Syllabi for Minor Course (s) in Geography

Semester-I

Session: 2024-25

Name of Program		Program Code	
Name of the Course	Introduction to Geography (Part-A) & Elements of Map (Practical) (Part-B)	Course Code	24GEO401MI01
Introduction to Geography (Part-A)			
Hours per Week	**02**	**Credits**	**02**
Maximum Marks: 50	Internal Assessment (Max. Marks:15) Attendance: 05 Sessional Examination:10	End Semester Examination (Max. Marks:35)	**Time of Examinations: 03 Hours**

Note:
Examiner will set nine questions and the candidates will be required to attempt five questions in all. Question number one will be compulsory containing short answer type questions from all units. Further, examiner will set two questions from each unit and the candidates will be required to attempt one question from each Unit. All questions will carry equal marks.

Course Learning Outcomes (CLO):

CLO 1: To acquire a conceptual knowledge of general geography background of the concepts of land surveying.

CLO 2: To have a base of wide range of ideas and current issues in geography.

CLO 3: To acquire a comprehensive knowledge and future scope of specialization in the course.

Unit 1: Geography: nature, scope and branches; place of geography in the classification of sciences; geography and others disciplines; career opportunities for geographers.

Unit 2: Core geographic concepts: location, direction, patterns, world time-zones, Indian standard time, international date-line; interior of the earth; plate-tectonic theory; meaning and classification of rocks: igneous, sedimentary and metamorphic.

Unit 3: Composition and structure of the atmosphere; elements of weather and climate; atmospheric temperature; insolation and heat budget; vertical and horizontal distribution of pressure; wind circulation: planetary, periodic and local winds.

Unit 4: Atmospheric moisture: humidity, evaporation and condensation; hydrological cycle; types of precipitation, distribution of rainfall; atmospheric pollution: causes, consequences and measures to control; atmospheric pollution and global warming.

References:

- Singh, S. (1998) Geomorphology, Prayag Pustakalaya, Allahabad.
- Strahler, A. N., Strahler, A. H. (1992) Modern Physical Geography; John Wiley &Sons, New York.
- Lal, D.S. (in English & Hindi, 1986) Climatology, Chaitanya Publications, Allahabad.
- Singh, S. (2006) Jalwayu Vigyan, Prayag Pustak Bhawan, Allahabad.
- Goutam, A. (2016) Jalwayu Avam Samudra Gyan, Sarda Pustak Bhawan, Allahabad.

Session: 2024-25

Name of Program		Program Code	
Name of the Course	Introduction to Geography (Part-A) & Elements of Map (Practical) (Part-B)	Course Code	24GEO401MI01
Elements of Map (Practical) (Part-B)			
Hours per Week	**04**	**Credits**	**02**
Maximum Marks: 50	Internal Assessment (Max. Marks:15) Attendance: 05 Practical Assignments/Practical File:10	End Semester Examination (Max. Marks: 35) Lab Test: 21 Practical Record: 07 Viva-voce: 07	**Time of Examination: 03 Hours**

Note:
At least eight exercises are to be prepared from all the units covering entire syllabus. In the examination, the lab test shall comprise of six questions in all, with three questions from each unit. The candidate has to attempt three questions, selecting at least one question from a unit.

Course Learning Outcomes (CLO):
CLO 1: To have a systematic knowledge of surveying methods.
CLO 2: To know the historical development of cartography.
CLO 3: To understand the map classification.

Unit 1:
Nature, subject matter and historical development of cartography; basic concepts of cartography; classification and applications of maps: distribution maps.

Unit 2:
Elements of map: title, direction, index, conventional signs and symbols (point, line and area), scale, latitudes and longitudes.

References:

- Singh L. R. (2016) Fundamentals of Practical Geography, Sharda Pustak Bhawan, Allahabad.
- Sarkar, A. (2015) Practical geography: A systematic approach, Orient Black Swan Private Ltd., New Delhi.
- Robinson, A. H., Morrison, J. L., Muehrcke, P. C., Kimerling, A. J. and Guptill, S. C. (1995) Elements of Cartography, John Wiley, New York.
- Sharma, J.P. (2016) Prayogik Bhugol, Rastogi Publications, Meerut.
- Kannan, M. and Yadav, S. (2022) Practical Geography, Rawat Publications, Jaipur.

Session: 2024-25

Name of Program		Program Code	
Name of the Course	Introduction to Climatic Elements (Part-A) & Measurement and Representation of Climatic Data (Practical) (Part-B)	Course Code	24GEO402MI01
Introduction to Climatic Elements (Part-A)			
Hours per Week	02	Credits	02
Maximum Marks:50	Internal Assessment (Max. Marks:15) Attendance: 05 Sessional Examination:10	End Semester Examination (Max. Marks:35)	Time of Examinations: 03 Hours

Note:
Examiner will set nine questions and the candidates will be required to attempt five questions in all. Question number one will be compulsory containing short answer type questions from all units. Further, examiner will set two questions from each unit and the candidates will be required to attempt one question from each Unit. All questions will carry equal marks.

Course Learning Outcomes (CLO):
CLO 1: To acquire a conceptual knowledge of weather and climate.
CLO 2: To have a systematic knowledge of atmospheric circulation.
CLO 3: To have a base of wide range of ideas and current issues of weather and climate.

Unit 1:
Climate: meaning and definitions; climate and weather; elements of weather and climate; climate and human habitat.

Unit 2:
Factors affecting climate: latitude, altitude, relief features, vegetation, prevailing winds and distance from sea; climate and human habitat.

Unit 3:
Major climatic elements: meaning and introduction; temperature- maximum, minimum and average; atmospheric pressure and pressure belts; humidity: types; precipitation: types, process of precipitation.

Unit 4:
Wind: dynamics of wind circulation, wind circulation and impact on local weather conditions; wind circulation and Indian monsoon system.

References:

- Critchfield, H. J. (1987) General Climatology, Prentice Hall of India, New Delhi.
- Trewartha, G.T. and Horne, L. H. (1980) An Introduction to Climate, McGraw Hill.
- Lal, D.S. (2006) Jalvayu Vigyan, Prayag Pustak Bhawan, Allahabad.
- Vatal, M. (1986) Bhautik Bhugol, Central Book Depot, Allahabad.
- Singh, S. (2009) Jalvayu Vigyan, Prayag Pustak Bhawan, Allahabad.
- Singh, S. (2009) Climatology, Prayag Pustak Bhawan, Allahabad.

Name of Program		Program Code	
Name of the Course	Introduction to Climatic Elements (Part-A) & Measurement and Representation of Climatic Data (Practical) (Part-B)	Course Code	24GEO402MI01
Measurement and Representation of Climatic Data (Practical) (Part-B)			
Hours per Week	04	Credits	02
Maximum Marks:50	Internal Assessment (Max. Marks:15) Attendance: 05 Practical Assignments/Practical File:10	End Semester Examination (Max. Marks: 35) Lab Test: 21 Practical Record: 07 Viva-voce: 07	Time of Examinations: 03 Hours

Note:
At least eight exercises are to be prepared from all the units covering entire syllabus. In the examination, the lab test shall comprise of six questions in all, with three questions from each unit. The candidate has to attempt three questions, selecting at least one question from a unit.

Course Learning Outcomes (CLO):
CLO 1: To have a systematic knowledge of weather and climate.
CLO 2: To know the presentation of climatic data.
CLO 3: To understand the Indian weather phenomena.

Unit 1:
Representation of climatic data: concepts and requirements; weather instruments: types and applications; temperature measurements: simple thermometer, six's maximum-minimum thermometer, dry & wet bulb thermometer, thermograph; humidity measurements: absolute humidity and relative humidity, hygrograph; precipitation measurement: using rain gauge; atmospheric pressure measurement: barometer and barograph.

Unit 2:
Representation of climatic data: line graph, combined line and bar graph, climograph, hythergraph; isotherms: world mean temperatures-January to July; India mean temperatures - January to July; isobars: India mean pressure - January to July.

References:

- Bhat, L. S. and Mahmood, A. (2009) Field Work Laboratory Techniques in Geography– A practical Geography Text Book NCERT, New Delhi.
- Mishra, R. P. and Ramesh, A. (2002) Fundamentals of Cartography, Concept Publishing Company.
- Kannan, M. and Yadav, S. (2022) Practical Geography, Rawat Publications, Jaipur.
- Saha, P. and Basu, P. (2021) Advanced Practical Geography, Books and Allied Pvt. Ltd.

Syllabi for Multidisciplinary Course(s) in Geography

Semester I

Session: 2024-25

Name of Program		**Program Code**	
Name of the Course	General Geography	**Course Code**	24GEOX01MD01
Hours per Week	**03**	**Credits**	**03**
Maximum Marks: 75	Internal Assessment (Max. Marks:25) Attendance:05 Assignment/Presentations/Seminars and Class Participation:05 Sessional Examinations:15	End Semester Examination (Max. Marks:50)	**Time of Examinations:** 03 Hours

Note:
Examiner will set nine questions and the candidates will be required to attempt five questions in all. Question number one will be compulsory containing short answer type questions from all units. Further, examiner will set two questions from each unit and the candidates will be required to attempt one question from each Unit. All questions will carry equal marks.

Course Learning Outcomes (CLO):
CLO 1: To acquire a fundamental and conceptual background of the geography.
CLO 2: To have a systematic knowledge of geography.
CLO 3: To acquire a comprehensive knowledge about earth and its major phenomena.

Unit 1:
Geography: meaning, definition, branches; relation of geography with other disciplines; solar system.

Unit 2:
Core geographic concepts: origin of earth, its shape, rotation and revolution, formation of days, nights and seasons; latitudes and longitudes; earth's interior.

Unit 3:
Earthquake; volcano; types of rocks: igneous, sedimentary and metamorphic; weathering: definitions and classification.

Unit 4:
Composition of atmosphere: gases, water vapour, dust particle; structure of atmosphere; temperature; precipitation: meaning and types.

References:

- Barry, R. G. and Chorley, R.J. (1998) Atmosphere and Climate, Routledge, London.
- Critchfield, H. (2002) General Climatology, Prentice-Hall of India Pvt. Ltd., New Delhi.
- Hussain, M. (2006) World Geography, Rawat Publishers, New Delhi.
- Pounds and Taylor (1974) Word Geography, South Western Publishing Company, Ohio.
- Sharma, H.S. (1980) Perspectives in Geomorphology, Concepts, New Delhi.
- Singh, S. (2006) Physical Geography, Pravalika Publications, Allahabad.
- Sparks, B.W. (1960) Geomorphology, Longman, London.
- Thornbury, W.D. (1969) Principles of Geomorphology, New York, John Wiley & Sons.
- Trewartha, G.T. (1981) An Introduction to Climate, Mc-Graw Hill, New York.

Syllabi for Multidisciplinary Course(s) in Geography

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Semester II

Session: 2024-25

Name of Program		**Program Code**	
Name of the Course	Geography and Environment	**Course Code**	24GEOX02MD01
Hours per Week	**03**	**Credits**	**03**
Maximum Marks: 75	Internal Assessment (Max. Marks:25) Attendance:05 Assignment/Presentations/Seminars and Class Participation:05 Sessional Examinations:15	End Semester Examination (Max. Marks:50)	**Time of Examinations:** 03 Hours

Note:
Examiner will set nine questions and the candidates will be required to attempt five questions in all. Question number one will be compulsory containing short answer type questions from all units. Further, examiner will set two questions from each unit and the candidates will be required to attempt one question from each Unit. All questions will carry equal marks.

Course Learning Outcomes (CLO):
CLO 1: To acquire basic knowledge of geography and environment.
CLO 2: To acquire a comprehensive knowledge about man-environment relationship.
CLO 3: To have a systematic knowledge of contemporary environmental issues and their management.

Unit 1:
Environment: meaning, definition and components; approaches to man-environment relationship; ecology and ecosystem.

Unit 2:
Environmental pollution: air pollution, water pollution, noise pollution; land degradation; depletion of ozone layer; desertification; greenhouse effect and climate change.

Unit 3:
Conservation and management of environment: concept, methods and approaches.

Unit 4:
Environmental policies and programmes; awareness and movements in India.

References:

- Anderson, J. M. (1981) Ecology for Environmental Science: Biosphere, Ecosystems and Man, Arnold, London.
- Awasthi, N. M. and Tiwari, R. P. L. (1995) Paryavaran Bhugol (Environmental Geography), Madhya Pradesh Hindi Granth Academy, Bhopal.
- Goudie, A. (1984) The Nature of the Environment, Oxford Katerpring Co. Ltd. 4.
- Odum, E. P. (1971) Fundamental of Ecology, W.B. Sanders, Philadelphia.
- Singh, S. (1991) Environmental Geography, Prayag Pustak Bhawan, Allahabad.
- Singh, R. B. (ed.) (1989) Environmental Geography, Heritage, New Delhi.
- Strahler, A. N. and Strahler, A.H. (1973) Environmental Geosciences: Interaction between Natural Systems and Man. John Wiley and Sons, New York.
- Strahler, A. H. and Strahler, A. N. (1977) Geography and Man's Environment, John Wiley, New York.

Syllabi for Geography Course

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Semester- I

Session: 2024-25

Name of Program	Skill Enhancement Course	Program Code	
Name of the Course	Fundamentals of Geospatial Techniques (Practical)	Course Code	24GEO401SE01
Hours per Week	6	Credits	3
Maximum Marks: 75	Internal Assessment (Max. Marks: 25) Attendance: 05 Practical Assignments/ Practical File:20	End Semester Examination (Max. Marks: 50) Lab Test: 30 Practical Record: 10 Viva-voce: 10	Time of Examinations: 03 Hours

Note: At least twelve exercises are to be prepared from all the units covering entire syllabus. In the examination, the lab test shall comprise of six questions in all with at least one question from each unit. The candidate has to attempt three questions, selecting only one question from a unit.

Course Learning Outcomes (CLO):

CLO 1: To acquire a conceptual background of the concepts of Remote Sensing and GIS.
CLO 2: To have a systematic knowledge of new techniques in geography.
CLO 3: To have a basic understanding of current issues related to geospatial technology.

Unit 1:

Geometric elements of aerial photographs; stereoscopy; stereoscopic vision (pocket stereoscope, mirror stereoscope); making stereograms; fundamentals of aerial photo interpretation: elements of visual air photo interpretation.

Unit 2:

Comparison between aerial photograph and satellite image; scale determination on vertical aerial photograph; identification and mapping of physical and cultural features on an image (two exercises each).

Unit 3:

Introduction to GIS – definition and concept; hardware and software requirements for GIS; creating basic layers in GIS (point, line and polygon) with any GIS software/manual.

References:

- Jensen, John R. (2013) Remote Sensing of the Environment: An Earth Resource Perspective. Pearson Education (Second Edition), Pearson Education India.
- Lillesand, T. M. and Kieffer, R. M. (1987) Remote Sensing and Image Interpretation, John Wiley.
- Siddiqui, M. A. (2011) Concepts and Techniques of Geoinformatics, Sharda Pustak Bhavan, Allahabad.
- Rampal, K. K. (1999) Handbook of Aerial Photography and Interpretation, Concept Publishing Company, New Delhi
- Chaunial, D. D. (2004) Remote Sensing and Geographical Information System Sharda Pustak Bhawan, Allahabad.
- Kannan, M. and Yadav, S. (2022) Practical Geography, Rawat Publications, Jaipur.

Name of Program	Skill Enhancement Course	Program Code	
Name of the Course	Geospatial Data: Open Data Sources	Course Code	24GEO402SE01
Hours per Week	6	Credits	3
Maximum Marks: 75	Internal Assessment (Max. Marks: 25) Attendance: 05 Practical Assignments/ Practical File:20	End Semester Examination (Max. Marks:50) Lab Test: 30 Practical Record: 10 Viva-voce: 10	Time of Examinations: 03 Hours

Note:
At least twelve exercises are to be prepared from all the units covering entire syllabus. In the examination, the lab test shall comprise of six questions in all with at least one question from each unit. The candidate has to attempt three questions, selecting only one question from a unit.

Course Learning Outcomes (CLO):
CLO 1: To acquire a conceptual background of open source of geospatial data.
CLO 2: To have a systematic knowledge of new techniques.
CLO 3: To have a basic understanding of ideas and current issues related to geospatial technology.

Unit 1:
Geospatial data: definition and concept; types of geospatial data: vector and raster; sources of open data: Bhuwan, USGS/GLCF, Google earth engine; Survey of India toposheets and its nomenclature.

Unit 2:
Obtaining open data from Bhuwan, USGS/GLCF, Google earth engine and Survey of India toposheets.

Unit 3:
Application of open source data: mapping of land use/land cover and change (built-up area, water bodies, agricultural land and natural vegetation).

References:

- Neteler, M. and Mitasova, H. (2008) Open-source GIS: A GRASS GIS approach, 3rd edn. Springer, New York.
- Kropla, B. (2005) Map Server: Open-Source GIS Development, Apress (Springer Verlag) New York.
- McInerney, D. and Kempeneers, P. (2015) Open-Source Geospatial Tools: Applications in Earth Observation, Springer International Publishing Switzerland 2015
- Saha, K. and Froyen, Y. K. (2022) Learning GIS Using Open Source Software An Applied Guide for Geo-spatial Analysis, Routledge, England, UK.
- Kannan, M. and Yadav, S. (2022) Practical Geography, Rawat Publications, Jaipur.

Syllabi for Under Graduate Programme with Hons. in Geography

Semester- I

Session: 2024-25

Name of Program	UG Multidisciplinary Program(s) with Hons. in One Major Program	Program Code	UMBA4
Name of the Course	Physical Geography-I (Part- A) & Introductory Cartography (Practical) (Part- B)	Course Code	24GEOM401DS01
Physical Geography-I (Part- A)			
Hours per Week	02	Credits	02
Maximum Marks:50	Internal Assessment (Max. Marks:15) Attendance: 05 Sessional Examination:10	End Semester Examination (Max. Marks:35)	Time of Examinations: 03 Hours

Note:
Examiner will set nine questions and the candidates will be required to attempt five questions in all. Question number one will be compulsory containing short answer type questions from all units. Further, examiner will set two questions from each unit and the candidates will be required to attempt one question from each Unit. All questions will carry equal marks.

Course Learning Outcomes (CLO):
CLO 1: To acquire a conceptual background of the concepts of physical geography.
CLO 2: To have a systematic knowledge of earth movements.
CLO 3: To have a base of wide range of ideas and current issues related to endogenetic forces and associated features.

Unit 1:
Nature and scope of physical geography; interior of the earth; characteristics and classification of rocks: igneous, sedimentary and metamorphic.

Unit 2:
Geomorphic processes (endogenetic and exogenetic forces); continental drift theory; sea floor spreading theory; plate-tectonic theory.

Unit 3:
Classification of landforms (first, second and third order); volcanoes; earthquakes (types, measurement and distribution).

Unit 4:
Denudational processes: weathering, erosion and mass wasting; the work of river and wind; cycle of erosion (Davis).

References:

- Dayal, P. (2019) Textbook of Geomorphology, Rajesh Publications.
- Kale, V. and Gupta, A. (2001) Element of Geomorphology, Oxford University Press, Calcutta.
- Monkhouse, F. J. (1960) Principles of Physical Geography, Hodder and Stoughton, London.
- Singh, S. (1998) Geomorphology, Prayag Pustakalaya, Allahabad.
- Strahler, A. N. and Strahler, A. H. (1992) Modern Physical Geography; John Wiley & sons, New York.
- Thornbury, W.D. (1991) Principles of Geomorphology, Longman.

Semester- I

Session: 2024-25

Name of Program	UG Multidisciplinary Program(s) with Hons. in One Major Program	Program Code	UMBA4
Name of the Course	Physical Geography-I (Part- A) & Introductory Cartography (Practical) (Part- B)	Course Code	24GEOM401DS01
Introductory Cartography (Practical) (Part- B)			
Hours per Week	04	**Credits**	02
Maximum Marks:50	Internal Assessment (Max. Marks:15) Attendance:05 Practical Assignments/Practical File:10	End Semester Examination (Max. Marks: 35) Lab Test: 21 Practical Record: 07 Viva-voce: 07	**Time of Examinations:** 03 Hours

Note:
At least twelve exercises are to be prepared from all the units covering entire syllabus. In the examination, the lab test shall comprise of six questions in all with minimum one question from each unit. The candidate has to attempt three questions, selecting at least one question from a unit.

Course Learning Outcomes (CLO):
CLO 1: To acquire a conceptual background of the concepts of cartography.
CLO 2: To have a systematic knowledge of surveying methods.
CLO 3: To have a systematic knowledge of scale.

Unit 1:
Nature, subject matter and historical development of cartography; map design and cartographic techniques; visual hierarchy and legibility of map; classification of maps; elements of map: direction, index, conventional signs and symbols (point, line and area).

Unit 2:
Map scales: statement scale, representative fraction and graphical scale; representation of relief: contours, hachures, form lines, spot heights, bench marks and trigonometrical stations.

References:

- Mishra, R. P. and Ramesh, A. (1989) Fundamentals of Cartography, Concept, New Delhi.
- Monkhouse, F. J. and Wilkinson, H. R. (1973) Maps and Diagrams, Methuen, London.
- Sharma, J. P. (2010) Prayogic Bhugol, Rastogi Publishers, Meerut.
- Singh, R. L. and Rana, P. B. Singh (1991) Prayogtmak Bhugol ke Mool Tatva, Kalyani Publishers, New Delhi.
- Sharma, J. P. (2010) Prayogtmak Bhugol ki Rooprekha, Rastogi Publications, Meerut.
- Kannan, M. and Yadav, S. (2022) Practical Geography, Rawat Publications, Jaipur.

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UG Multidisciplinary Program(s) with Hons. in One Major Program w.e.f. 2024-25 session
Semester- II

Session: 2024-25

Name of Program	UG Multidisciplinary Program(s) with Hons. in One Major Program	**Program Code**	UMBA 4
Name of the Course	Introduction to Human Geography (Part- A) & Principles of Thematic Cartography (Practical) (Part- B)	**Course Code**	24GEOM402DS01
Introduction to Human Geography (Part- A)			
Hours per Week	02	**Credits**	02
Maximum Marks:50	Internal Assessment (Max. Marks:15) Attendance: 05 Sessional Examination:10	End Semester Examination (Max. Marks:35)	**Time of Examinations:** 03 Hours

Note:
Examiner will set nine questions and the candidates will be required to attempt five questions in all. Question number one will be compulsory containing short answer type questions from all units. Further, examiner will set two questions from each unit and the candidates will be required to attempt one question from each Unit. All questions will carry equal marks.

Course Learning Outcomes (CLO):
CLO 1: To acquire a conceptual background of the concepts of human geography.
CLO 2: To have a base of wide range of ideas and current issues related to demographic attributes.
CLO 3: To acquire a comprehensive knowledge and future scope of specialization in the course.

Unit 1: Human geography: meaning, nature and scope; changing man-environment relationship: determinism, possibilism, neo-determinism, human-ecology and recent perspectives; evolution of mankind: hunting & food gathering, pastoral nomadism, subsistence farming.

Unit 2: Human adaptation to environment: Eskimo and Bushman; primitive people of India: Bhil and Naga; racial classification: Griffith Taylor and B.S. Guha.

Unit 3: Demographic attributes: composition, growth and distribution; human migration: causes, types and trends; human settlements: types, distribution and affecting factors.

Unit 4: Dynamics of population resource relationship; population resource regions (Ackerman); development and environment conflicts.

References:

- Chandna, R.C. (2022) Geography of population, part-I, concepts determinants and world patterns, Kalyani Publisher, New Delhi.
- Kaushik, S.D. (2010) Manav Bhugol, Rastogi Publication, Meerut.
- Maurya, S.D. (2012) Manav Bhugol, Sharda Pustak Bhawan. Allahabad.
- Hussain, M. (2012) Manav Bhugol, Rawat Publications, Jaipur
- Hussain, M. (2018) Human Geography, Rawat Publications, Jaipur.
- Fellman, J. D., Arthur, G., Judith, G., Hopkins, J. and Dan, S. (2007) Human Geography: Landscapes of Human Activities. McGraw-Hill.
- Johnston, R. J., Gregory, D., Pratt, G. and Watts, M. (2009) The Dictionary of Human Geography. 5th edition, Basil Blackwell.0 Publishers, Oxford.

UG Multidisciplinary Program(s) with Hons. in One Major Program w.e.f. 2024-25 session
Semester- II

Session: 2024-25

Name of Program	UG Multidisciplinary Program(s) with Hons. in One Major Program	**Program Code**	UMBA4
Name of the Course	Introduction to Human Geography (Part- A) & Principles of Thematic Cartography (Practical) (Part- B)	**Course Code**	24GEOM402DS01
Principles of Thematic Cartography (Practical) (Part- B)			
Hours per Week	04	**Credits**	02
Maximum Marks:50	Internal Assessment (Max. Marks:15) Attendance:05 Practical Assignments/Practical File:10	End Semester Examination (Max. Marks: 35) Lab Test: 21 Practical Record: 07 Viva-voce: 07	**Time of Examinations:** 03 Hours

Note:
At least twelve exercises are to be prepared from all the units covering entire syllabus. In the examination, the lab test shall comprise of six questions in all with at least one question from each unit. The candidate has to attempt three questions, selecting at least one question from a unit.

Course Learning Outcomes (CLO):
CLO 1: To have a systematic knowledge of surveying methods.
CLO 2: To acquire a comprehensive knowledge of techniques of thematic data presentation.
CLO 3: To have a systematic knowledge and presentation of geographical data.

Unit 1:
Cartography: an introduction; techniques in thematic data presentation: bar, line and circle diagram; techniques of thematic data presentation: climograph and hythergraph.

Unit 2:
Techniques of thematic mapping: choropleth, dot method, chorochromatic, choroschematic; interpolation method and isopleth mapping.

References:

- Singh, R. L. and Dutta, P. K. (2012) Prayogatama Bhugol, Central Book Depot, Allahabad.
- Mishra, R. P. (2014) Fundamentals of Cartography, Concept Publishing Company, New Delhi.
- Sharma, J.P. (2021) Prayogik Bhugol, Rastogi Publications, Meerut.
- Singh, R. L. and Rana, P. B. Singh (in English & Hindi) (2020) Elements of Practical Geography, Kalyani Publishers, New Delhi.
- Kannan, M. and Yadav, S. (2022) Practical Geography, Rawat Publications, Jaipur.
- Singh, L.R. (In English & Hindi) (2006) Fundamentals of Practical Geography, Sharda Pustak Bhawan, Allahabad.
- Tyner, J. A. (2010) Principles of Map Design, The Guilford Press.

Syllabi for Post Graduate Program in Geography

Semester – 1st

Session: 2024-25

Name of Program	MA Geography	Program Code	GEO2
Name of the Course	Foundations in Geography	Course Code	24GEO201DS01
Hours per Week	4	Credits	4 (4+0+0)
Maximum Marks	100	Time of Examinations	3 hrs.

Note:
Examiner will set nine questions and the candidates will be required to attempt five questions in all. Question number one will be compulsory containing seven short answer type questions (of 2 marks each) from all units. Further, examiner will set two questions from each unit and the candidates will be required to attempt one question from each Unit. All questions will carry equal marks.

Course Learning Outcomes (CLO):

Students would be able to:

CLO 1: acquaint with the field, major concepts, themes and traditions in geography,
CLO 2: understand human-environment relationships.
CLO 3: have a knowledge of Landscape, Place, Space and Region.

Unit 1:

Definition, Nature, Scope and Relevance of Geography as a Discipline; Place of Geography in the Classification of Knowledge; Relations with Other Branches of Knowledge; Branches of Geography.

Unit 2:

Environmental Determinism and Possibilism; Environmentalism; Geography as Science of Relationships; Geography as Integrated Science.

Unit 3:

Geography as the study of Landscape, Natural & Cultural Landscapes, The Concept of Area, Space and Region, Genetic and Specific, Formal and Functional, Natural and Cultural Regions.

Unit 4:

Defining Space, Place and Locality; Absolute and Relative Space; Spatial Distribution and Spatial Organisation. Time in Geography, Spatial Relations; Spatial Diffusion.

References:

1. Aitken, S. C., & Valentine, G. (Eds.). (2006), Approaches to human geography: Philosophies, theories, people and practices. SAGE Publications.
2. Couper, P. (2014), A student's introduction to geographical thought: Theories, philosophies, methodologies. SAGE Publications.
3. Cresswell, T. (2013), Geographical thought: A critical introduction. Wiley-Blackwell.
4. Dikshit, R.D. (2022), The Art and Science of Geography, 2nd Ed. New Delhi: Phi Learning.
5. Dikshit, R. D. (2023), Geographical Thought. A Critical History of Ideas. 2nd Ed. New Delhi: Prentice-Hall of India.
6. Gregory, D., Johnston, R., Pratt, G., Watts, M. J., & Whatmore, S. (Eds.). (1981), The dictionary of human geography. Blackwell Publishers.
7. Hartshorne, R. (1939), The nature of geography: A critical survey of current thought in the light of the past. Association of American Geographers.
8. Harvey, D. (1969), Explanation in geography. Edward Arnold.
9. Johnston, R., & Sidaway, J. D. (2015), Geography and geographers: Anglo-American human geography since 1945 (7th ed.). Routledge.
10. Massey, D. (1994), Space, place, and gender. University of Minnesota Press.
11. Nayak, A. (2011), Geographical thought: An introduction to ideas in human geography. Pearson Education.
12. Peet, R. (1998), Modern geographic thought. Blackwell Publishers.

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Semester – 1st

Session: 2024-25

Name of Program	MA Geography	Program Code	GEO2
Name of the Course	Geomorphology	Course Code	24GEO201DS02
Hours per Week	4	Credits	4 (4+0+0)
Maximum Marks	100	Time of Examinations	3 hrs.

Note:
Examiner will set nine questions and the candidates will be required to attempt five questions in all. Question number one will be compulsory containing seven short answer type questions (of 2 marks each) from all units. Further, examiner will set two questions from each unit and the candidates will be required to attempt one question from each Unit. All questions will carry equal marks.

Course Learning Outcomes (CLO):

Students would be able to:

CLO 1: explain the basic conceptual and dynamic concepts of landform development.
CLO 2: understand the processes of landforms dynamics.
CLO 3: understand the relevance of applied aspects of Geomorphology in various fields.

Unit 1:

Geomorphology - Nature and scope; History and development of geomorphic ideas: Fundamental concepts - Uniformitarian's, geological structure, process and stage; The Earth's interior - structure and constitution; Recent Views; Plate tectonics - meaning and concept; plates, plate margins and boundaries; plate motion; Tectonic activities along the boundaries and Distribution of plates.

Unit 2:

Endogenetic processes - Faulting, folding and their geomorphic expressions; earthquake concept, causes, classification, intensity and magnitude, Geographical distribution; Vulcanism - concept, mechanism and causes; Volcanoes - classification, volcanic materials; Topography associated with vulcanicity and geographical distribution.

Unit 3:

Exogenetic processes: Weathering and mass wasting - meaning and concept; controlling factors, classification and significance; Dynamics of fluvial, aeolian, glacial and karst processes and resulting landforms.

Unit 4:

Applied Geomorphology - meaning; Applications of Geomorphology in Regional planning, engineering projects, mineral exploration and hydrology; Regional Geomorphology of Punjab plain, Aravalli Region and Thar desert of India.

References:

1. Bloom, A.L. (1992), Geomorphology, Second Edition, Prentice Hall of India, New Delhi.
2. Dayal, P. (1990), A Text Book of Geomorphology, Shukla Book Depot, Patna.
3. Husain Majid (2002), Fundamentals of Physical Geography, Second Edition, Rawat Publications, Jaipur and New Delhi.
4. Singh Savindra (1993), Physical Geography, Prayag Pustak Bhawan, Allahabad.
5. Singh Savindra (1998), Geomorphology, Prayag Pustak Bhawan, Allahabad.
6. Strahler, A.N. and Strahler, A.H. (1996), Introducing Physical Geography, John Willey and Sons, New York.
7. Strahler, A.N. (1988), Earth Sciences, Harper and Row Publishers, N.D.
8. Thornbury, W.D. (1991), Principles of Geomorphology, John Wiley, New Delhi.
9. Wooldridge, S. W and Morgan, R.S. (1991), An Outline of Geomorphology, Orient Longmans, Calcutta.

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Semester – 1st

Session: 2024-25

Name of Program	MA Geography	Program Code	GEO2
Name of the Course	Climatology	Course Code	24GEO201DS03
Hours per Week	4	Credits	4 (4+0+0)
Maximum Marks	100	Time of Examinations	3 hrs.

Note:
Examiner will set nine questions and the candidates will be required to attempt five questions in all. Question number one will be compulsory containing seven short answer type questions (of 2 marks each) from all units. Further, examiner will set two questions from each unit and the candidates will be required to attempt one question from each Unit. All questions will carry equal marks.

Course Learning Outcomes (CLO):

Students would be able to:
CLO 1: understand the mean global atmospheric circulations and disturbances.
CLO 2: understand the world climate systems, climatic variability and change.
CLO 3: sensitise the students with the future global environmental changes.

Unit 1:

Nature and Scope of Climatology; Climatic elements–atmospheric temperature, pressure, moisture, general atmospheric circulations, jet stream.

Unit 2:

Weather system and disturbances–air-mass, fronts, cyclones, tornades; Ocean atmospheric interaction – ElNino, Monsoon winds.

Unit 3:

Global climate system - Approaches to climatic classification; Classification of Koppen,. and Thornthwaite; Major Climates of the world-tropical and polar.

Unit 4:

Climatic changes - evidences, possible causes, global warming acid rain and problems of acid rain.

References:

1. Aggarwal, S. K. (1972), Fundaments of Ecology, Ashish Publishers, New Delhi.
2. Barry, R. G. and Chorely, R. J., Atmosphere, Weather and Climate, ELBS, Methuen & Co. Ltd. London.
3. Bhutani, Smita, (2000), Our Atmosphere, Kalyanai Publishers, New Delhi.
4. Critchfield, H. J. (1987), Climatology, Prentice Hall of India, New Delhi.
5. Griffith, J. F.and Driscell, D. M. (1982), Survey of Climatology, Charles Merril, Columbus, Ohio
6. Lal, D. S. (1993), Climatology, Chaitanya Publishing House, Allahabad.
7. Riehl, H. (1968), Introduction to Atmosphere, Mc Graw Hill, New York.
8. Robinson, P. J.and Henderson Sellers (1986), Contemporary Climatology, Longman, London.
9. Trewartha, G. T. (Latestedition) Introduction to Climate, Mc Graw Hill, NewYork.

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Semester – 1st

Session: 2024-25

Name of Program	MA Geography	Program Code	GEO2
Name of the Course	Resource Geography	Course Code	24GEO201DS04
Hours per Week	4	Credits	4 (4+0+0)
Maximum Marks	100	Time of Examinations	3 hrs.

Note:
Examiner will set nine questions and the candidates will be required to attempt five questions in all. Question number one will be compulsory containing seven short answer type questions (of 2 marks each) from all units. Further, examiner will set two questions from each unit and the candidates will be required to attempt one question from each Unit. All questions will carry equal marks.

Course Learning Outcomes (CLO):

Students would be able to:

CLO 1: examine the distribution, utilization, and management of natural resources on earth.
CLO 2: understand the spatial aspects of resource availability, environmental impact, and sustainable resource management.
CLO 3: understand the concept and classification of resources, use or misuse and will learn conservation methods and techniques.

Unit 1:

Nature, Scope and Significance of Geography of Resource; Definition and Concept of Resources, Classification of Resources.

Unit 2:

Models of Natural Resource Processes: Zimmermann's Primitive and Advance Models of Natural Resource Process, Kirk's Decision Model, Brookfield System Model.

Unit 3:

Use and Misuse of Resources: Soil Resource; Water Resource; Forest Resource and Mineral Resources; Future Prospects of Natural Resources.

Unit 4:

Conservation and Management of Natural Resources: Meaning and Concept of Conservation of Natural Resources; Resource Conservation and Management Methods of Natural Resources- Soil Resource, Water Resource, and Forest Resource; Problems of Natural Resource Management in India.

References:

1. Eliot Hurst, M.E. (1972), A Geography of Economic Behaviour: An Introduction, Duxbury Press, California.
2. Guha, J.L. and P. R. Chattroj (1994), Economic geography- A Study of Resources, The World Press Pvt. Ltd. Calcutta
3. Haroon Mohamad. (2007), Geography of Resources, Vasundhara Parkashan, Gorakhpur. (Hindi Edition)
4. Martin, R.H. and F.L. Warren. (1959), Natural Resources. McGraw Hill Book Co. London.
5. Maurya, S.D. (2015), Economic Geography. Parwalika Publications, Allahabad (Hindi Edition).
6. Negi, B.S. (2000), Geography of Resources, Kedar Nath and Ram Nath,Meerut
7. Owen, Oliver, S. (1971), Natural Resource Conservation: An Ecological Approach. Mc Million New Delhi.
8. Ramesh, A. (1984), Resource Geography (Ed.) R.P. Misra, Contribution to Indian Geography, Vol 5, Heritage Publishers, New Delhi.
9. Singh, A and Raja, M. (1982), Geography of Resources and Conservation (Hindi Edition) Pargati Parkashan, Meerut.
10. Zimmermann, E. W. (1951), World Resources and Industries, Harper and Brothers, New Delhi.

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Semester – 1st

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Session: 2024-25

Name of Program	MA Geography	Program Code	GEO2
Name of the Course	Statistical Methods in Geography	Course Code	24GEO201DS05
Hours per Week	4	Credits	4 (4+0+0)
Maximum Marks	100	Time of Examinations	3 hrs.

Note:
Examiner will set nine questions and the candidates will be required to attempt five questions in all. Question number one will be compulsory containing seven short answer type questions (of 2 marks each) from all units. Further, examiner will set two questions from each unit and the candidates will be required to attempt one question from each Unit. All questions will carry equal marks.

Course Learning Outcomes (CLO):

Students would be able to:

CLO 1: explain the nature and types of data, and related statistical techniques.

CLO 2: make a rational choice amongst listed various statistical techniques.

CLO 3: describe and explain geographical data relationships.

Unit 1:

Statistics, Geography and Statistics; Significance of Statistics in geographical studies; Primary and Secondary Data; Levels of data measurement: Nominal, Ordinal, Interval, and Ratio.

Unit 2:

Measures of Central Tendency: Arithmetic Mean, Median, Mode and their geographical significance; Centrographic techniques: Mean Centre, Median Centre and Standard Distance.

Unit 3:

Measures of dispersion and concentration: Mean deviation, Standard Deviation; Coefficient of Variation, Lorenz Curve and Gini's Coefficient; Location Quotient.

Unit 4:

Correlation and regression: Scatter diagram, correlation by Spearman's Rank Difference and Karl Pearson's Product Moment, Significance testing of Correlation; Regression analysis regression equations construction of regression line, computation of residuals and mapping.

References:

1. David M. Smith (1975), Patterns in Human Geography, Penguin, Harmonsworth.
2. Ebdon, D (1983), Statistics in Geography: A Practical Approach, Blackewell, London.
3. Gregory, S. (1978), Statistical Methods and the Geographer (4th Edition), Longman, London.
4. Gupta, S.P., Statistical Methods, Sultan Chand and Sons, Latest Edition.
5. Mathews, J.A. (1987), Quantitative and Statistical Approaches to Geography,
6. Practical Manual, Pergmon, Oxford.
7. Pal, S.K. (1998), Statistics for Geoscientists; Techniques and Applications, Concept Publishing Company, New Delhi.
8. Peter, J. Taylor (1977), Quantitative Methods in Geography, Houngton Mifflin Company, Boston.
9. Robert Hammond and Patrik Mc. Cullagh (1974), Quantitative Methods in Geography, Clarendon Press, Oxfords.
10. Yeates, Mauris (1974), An Introduction to Quantitative Analysis in Human Geography, McGraw Hill, New York.

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Semester – 1st

Session: 2024-25

Name of Program	**MA Geography**	**Program Code**	**GEO2**
Name of the Course	**Topographical Sheets and Morphometric Analysis**	**Course Code**	**24GEO201SE01**
Hours per Week	**8**	**Credits**	**4 (0+0+4)**
Maximum Marks	**100** **External: 70** **Writen Test: 60** **Viva-Voce : 10** **Internal: 30** **Lab work Record File: 25** **Attendance: 05**	**Time of Examinations**	**4 hrs.**

Note:

(i) The question paper shall contain eight questions in all, including two questions from each unit. Candidate(s) are required to attempt four questions in all selecting at least one question from each unit. All questions carry equal marks.

(ii) Candidates shall produce their lab work record before the Board of Examiners at the time of their viva-voce examination.

Course Learning Outcomes (CLO):

Students would be able to:

CLO 1: understand both the significance and applications of maps, and grasp the relationships and juxtaposition of features within them.

CLO 2: know the types and significance of morphometry.

CLO 3: understand and apply morphometric techniques in any geographical area.

Unit 1:

Introduction to Maps: Definition and Types of Maps, Map scale, Conventional map symbols, Importance and uses of maps; Interpretation of Topographical maps: Topographical maps and their types.

Unit 2:

Basic information on Topographical sheets, Conventional Signs, Identification of Physical and Cultural details on Survey of India Toposheets.

Unit 3:

Morphometric Analysis of Drainage Basin- Types and its Geographical Significance, Linear Aspects: Stream Ordering Based on Horton and Strahler, Areal Aspects: Stream Frequency and Drainage Density.

Unit 4:

Relief Aspects: Hypsometric Curve and Integral Hypsometric Curve, Clinographic Curve, Slope Analysis- Average Slope (Wentworth's method), Relative Relief (Smith's method), Profile Analysis - Longitudinal profile.

References:

1. Monkhouse, F.J. and H.R. Wilkinson (1980), Maps and Diagrams, B.I. Publications, Bombay.
2. Robinson A. H. (2009), Elements of Cartography, John Wiley and Sons, New York:
3. Sharma J.P. (2010), Prayogic Bhugol. Rastogi Publishers, Meerut.
4. Singh R. L. and Singh R. P. B. (1999), Elements of Practical Geography, Kalyani Publishers, Noida.
5. Sarkar, A. (2015), Practical Geography: A Systematic Approach, Orient Black Swan Private Ltd. New Delhi.
6. Singh, R.L. (1979), Elements of Practical Geography, Kalyani Publishers, New Delhi.
7. Singh, R. L. and Rana P. B. Singh. (1991), Prayogtmak Bhugolke Mool Tatva. Kalyani Publishers, New Delhi.
8. Singh, S. (1997), Geomorphology, Prayag Pustak Bhawan, Allahabad.
9. Sharma, J. P. (2010), Prayogtmak Bhugolki Rooprekha. Rastogi Publications, Meerut.

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Semester – 2nd

Session: 2024-25

Name of Program	MA Geography	Program Code	GEO2
Name of the Course	Geography of World Economy	Course Code	24GEO202DS01
Hours per Week	4	Credits	4 (4+0+0)
Maximum Marks	100	Time of Examinations	3 hrs.

Note:
Examiner will set nine questions and the candidates will be required to attempt five questions in all. Question number one will be compulsory containing seven short answer type questions (of 2 marks each) from all units. Further, examiner will set two questions from each unit and the candidates will be required to attempt one question from each Unit. All questions will carry equal marks.

Course Learning Outcomes (CLO):

Students would be able to:

CLO 1: understand and explain how economic activities occur unevenly in an increasingly globalized world.

CLO 2: know how local places and global economy are intertwined.

CLO 3: describe how the regime of neoliberal economic policies are generating uneven geography of capitalist development.

Unit 1:

Economic Geography: The Stuff of Economic Geography, A brief history, Why Economic Geography? Modes of Theorizing in Economic Geography: Political Economy, Poststructuralist Economic Geography.

Unit 2:

Capitalism, Fundamental Concepts: Use-value, Exchange Value, Capital, Capital and Labour, Capital Accumulation, Capital Accumulation by Dispossession. Capitalism in Twentieth Century: Organized Capitalism, Disorganized Capitalism. Neo-Liberalism.

Unit 3:

World Economy and the Capitalist mode of production, The Basic Elements of World Economy: A Single Market, a Multiple State System, the Three-tier structure; A Space- Time Matrix of the World Economy, Dynamics of World Economy, Spatial Structure of the World Economy.

Unit 4:

Economic Development: Globalization or Internationalization, Patterns of International Trade, WTO and Developing Countries.

References:

1. Aoyama, Yuko et.al. (2011), Key Concepts in Economic Geography, London: Sage.
2. Benko, Georges and Ulf Strohmayer (2004), Human Geography, London: Arnold.
3. Daniels, Peter et.al. (2003). Human Geography, New Delhi: Pearson.
4. Dicken, P. (2003), Global Shift: Reshaping the Global Economic Map in the 21st Century, New Delhi: Sage Publications.
5. Harvey, David (1990), The Condition of Postmodernity, Oxford: Blackwell.
6. Harvey, David (2008), A Brief History of Neoliberalism, Oxford: Oxford University Press.
7. Harvey, David (2015), Seventeen Contradictions and the End of Capitalism, London: Profile Books.
8. Hudson, Ray (2005), Economic Geographies, New Delhi: Sage Publications.
9. Knox, Paul et.al. (2003), The Geography of the World Economy, London: Arnold.
10. Leyshon, Andrew et.al. (2011), The Sage Handbook of Economic Geography, London: Sage.
11. Mackinnon, Danny and Andrew Cumbers (2011), Introduction to Economic Geography, London: Routledge.
12. Singh, Sachinder (2013), "Unmasking Neoliberalism: From Welfare Commitments to Market Commitments", Transactions, Institute of Indian Geographers, vol.35, no.2, pp.157-172.
13. Singh, Sachinder (2017a), "Globalization and the State: The Economic Face", in B. Thakur et.al. (eds.), Regional Development: Theory and Practice, vol.1: Concept of Regional Development, New Delhi: Concept, pp.431-447.
14. Singh, Sachinder (2017b), "Neo-liberalism: Origin, Expansion and Challenges", in

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Semester – 2nd

Session: 2024-25

Name of Program	MA Geography	Program Code	GEO2
Nnme of the Course	Regionnl Development and Planning	Course Code	24GEO202DS02
Hours per Week	4	Credits	4 (4+0+0)
Maximum Marks	100	Time of Examinations	3 hrs.

Note:
Examiner will set nine questions and the candidates will be required to attempt five questions in all. Question number one will be compulsory containing seven short answer type questions (of 2 marks each) from all units. Further, examiner will set two questions from each unit and the candidates will be required to attempt one question from each Unit. All questions will carry equal marks.

Course Learning Outcomes (CLO):

Students would be able to:

CLO 1: get familiarized with the theoretical foundations and conceptual grounding of this branch.

CLO 2: understand and evaluate the concept of region in geography.

CLO 3: know about the regional development and planning process in India.

Unit 1:

Conceptual and theoretical framework: Concept of development, regional development; concept of region and regional planning; geography and regional planning; selection of indicators and measures of regional disparities.

Unit 2:

Regional Growth Theories: Friedman's core-periphery theory; polarization and trickle- down effect theory of Hirschman; circular and cumulative causation model of Myrdal; growth pole theory of Perroux.

Unit 3:

Planning process: types of planning; regional planning and its rationale, principles and objectives. Regions for Planning: characteristics, hierarchy, need, and demarcation; Planning regions of India.

Unit 4:

Experiences of regional development and planning in India, multi-level planning (state, district, block and panchayat level planning); Regional Policies in the Indian Five-Year Plans; planning policies for regional development; regional backwardness: criteria, strategy and programmes for backward area development.

References:

1. Bhatt, L. S. 1972. Regional Planning in India. Statistical Publishing Society, Calcutta.
2. Chand, M and V.K. Puri.1985. Regional Planning in India. Allied Pub. Pvt. Ltd. New Delhi.
3. Coates, B.R. and R.J. Johnston. 1977. Geography and Inequality. Oxford University Press, Oxford.
4. Friedmann, J. and William Alonso. 1967. Regional Development and Planning: A Reader. MIT Press, Cambridge Massachesetts
5. Kuklinski, A. R.ed.1972.Growth Poles and Growth Centres in Regional Planning. Monton, The Hague.
6. Misra R. P. et al. eds.1974.Regional Development Planning in India,Vikas, New Delhi.
7. Mohan, Krishna. 2005. Addressing Regional Backwardness: An Analysis of Area Development Programmes in India, New Delhi: Manak Publications.
8. Raza, Moonis. 1988. Regional Development, Heritage, New Delhi.
9. Singh, Nina. 2015. "Regional Backwardness in India: An Exploration of Demographic Indicators". Population Geography, vol.37, No.1&2, pp.13-24.
10. Surya Kant and Nina Singh. 2015. Geography Development Public Policy: Select Essays of Gopal Krishan. R K Books, New Delhi.
11. Kant, Surya et. al. 2004. Reinventing Regional Development. Rawat Publications, Jaipur.
12. Sundram, K. V. 1977. Urban and Regional Planning in India. Vikas Publishig House Pvt Ltd, New Delhi.

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Semester – 2nd

Session: 2024-25

Name of Program	MA Geography	Program Code	GEO2
Name of the Course	Environmental Geography	Course Code	24GEO202DS03
Hours per Week	4	Credits	4 (4+0+0)
Maximum Marks	100	Time of Examinations	3 hrs.

Note:
Examiner will set nine questions and the candidates will be required to attempt five questions in all. Question number one will be compulsory containing seven short answer type questions (of 2 marks each) from all units. Further, examiner will set two questions from each unit and the candidates will be required to attempt one question from each Unit. All questions will carry equal marks.

Course Learning Outcomes (CLO):
Students would be able to:
CLO 1: know the fundamental concepts and approaches of environmental geography.
CLO 2: know the importance of biodiversity to maintain ecological balance.
CLO 3: understand various environmental issues at national and international concerns.

Unit 1:
Environmental Geography: Nature and scope of environmental geography; fundamental concepts of environmental geography; Approaches and methods in Environmental Geography; Relationship with other branches of knowledge; Environment and Ecology: Meaning, structure and type of Environment; Ecology - meaning, scope and concepts. Sub-vision of ecology.

Unit 2:
Ecosystem: Meaning and concepts of ecosystem; Classification and components of eco- system; trophic structure; ecological pyramid; energy flow and biogeochemical cycle; Ecological regions of India.

Unit 3:
Environmental pollution- meaning, types, sources, causes and impacts; Air, Water and Land pollutions; Environmental Degradation – Nature, process, types and causes of environmental degradation; Greenhouse effect; Global warming; Ozone depletion and Desertification.

Unit 4:
Environmental management: concept, methods and approaches; Management of soil, forest and mineral resources; Disaster Management; Conservation of natural resources; Emerging environmental problems and issues in India; Environmental policies, programmes, awareness and movements in India.

References:

1. Anderson J.M. (1981), Ecology for Environmental Science: Biosphere, Ecosystems and Man, Arnold, London.
2. Awasthi, N.M. and Tiwari, R.P.L. (1995), Paryavaran Bhugool (Environmental Geography), Madhya Pradesh Hindi Granth Academy, Bhopal.
3. Goudie, Andrew (1984), The Nature of the Environment (1st edition), Blackwell Publishers, Oxford, UK.
4. Goudie, Andrew (2001), The Nature of the Environment (4th edition), Blackwell Publishers, Oxford, UK.
5. Nobel and Wright (1996), Environmental Science, Prentice Hall, New York.
6. Odum, E.P. (1971), Fundamental of Ecology, W.B. Sanders, Philadelphia.
7. Saxena, H.M. (1994), Prayavaranevn Paristhitiki Bhugool (Geography of Environment and Ecology) Rajasthan Hindi Granth Academy, Jaipur.
8. Singh, Savinder (1991), Environmental Geography, Prayag Pustak Bhawan, Allahabad.
9. Singh, R.B. (ed.) (1989), Environmental Geography, Heritage, New Delhi.
10. Strahler, A.N. and Strahler, A.H. (1973), Environmental Geosciences: Interaction between natural systems and Man, John Wiley and Sons, New York.
11. Strahler, A.H. and Strahler A.N. (1977), Geography and Man's Environment, John Wiley, New York.
12. William, M.M. and John, G. (1996, Environmental Geography - Science, Land use and Earth System, John Wiley and Sons, New York.

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Semester – 2nd

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Session: 2024-25

Name of Program	MA Geography	Program Code	GEO2
Name of the Course	Fundamental of Cartography	Course Code	24GEO202DS04
Hours per Week	4	Credits	4 (4+0+0)
Maximum Marks	100	Time of Examinations	3 hrs.

Note:
Examiner will set nine questions and the candidates will be required to attempt five questions in all. Question number one will be compulsory containing seven short answer type questions (of 2 marks each) from all units. Further, examiner will set two questions from each unit and the candidates will be required to attempt one question from each Unit. All questions will carry equal marks.

Course Learning Outcomes (CLO):

Students would be able to:
CLO 1: know the basics, importance, and methods of cartography.
CLO 2: understand the various map projections and coordinate system.
CLO 3: learn the different aspects of design in cartography.

Unit 1:

Introduction to cartography: Meaning, Nature, Scope, Significance and Development; Geography and Cartography; Cartography as a science of human communication; Tools and techniques in cartography; Recent trends in cartography.

Unit 2:

Geographical data: Nature, Characteristics, Types and Sources; Geographical attributes; Variables and entities; Data collection methods; Sampling: Sample, Types of samples, Sampling process, Methods and errors; Data: Classification and tabulation.

Unit 3:

Cartography in A GIS Environment: Data capture and conversion; Accessibility and availability; Accuracy and precision; Data referencing: spatial and temporal; Geographical coordinates: Introduction and system; Map: reference systems and transformations; Digital cartography: Meaning, Development and Significance.

Unit 4:

Mapping: Layout design of topographic, thematic, qualitative & quantitative maps; Introduction to Mapping organization and services in India: SOI, NATMO and NRSC.

References:

1. Cromley, R.G. (1992), Digital Cartography, Prentice-Hall, New York.
2. Dent, B.D. (1999), Cartography- Thematic Map Design, 5th Edition, WCB McGrew Hill, Boston.
3. Harvey, F. (2009), Primer of GIS: Fundamental Geo. & Cartographic Concepts, Rawat Publications, Jaipur
4. John, K. & Wood, D. (2013), Making Maps: A Visual Guide to Map Design for GIS, Guilford Publications.
5. Keates, J.S. (1998), Cartographic Design and Production, Longman, London.
6. Kraak, M. J. and A. Brown (1996), Web Cartography: Developments and Prospects, Addison Wesley Longman Limited, England.
7. Misra, R.P. & Ramesh, A. (2014), Fundamental of Cartography, Concept Publishing Company, New Delhi.
8. Monkhouse, F.J.R. & Wilkinson, H.R. (2000), Maps and Diagrams, Methuen &Co. London.
9. Raise, Erwin (1962), Principles of Cartography, McGraw-Hill, New York.
10. Rampal, K.K. (1993), Mapping and Compilation, Concept Publishing Co. New Delhi.
11. Robinson A. H. (2009), Elements of Cartography. New York: John Wiley and Sons.
12. Robert G. Cromley, (1992), Digital cartography, Prientice Hall, Englewood Cliffs, New Jersey.

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Semester – 2nd

Session: 2024-25

Name of Program	MA Geography	Program Code	GEO2
Name of the Course	Geography of India	Course Code	24GEO202DS05
Hours per Week	4	Credits	4 (4+0+0)
Maximum Marks	100	Time of Examinations	3 hrs.

Note:
Examiner will set nine questions and the candidates will be required to attempt five questions in all. Question number one will be compulsory containing seven short answer type questions (of 2 marks each) from all units. Further, examiner will set two questions from each unit and the candidates will be required to attempt one question from each Unit. All questions will carry equal marks.

Course Learning Outcomes (CLO):

Students would be able to:

CLO 1: understand the geographical aspects of India.

CLO 2: have knowledge about Indian sub-continent contemporary issues.

CLO 3: understand the demographic aspects of India.

Unit 1:
Physiographic division of India; Drainage systems Mechanism of Indian monsoons and climatic regions of India: types of soils and natural vegetation.

Unit 2:
Growth of population, Distribution and density of population; Demographic attributes; sex- ratio, literacy rate and workforce; population problems and policies.

Unit 3:
Characteristics of Indian agriculture and its development since independence; Agricultural region of India; Major industrial regions of India; domestic and international trade patterns; Transportation network.

Unit 4:
Evolution of administrative map of India since independence; Disputes of river water sharing amongst states with reference to SYL; Inter -linking of rivers; Terrorism problems of internal security; Population explosion and food security.

References:

1. Spare O.H.K. and A. T.A. Learmonth, (1967), Geography of India and Pakistan, Methuen London (first Indian Edition, 1984, Munshiram Manoharlal, New Delhi).
2. Gautam A. (2009), Advanced Geography of India, Sharda Pustak Bhawan, Allahabad.
3. Sharma, T.C. and Coutinho, O (1988), Economical and commercial Geography of India, Vikas publishing house Pvt. Ltd. New Delhi.
4. Chandna, R. C. (1998), Geography of Population, Kalyani Publishers, New Delhi.
5. Tirtha, Ranji, (2006), Emerging India, Con pub. Ann Arbour, Michigan. U.S.A.

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Semester – 2nd

Session: 2024-25

Name of Program	MA Geography	Program Code	GEO2
Name of the Course	Cultural Geography	Course Code	24GEO202DS06
Hours per Week	4	Credits	4 (4+0+0)
Maximum Marks	100	Time of Examinations	3 hrs.

Note:
Examiner will set nine questions and the candidates will be required to attempt five questions in all. Question number one will be compulsory containing seven short answer type questions (of 2 marks each) from all units. Further, examiner will set two questions from each unit and the candidates will be required to attempt one question from each Unit. All questions will carry equal marks.

Course Learning Outcomes (CLO):

Students would be able to:

CLO 1: geography of rural settlement delves into the spatial dynamics of rural communities.
CLO 2: keep up to date with the theoretical aspects and conceptual base of this branch.
CLO 3: explore the intricate relationship between geography and rural settlements.

Unit 1:
The Nature Meaning &Scope of Cultural Geography. The evolutionary approach in cultural geography. The Framework of cultural Geography. The evolution of cultural Geography-The contribution of Otto Schluter and Carl Sauer.

Unit 2:
Cultural Geography: Elements& Components; Cultural Areas & Cultural Realm. Environment and Culture: Concept of cultural areas and cultural regions. Cultural adaptation and Environmental perception. Man, as modifier of the earth.

Unit 3:
Spatial Structure. Focus on similarities and differences of various cultures with respect to racial, religious, linguistic and demographic, characteristics in Indian context. Studies of the socio-cultural characteristics of contemporary societies within their manifested.

Unit 4:
Human races: Habitat economy and Society of tribal groups. Racial Elements in India's Population; Tribes of India (Bhil, Gond, Toda, Naga); Tribes of World (Eskimo, Pigmy, Bushman).

References:

1. Ahmad, Aijazuddin, (1999), Social Geography, Rawat Publication, New Delhi.
2. De Blij. B.d. Human Geography. John Wiley and Son, New York.
3. Dreze Jean, Amartya Sen, (1996), Economic Development and Social Opportunity, Oxford University press, New Delhi.
4. Dubey, S.C. (1991), Indian Society, National Book Trust, New Delhi.
5. Gregory, D. and UJ. Larry. (eds.) (1985), Social relations and Spatial Structures, McMillan.
6. Haq, Mahbubul: Reflection on Human Development. Oxford University Press. New Delhi
7. Maloney, Clarence, (1974), People of South Asia, Winston, New York.
8. Planning Commission, Government of India, (1981), Report on Development of Tribal areas.
9. Rao, M.S.A. (1970), Urban Sociology in India, Orient Longman.
10. Schwartzberg Joseph, (1978), An Historical Atlas of South Asia. University of Chicago Press. Chicago.
11. Sen, Amartya and Dreze Jean, (1996), Indian Development Selected Regional Perspectives. Oxford University Press.
12. Smith, David, (1977), Geography: A Welfare Approach. Edward Arnold, London.
13. Sopher, David, (1980), An Exploration of India. Cornell University Press.
14. Subba Rao. (1958), Personality of India: Pre and Proto Historic Foundation of India and Pakistan, M.S. University, Baroda, Vadodara.

Syllabi for Post Graduate Program in Geography

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Semester – 1st

Session: 2024-25

Name of Program	MA Geography	Program Code	GEO2
Name of the Course	Urban Geography	Course Code	24GEO201DS07
Hours per Week	4	Credits	4 (4+0+0)
Maximum Marks	100	Time of Examinations	3 hrs.

Note:
Examiner will set nine questions and the candidates will be required to attempt five questions in all. Question number one will be compulsory containing seven short answer type questions (of 2 marks each) from all units. Further, examiner will set two questions from each unit and the candidates will be required to attempt one question from each Unit. All questions will carry equal marks.

Course Learning Outcomes (CLO):

Students would be able to:

CLO 1: understand basics of urban settlements.
CLO 2: Learn the evolution of urban settlements with geographical view point.
CLO 3: Understand the processes for urbanisation in spatio-temporal context.

Unit 1:
Urban Geography: definition, nature, scope, and recent trends; Urban revolutions and growth of towns and cities in the world (with particular reference to India).

Unit 2:
Urbanisation processes and patterns in an era of globalisation; urbanisation process in India: colonial legacy, the post-independence characteristics; phases of urban development with location of economic activities in cities; urban form and structure: pre-industrial, industrial and postindustrial societies.

Unit 3:
Aspects of urban places: Location, site and situation - definition, nature and significance; urban ecological processes; urban systems and the growth of cities: the rank-size distribution of cities, primate city distribution, central place theory of Christaller; the urban fringe.

Unit 4:
Urban planning visions: the garden city, the radiant city; conserving urban landscapes; sustainability and the city; city environments and living conditions; urban development strategy with particular reference to India.

References:

1. Badcock, Blair. (2002), Making Sense of Cities: A Geographical Survey. Arnold, London.
2. Bala, Raj. (1986), Urbanisation in India, Rawat Publishers, Jaipur.
3. Bansal, S.C. (2010), Urban Geography. Meenakshi Prakashan, Meerut.
4. Beall, Jo and Sean Fox. (2009), Cities and Development. Routledge, London.
5. Carter, Harold (1995), The Study of Urban Geography. 4th edn, Arnold, London.
6. Fyfe, Nicholas R. and Judith T. Kenny. (2005), The Urban Geography Reader. Routledge, New York.
7. Hall, Tim and Heather Barrett. (2012), Urban Geography. 4th edn. Routledge, London.
8. Pacione, Michael. (2001), Urban Geography-A Global Perspective. Routedge, London.
9. Ramachandran, R. (1989), Urbanisation and Urban Systems in India. Oxford, New Delhi.
10. Singh, K. and F. Steinberg. eds. (1987), Urban India in Crisis. New Age International, New Delhi.
11. Smailes, A.E. (1953), The Geography of Towns. Hutchinson, London.

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Semester – 2nd

Session: 2024-25

Name of Program	MA Geography	Program Code	GEO2
Name of the Course	Computer Aided Statistical Diagrams and Digital Cartography	Course Code	24GEO202SE01
Hours per Week	8	Credits	4 (0+0+4)
Maximum Marks	100 External: 70 Writen Test: 60 Viva-Voce : 10 Internal: 30 Lab work Record File: 25 Attendance: 05	Time of Examinations	4 hrs.

Note:

(i) The question paper shall contain eight questions in all, including two questions from each unit. Candidate(s) are required to attempt four questions in all selecting at least one question from each unit. All questions carry equal marks.

(ii) Candidates shall produce their lab work record before the Board of Examiners at the time of their viva-voce examination.

Course Learning Outcomes (CLO):

Students would be able to:

CLO 1: know the uses of computers in geography.
CLO 2: learn the geographic data processing through Microsoft excel and GIS software's.
CLO 3: have the skill of drawing maps.

Unit 1:

Introduction to Computer: Components of Computer—Hardware and Software; Use of Computers in Geography.

Unit 2:

Introduction to Microsoft Excel: Input of data, Bar Diagram, Pie Diagram, Scatter Diagram, Line Graph. Placement of heading and sub-heading, legend, Font size, Style, Bold, Italics, Changes from color to different shade pattern. Different weight, color and pattern to X and Y coordinates.

Unit 3:

Cartography as the root of GIS; Introduction to GIS software's: Arc GIS or GIS; Data Acquisition and Processing: Spatial data download from open sources; Data input; Layer stacking; Correction, Editing, Manipulating, Verification and Storage; Georeferencing: Map to maps, Map to images, Image to images.

Unit 4:

Geodatabase Creation: Digitization of point; Line and polygon features; Data conversion: raster to vector & vector to raster; Linking of Attribute data with spatial data; Map layout design and labelling of basic elements; Making Maps: Topographic; Thematic; Qualitative & Quantitative.

References:

1. Chrisman, N. (1997), Exploring Geographic Information Systems. New York: John Wiley & Sons, Inc
2. Clarke, K. C. (1998), Analytical and Computer Cartography, Pearson Educational Company, New Jersey.
3. Cromley, R.G. (1992), Digital Cartography, Prentice-Hall, New York.
4. Dent, B.D. (1999), Cartography- Thematic Map Design, 5th Edition, WCB McGrew Hill, Boston.
5. Harvey, F. (2009), Primer of GIS: Fundamental Geo. & Cartographic Concepts, Rawat Publications, Jaipur
6. John, K. & Wood, D. (2013), Making Maps: A Visual Guide to Map Design for GIS, Guilford Publications.
7. Keates, J.S. (1998), Cartographic Design and Production, Longman, London.
8. Kraak, M. J. and A. Brown (1996), Web Cartography: Developments and Prospects, Addison Wesley Longman Limited, England.