SNDT Women's University

1, Nathibai Thackersey Road, Mumbai-400020

Syllabus

Under NEP 2020

(WEF A.Y.2025-2026)

B.A.-Geography

(Sem. III & IV)

SNDT WOMEN'S UNVERSITY
Mumbai-400 020

Undergraduate Programmes
Academic Year 2025-26 (SYBA)

Programme: B.A. Geography

Programme/ Degree		**B.A.**
Specialization		**Geography**
Preamble		Undergraduate (FYUG) degree programmewith Geography as a major is a full-time 3/4 Years Programme (Level 4 to 6) divided into six / eight semesters with the option of Entry and Exit at every level of the programme. Threeyear Bachelor's degree programme (Level 6) is maximum of 88 credits. Fourth year of degree programme with honours or honours with Research (Level 6)ismaximum of 44 credits. During the programme, students will get acquainted with the knowledge of Physical Geography, Human Geography, Climatology Economic Geography, Population Geography, cartography, surveying, map reading. They will be equipped with the practical knowledge of Socio-Economic Development Survey, Field Excursion and Report Writing, Recent Trends in Geographic Research, Environmental lawsthat can be applied in various fields, and this will help them to be efficient for understanding basic concepts and enhance their level of knowledge.
Programme Specific Outcomes (PSOs)		After completing this programme, Learner will
	1.	The B. A. Geography programme aims to enhance geographical knowledge and awareness amongst students regarding the present scenario of environmental degradation, climate change, demographic issues, Urbanization and other problems affecting the earth.
	2.	The programme will also empower the students with the skills required to analyze, evaluate and act upon the problems by teaching them the modern techniques like GIS, GPS and Remote Sensing.
	3.	The programme will encourage students to study further for their post- graduate degree and take up further research in the field of Geography.
	4.	The programme aims to increase the employability quotient of the students and make them a skilled and educated work-force.
Eligibility Criteria for Programme		XII Pass Certificate or Equivalent
Intake (For SNDT WU Departments and Conducted Colleges)		20

Structure with Course Titles (Revised May 2024)

SN	Courses	Type of Course	Credits	Marks	Int	Ext
	Semester III					
30110711	Climatology	Major (Core)	4	100	50	50
30110712	Geography of Maharashtra	Major (Core)	4	100	50	50
30110713	Human Geography	Major (Core)	4	100	50	50
30310711	Economic Geography	Minor Stream	2	50	0	50
30410711	Geography of Natural Disaster	OEC	2	50	0	50
		AEC (Modern Indian Language)	2	50	50	0
31310701	Field Excursion- Visits to tourist places/ village/ Natural features/ weather observatory	FP	2	50	50	0
		CC	2	50	50	0
			22	**550**	**300**	**250**
	Semester IV					
40110711	Oceanography	Major (Core)	4	100	50	50
40110712	Geography of India	Major (Core)	4	100	50	50
40110713	Settlement Geography	Major (Core)	4	100	50	50
40410711	Geography of Manmade Disaster	OEC	2	50	0	50
40710711	Basics of Surveying	SEC	2	50	0	50
		AEC(Modern Indian Language)	2	50	0	50
41510701	Community engagement of any kind- Health and literacy awareness program/awareness of schemes under Central and State/ Governments/ Socio Economic Development Survey	CE	2	50	50	0
		CC	2	50	50	0
			22	**550**	**250**	**300**

Exit with UG Diploma with 8 extra credits (88 + 8 credits)

Course Syllabus

Semester III

3.1 Major (Core)

Course Title	**Climatology**
Course Credits	**4**
Course Outcomes	After going through the course, learners will be able to
	1. Demonstrate basic Concepts of Climatology
	2. Summarize the Theories regarding Climatology
	3. Interpret the Fundamental Concepts of Climatology
Module 1(Credit 1): Introduction to Atmosphere	
Learning Outcomes	After learning the module, learners will be able to
	1. Define the atmosphere and explain its composition.
	2. Analyse the layers of the atmosphere and their characteristics.
Content Outline	1.1 Definitions of Atmosphere 1.2 Composition of Atmosphere 1.3 Structure of Atmosphere i) Troposphere, ii) Stratosphere, iii) Mesosphere, iv)Thermosphere a) Ionosphere and b) Exosphere
Module 2(Credit 1): Insolation and Heat Budget	
Learning Outcomes	After learning the module, learners will be able to
	1. Elaborate the concepts of insolation, solar constant, and Earth's albedo.
	2. Illustrate the factors influencing the distribution of insolation and analyse the Earth's heat budget.
Content Outline	2.1 Meaning and Definition of Insolation, Solar Constant and Albedo of the Earth 2.2 Distribution of Insolation - Factors affecting the distribution of Insolation 2.3 Heat Budget of the Earth and Atmosphere
Module 3(Credit 1): Elements of Weather and Climate	
Learning Outcomes	After learning the module, learners will be able to
	1. Differentiate between weather and climate and describe their key elements.
	2. Illustrate the various forms of precipitation and types of rainfall.

Content Outline	3.1 Meaning and Definition of Weather and Climate 3.2 Elements of Weather and Climate: 3.2.1 Temperature 3.2.2 Atmospheric Pressure 3.2.3 Winds 3.2.4 Humidity 3.2.5 Forms of Precipitation: Rain, Drizzle, Snow, Sleet, Hail 3.3 Types of Rainfall
Module 4(Credit 1): Weather Forecasting	
Learning Outcomes	After learning the module, learners will be able to
	1. Diagnose the importance and procedures of weather forecasting, including its tools and methods.
	2. Describe various methods of weather forecasting and evaluate its application in India.
Content Outline	4.1 Meaning and Importance 4.2 Procedure of Weather Forecasting 4.3 Tools in Weather Forecasting 4.4 Methods of Weather Forecasting: Synoptic, Statistical and Numerical Method 4.5 Weather Forecasting in India

Assignments/Activities towards Comprehensive Continuous Evaluation (CCE)

Internal Evaluation – (Comprehensive Continuous Evaluation (CCE) should cover at least Three out of four types of activities from the Suggested Activities)

Suggested Activities:

1. Seminars/Presentations
- Atmosphere & Climate System – Structure & composition (M1)
- Earth's Heat Budget – Balance of radiation (M2)
- Weather Forecasting Science – Role of temp, pressure, humidity (M3)
- Modern Forecasting Techniques – Traditional vs. AI models (M4)

2. Group Discussions
- Atmospheric Layers & Human Activities – Aviation, communication, weather (M1)
- Urban Areas & Heat Budget – Impact of urban heat islands (M2)
- Climate Change & Rainfall – Changing precipitation patterns (M3)
- Weather Forecasting Accuracy – Challenges & improvements (M4)

3. Projects
- 3D Model of Atmosphere – Layers & characteristics (M1)
- Albedo Case Study – Ice caps vs. deserts (M2)
- Weather Tracking of Two Cities – Week-long comparison (M3)
- Mini Weather Station – Measuring temp, pressure, humidity (M4)

4. Home Assignments
- Ionosphere & Communication – Short report (M1)
- Insolation Variation Diagram – Across latitudes & seasons (M2)
- Types of Rainfall Report – With diagrams (M3)
- IMD Monsoon Forecasting – Case study (M4)

References:

1. Aguado, E., & Burt, J. E. (2001). *Understanding weather and climate*. Prentice Hall.
2. Barry, R. G., & Chorley, R. J. (1995). *Atmosphere, weather and climate*. Routledge.

3. Critchfield, H. J. (2002). *General climatology*. Prentice Hall.
4. Das, P. K. (1968). *Monsoon*. National Book Trust.
5. Hussain, M. (2002). *Climatology*. Rawat Publications.
6. Lal, D. S. (1986). *Climatology*. Chaitanya Book Trust.
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10. Strahler, A. N. (1965). *Introduction to physical geography*. Wiley.
11. Stringer, E. T. (1982). *Foundations of climatology*. Surjeet Publications.
12. Trewartha, G. T. (1980). *An introduction to weather and climate*. McGraw Hill.
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14. देशमुख, जी. बी. (2005). हवामानशा आfण हवामान बदल. नॅशनल बुक ट, नवी fदॉलk.
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16. पाटkल, डी. जी. (2008). मौसमशा व भारतातील हवामान. 0ी साईनाथ +काशन, नागपूर.
17. काळे, cहk. एस. (2013). भूगोलशा आfण हवामानशा . नंदा पि8लकेशन, मुंबई.
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19. मुळक, के. डी. (2002). हवामानशा आfण पृàवीचे बदलते व=प. साईनाथ पि8लकेशन, औरंगाबाद.
20. बB5े, बी. जी. (1999). हवामानशा व भारतातील हवामान बदल. +गती बुक हाऊस, कोãहापूर.

Semester III

3.2 Major (Core)

Course Title	**Geography of Maharashtra**
Course Credits	**4**
Course Outcomes	After going through the course, learners will be able to
	1. Identify Maharashtra's geographical location, size, shape, and administrative divisions.
	2. Describe Maharashtra's physical divisions and drainage systems.
	3. Associate the climate characteristics, factors, and rainfall distribution in Maharashtra.
	4. Analyse population distribution, agriculture, and energy resources in Maharashtra.
Module 1(Credit 1): Geographical Personality of Maharashtra	
Learning Outcomes	After learning the module, learners will be able to
	1. Identify the location, size, shape, and area of Maharashtra.
	2. Elaborate the administrative divisions of Maharashtra and their significance.
Content Outline	**1. Geographical Personality of Maharashtra** 1.1 Location 1.2 Site,Size,Shape 1.3 Area 1.4 AdministrativeDivision
Module 2(Credit 1): Physical Setting of Maharashtra	
Learning Outcomes	After learning the module, learners will be able to
	Interpret the physical divisions of Maharashtra.
	Identify the rivers and drainage systems in Maharashtra.
Content Outline	2 . 1 PhysicalDivisionofMaharashtra 1. Kokan Region 2. SahyadriPlateau 3. Maharashtra Plateau 2.2 Drainage 1. RiversinKokan Region 2. RiversinPlateauRegion (Tapi-PurnaValley,GodavariValley, Krishnabasin,PranhitaValley)
Module 3(Credit 1): Climate of Maharashtra	
Learning Outcomes	After learning the module, learners will be able to

	1. Distinguish the characteristics of climate and factors affecting climate in Maharashtra.
	2. Analyze the distribution of rainfall, seasons, and climate regions in Maharashtra.
Content Outline	**3. Climate of Maharashtra** 3.1 Characteristics ofClimate 3.2 Factors affectingClimate 3.3 Seasons 3.4 DistributionofRainfall&its Characteristics 3.5 Climate Regions of Maharashtra
Module 4(Credit 1): Socio-Economic Factors in Maharashtra	
Learning Outcomes	After learning the module, learners will be able to
	1. Analyse the socio-economic factors affecting population distribution, urbanization, and agriculture in Maharashtra.
	2. Elaborate the key industries of Maharashtra, focusing on cotton, textiles, sugar, and information technology.
Content Outline	**4. Socio-Economic Factors in Maharashtra** 4.1 Population Factor affectingthedistributionof Populationin Maharashtra PopulationDistribution Urbanizationin Maharashtra 4.2 Agriculture Characteristics ofAgriculture Majorcrops–Rice,Wheat,Cotton, Sugarcane. HorticultureinNorth Maharashtra– Banana,Pomegranate Agricultureproblems &prospects 4.3 Industries of Maharashtra Industries: Cotton and textiles, Sugar, Information and Technology 4.5 Major Industrial divisions

Assignments/Activities towards Comprehensive Continuous Evaluation (CCE)

Internal Evaluation – (Comprehensive Continuous Evaluation (CCE) should cover at least Three out of four types of activities from the Suggested Activities)

Suggested Activities:

1. Seminars/Presentations

- Maharashtra's location, size, shape, and administrative divisions. (M1)
- Physical divisions and drainage systems of Maharashtra. (M2)
- Maharashtra's climate characteristics, rainfall distribution, and seasons. (M3)
- Discuss Maharashtra's industries (Cotton, Textiles, IT) and their economic significance. (M4)

2. Group Discussions

- Impact of administrative divisions on Maharashtra's development. (M1)
- Importance of rivers in agriculture and urbanization. (M2)
- Debate how climate change is affecting agriculture in Maharashtra. (M3)
- Challenges of urbanization vs. rural development. (M4)

3. Projects

- Create a map highlighting Maharashtra's geographical features and administrative divisions. (M1)
- Conduct a study of drainage systems in the Kokan and Plateau regions. (M2)
- Create a climate zone map illustrating Maharashtra's rainfall patterns and seasons. (M3)
- Research the economic impacts of agriculture and industry in Maharashtra. (M4)

4. Home Assignments

- Report on Maharashtra's size, shape, and economic impact. (M1)
- Research the role of rivers in the Kokan and Plateau regions. (M2)
- Prepare a report on the rainfall distribution and its regional variations. (M3)
- Write about the future of agriculture and the problems and prospects it faces. (M4)

References:

1) Bhamre, S. M. (2011). *Geography of Maharashtra*. Prashant Publication, Jalgaon.
2) Dastane, S. (2009). *Maharashtra – 2009*. Dastane Ramchandra and Co., Pune.
3) Deshpande, C. D. (1971). *Geography of Maharashtra*. National Book Trust, New Delhi.
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5) Dikshit, K. R. (1986). *Maharashtra in Maps*. Maharashtra State Board for Literature and Culture, Mantralaya, Mumbai.
6) Dikshit, K. R. (1971). *Maharashtra Region in India: A Regional Geography* (Ed. R. L. Singh). National Association of Geographers, India (NAGI), Varanasi.
7) Joshi, C. B. (1962). *Maharashtra: A Regional Geography*. A. R. Sheth and Company, Mumbai.
8) Sahu, A. (2007). *Maharashtra*. National Book Trust, New Delhi.
9) More, J. C., Jethe, A. M., &Kolapkar, R. S. (2021). *Geography of Maharashtra - Geography (S1)*. Nirali Prakashan.
10) Savadi, A. B. (2022). *MaharashtrachaBhugol* (13th ed.). Pune: Nirali Prakashan.
11) Nirali Prakashan. (2024). *Geography of Maharashtra (Physical) - I (S.Y.B.A.)*. Nirali Prakashan.
12) Directorate of Economics and Statistics. (2024). Maharashtrachi Sankhyaki. Government of Maharashtra.

Semester III

3.3 Major (Core)

Course Title	**Human Geography**
Course Credits	**4**
Course Outcomes	After going through the course, learners will be able to
	1. Acquiring the students with the nature of Man Environment relationship
	2. Analise world pattern of Population Distribution
	3. Evaluate types of migration and various pull and push factors of migration
Module 1(Credit 1): Introduction of Human Geography	
Learning Outcomes	After learning the module, learners will be able to
	1. Acquire the knowledge about basic structure of Human geography
	2. Differentiate various approaches of human Geography
Content Outline	1.1 Introduction, Definition, Meaning 1.2 Nature and Scope of human geography 1.2 Relation with Physical Geography.
Module 2(Credit 1): Man and Environmental Relationship	
Learning Outcomes	After learning the module, learners will be able to
	1. Distinguish the concept of physical and cultural Environment
	2. Apply Various models of Understand the Nature of Man Environment relationship
Content Outline	2.1 concept of physical and cultural environments 2.2 study of Environmentalism 2.3 Determinism 2.3 Possibilism 2.4 Stop and Go concept
Module 3(Credit 1): Population	
Learning Outcomes	After learning the module, learners will be able to
	1. Analise the pattern of population distribution in the world
	2. Criticize the problems of the population in the developed and underdeveloped countries
	3. Differentiate the types of migration
Content Outline	3.1 Distribution of population –world pattern. 3.2 Population Density. 3.3 Factors affecting Distribution. 3.4 Migration – Types causes and effects.
Module 4(Credit 1): Study of Trible communities	
Learning Outcomes	After learning the module, learners will be able to
	1. Analyze the lifestyle of tribal communities
	2. Evaluate distribution of world tribes

Content Outline	4.1 Geographical factors affecting life patterns of following Tribal communities. 4.2 Study of pigmy, Eskimos and Kyrgyz. 4.3 Tribes of India – Bhills, Nagas, Mahadev Koli.

Assignments/Activities towards Comprehensive Continuous Evaluation (CCE)

Internal Evaluation – (Comprehensive Continuous Evaluation (CCE) should cover at least Three out of four types of activities from the Suggested Activities)

Suggested Activities:

1. Seminars/Presentations

- The nature and scope of human geography and its relationship with physical geography (M1).
- Models of the Man-Environment relationship (Determinism, Possibilism) (M2).
- World population distribution and population density (M3).
- The lifestyles of tribal communities and the geographical factors affecting them (M4).

2. Group Discussions

- Different approaches to human geography (M1).
- How physical and cultural environments influence human behavior (M2).
- Migration types, causes, and effects (M3).
- Impact of geography on tribal communities (M4).

3. Projects

- The historical development of human geography (M1).
- Compare Determinism and Possibilism models (M2).
- Migration patterns (M3).
- Study of tribal communities and their geographical environment (M4).

4. Home Assignments

- Write about the nature and scope of human geography (M1).
- Essay on environmentalism (M2).
- Report on population problems in developed vs. underdeveloped countries (M3).
- Report on tribal communities and their lifestyles (M4).

References:

1. Chisholm, M., & Rodgers, B. (1973). *Studies in human geography*. Educational Books.
2. David, M. S., & Arnold, E. (1972). *Human geography (Welfare approach)*. Edward Arnold.
3. Eyles, J. (1988). *Research & techniques in human geography*. Basil Blackwell.
4. Kobayashi, S., & Mackenzie, A. (1989). *Remarking human geography*. Bosten Unwin Hymas.
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6. Smith, D. M. (1972). *Human geography (Welfare approach)*. Edward Arnold.
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9. Knox, P. L., & Marston, S. A. (2021). *Human geography: Places and regions in global context* (7th ed.). Pearson.
10. Schaller, M. C., & Bjelland, D. C. (2021). *Human geography: Landscapes of human activities* (13th ed.). McGraw-Hill Education.
11. Gujar, R. K., & Jaat, B. C. (2024). *Manav bhugol (Human geography)*. Kalyani Publishers.
12. Leong, G. C. (2024). *Certificate physical and human geography* (2nd ed.). Oxford University Press.

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14. Govardhane, S., Borse, S., Survase, R., & Patil, N. (2023). Manavi Bhugol, Atharva Publications.
15. Patil, N. M. (2020). Prakṛtik va Manavi Bhugol. Atharva Publications.
16. Saptarshi, P., & Jagdale, U. (2022). Manavi Bhugol. Diamond Publications.

Semester III

3.4 Minor Stream

Course Title	**Economic Geography**
Course Credits	**2**
Course Outcomes	After going through the course, learners will be able to
	1. Define economic geography and explain its nature, scope, and significance.
	2. Analyze the importance and relevance of economic geography in understanding global economies.
	3. Explore the connection between economic geography and other social sciences.
	4. Identify and apply different approaches to the study of economic geography.
Module 1(Credit 1): Introduction to Economic Geography	
Learning Outcomes	After learning the module, learners will be able to
	1. Examine the relationship between economic geography and social sciences.
	2. Examine different approaches to studying economic geography.
Content Outline	**1. Introduction to Economic Geography** 1.1 Definition, nature and scope of economic geography. 1.2. Need and significance of economic geography 1.3. Economic geography and its relation with social sciences 1.4. Approaches of the study of economic geography
Module 2(Credit 1): Economic Activities	
Learning Outcomes	After learning the module, learners will be able
	1. Define the concept of economic activities and evaluate their problems and prospects.
	2. Differentiate between primary, secondary, and tertiary economic activities with examples.
Content Outline	2. **Economic Activities** 2.1 Introduction and concept of economic activity with problems and prospect 2.2. Primary activity 2.3. Secondary activity 2.4. Tertiary activity

References:

1. Bhat, L. S. (1973). *Regional planning in India*. Statistical Publishing Society.
2. Chauhan, R. N. (2007). *Basic principles of economic geography*. ABD Publishers.
3. Desai, V. (1991). *Fundamentals of rural development*. Rawat Publications.
4. Gautam, A. (2010). *Advanced economic geography*. Sharda Pustak Bhavan.
5. Husain, M. (2008). *Geography of India*. Tata McGraw-Hill.
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16. Siddhartha, K. (2024). *Economic geography*. Kitab Mahal.
17. Roy, S. (Ed.). (2024), *India's economy 2024: Disparities in fractured democracy*. Aakar Books.
18. Gharpue, V. (2021) Arthik Bhugol, Pimplapure Book Publishers.
19. Mourya, S. D. (2021) Arthik Bhugol, Pravalika Publication.

Semester III

3.5 OEC

Course Title	**Geography of Natural Disaster**
Course Credits	**2**
Course Outcomes	After going through the course, learners will be able to
	1. Summarize the basic Concepts of Natural Disaster
	2.Discuss the Theories regarding of Natural Disaster.
	3.Interpret the Fundamental Concepts of Natural Disaster.
Module 1(Credit 1): Lithological Disasters	
Learning Outcomes	After learning the module, learners will be able to
	1. Clarify the concept, objectives, and significance of understanding Natural disasters.
	2. Identify and categories, types of Natural disasters caused by Earthquake, Volcanoes, land slides
Content Outline	1.1 Definitions, Causes, Effects and Protective and Preventive Measures 1.1.2 Earthquakes 1.1.3 Volcanoes 1.1.4 Land Slides
Module 2(Credit 1): Climatological Disasters	
Learning Outcomes	After learning the module, learners will be able to
	1. Explain the concept of storm, flood, drought
	2. Identify and categories, types, Effects and protective and Preventive Measures of Climatological Natural Disasters
Content Outline	2.1 Definitions, Causes, Effects and protective and Preventive Measures 2.2 Climatological Disasters 2.2.1 Cyclone 2.2.2 Floods 2.2.3 Urban Floods 2.2.4 Heat Waves 2.2.5 Glacial Retreat and Ice Melting

References:

1. Smith, K. (2013). *Environmental hazards: Assessing risk and reducing disaster* (6th ed.). Routledge.
2. Burton, I., Kates, R. W., & White, G. F. (1993). *The environment as hazard* (2nd ed.). The Guilford Press.
3. Alexander, D. (2002). *Principles of emergency planning and management*. Oxford University Press.

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5. Oliver-Smith, A., & Hoffman, S. M. (2002). *The angry earth: Disaster in anthropological perspective*. Routledge.
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8. Eugene, P. (1971). *Fundamentals of Ecology*. Saunders Company.
9. Krebs, C. J. (1978). *Ecology*. Harper & Row Publishers.
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16. *Pahulkar, S. D. (Ed.). (2023). Aapatti Vyavasthapan: Navi Awhane va*
17. *Upayayojana. Eagle Leap Printers and Publishers Pvt. Ltd.*
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19. *Bhangale, S. (2021). Aapatti Vyavasthapan. Prashant Publications.*

Semester III
3.7 FP (Field Project)

Field Excursion- Visits to tourist places/ village/ Natural features/ weather observatory

Course Title	**Field Excursion- Visits to tourist places/ village/ Natural features/ weather observatory**
Course Credits	**2**
Course Outcomes	After going through the course, learners will be able to
	1. Analyze ground realities by critically examining real-world scenarios, identifying key issues, and understanding their implications in various contexts.
	2. Apply acquired knowledge effectively by integrating theoretical concepts with factual data, demonstrating problem-solving skills, and making informed decisions in practical situations.
	3. Propose well-researched and feasible suggestive measures by evaluating existing challenges, synthesizing innovative solutions, and recommending strategic actions for sustainable outcomes.
Activities	Plan, presentation, Report and Viva

Assignments/Activities towards Comprehensive Continuous Evaluation (CCE)

Report, Presentation and Viva

References:

1. Phillips, R., & Johns, J. (2012). Fieldwork for Human Geography. SAGE Publications.
2. Scheyvens, R. (Ed.). (2014). Development Fieldwork: A Practical Guide (2nd ed.). SAGE Publications.
3. DeLyser, D., Herbert, S., Aitken, S., Crang, M., & McDowell, L. (Eds.). (2010). The SAGE Handbook of Qualitative Geography. SAGE Publications.
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Semester IV

4.1 Major (Core)

Course Title	**Oceanography**
Course Credits	**4**
Course Outcomes	After going through the course, learners will be able to
	1. To study the basic part of oceanography
	2. To get the information about salinity and temperature of ocean water
	3. To study the relationship between the temperature and ocean currents
	4. To study the origin and effects of tsunami
Module 1(Credit 1):Configuration and Submarine Relief of Ocean Floor	
Learning Outcomes	After learning the module, learners will be able to
	1. Adapt the concept of the hydrosphere and the significance of studying oceanography.
	2. Describe the surface configuration of the ocean floor and analyze the submarine relief features of the Atlantic and Indian Oceans.
Content Outline	**1. Configuration and Submarine Relief of Ocean Floor** 1.1 Meaning and concept of Hydrosphere 1.2 Importance of the study of Oceanography 1.3 Surface configuration of ocean Floor (submarine relief) 1.4 submarine relief of Atlantic & Indian ocean
Module 2(Credit 1): Properties of ocean water	
Learning Outcomes	After learning the module, learners will be able to
	1. Describe the distribution and factors affecting the temperature of ocean water.
	2. Define salinity, interpret isohalines, and analyze salinity distribution in open oceans, partially enclosed seas, inland seas, and lakes.
Content Outline	**2. Properties of ocean water** 2.1 Temperature of ocean water i) Distribution of Temperature of ocean water 2.2 salinity of ocean water i) Definition and meaning ii) Isohalines 2.3 Factors affecting the distribution of Salinity of ocean water i) Distribution of salinity- open ocean, partially enclosed sea, inland sea & lakes
Module 3(Credit 1): Ocean currents	
Learning Outcomes	After learning the module, learners will be able to
	1. Define ocean currents, classify their types, and explain the causes of their origin.
	2. Analyze the ocean currents of the Atlantic and Indian Oceans, including El Niño and La Niña, and assess their effects.

Content Outline	3. **Ocean Currents** 3.1 Definition, meaning and types of ocean Currents 3.2 causes of origin of the ocean currents 3.3 Ocean currents of Atlantic and Indian 3.4 Ocean, El Nino and La Nina current 3.5 Effects of ocean currents
Module 4(Credit 1): Ocean coast and ocean Tides	
Learning Outcomes	After learning the module, learners will be able to
	1. Describe the nature and types of ocean coasts, including submergence and emergence coasts, and explain the definition, types, and importance of ocean tides.
	2. Define tsunami waves, discuss their characteristics, and analyze their effects on coastal regions.
Content Outline	**4. Ocean coast and ocean Tides** 4.1 Definition and nature of ocean coast 4.2 Types of ocean coast i)submergence coast ii) emergence coast 4.3 OceanTides i)Definition and meaning of ocean tides ii) Types of tides i)Spring ii) Neap iii) Importance of Tides 4.4 Tsunamiwaves i)Definition and characteristics ii) Effects of Tsunami waves

Assignments/Activities towards Comprehensive Continuous Evaluation (CCE)

Internal Evaluation – (Comprehensive Continuous Evaluation (CCE) should cover at least Three out of four types of activities from the Suggested Activities)

Suggested Activities:

1) Seminars/Presentations

- Factors affecting the temperature and salinity of ocean water, and compare salinity distribution in open oceans, inland seas, and lakes. (M2)
- The types of ocean currents, their causes, and the effects of El Niño and La Niña on global climate. (M3)
- The types of ocean coasts (submergence and emergence) and their geographical significance. (M4)

2) Group Discussions

- Impact of ocean water temperature and salinity on marine life and climate change. (M2)
- How ocean currents influence global weather patterns and the shipping industry. (M3)
- Debate on the causes and effects of tsunami waves and the strategies for reducing their impact on coastal regions. (M4)

3) Project

- Research and create a detailed report on the distribution of ocean temperature and salinity, and its effects on the marine environment. (M2)
- Analyze and present a report on the ocean currents of the Atlantic and Indian Oceans, their origins, and global impacts. (M3)
- Conduct a project on ocean tides, including types (spring, neap) and their importance to navigation and coastal ecology. (M4)

4) Home Assignment

- Write an essay on the human-induced factors affecting the distribution of ocean water temperature and salinity. (M2)

- Prepare a home assignment on the effects of El Niño and La Niña on weather patterns and global economies. (M3)
- Complete a report on tsunami waves, detailing their characteristics and providing an analysis of a recent tsunami disaster. (M4)

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Semester IV

4.2 Major (Core)

Course Title	**Geography of India**
Course Credits	**4**
Course Outcomes	After going through the course, learners will be able to
	1. Identify India's geographical location, size, shape, and administrative divisions.
	2. Describe India's physical divisions and drainage systems.
	3. Examine the climate characteristics, factors, and rainfall distribution in India.
	4. Analyse population distribution, agriculture, and energy resources in India.
Module 1(Credit 1): Introduction/Geographical personality	
Learning Outcomes	After learning the module, learners will be able to
	1. Identify the location, size, shape, and area of India.
	2. Examine the administrative divisions of India and their significance.
Content Outline	1.1 Location: Site and Situation 1.2 Adjacent countries: Economic and Political Relationship. 1.3 Administrative Divisions 1.4 State wise Geographical Area
Module 2(Credit 1): Physiography	
Learning Outcomes	After learning the module, learners will be able to
	1. Interpret the physical divisions of India.
	2. Identify the rivers and drainage systems in India.
Content Outline	2.1 Physiographic divisions of India 2.2 Relief features of: 2.2.1 Himalaya 2.2.2 Northern Plain (Gangetic Plane) 2.2.3 Peninsular Plateau: 2.2.4Coastal Plain and islands **2.3 Drainage:** 2.3.1 Himalayan Drainage System 2.3.2 Peninsular Drainage System
Module 3(Credit 1): Climate, Soil and Natural Vegetation	
Learning Outcomes	After learning the module, learners will be able to
	1. Differentiate the characteristics of climate and factors affecting climate, Soil, Natural vegetation in India.
	2. Analyze the distribution of rainfall, seasons, and climate regions, Soil, Natural vegetation in India.

Content Outline	3.1 Climate 3.1.1 Climatic Regions of India 3.1.2 Factors Affecting Climate 3.1.3 Monsoon **3.2 Soil:** 3.2.1 Major soil types 3.2.2 Soil erosion and conservation. **3.3 Natural Vegetation:** 3.3.1 Major types of vegetation 3.3.2 Distribution of vegetation 3.3.3 Economic importance of forest
Module 4(Credit 1): Population and Industries	
Learning Outcomes	After learning the module, learners will be able to
	1. Analyse the socio-economic factors affecting population distribution, urbanization, and agriculture in India.
	2. Identify the key industries of Maharashtra, focusing on cotton, textiles, sugar, and information technology.
Content Outline	**4.1 Population:** 4.1.1 Distribution of Population 4.1.2 Density of Population 4.1.3 Factors Affecting Distribution of Population **4.2 Industries:** 4.2.1 iron and steel 4.2.2 Cotton and textile 4.2.3 Information Technology

Assignments/Activities towards Comprehensive Continuous Evaluation (CCE)

Internal Evaluation – (Comprehensive Continuous Evaluation (CCE) should cover at least Three out of four types of activities from the Suggested Activities)

Suggested Activities:

1) Seminars/Presentations:

- Geographical Personality of India – Presentation on India's location, size, shape, and its geopolitical significance with neighbouring countries. (M1)
- Physiographic Divisions of India – Seminar on major relief features such as the Himalayas, Northern Plains, Peninsular Plateau, and Coastal Plains.(M2)
- Monsoon & Climatic Regions of India – Presentation on the monsoon system, factors influencing climate, and seasonal variations. (M3)
- Major Industries of India – Analysis of key industries like iron & steel, cotton textiles, and IT sector with case studies. (M4)

2) Group Discussions:

- Economic & Political Relations with Neighbouring Countries – Discussion on how geography influences India’s trade, security, and diplomacy. (M1)
- Rivers and Drainage Systems – Debate on the significance of Himalayan vs. Peninsular river systems in India’s development.(M2)
- Soil Conservation & Afforestation – Discussion on the impact of deforestation, soil erosion, and strategies for conservation.(M3)
- Population Growth & Urbanization – Debate on the challenges and opportunities arising from India's increasing population and urban expansion. (M4)

3) Projects:

- Mapping India's Administrative Divisions – Create thematic maps showcasing India’s states, union territories, and major geographical regions. (M1)

- Comparative Study of River Basins – Research and compare major river systems, their economic importance, and challenges. (M2)
- Rainfall Distribution & Climatic Patterns – Prepare a GIS-based or graphical representation of India's climate zones and rainfall patterns. (M3)
- Industrial Growth & Resource Utilization – Case study on Maharashtra's major industries, their growth trends, and resource dependency.(M4)

4) Home Assignments:

- India's Location & Geopolitical Importance – Write an essay on how India's geographical position affects its economic and political landscape.(M1)
- Relief Features & Drainage System – Describe the physiographic features of India and their impact on agriculture and settlement patterns.(M2)
- Natural Vegetation & Economic Importance of Forests – Explain the distribution of vegetation in India and its role in biodiversity conservation.(M3)
- Industrial Distribution & Population Density – Analyze the link between population density and the location of industries in India.(M4)

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Semester IV

4.3 Major (Core)

Course Title	**Settlement Geography**
Course Credits	**4**
Course Outcomes	After going through the course, learners will be able to
	1. Acquaint the students with the spatial and structural characteristics of human settlements.
	2. Evaluate the spatial issues related to urban and rural settlements
	3. Develop awareness about smart village and smart city.
Module 1(Credit 1): Introduction to Settlement Geography	
Learning Outcomes	1. Comprehend basic concepts of Settlement Geography.
	2. Assess the role of various approaches in the development of settlement geography.
Content Outline	**1. Introduction to Settlement Geography** 1.1 Definitions and concepts of Settlement Geography 1.2 Nature and scope of the settlement geography 1.3 Development of settlement geography
Module 2(Credit 1): Site and situation of rural settlement	
Learning Outcomes	After learning the module, learners will be able to
	1. Define basic concepts of Rural Settlement. 2. Assess the role of various approaches in the development of rural settlement.
Content Outline	**2. Site and situation of rural settlement** 2.1 Types of rural settlements 2.2 Building material and house types in India. 2.3 Structure of a Indian village, 2.4 Rural land use
Module 3(Credit 1): Rural and Urban settlement	
Learning Outcomes	1. After learning the module, learners will be able to
	2. Differentiate rural and urban settlements based on demographic, social, and economic aspects.
	3. Explain the definition, hierarchy, and functional classification of urban settlements.
Content Outline	3. **Rural and Urban settlement** 3.1 Rural and Urban settlement 3.2 Demographic, social and economic difference of rural and urban settlements 3.3 Definition of town, Hierarchy of urban settlements 3.4 Functional classification of towns.
Module 4(Credit 1): Urban Morphology	
Learning Outcomes	1. After learning the module, learners will be able to

	2. Identify and describe the functional zones of urban areas, including the CBD, suburbs, and the rural-urban fringe.
Content Outline	**4. Urban Morphology** 4.1 C. B. D. and other functional zones 4.2 Suburbs and Rural urban fringe 4.3 Christller's Central place theory 4.4 Urban problems

Assignments/Activities towards Comprehensive Continuous Evaluation (CCE)

Internal Evaluation – (Comprehensive Continuous Evaluation (CCE) should cover at least Three out of four types of activities from the Suggested Activities)

Suggested Activities:

1. **Seminars/Presentations:**
   - Introduction to Settlement Geography: Nature and Scope (M1)
   - Rural Settlements: Site, Situation, and Types (M2)
   - Urban Morphology: Functional Zones and CBD (M4)
   - Christaller's Central Place Theory and Its Application (M4)
2. **Group Discussions:**
   - Rural vs. Urban Settlements: Key Differences (M3)
   - Building Materials and House Types Across India (M2)
   - Impact of Urbanization on Rural Settlements (M3 & M4)
   - Urban Problems and Sustainable Solutions (M4)
3. **Projects:**
   - Case Study on Rural Land Use (M2)
   - Mapping Functional Zones of a Selected Urban Area (M4)
   - Hierarchy and Functional Classification of Towns in a Region (M3)
   - Comparative Analysis of a Smart Village and a Smart City (M3 & M4)
4. **Home Assignments:**
   - Explain the Nature and Scope of Settlement Geography (M1)
   - Factors Influencing the Distribution of Rural Settlements (M2)
   - Discuss the Relevance of Christaller's Central Place Theory (M4)
   - Evaluate the Socio-Economic Differences Between Rural and Urban Settlements (M3)

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Semester IV
4.4 OEC

Course Title	**Geography of Manmade Disaster**
Course Credits	**2**
Course Outcomes	After going through the course, learners will be able to
	1. To classify causes of manmade disasters.
	2. To acquire knowledge of manmade disasters and their effects.
	3. To find ways to control and prevent manmade disasters.
Module 1(Credit 1):Introduction – Concept of Manmade Disasters	
Learning Outcomes	After learning the module, learners will be able to
	1. Analyze the concept, objectives, and significance of understanding manmade disasters.
	2. Identify and categorize types of manmade disasters caused by industrialization, urbanization, and socio-political-cultural factors.
Content Outline	1. **Introduction – Concept of Manmade Disasters** 1.1 Objectives and significance 1.2 Types of Manmade Disasters 1.2.1 Manmade disasters caused due to industrialization 1.2.2 Manmade disasters caused due to urbanization 1.2.3 Manmade disasters caused due to social, political and cultural factors
Module 2(Credit 1): Man Made Disasters – causes effects & Control	
Learning Outcomes	After learning the module, learners will be able
	1.Analyze the causes, effects, and control measures for various types of manmade disasters, including fires, accidents, and industrial disasters.
	2. Examine case studies like Chernobyl, Fukushima, Bhopal Gas Tragedy, and Iraq War to understand the global impact of industrial and marine disasters.
Content Outline	2. **Man Made Disasters – causes effects & Control** 2.1 Fire – Building Fire, Coal Fire, Forest Fire, Oil Fire 2.2 Accidents- Road, Rail, Air and Sea. 2.3 Industrial Disasters – Chernobyl- Russia, Fukushima - Japan, Bhopal Gas Tragedy- India. Iraq War and Marine Disasters

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Semester IV

4.5 Minor Stream

Course Title	**Basics of Surveying**
Course Credits	**2**
Course Outcomes	After going through the course, learners will be able to
	1. Understand the basics of surveying and its importance
	2. Explain different types of surveying techniques.
	3. Conduct Plane Table Surveying and Prismatic Compass Surveying.
	4. Interpret and analyze survey data accurately.
Module 1(Credit 1): Introduction to Surveying	
Learning Outcomes	After learning the module, learners will be able to
	1. Understand importance of surveying and classify different surveying techniques.
	2. Examine different types of errors in surveying process.
Content Outline	**1. Introduction to Surveying** 1.1 Definition and Purpose of Surveying. 1.2 Classification of Surveying. 1.3 Principles of Surveying. 1.4 Measurement Units and reasons of Errors in Surveying.
Module 2(Credit 1): Practical's of Plane Table and Prismatic Compass Survey	
Learning Outcomes	After learning the module, learners will be able
	1. Handle the Plane table instrument and carried out survey.
	2. Handle the Prismatic compass instrument and carried out survey.
Content Outline	2.1 **Plane Table Survey** 2.1.1 Introduction to Plane Table Survey and accessories used. 2.1.2 Radiation Method, Intersection Method. 2.1.3 Advantages and Limitations. 2.1.4 Data Plotting. 2.2**Prismatic Compass Survey** 2.2.1 Introduction to Prismatic Compass 2.2.2 Components and Working Principle of Prismatic Compass. 2.2.3 Conducting Compass Traversing and Plotting. 2.2.4 Advantages and Limitations

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Semester IV
4.7 CE (Community Engagement)

Field Excursion- Visits to tourist places/ village/ Natural features/ weather observatory

Course Title	**Community Engagement** **Field Excursion- Visits to tourist places/ village/ Natural features/ weather observatory**
Course Credits	**2**
Course Outcomes	1. Apply geographical knowledge to solve community-based problems.
	2. Develop practical skills in mapping, GIS, and data analysis.
	3. Promote sustainable practices for community development.
	4. Strengthen communication, teamwork, and leadership abilities.
Activities	Participation in community activities in nearby areas Environment Awareness Programes/Cleanliness Drives/ Disaster Preparedness and Mitigation Programme/ Participatory mapping and land use survey/ Water resources management Initiatives/ Cultural and Heritage mapping

Report, Presentation and Viva

Suggested Activities:(Depend on surrounding geographical, socio-economic situation)

1. Environmental Awareness and Action Campaign
Activities:
- Conduct workshops on waste segregation, composting, and recycling.
- Organize tree plantation drives in collaboration with local authorities.
- Survey the locality's air and water quality and present findings to the community.

2. Disaster Preparedness and Mitigation Program
Activities:
- Map local disaster-prone areas (e.g., flood zones) using GIS.
- Train residents on disaster response, first aid, and evacuation techniques.
- Collaborate with the district disaster management cell to organize drills.

3. Participatory Mapping and Land Use Survey
Activities:
- Work with the community to map existing land use patterns.
- Identify and suggest solutions for issues like encroachments, improper land use, or resource wastage.
- Provide GIS-based visualizations of future development proposals.

4. Water Resource Management Initiative
Activities:
- Analyze the local watershed and groundwater availability.
- Educate residents on rainwater harvesting techniques.
- Create a model for equitable water distribution in collaboration with local government.

5. Tourism Development Program
Activities:
- Identify and map potential tourist spots in the area.

- Create eco-tourism guides and train community members as tour guides.
- Suggest strategies to improve local tourism while conserving natural resources.

6. Urban Planning and Smart City Engagement
Activities:
- Conduct traffic studies and suggest solutions for congestion.
- Work on waste management projects to make neighbourhoods cleaner.
- Organize public discussions on urban issues such as housing, zoning, and amenities.

7. Cultural and Heritage Mapping
Activities:
- Conduct interviews with community elders to collect oral histories.
- Map heritage sites and prepare educational materials.
- Organize heritage walks or awareness drives to engage the younger generation.

8. Agriculture and Rural Development Program
Activities:
- Conduct soil testing and recommend suitable crops.
- Organize workshops on modern agricultural techniques and organic farming.
- Assist in creating GIS-based maps for irrigation planning.

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