M. A. GEOGRAPHY(SEMESTER I)

Geog – M 101 (Core Paper)
History of Geographical Thought (5 Credits)

Time: 3 Hours (ESE)

Full Marks: 100
ESE : 70 Marks
CIA : 30 Marks

The question paper will consist of 7 questions divided into 3 sections.

Section A: Question No. 1 will be compulsory comprising ten objective type questions (two from each Unit) each carrying two Marks (10x2=20 marks).

Section B: Question No. 2 will also be compulsory and comprise five short answer type questions (one from each unit) and students will have to attempt only four questions (4 x 5 = 20 marks).

Section C: Five long answer type questions are to be set (one from each Unit) of which any three questions are to be answered (3 x 10 = 30 marks).

Unit – I   Nature of Geography, Its relation with other subjects
Development of Classical Geography in Greece and Rome
Arab Geography
Development of Geographical ideas in Ancient India

Unit II   Impact of Renaissance and discoveries on the development of
geographical ideas
Development of Geography during 19th century
Modern Indian Geography: Prospects, Problem and Future
Concept of Region and Regionalism

Unit III   Philosophical and Methodological Development in Geography during the
20th Century
Positivism and Pragmatism
Quantitative Revolution: Merits and demerits of quantitative techniques.
Models – Definition and types
Paradigm Shift in Geography after 1950

Unit IV   Applied Geography
Behavioral Geography
Radical Geography
Humanistic Geography
Marxist Geography

Unit V   System Approach
                Phenomenology
                Functionalism
                Feminism
                Post-Modernism

CIA   …………………………………………………………………30 Marks

Selected Readings:
1. R. J. Johnston (1997) Geography and Geographer
2. Richard Pee (1998) Modern Geographical Thought
3. Milton E. Harvey & Brian P. Holly (ed.) (1989): Themes in Geographical Thought
4. D. Harvey (1969) Explanation in Geography
5. R. Doi (2009) Geographical Thought
6. M. Hussain (2004 rep) Evolution of Geographical Thought
7. S. Adhikari (2009 5th Ed.)Fundamentals of Geographical Thought
8. R. D. Dikshit (2002): Geographical Thought: A Conceptual History of Ideas
9. JagdishSingh (2000) BhaugolikChintanKaMoolAdhar (Hindi)
10. Kaushik (2009) BhaugolikChintanavamBidhitantra (Hindi)
11. V. K. Srivastava (2002) BhaugolikChintanKaAdhar (Hindi)
12. Bansal (2008) BhaugolikChintan (Hindi)
13. LalitRaina (2008) Geographical Thought (English)

Geog – M 102 (Core Paper):Geophysics and Geomorphology (5 Credits)

Time: 3 Hours (ESE)   Full Marks: 100
                                                       ESE : 70 Marks
                                                       CIA : 30 Marks

The question paper will consist of 7 questions divided into 3 sections.
Section A: Question No. 1 will be compulsory comprising ten objective type questions (two from each Unit) each carrying two Marks (10x2=20 marks).
Section B: Question No. 2 will also be compulsory and comprise five short answer type questions (one from each Unit) and students will have to attempt only four questions (4 x 5 = 20 marks).
Section C: Five long answer typequestions are to be set (one from each Unit) of which any three questions are to be answered (3 x 10 = 30 marks).

Unit I	Evolution of Earth's Crust
	Isostasy and its Application
	Theory of plate tectonics
	Concept of Palaeomagnetism
	Theory of Sea Floor Spreading

Unit II	Morphogenic evolution models of Davis and Penck
	Model of L. C. King
	Concept of Slope & Slope Theories
	Channel Morphology
	Rejuvenation & Multiple Cycle of Erosion

Unit III	Classification and evolution of: Arid Landforms
	Glacial Landforms
	Periglacial landforms
	Fluvial landforms
	Coastal landforms

Unit IV	Geomorphic evolution of:
	Chotanagpur Highlands
	Peninsular India
	Shillong plateau
	Kashmir Himalayas

Unit V	Meaning and scope of Applied Geomorphology
	Application of Geomorphology in Engineering and Industrial Projects
	Morphometric Analysis of Drainage basin
	Geomorphological Hazards: earthquake, vulcanism, landslides

CIA ………………………………………………………………. 30 Marks

Selected Readings:

1. William, D. Thornbury - Principles of Geomorphology
2. Embleton and King- Glacial and Periglacial Geomorphology
3. Savindra Singh - Geomorphology
4. Enayat Ahmed - Geomorphology
5. P. Dayal- Geomorphology
6. V. K. Sharma - Geomorphology Earth Surfaces and Forms Modern Physical Geography, strahler and strahler
7. Wooldrige and Morgan - An Outline ofGeomorphology
8. R. N. Tikka - Physical Geography
9. P. K. Sen and N. Prasad - An Introduction to the Geomorphology of India
10. D. S. Lal - Physical Geography

11.पी0 दयाल –भूआकृतिविज्ञान
12.सविन्द्र सिंह –भूआकृतिविज्ञान

Geog – M 103 (Core Paper):Climatology & Oceanography (5 Credits)

Time: 3 Hours (ESE)   Full Marks: 100
                                                        ESE : 70 Marks
                                                        CIA : 30 Marks

The question paper will consist of 7 questions divided into 3 sections.
Section A: Question No. 1 will be compulsory comprising ten objective type questions (two from each Unit) each carrying two Marks (10x2=20 marks).
Section B: Question No. 2 will also be compulsory and comprise five short answer type questions (one from each Unit) and students will have to attempt only four questions (4 x 5 = 20 marks).
Section C: Five long answer type questions are to be set (one from each Unit) of which any three questions are to be answered (3 x 10 = 30 marks).

Unit I	Climatology and its relation with other sciences
	Fronts &Types of Fronts
	Frontogenesis and associated weather conditions
	Techniques of weather forecasting
Unit II	Airmasses: Characteristics,Classification& Distribution
	Cyclones
	Anticyclones
	Heat Budget and Heat Balance
Unit III	Evidences of climatic change
	Theories of climatic change
	Global Warming: Causes and consequences
	Recent Changes in climate
Unit IV	Oceanography: Nature and history
	Relief Features of Ocean Floor
	Bottom Relief of Indian andAtlantic Ocean
	Submarine Canyons
Unit V	Theories of Origin of Tides
	Salinity of Ocean Water
	Types of Coral Reef, theories of Coral Reef
	Ocean Deposits
CIA	…………………………………………………………………. 30 Marks

Selected Readings:
1. Savindra Singh – Climatology
2. D. S. Lal – Climotology
3. A. Miller – Climatology
4. E. Aguado E. and J. E. Bent: Understanding Weather and Climate
5. S. M. Jain – BhautikBhugol
6. AlkaGautam – JalvayuAbumSamundraVigyan
7. Sharma &Vatal – Oceanography for Geographers

Geog- M-104 (Core Paper)PracticalGroup A: Geological Maps (2.5 Credits)

Time: 3 Hours (ESE)   Full Marks: 50
                                                         ESE : 35 Marks
                                                         CIA : 15 Marks

Unit I	Geological section and interpretation of geological maps.	- 15
Unit II	Representation of Geological structures and	- 10
	Identification of Rocks and Minerals.	
Unit III	Practical Record and viva-voce.	- 10
CIA	……………………………………………………………………	15marks

Selected Readings:
1. Platt and Charlliner - Simple Geological structures
2. N.N. Karna - सरलभूवैज्ञानिकसंरचनाएँ
3. जगदीश सिंह एवंवी॰पी॰राव–भौमिकीय मानचित्रों की रूपरेखा

Geog-M 104 (Core Paper) Practical Group B:
Map Projection, Aerial Photographs and Image Interpretation (2.5 Credits)

Time: 3 Hours (ESE)   Full Marks: 50
                                                       ESE : 35 Marks
                                                       CIA : 15 Marks

Unit I   Map Projections: Mercator's, Sinusoidal, Mollweide's   - 15
                Equatorial Case of Gnomonic, Gall's and International Projection.

Unit II   Interpretation of aerial photographs, Satellite Imagery, Computer - 10
                based Mapping, CAD &CAM

Unit III   Practical Record and viva-voce.   - 10

CIA   …………………………………………………………………. 15 marks

Selected Readings:
        Monkhouse and Wilkinson - Maps and Diagrams
        Singh and Singh - Practical Geography
        डा0 जे0 पी0 शर्मा–प्रयोगात्मकभूगोल की रूपरेखा
        डा0 पी0 आर0 चौहान–प्रयोगात्मकभूगोल
डा0 चतुर्भुजमामोरिया एंवभोशमलजैन–मानचित्रांकन एंवप्रायोगिकभूगोल
        डा0 हीरालाल–प्रयोगात्मकभूगोल
        डा0 एम0 एम0 पी0 सिन्हा एंव डा0 सीमाबाला–उच्चकार्टोग्राफी

M. A. GEOGRAPHY (SEMESTER II)
Geog – M 201 (Core Paper):Resource and Economic Geography (5 Credits)

Time: 3 Hours (ESE)   Full Marks: 100
                                                       ESE : 70 Marks
                                                       CIA : 30 Marks

The question paper will consist of 7 questions divided into 3 sections.
Section A: Question No. 1 will be compulsory comprising ten objective type questions (two from each Unit) each carrying two Marks (10x2=20 marks).
Section B: Question No. 2 will also be compulsory and comprise five short answer type questions (one from each Unit) and students will have to attempt only four questions (4 x 5 = 20 marks).
Section C: Five long answer type questions are to be set (one from each Unit) of which any three questions are to be answered (3 x 10 = 30 marks).

Unit I Meaning, scope and significance of Resource and Economic Geography.
Conservation and Management of Resources with special reference to:
(a) Water resources
(b) Biotic resources
Conventional Energy Resources: Coal, Petroleum, Natural Gas, their conservation and management
Non-conventional Energy Resources and their management.

Unit II Agricultural regions of the world
Detailed study of Monsoon and Mediterranean agriculture.
Von Thunen's model of agricultural location
Food production, Problems and Food Security

Unit III Weber's model and Smith's Model of Industrial location
Iron and Steel Industry of the world with special reference to China and India
Petro-Chemical Complexes with reference to India
Sugar industry

Unit IV Distribution and production of some minerals in the World: Iron Ore, Copper ore and Atomic minerals
Power Resources – Coal and Petroleum
Industrial regions of USA and Japan
Concept of Distance Connectivity and accessibility
Inter-regional and Intra- regional trade

Unit V World Trade Theories & Pattern
Impact of Globalization on world economy
Role of WTO in world trade
Concept of Export Processing Zone and SEZ (Special Economic Zone)

CIA ………………………………………………………………………. 30 marks

Selected Readings:
1. Alexander, J. W. & Hartshorne, T. A. (1995): Economic Geography.
2. Bryan & Berry: The geography of Economic System.
3. Jone, C. F. Economic Geography
4. HussainMajid, Economic Geography
5. Guha, J. L. &Chattoraj, P. R. (1998): A New Approach to Economic Geography: A Study of Resources
6. Singh, J &Dhillon, S. S. (1984) Agricultural Geography, New Delhi, Tata McGraw Hills.

Geog – M 202 (Core Paper)
Remote Sensing and Geographical Information System (5 Credits)

Time: 3 Hours (ESE)   Full Marks: 100
                                                      ESE : 70 Marks
                                                      CIA : 30 Marks

The question paper will consist of 7 questions divided into 3 sections.
Section A: Question No. 1 will be compulsory comprising ten objective type questions (two from each Unit) each carrying two Marks (10x2=20 marks).
Section B: Question No. 2 will also be compulsory and comprise five short answer type questions (one from each Unit) and students will have to attempt only four questions (4 x 5 = 20 marks).
Section C: Five long answer type questions are to be set (one from each Unit) of which any three questions are to be answered (3 x 10 = 30 marks).

Unit I   Meaning and definition of Remote Sensing, Historical Development, significance and utility of Remote Sensing in Geography, History of Remote Sensing in India.

Unit II   Remote Sensing Platforms, Geo-stationary and sun-synchronous satellites: LANDSAT, SPOT, IRS, IKONOS and QUICK- BIRD series.

Unit III   Sensors and Resolution, Interpretation of Aerial Photographs and Satellite Imagery, Digital Elevation Model (DEM)

Unit IV   Concept and Principles of GIS, Elements of GIS, Nature and Source of Data, Projection and Georeferencing, Digital cartography.

Unit V   Data Models and Modelling, Raster Vs. Vector Data structure, G.P.S.:- Concept and Applications, Application of Remote Sensing and GIS in Land Information System, Urban Management and Disaster Management.

CIA   ……………………………………………………………………. 30 marks

Selected Readings:
1. Avery, T. E. (1962): Interpretation of aerial photograph. Minneapolis.
2. Dury, G. M. (1952): Map Interpretation
3. Cunan, R. J. (1985): Principles of Remote Sensing.
4. Lillesand, T. M. & Kiefer, R. W. (1979): Remote Sensing and Image Interpretation. New York.

5. Sabins, F. F. (1997): Remote Sensing and Interpretation. New York.
6. Campbell, J. B. Introduction to Remote Sensing, London.
7. Fraser Taylor, D. R. (1991): Geographical Information System, London.
8. DevidattChauniyal, SudoorSamvedanevamBhaugolikSoochnaPranali.
9. Siddiqui, An Introduction to Geographical Information System.

Geog – M 203 (Core Paper):Regional Planning and Development (5 Credits)

Time: 3 Hours (ESE)   Full Marks: 100
                                                             ESE : 70 Marks
                                                             CIA : 30 Marks

The question paper will consist of 7 questions divided into 3 sections.
Section A: Question No. 1 will be compulsory comprising ten objective type questions (two from each Unit) each carrying two Marks (10x2=20 marks).
Section B: Question No. 2 will also be compulsory and comprise five short answer type questions (one from each Unit) and students will have to attempt only four questions (4 x 5 = 20 marks).
Section C: Five long answer type questions are to be set (one from each Unit) of which any three questions are to be answered (3 x 10 = 30 marks).

Unit I	Region – A Conceptual Framework
	Types of Region: Formal and Functional, Uniform and Nodal,
	Single Feature Region and Multi feature Region
Unit II	Methods for Delineation of regions
	Regional Planning- Merits and limitations
	Planning Process – Sectoral, temporal and spatial dimensions.
	Short Term and Long Term Planning
Unit III	Special Purpose Planning Regions in India
	River Valley Regions
	Metropolitan Region
	Problem Regions – Hilly Regions, Tribal Regions
	Remote Sensing and GIS application in regional planning
Unit IV	Development – Concept and Indicators.
	Regional disparities in India
	Need for regional planning in India
	Regional Development in India – Problems and Prospects.

Unit V	Concept of Multi Level Planning
	Programmes for Rural Development
	Role of Panchayati Raj Institutions in Rural Development
	Regional Development and successive Five Year Plans in India
	Recent Programmes& Policies for regional development

CIA ……………………………………………………………………. 30 marks

Selected Readings

Chand and Puri - Regional Planning in India-

R. P. Misra - Regional Planning

श्रीवास्तव शर्मा एवं चौहान–प्रादेशिकनियोजन एवंसंतुलितविकास

Geog- M 204 (Core Paper) Practical Group A: Cartogram

Time 3 Hours (ESE)   Full Marks 50
                                                               ESE – 35Marks
                                                               CIA – 15 Marks

Unit I	Population Distribution – Dot Map, Proportionate circles, Spherical Diagram	
	Climatic maps – Foster's climograph, Windrose, Interpretation of weather maps.	- 15
Unit II	Representation of economic data: Bandgraph, Ergograph	- 10
Unit III	Practical Record and viva-voce.	- 10

CIA …………………………………………………………… 15 Marks

Geog – M 204 (Core Paper) Practical Group B: Profiles and Slope Analysis

Time 3 Hours (ESE)   Full Marks 50
                                                               ESE – 35Marks
                                                               CIA – 15 Marks

Unit I	Topographical Analysis: Serial profile, Super-imposed, Composite and Projected profiles.	- 10
	Slope analysis by Smith, Henry and Wentworth methods	
Unit II	Hypsometric curve, Altimetric frequency graph and drainage density	- 15
Unit III	Practical Record and viva-voce.	- 10

CIA …………………………………………………………… 15 Marks

Selected Readings:

Monkhouse and Wilkinson - Maps and Diagrams
Singh and Singh - Practical Geography
डा0 जे0 पी0 शर्मा–प्रयोगात्मकभूगोल की रूपरेखा
डा0 पी0 आर0 चौहान–प्रयोगात्मकभूगोल
डा0 चतुर्भुजमामोरिया एंवभोशमलजैन–मानचित्रांकन एंवप्रायोगिकभूगोल
डा0 हीरालाल–प्रयोगात्मकभूगोल
डा0 एम0 एम0 पी0 सिन्हा एंव डा0 सीमाबाला–उच्चकार्टोग्राफी

M. A. GEOGRAPHY (SEMESTER III)
Geog – M 301 (Core Paper) Geography of India (5 Credits)

Time: 3 Hours (ESE)   Full Marks: 100
                                                         ESE : 70 Marks
                                                         CIA : 30 Marks

The question paper will consist of 7 questions divided into 3 sections.
Section A: Question No. 1 will be compulsory comprising ten objective type questions (two from each Unit) each carrying two Marks (10x2=20 marks).
Section B: Question No. 2 will also be compulsory and comprise five short answer type questions (one from each Unit) and students will have to attempt only four questions (4 x 5 = 20 marks).
Section C: Five long answer type questions are to be set (one from each Unit) of which any three questions are to be answered (3 x 10 = 30 marks).

Unit I: Physical setting of India: Relief and Structure
Drainage: Types and their Importance
Origin and Mechanism of Indian Monsoon
Soils of India: Their types and characteristics

Unit II Vegetation types and Forest Resources in India
Sources of Power: Coal, Petroleum, Natural Gas& Hydro-electricity, Non Conventional Energy sources

Unit III Human Resources: Development and Problems, Policies of Human Resource Development
Regional variations in levels of human resource development
Cultural disparities and cultural regions of India

Unit IV Industrial Development during Plan Period
Industrial Policy of India
Industrial Regions of India
Agricultural Development during plan period
Agricultural Regions of India

Unit V Socio-economic studies of the following Natural Regions of India:
Middle Ganga Plain, Assam Valley, Malabar Coastal Plain, Jammu and
Kashmir and Tamilnadu

CIA …………………………………………………………….. 30 Marks

Selected Readings:
1. Spate O. H. K. &Learmont- Geography of India & Pakistan
2. Ramamoorthy&GopalKrishnam - Geography of India
3. Singh Gopal - Geography of India
4. SinghJagdish - INDIA: A Comprehensive Systematic Geography
5. चतुर्भुजममोरिया–भारतकाभूगोल
6. चौहान बी० एस० एवंगौतमअलका–भारत: A Geography of India
7. सिंह एगोपाल–भारतकाभूगोल

Geog – M 302 (Core Paper): Settlement Geography (5 Credits)

Time: 3 Hours (ESE)   Full Marks: 100
                                                     ESE : 70 Marks
                                                     CIA : 30 Marks

The question paper will consist of 7 questions divided into 3 sections.
Section A: Question No. 1 will be compulsory comprising ten objective type questions
at least (two from each Unit) each carrying two Marks (10x2=20 marks).
Section B: Question No. 2 will also be compulsory and comprise five short answer
type questions at least (one from each Unit) and students will have to attempt only
four questions (4 x 5 = 20 marks).
Section C: Five long answer type questions are to be set (one from each Unit) of
which any three questions are to be answered (3 x 10 = 30 marks).

Unit I Meaning and scope of Settlement Geography
Development of Settlement Geography in India
Evolution of Settlement in the Middle Ganga valley
Types of Rural settlement in India

Unit II   Old sites of settlements and nomenclature
Development of different forms of rural settlements
Morphological features of rural settlements
Problems of rural settlements

Unit III   Rural house types in different geographical environment in India
Rural – Urban continuum
Rural Service centres
Hierarchy of settlements

Unit IV   Locational and functional features of urban settlements
Morphological features of Indian cities
Problems of Indian urban centres
Problems of slums in India

Unit V   Planning of Rural settlements
Planning of urban settlements
Metropolitan region
Planned urban centres of India

CIA   ……………………………………………………………………. 30 Marks

Selected Readings:

1. Hopkinson, D. (1989) Geography of Settlement, Oliver & Boyd
2. Hudson, F. S. (1970) Geography of Settlement, Mackold&Erau.
3. Singh, R. L. (Ed.) Rural settlements in Monsoon Asia
4. Carter, H. (1972) The study of Urban Geography, Arnold Heinemann
5. Misra, R. P. & K. Misra (Ed.) Million Cities of India, Nice Publisher
6. Singh, R. Y. : An Introduction of settlement Geography
7. Ghosh, S. : Settlement Geography

Geog – M 303 (Core Paper):
Quantitative Techniques and Research Methodology (5 Credits)

Time: 3 Hours (ESE)   Full Marks: 100
                                                       ESE : 70 Marks
                                                       CIA : 30 Marks

The question paper will consist of 7 questions divided into 3 sections.
Section A: Question No. 1 will be compulsory comprising ten objective type questions (two from each Unit) each carrying two Marks (10x2=20 marks).
Section B: Question No. 2 will also be compulsory and comprise five short answer type questions (one from each Unit) and students will have to attempt only four questions (4 x 5 = 20 marks).
Section C: Five long answer type questions are to be set (one from each Unit) of which any three questions are to be answered (3 x 10 = 30 marks).

Unit I	Quantitative Methods in Geography: Merits and limitations, Research types and methodology, Research Problems and Research Design
Unit II	Data collection and classification, Questionnaire and Schedules, Sample and Sample Design, Sampling Types – Random, Stratified and Purposive.
Unit III	Hypothesis: Concept & Types, Procedure for Hypothesis Testing, Chi-Square Test, Student's 't' Test
Unit IV	Correlation Coefficient Techniques-Pearson and Spearman, Simple Linear Regression Analysis, Analysis of Variance (ANOVA), Multivariate Analysis-Importance and its Application
Unit V	Models and Analogue, Types of Model, Gravity Potential Model, Population Potential Model

CIA …………………………………………………………………… 30 Marks

Selected Readings:
1. Mahmood, Aslam, "Statistical Methods for Geographical Studies"
2. Koshari, K. C., "Research Methodology in Social Sciences"
3. Suleman, M., Research Techniques and Methods in Social Sciences
4. Adhikari, S. (2005): Fundamentals of Geographical Thought, Allahabad
5. Chorley, R. J. &Haggelt, P. (ed.) (1967): Models in Geography, London
6. Hartshorne, R. (1994 Indian Print): The Nature of Geography, Jaipur, Rawat Publication
7. Harvey: Explanation in Geography
8. Kaushik D., S. D. (2001) BhougolikchintanaurVidhitantra(Hindi)

Geog – M 304 (Core Paper) Practical: Group A:
Instrumental Survey and Field Study Tour

Time 3 Hours (ESE)   Full Marks 50
                                                            ESE – 35Marks
                                                            CIA – 15 Marks

Unit I   Theodolite Survey –Vertical and Horizontal Angles
                Levelling and preparation of Ground Profile, Contouring through - 15
                stadia constant method, Resection by Plane Table

Unit II   Instrumental Survey   - 10

Unit III   Field Study Tour Report and Viva-Voce   - 10

CIA   …………………………………………………………………… 15 Marks

Selected Readings:
1. M. M. P. Sinha&SeemaBela– Advanced Cartography (उच्चकार्टोग्राफी)
2. Kanetkar – Surveying and leveling Vol. I & II
3. Punamia- Surveying Vol. I , II & III
4. Singh & Singh – Elements of Practical Geography
5. J. P. Sharma – प्रयोगात्मकभूगोल की रूपरेखा

Geog- M 304 (Core Paper) Practical Group B:
Population and Statistical Methods

Time 3 Hours (ESE)   Full Marks 50
                                                            ESE – 35Marks
                                                            CIA – 15 Marks

Unit I   Population projection by different methods, Polygraph   - 15
Unit II   Correlation, Regression, Nearest Neighbour Analysis   - 10
Unit III   Practical Record and viva-voce.   - 15

CIA   …………………………………………………………………… 15 Marks

Selected Readings:
Monkhouse and Wilkinson - Maps and Diagrams
Singh and Singh - Practical Geography
डा0 जे0 पी0 भार्मा–प्रयोगात्मकभूगोल की रूपरेखा
डा0 पी0 आर0 चौहान–प्रयोगात्मकभूगोल
डा0 चतुर्भुजमामोरिया एंवभोशमलजैन–मानचित्रांकन एंवप्रायोगिकभूगोल
डा0 हीरालाल–प्रयोगात्मकभूगोल
डा0 एम0 एम0 पी0 सिन्हा एंव डा0 सीमाबाला–उच्चकार्टोग्राफी

M. A. GEOGRAPHY (SEMESTER IV)

Geog – M 401 (Elective Paper) Group I(A):
Urban Geography

Theory Paper (3 Credits)

Time: 3 Hours (ESE)

Full Marks: 100
ESE : 60 Marks
Pract. and CIA : 40 Marks

The question paper will consist of 6 questions divided into 3 sections.

Section A: Question No. 1 will be compulsory comprising ten objective type questionseach carrying one Marks (10x1=10 marks).

Section B: Question No. 2 will also be compulsory and comprise four short answer type questionsone from each Unit and students will have to attempt only two questions (2 x 5 = 10 marks).

Section C: Four long answer type questions are to be set one from each Unit of which any two questions are to be answered (2 x 20 = 40 marks).

Unit – I   Definition and Scope of urban geography, Development of urban geography in India
Urban ecology and Urban System
Attributes of Urban Demography
Basis of urban functions and functional classification of towns

Unit II   Rank-Size Rule & Primate City
Urban hierarchy
Million Cities & Mega Cities
Concept of Megalopolis & Metropolitan regions
Concept of Smart City

Unit III   Concept of urban morphology, Theories of urban landuse – Burgess, Hoyt, Harris and Ullman
Concept and characteristic of CBD, Conurbation, Urban Agglomeration in context of India

Unit IV   Concept of city region, Umland, Rural – Urban Fringe
Trend of Urbanization in India & in the world
Urban Problems with reference to Slums and urban poverty
Urban planning and policies in India

Geog – M 401 (Elective Paper) GroupI(A):
Urban Geography

Practical Paper and CIA (2 Credits)Full Marks - 40

Unit I	Cartographic representation of size of urban centres, Urban population density map, Urban occupational structure, Population projection.	- 10
Unit II	Road Accessibility and Rail approachability maps, Bus frequency and Traffic Flow Diagrams, Preparation and interpretation of Town Plans	-10
Unit III	Practical Record and viva-voce.	- 5
CIA	……………………………………………………………………	- 15

Selected Readings:
1. Carter, H. (1972) The Study of Urban Geography, Arnold Heinemann
2. Geddes, P. (1968) Cities in Evolution, Benn Publisher.
3. Hall, P. (1992) Urban & Regional Planning, Routledge, London
4. Johnson, J. (1972) Urban Geography: An introductory Analysis, Germ Area
5. Mayer & Kohn (1959) Readings in Urban Geography, Chicago Area
6. Scett, A. (2001) Global city Region, Oxford University area, U.K.
7. Sinha M. M. P. &SeemaBala: NagariyaBhoogol (Hindi)
8. Bansal: NagariyaBhoogol (Hindi)

Geog – M 401 (Elective Paper) Group I (B): Advanced Geomorphology

Theory Paper (3 Credits)

Time: 3 Hours (ESE)

Full Marks: 100
ESE : 60 Marks
Pract.and CIA : 40 Marks

The question paper will consist of 6 questions divided into 3 sections.

Section A: Question No. 1 will be compulsory comprising ten objective type questions each carrying one Marks (10x1=10 marks).

Section B: Question No. 2 will also be compulsory and comprise four short answer type questionsone from each Unit and students will have to attempt only two questions (2 x 5 = 10 marks).

Section C: Four long answer type questions are to be set (one from each Unit) of which any two questions are to be answered (2 x 20 = 40 marks).

Unit I	Nature and scope of Geomorphology, Recent trends in geomorphology, Emergence of applied geomorphology. Application of remote sensing and GIS in geomorphic studies
Unit II	Contribution of Hutton, Gilbert and Peltier, Concept of slope and grade, Rejuvenation and Multiple cycle erosion. Erosional surface- paneplain, pediplain, Panplane
Unit III	Drainage basin as a geomorphic unit, Models of stream ordering, Sinuosity Index, Channel pattern – straight, meandering and braided, concept of dynamic equilibrium
Unit IV	Evolution of Himalayan Drainage, Peninsular drainage, Appalachian Drainage, Fluvial processes and topographic features, Evolution of Periglacial Topography

Geog – M 401 (Elective Paper) Group I(B):
Advanced Geomorphology

Practical Paper and CIA (2 Credits)

Time 3 Hours   Full Marks 40

Unit I   Representation of typical landforms by contour patterns –   - 10
Drainage basin morphometry – stream ordering and bifurcation ratio.
Drainage frequency and density, Block diagrams –one point and two
points perspective.

Unit II   Hypsometric curve, Slope analysis method of Smith, Wentworth   - 10
and Raise and Henry

Unit III   Practical Record and viva-voce.   - 05

CIA …………………………………………………………………………   - 15

Selected Readings:
1. Dury, G. A.- Essays in Geomorphology
2. Wooldridge and Morgan- An outline of Geomorphology
3. Thombury, W. D. Principles of Geomorphology
4. Small, R. J.- The Study of Landforms
5. Dayal, P.- A Text Book of Geomorphology
6. King, L. C.- Morphology of the Earth
7. Monkhouse- Maps and Diagrams
8. Sharma, J. P. - PrayogikBhoogol Ki Rooprekha (Hindi)
9. Sinha, M. M. P. &Bala,Seema- Uchcha Cartography (Hindi)

Geog – M 401 (Elective Paper) Group I (C): Hydrology

Theory Paper(3 Credits)

Time: 3 Hours (ESE)   Full Marks: 100
                                                        ESE : 60 Marks
                                                        Pract.and CIA : 40 Marks

The question paper will consist of 6 questions divided into 3 sections.
Section A: Question No. 1 will be compulsory comprising ten objective type questions each carrying one Marks (10x1=10 marks).
Section B: Question No. 2 will also be compulsory and comprise four short answer type questionsone from each Unit and students will have to attempt only two questions (2 x 5 = 10 marks).
Section C: Four long answer type questions are to be set (one from each Unit) of which any two questions are to be answered (2 x 20 = 40 marks).

Unit I	Hydrological Cycle, Human impact on the hydrological cycle; Precipitation, evaporation and evapo-transpiration
Unit II	River Basin and Problems of Regional Hydrology: Characteristics of river basins, basin surfacerun-off, measurement of river discharge; floods and droughts.
Unit III	Water Balance Pattern: Measurement of water balance; time-space characteristics of waterbalance, assessment of water requirement. Groundwater: Assessment and development, depletion and water quality parameters.
Unit IV	Water Resource Problems and Management: water demand and supply, water quality, Hydrological consequences ofenvironmental degradation. Water Management in disaster areas, water quality management andPollution control, water management in urban areas, watershed management, National Water Policy.

Geog – M 401 (Elective Paper) Group I (C): Hydrology

Practical Paper (2 Credits)

Time: 3 Hours   Full Marks: 40

Unit I   Practical Related to Units I & II   - 10

Unit II   Practical Related to Units III & IV   - 10

Unit III   Practical Records & viva voce   - 05

CIA ………………………………………………………………………………… - 15

Selected Readings:

1.   Aggarwal, A., 1991 : Floods, Floodplains and Environmental Myths, Centre for Science andEnvironment, New Delhi.
2.   Andrew. D. ward and Stanley, Trimble (2004): Environmental Hydrology,2nd edition, LewisPublishers, CRC Press.
3.   Bhattacharya, S.K., 1988 : Urban Domestic Water Supply in Developing Countries, CBSPublishers and Distributors, Delhi.,
4.   Karanth, K.R., 1988 : Ground Water: Exploration, Assessment and Development, Tata-McGraw Hill, New Delhi.
5.   Mahajan, G., 1989 : Evaluation and Development of Groundwater, Ashish Publishing House,New Delhi.
6.   Palanisami, K, 1984 : Integrated Water Management: The Determinants of Canal WaterDistribution in India: A Micro Analysis, Aricole, New Delhi.
7.   Ramaswamy, C. (1985): Review of floods in India during the past 75 years: A Perspective.Indian National Science Academy, New Delhi.
8.   Rao, K.L., 1982 : India's Water Wealth 2nd edition, Orient Longman, Delhi,.
9.   Singh, Vijay P. (1995): Environmental Hydrology. Kluwar Academic Publications, The Netherlands.
10.   Todd, D.K. (1980): Groundwater Hydrology. John Wiley, New York.

Geog – M 402 (Elective Paper) Group II (A): Political Geography

Theory Paper (3 Credits)

Time: 3 Hours (ESE)

Full Marks: 100
ESE : 60 Marks
Pract.and CIA : 40 Marks

The question paper will consist of 6 questions divided into 3 sections.

Section A: Question No. 1 will be compulsory comprising ten objective type questions each carrying one Marks (10x1=10 marks).

Section B: Question No. 2 will also be compulsory and comprise four short answer type questionsone from each Unit and students will have to attempt only two questions (2 x 5 = 10 marks).

Section C: Four long answer type questions are to be set (one from each Unit) of which any two questions are to be answered (2 x 20 = 40 marks).

Unit – I   Meaning and scope of Political Geography;
Approaches to Political Geography; Functional and Unified Field Theory Approaches
Recent developments in Political Geography
Geopolitics and Post- Modern Geopolitics (Critical Geopolitics)

Unit- II   Geopolitical World Order: Origin and Cessation of cold war;
Global Strategic Views: H. J. Mackinder, NGSpykman,
Power and politics in the World Economy
Geopolitics of IndianOcean

Unit- III   Concept of Nation and State
Elements of State: Physical, Human and Economic
Frontiers and Boundaries
Maritime Boundaries

Unit –IV   Development of Political Geography in India
Changing Political map of India: State re-organization
Geographical Bases of IndianFederalism
River water Disputes – International& National

Geog – M 402 (Elective Paper) Group II (A): Political Geography

Practical Paper(2 Credits)

Time 3 Hours   Full Marks - 40

Unit I   Application of Cartographic and Statistical methods to   - 10
analyze the election result, Correlation and Regression
analysis, Choropleth, Chorochrometric Method

Unit II   Cartographic presentation of compactness of Administrative units:
1. Administrative Efficiency   - 10
2. Regional Planning

Unit III   Practical Record and viva-voce.   - 5

CIA ……………………………………………………………………….   - 15

Selected Readings:

1. John R. Stuart (1982) - An Introduction to Political Geography
2. Richard Muir (1995) - Modern Political Geography
3. Bergman K. Edward (1975) - Modern Political Geography
4. Luclie Carlson (1971) - Geography and World Politic
5. S. B. Cohen (1968) - Geography and Politics in a Divided world
6. N. J. G. Pounds (1972) - Political Geography
7. I. M- Alexander (1963) - World Political Systems
8. P. J. Taylor & C. Flint: (2004 India. Ed) - Political Geography
9. R. D. Dikshit (1982) - Political Geography
10. S. Adhikari (1997) - Political Geography
11. B. L. Sukhwal (1985) - Modern Political Geography of India
12. S. Adhikari (2008) - Political Geography of India: A contemporary Perspective.
13. G. Parkar (1998) - Geopolitics: Past, Present and Future.
14. S. K. Dikshit (2006) - Political Geography and Geo- politics
15. Hari Mohan Saxsena (2009) - Political Geography
16. S. Adhikari and Ratan Kumar (2010) -Political Geography

Geog – M 402 (Elective papers) Group II (B):
Advanced Cartography

Theory Paper (3 Credits)

Time: 3 Hours (ESE)   Full Marks: 100
                                                  ESE : 60 Marks
                                                  Pract.and CIA : 40 Marks

The question paper will consist of 6 questions divided into 3 sections.
Section A: Question No. 1 will be compulsory comprising ten objective type questions each carrying one Marks (10x1=10 marks).
Section B: Question No. 2 will also be compulsory and comprise four short answer type questionsone from each Unit and students will have to attempt only two questions (2 x 5 = 10 marks).
Section C: Four long answer type questions are to be set (one from each Unit) of which any two questions are to be answered (2 x 20 = 40 marks).

Unit –I   Brief history of cartography and its present status; Scale: Vernier and Logarithmic; Fundamentals of computer based cartography and its application; Thematic maps –types and their use.

Unit-II   Mathematical construction and characteristics of the following map projections –Conical Equal- Area with one standard parallel (Lambert's V); Conical Orthomorphic projection with one standard parallel (Lambert's II); Gnomomic projection (Equatorial Case); Stereographic projection (Equatorial Case); Cassini's Projection

Unit III   Principles of triangulation Survey; Measurement of base-line in triangulation survey. Definition and characteristics of the following astronomical terms – Azimuth, Right Ascension, Hour Angle, Star at elongation, Altitude, Declination.

Unit IV   Photogrammetry – Brief history and basic principle; Scales of vertical and tilted photographs; Types and Interpretation of aerial photographs.

Geog – M 402 (Elective papers) Group II (B):
Advanced Cartography

Practical Paper (2 Credits)

Time 3 Hours   Full Marks - 40

Unit I: Mathematical calculation and construction of following map   - 10
                  Projection: Equatorial case of Stereographic and Gnomonic
                  Projection, Mercator's Projection.

Unit II: Interpretation of Aerial photograph and photo imagery,   - 10
                  Block Diagrams. Use of Rotameter and Planimeter.

Unit III: Practical Record and viva-voce.   - 05

CIA   ……………………………………………………………………….   - 15

Selected Readings:
1. F. J. Monkhouse – Maps & Diagrams & H. R. Wilkinson
2. M. M. P. Sinha&SeemaBala – Uchcha Cartography
3. Kanetkar – Surveying and leveling Vol- I & II
4. B. C. Punmia – Surveying Part III

Geog – M 402 (Elective Paper) Group II (C):
Environmentand Disaster Management

Theory Paper (3 Credits)

Time: 3 Hours (ESE)   Full Marks: 100
                                                        ESE : 60 Marks
                                                        Pract.and CIA : 40 Marks

The question paper will consist of 6 questions divided into 3 sections.
Section A: Question No. 1 will be compulsory comprising ten objective type questions each carrying one Marks (10x1=10 marks).
Section B: Question No. 2 will also be compulsory and comprise four short answer type questionsone from each Unit and students will have to attempt only two questions (2 x 5 = 10 marks).

Section C: Four long answer type questions are to be set (one from each Unit) of which any two questions are to be answered (2 x 20 = 40 marks).

Unit I   Meaning and scope of environmental studies
               Ecology and ecosystem
               Components of ecosystem – complete and incomplete ecosystem
               Types of ecosystem – Marine and terrestrial

Unit II   Environmental degradation: cause and effect
               Pollution – Air Pollution
               Water Pollution
               Soil Pollution

Unit III   Global Warming – Causes and effects
               Sea – level changes
               Ozone depletion
               Climatic changes

Unit IV   Environmental hazards and disasters: Flood and Droughts in India
               Man induced environmental changes with special reference to Kosi and Gandak Projects
               Environmental legislation: The Stockholm Conference, Kyoto Conference
               Environmental laws in India:The wild life Act, Forest Act.

Geog – M 402 (Elective Paper) Group II (C): Environmentand Disaster Management

Practical Paper (2 Credits)

Time 3 Hours   Full Marks- 40

Unit I Trophic levels in Ecosystem, food chain.   - 10
Unit II   Flood Prone, Drought Prone and Seismic Zones of India   - 10
Unit III   Practical Record and viva-voce.   - 05

CIA   ………………………………………………………………… - 15

Selected Readings
1. Saxena, H. M. –Environmental Geography
2. Singh, Savindra – ParyawarnaBhugol
3. Odum P. – Fundamental of Ecology
4. Chandan, R. C. – Environmental Awareness
5. Detwyler, T. R. – Man's Impact on Environment

6. Embelon, C. – Natural Hazards and global change
7. Morgan, A. E. Dam's and other Disaster, Boston Mass
8. Bara, M. C. (ed) Proceedings of International Conference on Disaster Management, Guwana 23-26 April, 1998

Geog- M-403 (Elective paper) Group III(A): Population Geography

Theory Paper (3 Credits)

Time: 3 Hours (ESE)   Full Marks: 100
                                                       ESE : 60 Marks
                                                       Pract.and CIA : 40 Marks

The question paper will consist of 6 questions divided into 3 sections.
Section A: Question No. 1 will be compulsory comprising ten objective type questions each carrying one Marks (10x1=10 marks).
Section B: Question No. 2 will also be compulsory and comprise four short answer type questionsone from each Unit and students will have to attempt only two questions (2 x 5 = 10 marks).
Section C: Four long answer type questions are to be set (one from each Unit) of which any two questions are to be answered (2 x 20 = 40 marks).

Unit I   Nature and Scope of population Geography, Historical development of population geography, Relationship with Demography, Sources of Population Data: The Census, vital registration and other sources.

Unit II   Population distribution, growth and determinants: (i) Pre-historic, ancient, medieval and modern period, (ii) Ecumene and non- ecumene areas. Theories of population growth: – Malthus, Marx and demographic transition

Unit III   Population Dynamics: Fertility-measurement, determinants and distributions; Mortality measurement, determinants and distribution; Migration: Brief history, trends and pattern of international migration, migration in India, Indian Diaspora.

Unit IV   Population Regions: Typology of population regions, Ackerman scheme of population resource region. Human security - economic, food and health.

Geog M-403 (Elective Paper) Group III(A): Population Geography

Practical Paper (2 Credits)

Time: 3 Hours   Full Marks – 40

Unit I	Method of showing distribution of population, density of population, occupational structure, age and sex pyramid.	-10
Unit II	ProportionateCircles, Spherical Diagram, Population Projection.	- 10
Unit III	Practical Record and viva-voce.	- 05
CIA	…………………………………………………………………….	- 15

Selected Readings:

1. Chandana, R. C. – A Study in Population Geography
2. Ghosh, B. N. – Population Geography
3. Hiralal – JansankhyaBhoogol
4. Bhende and Kantkar – Population Studies
5. Singh, R. L. – Practical Geography
6. Sharma J. P. PrayogicBhoogol Ki Rooprekha

Geog-M-403 (Elective Paper) Group III(B): Landuse and Agriculture Geography

Theory Paper (3 Credits)

Time: 3 Hours (ESE)   Full Marks: 100
                                                           ESE : 60 Marks
                                                           Pract.and CIA : 40 Marks

The question paper will consist of 6 questions divided into 3 sections.

Section A: Question No. 1 will be compulsory comprising ten objective type questions each carrying one Marks (10x1=10 marks).

Section B: Question No. 2 will also be compulsory and comprise four short answer type questionsone from each Unit and students will have to attempt only two questions (2 x 5 = 10 marks).

Section C: Four long answer type questions are to be set (one from each Unit) of which any two questions are to be answered (2 x 20 = 40 marks).

Unit I	Meaning and scope and subject matters of Landuse and Agricultural Geography.History of Landuse study, Model Landuse survey in India.	
Unit II	Landuse classification: U. K. and India Landuse changes in India since Independence. Land capability classification	
Unit III	Agricultural Geography: Approaches to the study of agriculture in Geography; Factors influencing Agricultural Pattern, Agricultural Systems in the world	
Unit IV	Agricultural region: Concept and technique, Cropping pattern in India, Regional imbalances in levels of agricultural productivity with special reference to India, Green Revolution in India	

Geog-M-403 (Elective Paper) Group III(B): Landuse and Agriculture Geography

Practical Paper (2 Credits)

Time 3 Hours   Full Marks – 40

Unit I	Methods of representing Landuse data by Circle Diagram, Compound Bar Diagram, Divided circle, Interpretation of Aerial Photographs	- 10
Unit II	Preparation of Landuse maps: State, District, Region, Village,Interpretation of landuse maps	- 10
Unit III	Practical Record and viva-voce.	- 05
CIA	…………………………………………………………………	- 15

Selected Readings:
1. Hussain,Majid – Agriculture Geography
2. Singh J. &Dhillon, S. S. – Agriculture Geography
3. B. S. Negi–KrishiBhugol
4. Sharma , B. L. – KrishiBhugoal
5. Wrigley – Tropical Agriculture
6. Ali Mohammad – Studies in Agriculture Geography
7. Krishna, D. – The New Agricultural Strategy
8. Dutta and Sundaram–Indian Economy

Geog- M-403 (Elective Paper)Group III(C):

Industrial Geography
Theory Paper (3 Credits)

Time: 3 Hours (ESE)   Full Marks: 100
                                                       ESE : 60 Marks
                                                       Pract.and CIA : 40 Marks

The question paper will consist of 6 questions divided into 3 sections.

Section A: Question No. 1 will be compulsory comprising ten objective type questions each carrying one Marks (10x1=10 marks).

Section B: Question No. 2 will also be compulsory and comprise four short answer type questionsone from each Unit and students will have to attempt only two questions (2 x 5 = 10 marks).

Section C: Four long answer type questions are to be set (one from each Unit) of which any two questions are to be answered (2 x 20 = 40 marks).

Unit I   Localization of Industries and theories:- Nature, scope and recent developments of Industrial Geography, Factors of localization of industries, Theories and models of industrial location: Weber and Hoover, Critical review and application of industrial theories.

Unit II   Pattern of Industries and Industrial Regions

- Distributional pattern of important industries:
    Iron and steel
    Chemical Textiles
    Chemical and Petro-chemicals
- Method of delineating Industrial regions
- Major industrial regions of the World with special reference of North America.

Unit III   Degradation and Globalization

- Environmental degradation caused by industries,
- Industrial hazards and occupational hazards
- Impact of industries on economic development
- Role of globalization on industrial sector

Unit IV   Major Industrial Regions of India.

- Location, characteristics, chief industries and associated problems of each region.
- Agro-based industries of Bihar
- Industrial Regions of Bihar

Geog- M-403 (Elective Paper)Group III(C):
Industrial Geography

Practical Paper (2 Credits)

Time: 3 Hours   Full Marks – 40

Unit I   Cartographic Representation of Unit I and II   10

Unit II   Cartographic Representation of Unit III and IV   10

Unit III   Practical Record and viva-voce.   05

CIA   ……………………………………………………   15

Selected Readings:

1. Alexander, J.W., Economic Geography, Prentice Hall, Englewood Cliffs, 1988
2. Alexanderson, C., Geography of Manufacturing, Prentice Hall, Bombay, 1967
3. Hoover, E.M., The Location and space economic, MeGraw Hill, New York, 1948.
4. Isard, W, Methods of Regional Analysis, the Technology Press of MIT & John Wiley & Sons, New York, 1956.
5. Miller E., Geography of Manufacturing, Prentice Hall, Englewood Cliffs, 1962.
6. S. Siddhartha, Economic Geograhy, Theories, process and pattern, Kisolaya Pub. Pvt. Ltd., Pantan, 200
7. Weber, Alferd, Theory of Location of Industries, Chcago University Press, Chicago.
8. L.N. Ram (ed); A systematic geography of Bihar, 1991.

Geog- M-404 (Elective paper)Group IV(A):
Geology of India

Theory Paper (3 Credits)

Time: 3 Hours (ESE)   Full Marks: 100
                                        ESE : 60 Marks
                                        Pract.and CIA : 40 Marks

The question paper will consist of 6 questions divided into 3 sections.
Section A: Question No. 1 will be compulsory comprising ten objective type questions each carrying one Marks (10x1=10 marks).
Section B: Question No. 2 will also be compulsory and comprise four short answer type questionsone from each Unit and students will have to attempt only two questions (2 x 5 = 10 marks).
Section C: Four long answer type questions are to be set (one from each Unit) of which any two questions are to be answered (2 x 20 = 40 marks).

Unit I   Definition, scope and function of Geology, Principles of correlation, Standard Stratgraphic scale, Indian Stratigraphic scale.

Unit II   Origin, geographical distribution and lithological characteristics of Dharwar system, Vindhyan system, Gondwana system and Deccan Lava system.

Unit III Classification, mode of occurrence and distribution of the following economic minerals with special reference to India – Iron ore, mica, bauxite, coal, petroleum and atomic minerals.

Unit IV   Rocks and minerals association, Form structure and classification of Igneous rocks, origin and types of sedimentary rocks, processes of metamorphism, types and characteristic of metamorphic rocks.

Geog- M-404 (Elective paper)Group IV(A):

Geology of India
Practical Paper (2 Credits)

Time: 3 Hours   Full Marks – 40
Unit I   Geological section and interpretation of Geological maps   - 10

Unit II   Conventional signs and symbols used in geological   -10
              maps, Identification of rocks and minerals

Unit III Practical Record and viva-voce.   - 05

CIA   ………………………………………………………   - 15

Selected Readings:

1. Wadia, D. N. – Geology of India
2. Mukharjee, P. K. – Physical Geology
3. D. P. Singh – भारतकाभूवैज्ञानिपरिचय
4. Mehar D. N. Wadia – Minerals of India
5. Gokhale and Rao – Minerals of India
6. Platt and Charliner – Simple Geological Structures
7. Karna, N. N. – सरलभूवैज्ञानिकसंरचनाएँ
8. Singh, Jagdish& B. P. Rao –भौमिकीय मानचित्रों की रूपरेखा

Geog- M-404 (Elective paper)Group IV(B):
Geography of Energy

Theory Paper (3 Credits)

Time: 3 Hours (ESE)   Full Marks: 100
                                                        ESE : 60 Marks
                                                        Pract.and CIA : 40 Marks

The question paper will consist of 6 questions divided into 3 sections.

Section A: Question No. 1 will be compulsory comprising ten objective type questions each carrying one Marks (10x1=10 marks).

Section B: Question No. 2 will also be compulsory and comprise four short answer type questionsone from each Unit and students will have to attempt only two questions (2 x 5 = 10 marks).

Section C: Four long answer type questions are to be set (one from each Unit) of which any two questions are to be answered (2 x 20 = 40 marks).

Unit I Importance of Energy: Energy and Economic Development; Historical Development of Energy

Unit II Energy resources of the World : Conventional and Non-conventional sources, New Discoveries and Inventions; Production and Consumption and World Patterns; Oil Prices and the International Economy

Unit III Energy Resources of India : Conventional and Non-conventional Sources, Potential, Production and Consumption : Sectoral and Regional patterns of Energy use, New alternatives and Inventions, Rural Energy in India, Energy policies

Unit IV Contemporary Issues : Energy Security, Energy Efficiency, Conservation of Energy and Sustainable Development, the Geo-Politics of Energy; Emerging Issues in Energy Sector, The Nuclear Debate

Geog- M-404 (Elective paper)Group IV(B):

Geography of Energy

Practical Paper (2 Credits)

Time: 3 Hours   Full Marks – 40

1. Cartographic representation of Units I & II of M 404   -10
2. Cartographic representation of Units III & IV of M 404   - 10
3. Practical Record and viva-voce.   - 05

CIA …………………………………………………………………… - 15

Selected Readings:

1. Chaturvedi, Pradeep (1998) Rural Energy for Sustainable Development – Technology and Environmental Issues, Bio-Energy Society of India.
2. Hannesson, R. (198) Petroleum Economics: Issues and Strategies of Oil and Natural Gas Production, Quorum Books, West Port, USA.
3. Heal, Geoffery and G. Chichilinisky (1991) Oil and the InternationalEconomy, Clarendon Press, Oxford.
4. Meier, Peter and M, MunaSinghe (200) Sustainable Energy in Developing Countries – Policy Analysis and Case Studies, Edward Elgan Publishing Ltd., UK
5. Nakicenovic, N. et al (1998) Global Energy perspectives, Cambridge University Press, Cambridge, New York, Melbourne.
6. Nooij, Michael et. al., International Comparisons of Domestic energy Consumption, Energy Economics, 25 94, 2003 (July) 359-73.
7. Ramesh Babu, M. et al. (197) Energy for Better Tomorrow: Renewable and Non-Renewable Energy Sources, Allied Publishers Ld.
8. Reliance Industries Ltd. (2003) Reliance Review of Energy Markets, Corporate Communications, Mumbai
9. Suludhi, R. N. (1993) Energy Options for the 21st century, Ashish Publishing House
10. World Energy Council (1993) Energy for Tomorrow's World, Kogan Page
11. World Energy Council, (1994) New Renewable Energy Resources – A Guide to Future, Kogan

Geog M-404 (Elective Paper) Group IV (C):

Social and Cultural Geography

Theory Paper (3 Credits)

Time: 3 Hours (ESE)   Full Marks: 100
                                                                 ESE : 60 Marks
                                                                 Pract.and CIA : 40 Marks

The question paper will consist of 6 questions divided into 3 sections.
Section A: Question No. 1 will be compulsory comprising ten objective type questions each carrying one Marks (10x1=10 marks).
Section B: Question No. 2 will also be compulsory and comprise four short answer type questions one from each unit and students will have to attempt only two questions (2 x 5 = 10 marks).
Section C: Four long answer type questions are to be set (one from each Unit) of which any two questions are to be answered (2 x 20 = 40 marks).

Unit – I   Definition, Meaning and Scope: Evolution and nature of Social Geography, Schools of Social Geography, its relation with Sociology, Anthropology and History

Social Structure, Process and Social Pattern, Social Space and Social landscape

Unit – II   Concept of Social Justice and Social Well being, Components of quality of life and its Spatial pattern.
Globalization and social transformation
Panchayati Raj Institutions and Social transformation in India.
Recent changes in Urban and Rural Social Life in India

Unit – III   Definition, Meaning and Scope of Cultural Geography.
Changing trends in Cultural Geography
Cultural Evolution of Mankind
Cultural Realms and Regions of the World
Cultural Assimilation, integration and diffusion, migration and cultural transformation

Unit – IV   Religion, language and regional folk as components of culture in India
Cultural regions of India
Cultural Conflicts in Rural and Urban India
Literacy, health and Life expectancy as determinants of culture

Geog M-404 (Elective Paper) Group IV (C):

Social and Cultural Geography

PracticalPaper (2 Credits)

Full Marks – 40

Unit – I   Models in Cultural Geography   – 10
Migration: Suitable Diagram – Direction and Volume
Religion and language composition by Suitable Diagram

Unit – II   Diagram on Gender disparity   – 10
Trends of Urbanization
Racial composition and Spatial pattern
Major tribes of India

Unit – III   Practical Record and Viva-voce   – 5

CIA   ……………………………………………………..   – 15 Marks

Selected Readings:

1. An Introduction to Social Geography, Emery Jones and John Eyles
2. Cultural Geography – Mike Crang
3. Sociology and Social Anthropology – M. S. Goal
4. Social Geography – A. Ahmad
5. Social Geography – Majid Husain
6. Social Geography – Ruth Panelli
7. Rural Sociology in India – A. R. Desai
8. Readings in Social Geography – Emery Jones
9. Human Geography – Paul. L. Knox, S. A. Marston
10. International Encyclopedia of Geography, Vol. VIII (Social Geography) – SubhashMehtani, AmarjitSinha, Common Wealth Publication Pvt. Ltd., New Delhi
11. Cultural Geography: Form & Process – Neelam Grover and KashiNath Singh, Concept Publishing Company, Delhi
12. Social Geography of India – Ashok Kumar, Anmol Publications, New Delhi
13. सांस्कृतिकभूगोल — श्रीकान्तदीक्षित एवंरामदेव त्रिपाठी, वसुन्धराप्रकाशन, गोरखपुर
14. समाजिकभूगोल — डॉ0 एस0 डी0 मौर्य
15. सांस्कृतिकभूगोल — इन्दिरा सिंह, युनिवर्सिटीपब्लिकेशन, नयीदिल्ली
16. सांस्कृतिकभूगोल — गायत्री प्रसाद