# Bhagat Phool Singh Mahila Vishwavidyalaya

Khanpur Kalan, Sonipat, Haryana (India) Pin- 131305
(Established by the State Legislature and recognized by U.G.C under Section 2 (f) and 12 (B) of the U.G.C Act 1956)
('B++' Grade by NAAC Accredited)

## Syllabus of Post Graduate Programme
## M.Sc. Geography

**As per NEP 2020**

**Curriculum and Credit Framework for Postgraduate Programme**

**With Multiple Entry –Exit, Internship and CBCS- LOCF**
**With effect from the session 2025-26 (in phased manner)**

## DEPARTMENT OF GEOGRAPHY
## Faculty of Social Sciences

**Bhagat Phool Singh Mahila Vishwavidyalaya**
**Khanpur Kalan, Sonipat, Haryana (India) Pin- 131305**

# BPSMV Khanpur Kalan Sonipat

## Scheme of Examination for Postgraduate Programme Geography

## As per NEP 2020 Curriculum and Credit Framework for Postgraduate Programmes

## (CBCS LOCF) with effect from the session 2025-26 (in phased manner)

**Framework-1**

| Semester | Course Type | Course Code | Nomenclature of course | Theory (T)/ Practical (P) | Credits | | Contact hours per week L: Lecture P: Practical T: Tutorial | | | | Internal Assessment Marks | End Term Examination Marks | Total Marks | Examination hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Total | L | T | P | Total | | | | |
| 1 | CC-1 | M25-GEO-101 | Climatology | T | 4 | 22 | 4 | 0 | 0 | 4 | 30 | 70 | 100 | 3 |
| | CC-2 | M25- GEO -102 | Geomorphology | T | 4 | | 4 | 0 | 0 | 4 | 30 | 70 | 100 | 3 |
| | CC-3 | M25- GEO -103 | Geography and World Economics | T | 4 | | 4 | 0 | 0 | 4 | 30 | 70 | 100 | 3 |
| | CC-4 | M25- GEO -104 | Advanced Cartography | P | 4 | | 0 | 0 | 8 | 8 | 30 | 70 | 100 | 3 |
| | DSC-1 | M25- GEO -105 | Quantitative Methods in Geography | T | 4 | | 4 | 0 | 0 | 4 | 30 | 70 | 100 | 3 |
| | CHM | M25- CHM-106 | Constitutional, Human and Moral Values and IPR | T | 2 | | 2 | 0 | 0 | 2 | 15 | 35 | 50 | 3 |

# BPSMV Khanpur Kalan Sonipat

## Scheme of Examination for Postgraduate Programme Geography

## As per NEP 2020 Curriculum and Credit Framework for Postgraduate Programmes

## (CBCS LOCF) with effect from the session 2025-26 (in phased manner)

**Framework-1**

| Semester | Course Type | Course Code | Nomenclature of course | Theory (T)/ Practical (P) | Credits | Contact hours per week L: Lecture P: Practical T: Tutorial | | | | Internal Assessment Marks | | End Term Examination Marks | Total Marks | Examination hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Total | L | T | P | Total | | | | |
| 2 | CC-5 | M25- GEO -201 | Regional Planning and Development in India | T | 4 | 22 | 4 | 0 | 0 | 4 | 30 | 70 | 100 | 3 |
| | CC-6 | M25- GEO -202 | Oceanography | T | 4 | | 4 | 0 | 0 | 4 | 30 | 70 | 100 | 3 |
| | CC-7 | M25- GEO -203 | Population Dynamics and Policies | T | 4 | | 4 | 0 | 0 | 4 | 30 | 70 | 100 | 3 |
| | CC-8 | M25- GEO -204 | Morphometric and Hypsometric Analysis | P | 4 | | 0 | 0 | 0 | 8 | 30 | 70 | 100 | 4 |
| | DSC-2 | M25- GEO -205 | Evolution of Geographical Thoughts | T | 4 | | 4 | 0 | 0 | 4 | 30 | 70 | 100 | 3 |
| | SEM | M25- GEO -206 | Seminar | S | 2 | | 0 | 0 | 0 | 2 | 0 | 50 | 50 | 1 |
| | Internship | M24-INT-200 | An internship course of 4 Credits of 4-6 weeks duration during summer vacation after 2nd semester is to be completed by every student. Internship can be either for enhancing the employability or for developing the research aptitude. | | | | | | | | 50 | 50 | 100 | |

# Programme Learning Outcomes(PLOs) for PG Programmes in Geography as per NEP-2020

| PLOs | Master Degree in Geography |
|---|---|
| | **After the completion of Master degree in Geography the student will be able to:** |
| PLO-1: Knowledge and Understanding | Demonstrate the fundamental and advanced knowledge of the subjectand understanding of recent developments and issues, including methods and techniques, related to the **Geography**. |
| PLO-2: General Skills | Acquire thegeneral skills required for performing and accomplishing the tasks as expected to be done by a skilled professional in the fields of **Geography**. |
| PLO-3: Technical/ Professional Skills | Demonstrate the learning of advanced cognitive technical/professional skills required for completing the specialized tasks related to the profession and for conducting and analyzing the relevant research tasks indifferent domains of the**Geography**. |
| PLO-4: Communication Skills | Effectively communicate the attained skillsof the **Geography** in well-structured and productive mannerto the society at large. |
| PLO-5: Application of Knowledge and Skills | Apply the acquired knowledge and skills to the problems in the subject area, and to identify and analyze the issues where the attained knowledge and skills can be applied by carrying out research investigations to formulate evidence-based solutions to complex and unpredictable problems associated with the field of **Geography** or otherwise. |
| PLO-6: Critical thinking and Research Aptitude | Attain the capability of critical thinking in intra/inter-disciplinary areas of the **Geography** enabling toformulate, synthesize, and articulate issues for designing of research proposals, testing hypotheses, and drawing inferences based on the analysis. |
| PLO-7: Constitutional, Humanistic, Moral Values and Ethics | Know constitutional, humanistic, moral and ethical values, and intellectual property rights to become a scholar/professional with ingrained values in expanding knowledge for the society, and toavoid unethical practices such as fabrication, falsification or misrepresentation of data or committing plagiarism. |
| PLO-8: Capabilities/qualities and mindset | To exercise personal responsibility for the outputs of own work as well as of group/team and for managing complex and challenging work(s) that requires new/strategic approaches. |
| PLO-9: Employability and job-ready skills | Attain the knowledge and skills required for increasing employment potential, adapting to the future work and responding to the rapidly changing demands of the employers/industry/society with time. |

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## Syllabus of Post Graduate Programme
## M.Sc. Geography

**As per NEP 2020**

**Curriculum and Credit Framework for Postgraduate Programme**

**With Multiple Entry –Exit, Internship and CBCS- LOCF**
**With effect from the session 2025-26 (in phased manner)**

## DEPARTMENT OF GEOGRAPHY
## Faculty of Social Sciences

**Bhagat Phool Singh Mahila Vishwavidyalaya**
**Khanpur Kalan, Sonipat, Haryana (India) Pin- 131305**

**CC-I**

| | | | |
|---|---|---|---|
| **Session: 2025-26** | | | |
| **Part A - Introduction** | | | |
| Name of Programme | M.Sc. Geography | | |
| Semester | **I** | | |
| Name of the Course | **Climatology** | | |
| Course Code | M25-GEO-101 | | |
| Course Type | CC | | |
| Level of the course | 400-499 | | |
| Pre-requisite for the course (if any) | N.A. | | |
| Course Learning Outcomes (CLO)<br>After completing this course, the learner will be able to: | 1. Enhance the knowledge about atmospheric constituents and structure.<br>2. Develop the scientific understanding about climatic elements and their characteristics.<br>3. Sharpens the understanding about atmospheric moisture, stability, instability and weather system.<br>4. Enrich the knowledge about climatic Classification, climate change and global warming. | | |
| Credits | Theory | Practical | Total |
| | 4 | 0 | 4 |
| Teaching Hours per week | 4 | 0 | 4 |
| Internal Assessment Marks | 30 | 0 | 30 |
| End Term Exam Marks | 70 | 0 | 70 |
| Max. Marks | 100 | 0 | 100 |
| Examination Time | 3 hours | - | - |

| Part B- Contents of the Course | | |
|---|---|---|
| **Instructions for Paper- Setter:** The examiner will set 9 questions asking two questions from each unit and one compulsory question by taking course learning outcomes (CLOs) into consideration. The compulsory question (Question No. 1) will consist 7 parts covering entire syllabus. The examinee will be required to attempt 5 questions, selecting one question from each unit and the compulsory question. All questions will carry equal marks. | | |
| **Unit** | **Topics** | **Contact Hours** |
| I | 1. Definition of weather and climate; climatology and meteorology.<br>2. Origin, composition and structure of atmosphere.<br>3. Solar radiation, greenhouse effect, heat budget and Temperature distribution | 15 |
| II | 4. Atmospheric pressure and its distribution pattern.<br>5. Theories of general circulation and planetary winds.<br>6. Walkercirculation-ENSO and La Nina, origin of monsoons and jet streams. | 15 |
| III | 7. Atmospheric Moisture: humidity, evaporation, condensation; precipitation formation theories and types of precipitation, acid rain.<br>8. Stability and instability of atmosphere, air masses and fronts.<br>9. Weather systems: origin and characteristics of extra tropical and tropical cyclones. | 15 |
| IV | 10. Climatic classification: bases of climatic classification by Koeppen, Trewartha and Thornthwaite.<br>11. Climatic change: pattern, evidences and theories of climate change.<br>12. Global warming: theories and impacts on earth systems. | 15 |

| | | | |
|---|---|---|---|
| **Total Contact Hours** | | | 60 |
| **Suggested Evaluation Methods** | | | |
| **Internal Assessment: 30** | | **End Term Examination: 70** | |
| ➢ **Theory** | **30** | ➢ **Theory:** | **70** |
| • Class Participation: | 05 | Written Examination:70 | |
| • Seminar/presentation/assignment/quiz/class test etc.: | 10 | | |
| • Mid-Term Exam: | 15 | | |

**Part C-Learning Resources**

**Recommended Books/e-resources/LMS:**


1. Athrens, C.D. (1994): Meteorology Today: An Introduction to Weather, Climate and Environment, West Publishing Co., Minnesota, USA.
2. Barry, R.G. and Chorley, R.J. (2010): Atmosphere, Weather and Climate, Marthren.
3. Critchfield, H.J. (1987): General Climatology, Printice Hall of India, New Delhi.
4. Collins, J.M. (2014): Climatology, Oxford.
5. Das, P.K. (1984): The Monsoons, National Book Trust, New Delhi.
6. Lal, D.S. (1966): Climatology, Chaitanya Publishing House, Allahabad.
7. Lutgens, F.K. and Tarbuck, E.J. (2010): The Atmosphere: An Introduction to Meteorology, Prentice Hall of India, New Delhi.
8. Miller, A.A. (1979): Climatology, Methuen and Co., London.
9. Oliver, J.E. and Hidore, J.J. (2003): Climatology: An Atmospheric Science, Pearson Education Inc. New Delhi.
10. Rama Sastry, A.A. (1984): Weather and Weather Forecasting, Publication Division, New Delhi.
11. Trewartha, G.T. (1980): An Introduction to Climate, McGraw Hill Company, New York.

**CC-2**

| **Session: 2025-26** | | | |
|---|---|---|---|
| **Part A – Introduction** | | | |
| Name of Programme | M.Sc. Geography | | |
| Semester | **I** | | |
| Name of the Course | **Geomorphology** | | |
| Course Code | M25-GEO-102 | | |
| Course Type | CC | | |
| Level of the course | 400-499 | | |
| Pre-requisite for the course (if any) | N.A. | | |
| Course Learning Outcomes (CLO)<br><br>After completing this course, the learner will be able to: | **1.** Understand the fundamental concepts in geomorphology.<br>**2.** Examine the processes and factors of weathering and mass wasting and slope processes.<br>**3.** Understand different processes of landforms, hazards, and their management.<br>**4.** Comprehend the concepts of applied geomorphology and groundwater studies for development. | | |
| Credits | Theory | Practical | Total |
| | 4 | 0 | 4 |
| Teaching Hours per week | 4 | 0 | 4 |
| Internal Assessment Marks | 30 | 0 | 30 |
| End Term Exam Marks | 70 | 0 | 70 |
| Max. Marks | 100 | 0 | 100 |
| Examination Time | 3 hours | | |

| Part B- Contents of the Course | | |
|---|---|---|
| **Instructions for Paper- Setter:** The examiner will set 9 questions asking two questions from each unit and one compulsory question by taking course learning outcomes (CLOs) into consideration. The compulsory question (Question No. 1) will consist 7 parts covering entire<br><br>Syllabus. The examinee will be required to attempt 5 questions, selecting one question from each unit and the compulsory question. All questions will carry equal marks. | | |
| **Unit** | **Topics** | **Contact Hours** |
| I | 1. Introduction to geomorphology as a science: definition, nature, scope and recent developments.<br>2. Fundamental concepts:<br>• Geological structure and landforms<br>• Uniformitarianism<br>• Multi-cycle and polygenetic evolution of landscape<br>• Climatogenetic geomorphology<br>• Peneplain and Pediplain | 15 |
| II | 3. Continental drift theory and its basic considerations; Plate tectonics-meaning and concept, margins and boundaries; Tectonic activities along boundaries and distribution of plates.<br>4. Hill slope-definition and forms of slope, geomorphic processes and slope forms, slope evolution: Penck slope replacement models.<br>5. Endogenetic Process: Faulting, Folding and their geomorphic expression. | 15 |
| III | 6. Exogenetic Process: Weathering:-Causes, types of weathering (physical, chemical and biological).<br>7. Mass movement, causes, classification and types of mass movements- slow and rapid mass movements.<br>8. Cycle of erosion by WM Davis and Penck | 15 |
| IV | 9. Geomorphic processes and resulting land forms: Fluvial, Glacial, Aeolian and Karst<br>10. Applied geomorphology: Meaning and concept, role of geomorphology in environmental management of the following: (i) Accelerated erosion and sedimentation, (ii) Construction of large dams (iii) Urban floods and Geomorphology | 15 |

| | | | |
|---|---|---|---|
| **Total Contact hours** | | | 60 |
| **Suggested Evaluation Methods** | | | |
| **Internal Assessment: 30** | | **End Term Examination: 70** | |
| ➢ **Theory** | **30** | ➢ **Theory:** | **70** |
| • Class Participation: | 5 | Written Examination: 70 | |
| • Seminar/presentation/assignment/quiz/class testetc.: | 10 | | |
| • Mid-Term Exam: | 15 | | |

**Part C-Learning Resources**

**Recommended Books/e-resources/LMS:**


1. Bloom, A.L. (2002) Geomorphology, Private Limited, New Delhi.
2. Critchfield, H.J., (1997). General Climatology, Prentice Hall of India Pvt. Ltd, New Delhi.
3. Emlenton, C and Thorne. J. 1(979) Process in Geomorphology. London, Edward Arnold.
4. Goudie, A., (1984), the nature of the environment: an advanced physical geography, Basil Blackwell Publishers, Oxford. Hamblin W.K., (1995), Earth's Dynamic System, Prentice Hall, N J.
5. Michael A. Summerfield (1991) Global Geomorphology, Prentice Hall.
6. Monkhouse F.J. (2009), Principals of Physical Geography, Platinum Publishers, Kolkata.
7. Ritter, D.F., Kochel, RC. and Miller, J.R. 1(995) Process Geomorphology. Dubuque, Win C. Brown Publishers.
8. Sharma, V.K. (2010) Introduction to Process Geomorphology. Tayler and Francis's, London.
9. Singh, S. (2002) Geomorphology, Prayag Pustak Bhawan, Allahabad.
10. Strahler, A.H. (2013) Introducing Physical Geography, Wiley and Sons, New York.
11. Strahler, A.N., Strahler A.H. (2008). Modern Physical Geography. John Wiley and Sons, New York.
12. Thornbury, WD. (2004) Principles of Geomorphology, John Wiley Sons, New York.

**CC-3**

| **Session: 2025-26** | | | |
|---|---|---|---|
| **Part A – Introduction** | | | |
| Name of Programme | M.Sc. Geography | | |
| Semester | **I** | | |
| Name of the Course | **Geography and World Economics** | | |
| Course Code | M25-GEO-103 | | |
| Course Type | CC | | |
| Level of the course | 400-499 | | |
| Pre-requisite for the course (if any) | N.A. | | |
| Course Learning Outcomes (CLO)<br>After completing this course, the learner will be able to: | 1. Provide understanding about the location and distribution of economic activities<br>2. Acquaint with the spatial organization of world economies.<br>3. Familiarize with location theories of economic activities.<br>4. Acquire knowledge about trade blocs, trends in trade and various processes of globalization. | | |
| Credits | Theory | Practical | Total |
| | 4 | 0 | 4 |
| Teaching Hours per week | 4 | 0 | 4 |
| Internal Assessment Marks | 30 | 0 | 30 |
| End Term Exam Marks | 70 | 0 | 70 |
| Max. Marks | 100 | 0 | 100 |
| Examination Time | 3 hours | - | - |

| Part B- Contents of the Course | | |
|---|---|---|
| **Instructions for Paper- Setter:** The examiner will set 9 questions asking two questions from each unit and one compulsory question by taking course learning outcomes (CLOs) into consideration. The compulsory question (Question No. 1) will consist 7 parts covering entire syllabus. The examinee will be required to attempt 5 questions, selecting one question from each unit and the compulsory question. All questions will carry equal marks. | | |
| **Unit** | **Topics** | **Contact Hours** |
| I | 1. Definition, nature, scope, importance, recent trends and approaches in economic geography.<br>2. Relationship of economic geography with other social sciences.<br>3. Concepts in economic geography: economic man, goods and services, production, exchange and consumption; consumption process: significance of consumption in economy. | 15 |
| II | 3. World economies: bases of classification, patterns and characteristics of developed and developing economies of the world.<br>4. Economic development: meaning, evolution, goals, measures, patterns, problems and stages of economic development: Rostow's model. | 15 |
| III | 5. Economic activities and their classification, Factor affecting of economic activities, spatial distribution of economics activities .<br>6. Location theories of Weber, Losch and Ullman. | 15 |
| IV | 7. Globalization and recent trends in pattern of international trade; major regional trade blocks of the world (SAARC, ASEAN, BRICS, G-20, NAFTA).<br>8. GATT, WTO and EU: Functions and relevance; functions and relevance of OPEC regarding energy crisis in developed and developing countries of the world. | 15 |

| | | | |
|---|---|---|---|
| **Total Contact Hours** | | | 60 |
| **Suggested Evaluation Methods** | | | |
| **Internal Assessment: 30** | | **End Term Examination: 70** | |
| ➢ **Theory** | **30** | ➢ **Theory:** | **70** |
| • Class Participation: | 05 | Written Examination: 70 | |
| • Seminar/presentation/assignment/quiz/class test etc.: | 10 | | |
| • Mid-Term Exam: | 15 | | |

**Part C-Learning Resources**

**Recommended Books/e-resources/LMS:**


1. Aoyama, Y., Murphy, J. and Hanson, S. (2010): Key Concepts in Economic Geography, London: Sage.
2. Combes, P., Mayer, T. and Thisse, J.F. (2008): Economic Geography: The Integration of Regions and Nations, Princeton University.
3. Gautam, A. (2010): Advanced Economic Geography, Sharda Pustak Bhawan, Allahabad.
4. Hartshorne, T.A. and Alexander, J.W. (2001): Economic Geography, Prentice Hall of India. New Delhi.
5. Hudson, R. (2005): Economic Geographies: Circuits, Flows and Spaces, London: Sage.
6. Karlsson, C., Andersson, M. and Norman, T. (2015): Handbook of Research Methods and Applications in Economic Geography, Edward Elgar Publishing, Cheltenham, UK.
7. Knox, P. (2003): The Geography of World Economy, Arnold, London.
8. Saxena, H.M. (2013): Economic Geography, Rawat Publications, Jaipur.
9. Wheeler, J.O. and Muller, P.O. (1985): Economic Geography, John Wiley and Sons, New York.
10. Willington, D.E. (2008): Economic Geography, Husband Press.
11. Wood, A. and Roberts, A. (2010): Economic Geography: Places, Networks and Flows, Routledge, London and New York.

**CC-4**

| **Session: 2025-26** | | | |
|---|---|---|---|
| **Part A – Introduction** | | | |
| Name of the Programme | M.Sc. Geography | | |
| Semester | **I** | | |
| Name of the Course | **Advanced Cartography** | | |
| Course Code | M25-GEO-104 | | |
| Course Type | PC | | |
| Level of the course | 400-499 | | |
| Pre-requisite for the course (if any) | N.A. | | |
| Course Learning Outcomes (CLO)<br>After completing this course, the learner will be able to: | 1. Understand the basic concepts of cartographic techniques<br>2. Represent the diagram/graphs through excel programme.<br>3. Representation of climatic and socio-economic data<br>4. Prepare choropleth, dot and other diagrams through cartographic techniques. | | |
| Credits | Theory | Practical | Total |
| | 0 | 4 | 4 |
| Teaching Hours per week | 0 | 8 | 8 |
| Internal Assessment Marks | 0 | 30 | 30 |
| End Term Exam Marks | 0 | 70 | 70 |
| Max. Marks | 0 | 100 | 100 |
| Examination Time | 0 | 3 hours | |

| **Part B- Contents of the Course <u>Instructions for Paper-Setter</u>** | | |
|---|---|---|
| Note for Paper Setters: The examiner shall set four questions. All questions are compulsory. | | |
| **Distribution of Marks for Evaluation** | | |
| **Exercise = 10x4=40** **File Record = 10** **Viva-voce = 20** | | |
| **Practical's** | | **Contact Hours = 120** |
| Unit-I | 1. Nature, scope, and recent advancement in cartography.<br>2. Types and characteristics of distribution maps: Chorochromatic, Choroschematic, Isopleths, Choropleth, Dot and Diagrammatic.<br>3. Types and characteristics of statistical diagrams: One dimensional (bar, line), Two dimensional (circular, rectangular, square), Three dimensional (sphere, cube) and other diagrams (pyramid, flow diagram/cartogram). | 30 |
| Unit-II | Representation of data by diagram:<br>1. Time series analysis: moving average of rainfall and temperature data.<br>2. Poly and trend graphs; line and bar, rainfall deviation diagram, bar graphs (simple, comparative and compound); wheel diagram. | 30 |
| Unit-III | Representation of climatic and socio-economic data:<br>1. Climograph (Taylor)<br>2. Hythergraph<br>3. Ergograph<br>4. Wind rose diagram<br>5. Isopleth | 30 |
| Unit-IV | 1. Dot method<br>2. Choropleth (mono-variate, bi-variate)<br>3. Age and sex pyramid<br>4. Triangle diagram<br>5. Cartogram (Traffic flow, rectangular) | 30 |

| Suggested Evaluation Methods | | | |
|---|---|---|---|
| **Internal Assessment: 30** | | **End Term Examination: 70** | |
| ➢ **Practicum** | **30** | ➢ **Practicum** | **70** |
| • Class Participation: | 5 | Lab record, Viva-Voce, write-up and execution of the practical : | |
| • Seminar/Demonstration/Viva-voce/Lab recordsetc.: | 10 | | |
| • Mid-Term Exam: | 15 | | |

**Part C-Learning Resources**

**Recommended Books/e-resources/LMS:**


1. Dent, B.D. (1999) Cartography: Thematic Map Design, (Vol. 1), McGraw Hill.
2. Gupta, K.K. and Tyagi, V.C (1992) Working with Maps, Survey of India, DST, New Delhi.
3. Monkhouse, F.J and Wilkinson, H.R (1971) Maps and Diagrams. Methuen and Co. Ltd., London
4. Ramamurthy, K (1982) Map Interpretation, Rex Printers, Madras.
5. Robinson A (1953) Elements of Cartography, John Wiley.
6. Siddhartha, K (2006) Geography through maps, Kisalaya Publications Pvt. Ltd, Delhi
7. Singh, G (2005) Map work and practical geography. Vikas Publishing House Pvt. Ltd., New Delhi
8. Singh, L.R and Singh, R (1973) Map work and practical geography, Central Book Allahabad
9. Singh, R.L (2005) Elements of Practical Geography. Kalyani Publishers, New Delhi. India.

**DSC-1**

| **Session: 2025-26** | | | |
|---|---|---|---|
| **Part A – Introduction** | | | |
| Name of Programme | M.Sc. Geography | | |
| Semester | **I** | | |
| Name of the Course | **Quantitative Methods in Geography** | | |
| Course Code | M25-GEO-105 | | |
| Course Type | CC | | |
| Level of the course | 400-499 | | |
| Pre-requisite for the course (if any) | N.A. | | |
| Course Learning Outcomes (CLO) After completing this course, the learner will be able to: | 1. Understand tools of quantitative information and data.<br>2. Gain knowledge about statistical analysis of spatial pattern from geographical data.<br>3. Enrich knowledge about inferential data analysis and errors associated with it.<br>4. Acquaintance with bivariate and multivariate analytical techniques. | | |
| Credits | Theory | Tutorial | Total |
| | 4 | 0 | 4 |
| Teaching Hours per week | 4 | 0 | 4 |
| Internal Assessment Marks | 30 | 0 | 30 |
| End Term Exam Marks | 70 | 0 | 70 |
| Max. Marks | 100 | 0 | 100 |
| Examination Time | 3 hours | | |

| Part B- Contents of the Course | | |
|---|---|---|
| **Instructions for Paper- Setter:** The examiner will set 9 questions asking two questions from each unit and one compulsory question by taking course learning outcomes (CLOs) into consideration. The compulsory question (Question No. 1) will consist 7 parts covering entire syllabus. The examinee will be required to attempt 5 questions, selecting one question from each unit and the compulsory question. All questions will carry equal marks. | | |
| **Unit** | **Topics** | **Contact Hours** |
| I | 1. Data collection: sources, types and methods, classification and tabulation of data; Graphical presentation of data: Ogives, histogram. Levels of data measurement: nominal, ordinal, Interval and ratio, Significance of quantitative methods in Geography.<br>2. Measures of central tendency: mean, median, mode, partitioned values: Deciles, Quartiles and Percentiles | 15 |
| II | 3. Measures of dispersion: absolute measures: range, quartile deviation, mean deviation, standard deviation, relative measure of dispersion: coefficient of variation<br>4. Normal curve as a probability distribution: characteristics and area under curve. | 15 |
| III | 5. Measures of inequality: location quotient, Lorenz curve<br>6. Hypothesis : meaning, testing, utility in geographical studies | 15 |
| IV | 7. Bivariate analysis in geographical studies: scatter diagram, correlation analysis, Spearman's rank correlation and Karl Pearson's correlation coefficient, test of significance (t test).<br>8. Simple linear regression: estimation of regression equation (least square method), Sampling: meaning and its types. | 15 |

| | | | |
|---|---|---|---|
| **Total Contact Hours** | | | 60 |
| **Suggested Evaluation Methods** | | | |
| **Internal Assessment: 30** | | **End Term Examination: 70** | |
| ➢ **Theory** | **30** | ➢ **Theory:** | **70** |
| • Class Participation: | 5 | Written Examination: 70 | |
| • Seminar/presentation/assignment/quiz/class testetc.: | 10 | | |
| • Mid-Term Exam: | 15 | | |

**Part C-Learning Resources**

**Recommended Books/e-resources/LMS:**


1. Gregory, S. Statistical Methods and the Geographers, Longman, London, 1964.
2. Gupta, C. B. An Introduction to Statistical Methods, Vikas Publishing House, Delhi, 1974.
3. Johnston, R.J. Multivariate Statistical Analysis in Geography, Longman Scientific and Technical, John Wiley & Sons, 1989.
4. Mahmood, A. Statistical Methods in Geographical Studies, Rajesh Publications, New Delhi, 1993.
5. Pal, S.K. Statistics for Geoscientists: Techniques and Applications, Concept Publishing Company, New Delhi, 1998.
6. Houshmand, A.R. Statistical Methods for Environmentaland Agricultural Sciences, CRC Press, New York, 1998.
7. Levin, J and Fox, J.A. Elementary Statistics in Social Research, Pearson Education, New Delhi, 2006.
8. Rogerson. P.A. Statistical Methods for Geography, Sage Publication, New Delhi, 2010.
9. Sarkar, A. Quantitative Geography: Techniques and Presentations. 2013.

**CHM**

| **Session: 2025-26** | | | |
|---|---|---|---|
| **Part A - Introduction** | | | |
| Name of the Programme | For P.G Program M.Sc. Geography | | |
| Semester | **11** | | |
| Name of the Course | **Constitutional, Human and Moral Values, and IPR** | | |
| Course Code | M25-CHM-106 | | |
| Course Type | CHM | | |
| Level of the course | 400-499 | | |
| Pre-requisite for the course (ifany) | - | | |
| Course Learning Outcomes (CLO)<br>After completing this course, the learner will be able to: | 1. Learn the different Constitutional Values, Fundamental rights and duties enshrined in the India Constitution.<br>2. Understand humanism, human virtues and values, and idea of International peace.<br>3. Grasp the basic concepts of Moral Values and Professional Conduct which are required to become a part of the civil society and for developing professionalism.<br>4. Understand concepts of Intellectual Property Rights, Copyright, Patent, Trademark etc., and about threats of Plagiarism. | | |
| Credits | Theory | Practical | Total |
| | 2 | 0 | 2 |
| Teaching Hours per week | 2 | 0 | 2 |
| Internal Assessment Marks | 15 | 0 | 15 |
| End Term Exam Marks | 35 | 0 | 35 |
| Max. Marks | 50 | 0 | 50 |
| Examination Time | 3 hours | | |

| Part B-Content of the Course | | |
|---|---|---|
| **Instructions for Paper- Setter:** The examiner will set 9 questions asking two questions from each unit and one compulsory question by taking course learning outcomes (CLOs) into consideration. The compulsory question (Question No. 1) will consist at least 4 parts covering entire syllabus. The examinee will be required to attempt 5 questions, selecting one question from each unit and the compulsory question. All questions will carry equal marks. | | |
| **Unit** | **Topics** | **Contact Hours** |
| I | **Constitutional Values:**<br>Historical Perspective of Indian Constitution; Basic Values enshrined in the Preamble of the Indian Constitution; Concept of Constitutional Morality; Patriotic Values and Ingredients Nation Building; Fundamental Rights and Duties ; Directive Principles of the State Policy. | 8 |
| II | **Humanistic Values:**<br>Humanism, Human Virtues and Civic Sense; Social Responsibilities of Human Beings; Ethical ways to deal with human aspirations; Harmony with society and nature; Idea of International Peace and Brotherhood (Vasudhaiv Kutumbkam). | 7 |
| III | **Moral Values and Professional Conduct**<br>Understanding Morality and Moral Values; Moral Education and Character Building; Ethics of Relations: Personal, Social and Professional; Introduction to Gender Sensitization; Affirmative approach towards Weaker Sections (SCs, STs, OBCs, EWS& DAs); Ethical Conduct in Higher Education Institutions; Professional Ethics. | 8 |
| IV | **Intellectual Property Rights:**<br>Meaning, Origins and Nature of Intellectual Property Rights (IPRs);Different Kinds of IPRs – Copyright, Patent, Trademark, Trade Secret/Dress, Design, Traditional Knowledge; Infringement and Offences of IPRs – Remedies and Penalties; Basics of Plagiarism policy of UGC. | 7 |
| | **Note: Scope of the syllabus shall be restricted to generic and introductory level of mentioned topics.** | |

| Total Contact Hours | | 30 |
|---|---|---|
| **Suggested Evaluation Methods** | | |
| **Internal Assessment: 15** | | **End Term Examination: 35** |
| ➢ **Theory** | **15** | ➢ **Theory** **35** |
| • Class Participation: | 4 | Written Examination |
| • Seminar/presentation/assignment/quiz/class test etc.: | 4 | |
| • Mid-Term Exam: | 7 | |

**Part C-Learning Resources**

**1. Recommended Books/e-resources/LMS:**


2. Ahuja, V K. (2017). *Law relating to Intellectual Property Rights*, India, IN: Lexis Nexis.
3. Bajpai, B. L., *Indian Ethos and Modern Management*, New Royal Book Co., Lucknow, 2004.
4. Basu, D.D., *Introduction to the Constitution of India* (Students Edition) Prentice Hall of India Pvt. Ltd., New Delhi, 20th ed., 2008.
5. Dhar, P.L. & R.R. Gaur, *Science and Humanism*, Commonwealth Publishers, New Delhi, 1990.
6. George, Sussan, *How the Other Half Dies*, Penguin Press, 1976.
7. Govindarajan, M., S. Natarajan, V.S. Sendilkumar (eds.), *Engineering Ethics (Including Human Values)*, Prentice Hall of India Private Ltd, New Delhi, 2004.
8. Neeraj, P., &Khusdeep, D. (2014). *Intellectual Property Rights*, India, IN: PHI learning Private Limited.
9. Palekar, Subhas, *How to practice Natural Farming*, Pracheen (Vaidik) KrishiTantraShodh, Amravati, 2000.
10. Phaneesh, K.R., *Constitution of India and Professional Ethics*, New Delhi.
11. Pylee, M.V., *An Introduction to Constitution of India*, Vikas Publishing, New Delhi, 2002.
12. Raman, B.S., *Constitution of India,* New Delhi, 2002.
13. Reddy, B., Intellectual Property Rights and the Law, Gogia Law Agency.
14. Reddy, N.H., SantoshAjmera, *Ethics, Integrity and Aptitude*, McGraw Hill, New Delhi.
15. Sharma, Brij Kishore, *Introduction to the Constitution of India,* New Delhi,
16. Singles, Shubham et. al., *Constitution of India and Professional Ethics,* Cengage Learning India Pvt. Ltd., Latest Edition, New Delhi, 2018.
17. Tripathy, A.N., *Human Values*, New Age International Publishers, New Delhi, 2003.
18. Wadehra, B.L., Law relating to Intellectual Property, Universal Law Publishing Co.


**19. Relevant Websites, Movies and Documentaries:**

20. *Value Education Websites*, http://uhv.ac.in, http://www.uptu.ac.in.
21. *Story of Stuff*, http://www.storyofstuff.com
22. Cell for IPR Promotion and Management: http://cipam.gov.in/.
23. World Intellectual Property Organization: https://www.wipo.int/about-ip/en/
24. Office of the Controller General of Patents, Designs & Trademarks: http://www.ipindia.nic.in/
25. Al Gore, *An Inconvenient Truth*, Paramount Classics, USA.
26. Charlie Chaplin, *Modern Times*, United Artists, USA.
27. *Modern Technology – The Untold Story,* IIT, Delhi.
28. A. Gandhi, *Right Here Right Now*, Cyclewala Productions.

**CC-5**

| **Session: 2025-26** | | | |
|---|---|---|---|
| **Part A – Introduction** | | | |
| Name of Programme | M.Sc. Geography | | |
| Semester | **II** | | |
| Name of the Course | **Regional Planning and Development in India** | | |
| Course Code | M25-GEO-201 | | |
| Course Type | CC | | |
| Level of the course | 400-499 | | |
| Pre-requisite for the course (if any) | N.A. | | |
| Course Learning Outcomes (CLO) After completing this course, the learner will be able to: | 1. The students will learn about the basic principles of regional planning,<br>2. The students will study the regional planning process different theoretical backgrounds and structures. | | |
| Credits | Theory | Practical | Total |
| | 4 | 0 | 4 |
| Teaching Hours per week | 4 | 0 | 4 |
| Internal Assessment Marks | 30 | 0 | 30 |
| End Term Exam Marks | 70 | 0 | 70 |
| Max. Marks | 100 | 0 | 100 |
| Examination Time | 3 hours | - | - |

| Part B- Contents of the Course | | |
|---|---|---|
| **Instructions for Paper- Setter:** The examiner will set 9 questions asking two questions from each unit and one compulsory question by taking course learning outcomes (CLOs) into consideration. The compulsory question (Question No. 1) will consist 7 parts covering entire syllabus. The examinee will be required to attempt 5 questions, selecting one question from each unit and the compulsory question. All questions will carry equal marks. | | |
| **Unit** | **Topics** | **Contact Hours** |
| I | 1. Concept of Regional Development, Basics Principles and Objectives of regional Planning, Regional disparities, Balanced Regional development<br>2. Types of Regions: formal and functional, uniform and nodal, single purpose and Composite region.<br>3. Basis of regionalization in India and their characteristics. | 15 |
| II | 4. Theories of Regional Development:<br>(i) Trickle Down Theory<br>(ii) Growth Pole Theory<br>(iii) Cumulative causation Model<br>(iv) Core-Periphery Theory | 15 |
| III | 5. Development and Regional Disparities in India since Independence<br>(i) Disparities in Agricultural Development<br>(ii) Disparities in Industrial Development.<br>6 Disparities in Human Resource Development in terms of poverty education and health | 15 |
| IV | 7.India through Planned Era with special reference to<br>(i) Tribal area development plan<br>(ii) Hill Area development plan<br>(iii) Desert, drought prone and backward area development plan<br>8. Niti Ayog : Aims and objectives<br>9. Urban Planning in India with special reference to National Capital Region | 15 |

| | | | |
|---|---|---|---|
| **Total Contact Hours** | | | 60 |
| **Suggested Evaluation Methods** | | | |
| **Internal Assessment: 30** | | **End Term Examination: 70** | |
| ➢ **Theory** | **30** | ➢ **Theory:** | **70** |
| • Class Participation: | 05 | Written Examination: 70 | |
| • Seminar/presentation/assignment/quiz/class test etc.: | 10 | | |
| • Mid-Term Exam: | 15 | | |

**Part C-Learning Resources**

**Recommended Books/e-resources/LMS:**


1. Chandna, R.C. (2000): Regional Planning: A Comprehensive Text. Kalyani Publishers., New Delhi.
2. Chaudhuri, J.R. (2001) : An Introduction to Development and Regional Planning with special reference to India. Orient Longman, Hyderabad.
3. Friedmann, J. and Alonso, W. (ed.) (1973) : Regional Development and Planning. The MIT Press, Mass.
4. Hettne, B.; Inotai, A. and Sunkel, O. (eds.) (1999-2000): Studies in the New Regionalism. Vol. I-V. Macmillan Press, London.
5. Kuklinski, A.R. (1972): Growth Poles and Growth Centers in Regional Planning. Mouton and Co., Paris.
6. Kuklinski, A.R. (ed.) (1975): Regional Development and Planning: International Perspective, Sijthoff-Leydor.
7. Leys, C. (1996): The Rise and Fall of Development Theory. Indian University Press, Bloomington, and James Curry, Oxford.
8. Mahapatra, A.C. and Pathak, C.R. (eds.) (2003): Economic liberalization and Regional Disparities in india. Special Focus on the North Eastern Region. Star Publishing House, Shillong.
9. Mahesh Chand and V. K. Puri ; Regional Planning in India, Allied Publishers, New Delhi, 1983.
10. Misra, R.P. (ed.) (1992): Regional Planning: Concepts, Techniques, Policies and Case Studies. 2 ndedition. Concept Publishing Company. New Delhi.
11. Misra, R.P. and Natraj, V.K. (1978): Regional Planning and National Development. Vikas, NewDelhi.
12. Planning Commission of India: Eighth Five Year Plan (1992-97) Vol. I, Govt. of India, NewDelhi.
13. Sundaram K V (1986) : Urban and Regional Planning in India, Vikas Publishing House, 1986, New Delhi
14. Raza Moonis (ed) (1988) Regional Development Vol. 10, Contribution to Indian Geography Heritage Publishers, New Delhi.

**CC-6**

| **Session: 2025-26** | | | |
|---|---|---|---|
| **Part A – Introduction** | | | |
| Name of Programme | M.Sc. Geography | | |
| Semester | **II** | | |
| Name of the Course | **Oceanography** | | |
| Course Code | M25- GEO -202 | | |
| Course Type | CC | | |
| Level of the course | 400-499 | | |
| Pre-requisite for the course (if any) | N.A. | | |
| Course Learning Outcomes (CLO)<br>After completing this course, the learner will be able to: | 1. Understanding Major Topographic features of ocean Basins.<br>2. Analysis of Ocean Temperature, Salinity and Circulation.<br>3. Comprehension of Hydrology and Hydrological Cycle.<br>4. Assessment of Groundwater occurrence and movement. | | |
| Credits | Theory | Practical | Total |
| | 4 | 0 | 4 |
| Teaching Hours per week | 4 | 0 | 4 |
| Internal Assessment Marks | 30 | 0 | 30 |
| End Term Exam Marks | 70 | 0 | 70 |
| Max. Marks | 100 | 0 | 100 |
| Examination Time | 3 hours | | |

| Part B- Contents of the Course | | |
|---|---|---|
| **Instructions for Paper- Setter:** The examiner will set 9 questions asking two questions from each unit and one compulsory question by taking course learning outcomes (CLOs) into consideration. The compulsory question (Question No. 1) will consist 7 parts covering entire<br>**Syllabus.** The examinee will be required to attempt 5 questions, selecting one question from each unit and the compulsory question. All questions will carry equal marks. | | |
| **Unit** | **Topics** | **Contact Hours** |
| I | 1. Definition, nature and scope of oceanography, oceanography and other sciences.<br>2. Wegner's drift hypothesis and sea floor spreading and plate tectonics. | 15 |
| II | 3. Major topographic features of ocean basins, bottom relief of Atlantic, Pacific and Indian oceans.<br>4. Sources, classification and distribution of ocean deposits, corals-origin, types and conditions for development. Theories of the origin of coral reefs (Subsidence and standstill). | 15 |
| III | 5. Oceanic Temperature and Density: distribution and causes of variation.<br>6. Composition of oceanic water and distribution of salinity.<br>7. Origin, causes, types and effects of the ocean currents, currents of the Atlantic, Pacific and Indian oceans. | 15 |
| IV | 8. Oceans as source of food, mineral and energy resources – evidences, mechanism and impact.<br>9. Global warming and sea level changes: Impact of Humans on the Marine Environment. | 15 |

| | | | |
|---|---|---|---|
| **Total Contact Hours** | | | 60 |
| **Suggested Evaluation Methods** | | | |
| **Internal Assessment: 30** | | **End Term Examination: 70** | |
| ➢ **Theory** | **30** | ➢ **Theory:** | **70** |
| • Class Participation: | 5 | Written Examination: 70 | |
| • Seminar/presentation/assignment/quiz/class test etc.: | 10 | | |
| • Mid-Term Exam: | 15 | | |

**Part C-Learning Resources**

**Suggested Readings:**


1. Denny. M. (2008): How the Ocean Works: An introduction to Oceanography, Princeton University Press, New Jersey.
2. Duxbury, C.A and Duxbury B. (1996). An introduction to the World's Oceans, 2nd C. Brown, Iowa
3. Garrison, T. (2001): Oceanography – An introduction to Marine Science, Books/ Cole, Pacific Grove, USA.
4. Gross, M. Grant (1987). Oceanography: A view of the Earth, Prentice – Hall Inc., New Jersy.
5. Kerhsaw, S. (2004): Oceanography: An Earth Science Perspective, Rooutledge, UK.
6. Lal, DS. (2007). Oceanography. Sharda Pustak Bhawan, Allahabad.
7. Sharma, R.C.(1985): The Oceans, Rajesh Publication, New Delhi.
8. Sharma, R.C. and Vatal M. (1993). Oceanography for Geographers, Chaitanya Publishing House, Allahabad.
9. Shepart, F. (1969): The Earth Beneath the sea, Athneum, Rev. Ed., New York.
10. Sieboldt, E., and W.H. Berger (1994): The Sea Floor, 2nd Ed., Freeman, New York.
11. Siddhartha, K.1999. Oceanography-A Brief Introduction, Kisalaya Publications, New Delhi.
12. Singh. Savinder. (2008). Oceanography. Prayag Pustak Bhawan, Allahabad

CC-7

| | | | |
|---|---|---|---|
| **Session: 2025-26** | | | |
| **Part A – Introduction** | | | |
| Name of Programme | M.Sc. Geography | | |
| Semester | **II** | | |
| Name of the Course | **Population Dynamics and Policies** | | |
| Course Code | M25- GEO -203 | | |
| Course Type | CC | | |
| Level of the course | 400-499 | | |
| Pre-requisite for the course (if any) | N.A. | | |
| Course Learning Outcomes (CLO)<br>After completing this course, the learner will be able to: | 1. Gain knowledge about population data base, methodological issues and mapping.<br>2. Familiarize with the dynamics of population and demographic dividends.<br>3. Acquire knowledge about population theories and models.<br>4. Aware about population policies of different countries and relation between population and environment. | | |
| Credits | Theory | Practical | Total |
| | 4 | 0 | 4 |
| Teaching Hours per week | 4 | 0 | 4 |
| Internal Assessment Marks | 30 | 0 | 30 |
| End Term Exam Marks | 70 | 0 | 70 |
| Max. Marks | 100 | 0 | 100 |
| Examination Time | 3 hours | | |

| Part B- Contents of the Course | | |
|---|---|---|
| **Instructions for Paper- Setter:** The examiner will set 9 questions asking two questions from each unit and one compulsory question by taking course learning outcomes (CLOs) into consideration. The compulsory question (Question No. 1) will consist 7 parts covering entire<br>**Syllabus.** The examinee will be required to attempt 5 questions, selecting one question from each unit and the compulsory question. All questions will carry equal marks. | | |
| **Unit** | **Topics** | **Contact Hours** |
| I | 1. Nature and scope of population geography.<br>2. Sources of population data, quality and reliability of data.<br>3. Problems of mapping population data. | 15 |
| II | 4. Concepts, measurements, determinants, and world patterns of fertility, mortality, migration (including policies) and growth.<br>5. Composition of population: concepts, measurements, determinants, and world patterns of age and sex, occupational structure.<br>6. Demographic dividend: linkages between population and economic development. | 15 |
| III | 7. Theory of population: Malthus, views of Marx and Ricardo, demographic transition model.<br>8. Population resource relations: concepts of over population, under population and optimum population; population resource regions.<br>9. Limits to growth: concept and application. | 15 |
| IV | 10. Comparative study of population problems and policies of developed and less developed countries.<br>a) Developed world: U.S.A., Australia, and Canada.<br>b) Less developed world: India, China and Brazil.<br>11. Population problems and environmental implications. | 15 |

| | | | |
|---|---|---|---|
| **Total Contact Hours** | | | 60 |
| **Suggested Evaluation Methods** | | | |
| **Internal Assessment: 30** | | **End Term Examination: 70** | |
| ➢ **Theory** | **30** | ➢ **Theory:** | **70** |
| • Class Participation: | 5 | Written Examination: 70 | |
| • Seminar/presentation/assignment/quiz/class test etc.: | 10 | | |
| • Mid-Term Exam: | 15 | | |

**Part C-Learning Resources**

**Suggested Readings:**


1. Bhende, A. A. and Kanitkar, T. (2011): Principles of Population Studies, Himalaya Publishing House, Mumbai.
2. Chandna, R. C. (2016): Population Geography: Concepts, Determinants and Patterns, Kalyani Publishers, New Delhi.
3. Demko, G. J. and others (Eds.) (1971): Population Geography, Reader, McGraw- Hill Books Co., New York
4. Hassan, M.I. (2020) Population Geography: A Systematic Exposition, Routledge, London.
5. May, J.F. (2012) World population policies: their origin, evolution, and impact, Washington DC: Springer.
6. Mahajan,N (2014) Population Geography, R.K. publishers, Delhi.
7. Premi, M.K. () Social Demography,
8. Newbold, K Bruce (2016) Population geography: Tools and Issues.
9. Qazi, S.A(2010). Population Geography, APH publishers.
10. Trewartha, G. T. (1972): The Less Developed Realm-A Geography of its Population, John Wiley & Sons, Inc., New York.
11. Trewartha, G. T. (1978): The More Developed Realm-A Geography of its Population Pergamon Press, New York.
12. Woods, R. (1979): Population Analysis in Geography, Longman, London.
13. United Nations (1997): Health and Mortality Issues of Global Concern, Proceeding of the Symposium on Health and Mortality, Brussels, 19-22 November 1997.

**CC-8**

| **Session: 2025-26** | | | |
|---|---|---|---|
| **Part A – Introduction** | | | |
| Name of the Programme | M.Sc. Geography | | |
| Semester | **II** | | |
| Name of the Course | **Morphometric and Hypsometric Analysis** | | |
| Course Code | M25-GEO-204 | | |
| Course Type | PC | | |
| Level of the course | 400-499 | | |
| Pre-requisite for the course (if any) | N.A. | | |
| Course Learning Outcomes (CLO)<br>After completing this course, the learner will be able to: | 1. Understand the history, basic concepts and significance of morphometric analysis.<br>2. Draw watershed and profiles and interpret them.<br>3. Represent the ordering, linear and areal aspects of drainage basin.<br>4. Prepare the slope and relief maps of drainage basin. | | |
| Credits | Theory | Practical | Total |
| | 0 | 4 | 4 |
| Teaching Hours per week | 0 | 8 | 8 |
| Internal Assessment Marks | 0 | 30 | 30 |
| End Term Exam Marks | 0 | 70 | 70 |
| Max. Marks | 0 | 100 | 100 |
| Examination Time | 0 | 4 hours (or as decided by PGBOS) | |

**Part B- Contents of the Course Instructions for Paper-Setter**

Note for Paper Setters: The examiner shall set four questions. All questions are compulsory.

**Distribution of Marks for Evaluation**

**Exercise = 40 File Record = 10 Viva-voce = 20**

| **Practical's** | | **Contact Hours** = 120 |
|---|---|---|
| Unit-I | 1. History of Morphometric Analysis , Drainage Basin: Types, Pattern and its geographical significance;<br>2. Delineation of drainage basin and its geographical significance.<br>3. Ordering methods of Stream: Horton and Strahler. | 30 |
| Unit-II | 1. Arrangement, identification and interpretation of topographical sheets of India<br>2. Representation and Interpretation of Physical features from topographical maps<br>3. Representation and Interpretation of Cultural features from topographical maps. | 30 |
| Unit-III | 1. Delineation of watershed (all exercises shall be based on it)<br>2. Linear aspect: relationship between stream order and number, average stream length and bifurcation ratio.<br>3. Areal aspects: drainage frequency and density | 30 |
| Unit-IV | 1. Profile analysis: Transverse (Serial, superimposed, composite and projected) and longitudinal profile.<br>2. Relief aspect: area height curve, altimetric frequency curve, hypsographic curve, hypsographic integral curve and clinographic curve.<br>3. Slope analysis: average slope (Wentworth's) and relative relief (G.H Smith's method). | 30 |

| Suggested Evaluation Methods | | | |
|---|---|---|---|
| **Internal Assessment: 30** | | **End Term Examination: 70** | |
| ➢ **Practicum** | **30** | ➢ **Practicum** | **70** |
| • Class Participation: | 5 | Lab record, Viva-Voce, write-up and execution of the practical | |
| • Seminar/Demonstration/Viva-voce/Lab records<br>etc.: | 10 | | |
| • Mid-Term Exam: | 15 | | |

**Part C-Learning Resources**

**Recommended Books/e-resources/LMS:**


1. Dury, G.H. 1966. Essays in Geomorphology. Heinmann, London.
2. Misra, R.P. and Ramesh, A. 1999. Fundamentals of Cartography, Concept Publishing Company, New Delhi.
3. Miller, A. 1964. The Skin of the Earth. Methuen, London.
4. Monkhouse, F. J. and Wilkinson, H.R. 1980. Maps and Diagrams. B.I. Publications, New Delhi.
5. Singh, R. L. 1986. Elements of Practical Geography, Kalyani Publications, New Delhi.
6. Singh. S. Geomorphology (2022), Prayag Pustak.
7. Strahler and Strahler (2000), Physical Geography, Wiley.

**DSC-2**

| **Session: 2025-26** | | | |
|---|---|---|---|
| **Part A – Introduction** | | | |
| Name of Programme | M.Sc. Geography | | |
| Semester | **II** | | |
| Name of the Course | **Evolution of Geographical Thought** | | |
| Course Code | M25- GEO -205 | | |
| Course Type | CC | | |
| Level of the course | 400-499 | | |
| Pre-requisite for the course (if any) | N.A. | | |
| Course Learning Outcomes (CLO)<br>After completing this course, the learner will be able to: | 1. Develop an understanding on nature and philosophy of geography<br>2. Have geographical Knowledge regarding ancient and medieval period.<br>3. Acqaint with philosophical development in subject.<br>4. Acquire knowledge of modern geographical thinking. | | |
| Credits | Theory | Practical | Total |
| | 4 | 0 | 4 |
| Teaching Hours per week | 4 | 0 | 4 |
| Internal Assessment Marks | 30 | 0 | 30 |
| End Term Exam Marks | 70 | 0 | 70 |
| Max. Marks | 100 | 0 | 100 |
| Examination Time | 3 hours | | |

| Part B- Contents of the Course | | |
|---|---|---|
| **Instructions for Paper- Setter:** The examiner will set 9 questions asking two questions from each unit and one compulsory question by taking course learning outcomes (CLOs) into consideration. The compulsory question (Question No. 1) will consist 7 parts covering entire syllabus. The examinee will be required to attempt 5 questions, selecting one question from each unit and the compulsory question. All questions will carry equal marks. | | |
| **Unit** | **Topics** | **Contact Hours** |
| I | 1. Classification of knowledge, Nature of Geography and its place among sciences<br>2. Nature of Geographic knowledge during ancient (Greek and Roman) and medieval (Arab) periods<br>3. Foundation of Modern Geography-contributions of Varenius, Kant, Humboldt and Ritter. | 15 |
| II | 4. Emergence of Geography as a study of (i) physical features (ii) chorology (iii) landscapes.<br>5. Concepts in Geography: Environmental Determinism and Possibilism, Areal Differentiation;<br>6. Dichotomy and Dualism in Geography: Physical vs Human Geography, and Systematic vs Regional Geography | 15 |
| III | 7. Quantitative Revolution-Emergence of geography as spatial science<br>8. Positivist Explanations in Geography- Laws, theories, models<br>9. Inductive & deductive logic in geographic explanations | 15 |
| IV | 10. Behavioural and Humanistic Perspectives in Geography<br>11. Social Relevance in Geography- Welfare, Radical and Feminist Perspectives<br>12. Postmodernism and Geography. | 15 |

| | | | |
|---|---|---|---|
| **Total Contact Hours** | | | 60 |
| **Suggested Evaluation Methods** | | | |
| **Internal Assessment: 30** | | **End Term Examination: 70** | |
| ➢ **Theory** | **30** | ➢ **Theory:** | **70** |
| • Class Participation: | 5 | Written Examination: 70 | |
| • Seminar/presentation/assignment/quiz/class test etc.: | 10 | | |
| • Mid-Term Exam: | 15 | | |

**Part C-Learning Resources**

**Suggested Readings:**


1. Dickinson, R E (1969), The Makers of Modern Geography, London.
2. Dikshit, RD (1997), Geographical Thought- A Contextual History of Ideas, Prentice Hall of India, New Delhi.
3. Harvey David (1989), Explanation in Geography, Edward Arnold, London.
4. Hartshorne, R (1959), Perspectives on the Nature of Geography, Rand MacNelly, Chicago.
5. James PE and Martin J Geoffrey (1972) All possible Worlds, John Wiley and Sons, New York.
6. Johnston, RJ (1983) Geography and Geographers, Edward Heinemann, London
7. Peet, Richard (1998) Modern Geographical Thought, Oxford, Blackwell Publishers.
8. Gaile GL and Willmott CJ, Geography in America at the Dawn of 21st Century, Oxford, 2003.
9. Holt-Jonson, Arild, Geography, History and Concepts: A Study's Guide, Sage, 2011.
10. Cresswel Tim, Geographic Thought: A critical introduction, Wiley- Blackwell, 2013.

**SEM**

| **Session: 2025-26** | |
|---|---|
| Name of the Programme | M. Sc Geography |
| Semester | **I** |
| Name of the Course | **Seminar** |
| Course Code | M25-GEO-206 |
| Course Type:<br>(CC/DEC/PC/Seminar/CHM/OEC/EEC) | Seminar |
| Level of the course | 400-499 |
| Course Learning Outcomes (CLO)<br>After completing this course, the learner will be able to: | 1. Improve the articulation and presentation skill of students<br>2. Analyses and comprehend the given problem |
| Credits | Seminar |
| | 2 |
| Teaching Hours per week | 2 |
| Max. Marks | 50 |
| Internal Assessment Marks | 0 |
| End Term Exam Marks | 50 |
| Examination Time | 1 hour |
| **Instructions for Examiner:** Evaluation of the seminar will be done by the internal examiner(s) on the parameters as decided by staff council of the department. There will be no external examination/viva-voce examination. | |