roll No. :** _____ **Date:** _____

(On Letter Head of the Company)

APPENDIX IX

COMPLETION CERTIFICATE OF ON-THE-JOB TRAINING

This is to certify that Mr./Ms. **(Name of the Students)**, a student of the Department of **(Name of the Department)**, AES's Tuljaram Chaturchand College of Arts, Science and Commerce (Empowered Autonomous), Baramati, has successfully completed the On-the-Job Training (OJT) at **(Name of the Company/Institution)** during the period **from** _____ **to** _____.

During this period, the student underwent 120 hours of structured training in our organization. Throughout the training tenure, the student was actively associated **with (Name of the Company/Institution)** and was diligently involved in the tasks and projects assigned.

The student demonstrated a commendable level of commitment, sincerity, initiative, and a strong willingness to learn. **His/ Her** contributions were valuable and positively supported the functioning of the organization.

This certificate is awarded in recognition of the student's dedicated efforts, meaningful contribution, and eagerness to acquire professional skills during the training period. We wish **him/her** every success in future academic and professional endeavors.

Place:

Date:

**Name, Stamp & Signature of Authorized
Signatory**

Seal of the Company

Evaluation of OJT:

Particulars	Marks	Internal Examiner (50 Marks)	External Examiner (50 Marks)
Duration of Training	30	15	15
Practical skills	20	10	10
Report based on Training	20	10	10
Knowledge assessments through oral presentation	30	15	15

***Note –**

- 1) The internal examiner will be the teacher from the concerned department.
- 2) The external examiner will be appointed by the coordinator from other faculty.
- 3) There shall be two hard copies of the report. The original shall be kept by the student and another report to be submitted to the department.
- 4) The department must submit one hard copy of UG student and one hard copy of PG student to the IQAC from the submitted report by students.