

NILAMBER-PITAMBER UNIVERSITY

Medininagar, Palamu – 822101



SYLLABUS

FOR

MASTER IN ARTS

GEOGRAPHY

AS PER C.B.C.S.

(Implemented from Session 2017-18)

1st SEMESTER

Paper GEOG1.1 – Development of Geographical Thought

Full Marks: 100 (SIA: 30, ESUE: 70) Pass Marks: 45 Credit-4, Time- 3 Hrs.

(Out of 08 Questions (two from each unit) 04 are to be answered)

Unit 1: The field of Geography: Definition and Meaning of Geography, Nature and Scope of Geography, Geography as a Social and Natural Science, Limits in Geography, Traditions in Geography, Inter-disciplinary and Intra-disciplinary Approaches in Geography.

Unit 2: Pioneers and their contributions to Geography: Ancient period – Greek, Romans, Indians and Chinese. Medieval period – Arabs and Geographical discoveries. Modern period – French, British, American and Russian.

Unit 3: Determination, Possibilism, New-Determinism and Social Determinism, Quantitative Revolution, Geographical Models – Need, features, types and classification, Geographical Paradigms.

Unit 4: Explanations in Geography – Cognitive, Cause & Effect, Temporal and Functional, System Analysis and Regional Concepts, Modern Themes in Geographical Thoughts – Positivism, Existentialism, Realism, Radicalism, Behaviouralism.

References:

1. Adhikari S. (2004) Fundamentals of Geographical Thoughts, Concept Publishers, New Delhi
2. Dikshit R.D. (2001), Geographical Thoughts: A Conceptual History of Ideas, Prentice Hall Publishing Company, New Delhi-2
3. Harvey M.E. (2002), Theme in Geographical Thoughts, R.K. Publications and Distributors, Ansari Road, New Delhi-2
4. Majid Hussain (2001), Evolution in Geographic Thought, Rawat Publications, New Delhi-02
5. David Harvey (2000), Explanation in Geography, Macmillan, New York
6. Peter Hagget (1972), Geography: A Modern Synthesis
7. Frazier J.W. (1982), Applied Geography, Prentice Hall, New Delhi
8. Singh, I. (2006), Drivers Aspect of Geographical Thought: Alfa Publications, New Delhi.

Paper GEOG1.2 – Geomorphology

Full Marks: 100 (SIA: 30, ESUE: 70) Pass Marks: 45 Credit-5, Time- 3 Hrs.

(Out of 08 Questions (two from each unit) 04 are to be answered)

Unit 1: Geomorphology: Definition and scope of geomorphology, Fundamental concepts – Geologic structures and landforms, Uniformitarianism, Multi-cyclic and Polygenetic evolution of landforms, Theories of landscape development.

Unit 2: Earth movements: Orogenic, Epeirogenic Movements and Resultant landforms, Forces of Instability, Isostasy, Plate tectonics, Seismicity, Vulcanicity, Orogenic structures with reference to the evolution of Himalayas.

Unit 3: Exogenic Processes: Concept of gradation, Agents and processes of gradation, Process of weathering and Mass wasting, Landforms produced by – Drainage system and Drainage patterns, Slope evolution.

Unit 4: Geomorphic processes: Dynamics of Aeolian, Marine, Glacial, Coastal processes and resulting landforms, Recent trends in geomorphology, Applied geomorphology: Urban geomorphology, geomorphic hazards.

References:

1. Ahmed E. (1985), Geomorphology, Kalyani Publishers, New Delhi
2. Strahler A.N. (1968), The Earth Sciences, Harper & Row Intl. Edn., New York
3. Thornberry W.D. (1969), Principles of Geomorphology, 2nd Edition, Wiley Intl. Edn. & Wiley Eastern Reprints, 1984
4. Verstappen H. (1983), Applied Geomorphology, Geomorphological Surveys for Environmental Development, Elsevier, Amsterdam

5. Woodridge S.W. and R.S. Morgan (1991), An Outline of Geomorphology, the Physical Basis of Geography, Orient Longman, Kolkata
6. Dayal P. (1995), A Text Book of Geomorphology 2nd Edition, Sukla Book/Dept. Patna
7. Homes A. (1065), Principles of Physical Geology, 3rd Edition, ELBSS Edn.
8. Goudie Anrew et.al. (1981), Geomorphological Techniques, George Allen & Unwin, London
9. Bloom A.L. (1978), Geomorphology: A Systematic Analysis of Late Cenozoic Landforms Prentice Hall of India, New Delhi
10. Singh Savindra (2001), Bhuakriti Vigyan, Pravalika Publications, Allahabad
11. Singh Savindra (2015), Bhautik Bhugol, Pravalika Publications, Allahabad
12. Worcester P.G. (1965), A Text Book of Geomorphology, Can North and 2nd Edition, East-West Edn., New Delhi
13. J.A. Steers, Unstable Earth
14. Tiwari, Ram Kumar (2016), Bhoutik Bhugol, Hindi Granth Academy, Jaipur, (Raj.)

Paper GEOG1.3 – Climatology

Full Marks: 100 (SIA: 30, ESUE: 70) Pass Marks: 45 Credit-5, Time- 3 Hrs.

(Out of 08 Questions (two from each unit) 04 are to be answered)

Unit 1: Definition Nature and scope of Climatology, Elements of weather and climate, Origin, composition and structure of the atmosphere; Temperature: Solar radiation principles, Greenhouse effect, Horizontal and Vertical distribution of temperature and inversion of temperature, Global warming.

Unit 2: Atmospheric Pressure: Pressure Gradient, Coriolis effect, Horizontal and Vertical distribution of Air pressure and pressure belts; Winds: Planetary, Monsoons, Local winds, Jet streams; Mechanism of monsoon. Humidity and Precipitation, EL Nino and La Nina phenomena, E-Nino- Southern oscillation (ENSO).

Unit 3: Air masses: Definition, Nature, Source, Region, Classification of air masses; Fronts – Frontogenesis and Frontolysis, Classification of fronts, Cyclones: Tropical cyclones and Temperate cyclones – Origin, types, structure and distribution.

Unit 4: Classification of world climate: Koppen's and Thonhwaite classification, Climatic changes, Weather forecasting, Problems and prospects of weather forecasting in India.

References:

1. Savindra Sing (2005), Climatology, Prayag Pustak Bhawan, 20-A, University Road, Allahabad-02, UP.
2. Critchfield H.J. (2005): General Climatology, Prentice Hall of India, New Delhi
3. Lal D.S. (2009): Physical Geography, Sharada Pustak Bhawan, II, University Road, Allahabad-02, UP.

4. Siddhartha K. (2005): Atmosphere, Weather and Climate, Kosalaya Publications Pvt. Ltd., C-2, Padma Apartment, Mehruli, New Delhi-30
5. Lal D.S. (2009): Climatology, Sharada Pustak Bhawan, II, University Road, Allahabad-02, UP.
6. Dasagupta A and Kapoor A.N. (1978): Principles of Physical Geography, ChandS & Co. Ltd., New Delhi
7. Strahler A.N. (1976), The Earth Sciences, Harpu & Row, Intl. Ed. New York
8. Alka Goutam (2012), Climatology, , Prayag Pustak Bhawan, 20-A, University Road, Allahabad-02, UP
9. Tiwari, Ram Kumar (2016), Bhoutik Bhugol, Hindi Granth Academy, Jaipur, (Raj.)

Paper GEOG1.4 – PRACTICAL

Full Marks: 100 (ESUE: 80, Record & Viva:20) Pass Marks: 50 Time- 6 Hrs.

04 are to be Questions answered (one from each unit)

Unit 1: Map Projection: Sinusoidal Projection (Simple), Mollweide's Projection (interrupted), Globular Projection, Gnomonic Projection (Polar, Equatorial and Oblique). **20 Marks**

Unit 2: Geological Maps: Construction of sections and interpretations **20 Marks**

Unit 3: Triangular Graph, Poly Linear Graph, Scattered diagram, Lorenz Curve, Divided Rectangular diagram. **20 Marks**

Unit 4: Profiles: Serial, Superimposed, Projected and Composite, Slope analysis (Wentworth's Method), Stream ordering. **20 Marks**

Practical Record **10 Marks**

Viva-Voce **10 Marks**

References:

1. Monkhouse F.J. and Wilkinson HR (1952), Maps and Diagrams, their compilations and concentration, Muthuen & Co. London
2. Harwel JD, Newson MD (1973)-Techniques in Physical Geography, Mc.Millan Edu.Ltd., London
3. Mishra RP, and Ramesh A (1968)-Fundamentals of Cartography, PrasarangaUniversity of Mysore, Mysore
4. Robinson & Marison (1995), Elements of Cartography USA
5. R.L. Singh (2010), Practical Geography, Sharada Pustak Bhawan, II, University Road, Allahabad-02, UP.
6. Singh RL. (1979), Elements of Practical Geography, Kalyani Publishers, New Delhi

7. Sharma, J.P. (2011), Prayogic Bhugol, Rastogi Publications, Meeruth.
8. Chouhan, P.R. (2005), Prayogic Bhugol, Vasundhara Prakashan,
Gorakhpur
9. Hiralal (2006), Prayogic Bhugol, Radha Publication, New Delhi
10. Tiwari, R.C. & Tripathi, S. (2011), Prayogic Bhugol, Prawalika
Publications, Allahabad
11. Khullar, D.R. (2002), Prayogic Bhugol ke Tatwa, New Academic
Publishing Company, Jalandhar
12. Singh, L.R. (2011), Prayogic Bhugol ke Sidhant, Sharda Pustak Bhawa,
Allahabad

2nd SEMESTER

Elective (Skill Enhancement-SE) EC-1 (to elect any one paper)

Paper GEOG2.1.1 – Agriculture Geography

Full Marks: 100 (SIA: 30, ESUE: 70) Pass Marks: 45 Credit-4, Time- 3 Hrs.

(Out of 08 Questions (two from each unit) 04 are to be answered)

Unit 1: Nature and Scope, Significance and Development of agricultural geography. Approaches to the study of agricultural geography. Origin and dispersal of agriculture, Sources of agricultural data.

Unit 2: Determinants of agricultural land use – Physical, economic, social and technological, Land holding and land tenure systems, land reforms, land use policy and planning, cropping pattern, Intensity of cropping.

Unit 3: Theories of agricultural location based on several multidimensional factors; Von Thunen's model and its recent modifications, Whittlesey's classification of agricultural region, Agro-climatic regions of India.

Unit 4: Agriculture in India – Land use and shifting cropping pattern, New trends in Indian agriculture, Green Revolution, White Revolution, Blue Revolution, Problems of Indian agriculture, Agricultural Policy of India.

References:

1. Mohammad Shafi (2006), Agricultural Geography, Dorling Kindessley (India), Pv. Ltd., New Delhi
2. Negi, B.S. (2003), Indian Agriculture: Problems, Progress and Prospects, Vikas Publishing House Pvt. Ltd. S. Ansari road, Daryaganj, New Delhi-2
3. Majid Hussain (2000), Agricultural Geography, Ed Anmol Publishing Pvt. Ltd., Ansari Road, Daryaganj, New Delhi-2

4. Shafi M. (1999), Agricultural Geography, Kedarnath Ram Nath, 132, college road, Meetat, UP-1
5. Singh & Dhillion (2000), Agricultural Geography, Prayag Pustak Bhavan, 20A, University Road, Allahabad-211002, UP
6. Jasbir Singh (2001), Agricultural Geography, Prayag Pustak Bhavan, 20A, University Road, Allahabad-211002, UP
7. Memonia CB (1998), Agricultural Problems in India, Prayag Pustak Bhavan, 20A, University Road, Allahabad-211002, UP
8. Majid Hussain (2007), Systematic Agricultural Geography, Rawat Publications, Jawahar Nagar, Jaipur, New Delhi-92
9. Goh Cheng Leong & Gillian C. Morgan (2009), Human and Economic Geography, Oxford University Press, New York
10. The Hindu Publications: 2005 to 2010; Survey of Indian Agriculture
11. Tiwari, R.C. & Singh, B.N. (2015), Krishi Bhugol, Prawalika Publications, Allahabad
12. Singh, Indira (2007), Krishi Bhugol, Discovery Publishing Home, New Delhi
13. Lesely Simon (Translated by Shyam Sundar Katare) (1989), Krishi Bhugol, Madhya Pradesh Hindi Granth Academy, Bhopal.

Paper GEOG2.1.2 – Settlement Geography

Full Marks: 100 (SIA: 30, ESUE: 70) Pass Marks: 45 Credit-4, Time- 3 Hrs.

(Out of 08 Questions (two from each unit) 04 are to be answered)

Unit 1: General Introduction, Evolution & Distribution of Settlements: Nature, Scope, Significance and recent trends in settlement Geography, Evolution of settlements in India; Emergence of village settlements, origin and growth of towns; Basic and non-basic concepts in settlement formation. Distribution of settlements, spacing of settlements- application of models of Christaller and Losch.

Unit 2: The functional classification of settlements: Rural and Urban settlements, Rural settlements – Types of rural settlements, House types, Morphology and functions of rural settlements; Rural service centres and their role in Urbanization process, Indian Rural settlements in Different Micro-Environmental Conditions : (a) Mountains (b) Desert Region (c) in the vicinity of Urban Centers.

Unit 3: Urban settlements – Classification of urban places: Non-functional and functional, Morphology of Indian cities and its comparison with Western cities; Functional relations between urban settlements and their umlands.

Unit 4: Theories in settlement Geography – CBD, Centrifugal and Centripetal forces theory, Urban fringe, Urban structures theories, Rank size relationship, settlement geography of selected Indian cities: Mumbai, Kolkata, Delhi, Chennai, Ranchi, Jamshedpur and Dhanbad.

References:

1. Hudson, F.S. (1976), Geography of Settlements, Macdonald, London
2. Northam Ray, M. (1979), Urban Geography, John Wiley and Sons, New York

3. Ambrose, Peter, 1970, Concepts in Geography, Vol.-I, Settlement Pattern, Longman
4. Baskin C. (Translator) 1996, Central Places in Southern Germany, Prentice Hall Inc. Englewood Cliffs, New Jersey
5. Haggett, Peter, Andrew D. Cliff and Allen Frey (Ed.) 1979, Locational Models Arnold Heinemann
6. King, Leslie, J. 1986, Central Place Theory, Saga Publications, New Delhi
7. Mayer, M. Harold and Clyde F. Kohn (Ed.) 1967, Readings in Urban Geography, Central Book Depot, Allahabad
8. Mitra, Asok, Mukherjee S. and Bose,R., 1980, Indian Cities Abhinav Publications, New Delhi
9. Nangia, Sudesh, 1976; Delhi Metropolitan Region, K.B. Publications, New Delhi
10. Prakasa, Rao, V.L.S., 1992; Urbanisation in India: Spatial Dimensions, Concept Publishing Co., New Delhi
11. Ramachandran, R., 1992; Urbanisation and Urban Systems in India, Oxford University Press, New Delhi.
12. Singh, R.L. and Kashi Nath Singh (Ed.) 1975; Readings in Rural Settlement Geography, National Geographical Society of India, Varanasi
13. Marya, S.D. (2011), Adhiwas Bhugol, Sharda Pustak Bhawan, Allahabad
14. Tiwari, R.C. (2011), Adhiwas Bhugol, Prawalika Publications, Allahabad
15. Singh, S. (2008), Adhiwas Bhugol, Vishwa Bharti Publications, Delhi
16. Bansal, S.C. (2003); Adhiwas Evam Jansankhya Bhugol, Rastogi Publication, Meeruth
17. Singh, Ramyag (2012), Adhiwas Bhugol, Rawat Publication, Jaipur

Paper GEOG2.1.3 – Tourism Geography

Full Marks: 100 (SIA: 30, ESUE: 70) Pass Marks: 45 Credit-4, Time- 3 Hrs.

(Out of 08 Questions (two from each unit) 04 are to be answered)

Unit 1: Definition, Nature, Scope and extent, Concept of Tourism, Importance of Tourism, Relationship between Geography and Tourism, Ecotourism, Agro-tourism, Heritage Tourism and Adventure Tourism.

Unit 2: Types of Tourism – Domestic and International Tourism, Adventure, Wildlife, Medical, Pilgrimage, Business, Leisure, Pleasure and Cultural Tourisms, Tourists types – Local, National and International, Economic and Socio-cultural impact of Tourism.

Unit 3: Infrastructural approach for the development of Tourism – Mode of transportation, Govt. agencies, guides, license, hotels, resorts, youth hostels, home stays, Government policies for planning and promotion of tourism in India, Prospects and planning of tourism in Jharkhand

Unit 4: Case studies – Hill station – Mount Abu, Shimla, Ooty, Beach points – Kwalum, Goa and Marino Beach; Historical Centres – Mysore, Jaipur and Agra; Religious Centers – Puri, Shirdi and Tirupathi, Dams – Sardar Sarovar, Bhakranangal and Masanjore dam; National parks – Gir National Park, Palamu Tiger Reserve, Betla, Nandan Kanan National Park, Bhubaneshwar.

References:

1. Bhatia A.K. (1996): Tourism Development: Principles and Practices, Sterling Publishers, New Delhi
2. Kaul R.K. (1985): Dynamics of Tourism and Recreation, Inter-India, New Delhi
3. Kaur J. (1985); Himalayan Pilgrimages and New Tourism, Himalayan Books, New Delhi

4. Milton, D. (1993); Geography of World tourism, Prentice Hall, New York
5. Peace, D.B. (1978); Tourism To-Day: A Geographical Analysis, Harlow, Longman
6. Robinson H.A. (1996); A Geography of tourism, McDonald and Evans, London
7. Sharma, J.K. (ed.) (2000); Tourism, Planning and Development – A New Perspective, Kanishka
8. Singh R.L. and Kashi Nath Singh (Ed.) (1975); Readings in Rural Settlement Geography, National Geographical Society of India, Varanasi
9. Kapoor B.K. (2008); Paryatan Bhugol, Vishwa Bharti Publication, Delhi

Paper GEOG2.2 – Oceanography

Full Marks: 100 (SIA: 30, ESUE: 70) Pass Marks: 45 Credit-5, Time- 3 Hrs.

(Out of 08 Questions (two from each unit) 04 are to be answered)

Unit 1: Nature and scope of oceanography; Configuration of Ocean Floor – Continental Shelf, Slope, Oceans Plains and Ocean Deeps, Physical and chemical properties of ocean water: Composition, Temperature and Salinity

Unit 2: Surface currents, waves and tides, Marine biological environment, Biozones, Types of organisms –Plankton, Nekton and Benthos, Food and mineral resources of the sea.

Unit 3: Major marine environments: Coastal; Estuaries; Deltas, Coastal Ecology-Coastal Dunes and Mangroves.

Unit 4: Ocean Deposits: Types and Distribution, Coral Reefs; Origin, Types and Theories of Origin of Coral Reefs (Darwin, Dally and Murray), Impact of humans on the marine environment, Recent trends in Oceanography.

References:

1. Lal D.S. (2003); Oceanography, Sharda Pustak Bhawan, Allahabad
2. King Cuchalaine A.M. (2000); Oceanography for Geographers, Edward Arnold Publications, London
3. Savindra Singh (2004); Physical Geography, Prayog Pustak Bhawan, Allahabad-2
4. Siddharth (2005); Oceanography: A brief introduction, Rawat Publishers, New Delhi
5. Sharma RC (2000); Oceanography for Geographers, Chaitanya Publishers, Allahabad-02

6. Vattal and Sharma (2003); Oceanography for Geographers, Chaitanya Publishers, Allahabad-02
7. Yadav A.S. (2002); Geography of Minerals of Oceans, Concept Publishers, New Delhi
8. Basu S.K. (1999); Hand Book of Oceanography, Global Vision, Delhi
9. Garisson Tom (1999); Oceanography, Cole, Wadsworth, New York
10. Sharma and Vattal (1962); Oceanography for Geographers, Chaitanya Publishers, Allahabad-02
11. Turman Harold (1985); Introductory Oceanography, Bell and Howell Co. London
12. Tiwari Ram Kumar (2016); Bhautik Bhugol, Rajsthan Hindi Granth Academy, Jaipur
13. Gautam, Alka (2005); Jalwayu Evam Samudra Vigyan, Rastogi Publication, Meeruth
14. Kulshrestha, K.P. (2004); Samudra Vigyan, Kitab Ghar, Kanpur

Paper GEOG2.3 – Population Geography

Full Marks: 100 (SIA: 30, ESUE: 70) Pass Marks: 45 Credit-5, Time- 3 Hrs.

(Out of 08 Questions (two from each unit) 04 are to be answered)

Unit 1: Nature and scope Population geography; population geography and demography, Sources of population data, distribution and density of population, Population distribution and its pattern in the World, Factors influencing distribution of Population in the World.

of growth. objectives; development geography as a field of specialization –, their level of reliability and problems of mapping of population data. Population – theoretical issues, classical and modern theories of and their determinants.

Unit 2: Concepts of Population composition; Population changes: Growth of Population in the World and Indian, Components of Population changes, Fertility, Mortality and Migration, Determinants of Fertility and Mortality, Demographic Transition Theory.

Unit 3: Migration – Meaning and Types, Causes and Consequences, Theories of Migration – Ravenstein & Lee.

Unit 4: Population and Resources, Optimum Population, Population Resource Regions, Malthus Population Theory, Population Policy of India

References:

1. Chandna R.C. (2009), Geography of Population, Kalyani Publishers, Ansari Road, Daryaganj, New Delhi-2
2. Majid Hussain (1999); Human Geography, Rawat Publishers, Jaipur
3. Trewartha GT (1959); A Geography of Population, World Patterns, John Willey and sons Inc. New York
4. Ghosh B.N. (1987); fundamentals of Population Geography, Sterling Publishing Company, New Delhi

5. R.K. Tripathi (2000); Population Geography, commonwealth Publishers, New Delhi
6. Kayastha, S.L. (1998); Geography of Population, Rawat Publishers, Jaipur
7. Clerk I (1984); Geography of Population, approaches and Applications, Pergamon Press, Oxford, UK
8. Tiwari Ram Kumar (2015); Jansankhya Bhugol, Prwalika Publication, Allahabad
9. Hiralal (2007); Jansankhya Bhugol ke Mul Tatwa, Radha Publication, New Delhi
10. Mourya, S.D. (2011); Jansankhya Bhugol, Sharda Pustak Bhawan, Allahabad
11. Dubey, K.K. & Singh, M.B. (2001); Jansankhya Bhugol, Rawat Publishers, Jaipur

Paper GEOG2.4 – Instrumental Survey (PRACTICAL)

Full Marks: 100 (ESUE: 80, Record & Viva:20) Pass Marks: 50 Time- 6 Hrs.

One question will be related to Field Work and other three will be of Lab work

Unit 1: Importance of Field Work, Scope and Purpose, types of survey, Principles and applications of selected survey instruments, Plane Table, Plan preparation, Resection method: Two point problem, three point problem, Tracing paper method. **20 Marks**

Unit 2: Prismatic Compass: Open and closed traverse, Elimination of error by Bowditch Rule **20 Marks**

Unit 3: Traverse survey, Spot height determination and contour plan preparation, Theodolite: Horizontal and vertical (height) measurement, Accessibility and inaccessible method. **20 Marks**

Unit 4: Other smaller instruments: Sextant, Abney level and Indian Clinometer, Survey of selected area, Preparation of base map by the use of surveying instruments **20 Marks**

Practical Record **10 Marks**

Viva-Voce **10 Marks**

References:

1. Monkhouse F.J. and Wilkinson HR (1952), Maps and Diagrams, their compilations and concentration, Muthuen & Co. London
2. Harwel JD, Newson MD (1973)-Techniques in Physical Geography, Mc.Millan Edu.Ltd., London
3. Sarkar A: Practical geography – A Systematic Approach.
4. R.L. Singh (2010), Practical Geography, Sharada Pustak Bhawan, II, University Road, Allahabad-02, UP.

5. Singh RL. (1979), Elements of Practical Geography, Kalyani Publishers, New Delhi
6. Kaanetkar and Kulkarni : Surveying and Levelling, Part-I and Part-II
7. R. L.Singh, (2010), Practical Geography, Sharda Pustak Bhawan, 11, University Road, Allahabad, UP - India
8. Sharma, J.P. (2011), Prayogic Bhugol, Rastogi Publications, Meeruth.
9. Chouhan, P.R. (2005), Prayogic Bhugol, Vasundhara Prakashan, Gorakhpur
- 10.Hiralal (2006), Prayogic Bhugol, Radha Publication, New Delhi
- 11.Tiwari, R.C. & Tripathi, S. (2011), Prayogic Bhugol, Prawalika Publications, Allahabad
- 12.Khullar, D.R. (2002), Prayogic Bhugol ke Tatwa, New Academic Publishing Company, Jalandhar

3rd SEMESTER

Paper GEOG3.1 – Geography of India

Full Marks: 100 (SIA: 30, ESUE: 70) Pass Marks: 45 Credit-5, Time- 3 Hrs.

(Out of 08 Questions (two from each unit) 04 are to be answered)

Unit 1: Physical setting of India: Location, Physiographic Division, Natural Drainage System and their Distribution, Climate: Seasons & Climatic regions, Soils: Types, Distribution, Erosion and Conservation, Natural Vegetation: Types and Distribution, Degradation and conservation.

Unit 2: Agriculture: Major Agricultural Crops: Rice, Wheat, Cotton, Sugarcane, Maize, Jowar, Tea, Coffee, Rubber, Mulberry crops, Green Revolution in India and Food Security in India, Irrigation: Major River Projects.

Unit 3: Distribution, production and trade of important minerals and power resources: Iron Ore, Manganese, Mica, Copper, Bauxite, Coal, Petroleum, Natural Gas, Atomic Energy, Hydral and Thermal Power, Growth, Development and Distribution of Major Industries: Iron and Steel, Engineering, Cement, Paper, Fertilizers, Cotton Textiles, Silk, Knowledge-based Industries, Industrial Regions of India.

Unit 4: Growth and Development of Transportation, Transport System: Roads, Railways, Airways and Inland Water, Population: Growth and Distribution, Composition and Density, Literacy, Sex Ratio, Fertility & Mortality and Health Services.

References:

1. Khullar D.R. (2009): India: A Comprehensive Geography, Kalyani Publisher, New Delhi, Hyderabad, Kolkata
2. Alka Gautam (2009); Geography of India, Sharda Pustak Bhawan, University Road, Allahabad-UP

3. Sharma T.C. and countinho O (2005); Economic and Commercial Geography of India, Vikas Publishing House Ltd., New Delhi-14
4. Tiwari R.C. (2008); Geography in India, , Prayag Pustak Bhavan, 20A, University Road, Allahabad-211002, UP
5. Pritivish Nag & Smita Sengupta (1992); Geography of India, Concept Publishing Company, New Delhi-59
6. Ranganath (2007); Geography of India, Vidhyanidhi Prakashan, Station Road, Godag
7. Phani Deka & Abani Bhagabati (1962); Geography: Economic and Regional, Wiley Eastern Limited, Ansari Road, Daryaganj, New Delhi-1
8. Majid Hussain (2008); Geography of India, Tata McGraw Hill Publishing Co. Ltd., New Delhi
9. Singh R.L. (1971); India: A Regional Geography, National Geographical Society of India, Varanasi, UP
10. Jadish Singh (2003); India: A Comprehensive Systematic Geography, Gyanodaya Prakashan, Gorakhpur-UP
11. India: Year Books – (PRD Govt. of India Publishers every year)
12. <http://www.mapsofindia.com/geography/>

Paper GEOG3.2 – Economic Geography

Full Marks: 100 (SIA: 30, ESUE: 70) Pass Marks: 45 Credit-5, Time- 3 Hrs.

(Out of 08 Questions (two from each unit) 04 are to be answered)

Unit 1: Nature, Scope and importance of Economic Geography, Evolution of economic geography, Approaches to economic geography, Concept of economy, Spatial structure of the economy, Economy and economic geography.

Unit 2: Primary Economic Activities: Hunting, Fishing, Food gathering, Herding, Timbering, Agriculture and Mining, Commercial Economic Activities: Dairying, Mixed Farming, Poultry and Plantations, Fishing and Forestry: Law of the Sea, Fishing grounds and aquaculture, Issues and challenges for the development of fishing and forestry.

Unit 3: Knowledge based Technologies: Electronic age, Spatial Information Technology, Telecommunication, High Tech Transport, Effect of Liberalization, Privatization and globalization (LPG) on Economic activities in the world and India.

Unit 4: Economic development: Growth and Development, Definition, Concept, contents of Development and Sustainable development, Human Resource Development: Concept, Measurement, Indicators and Components.

References:

1. Alexander (1975): Economic Geography
2. Guha J.L. and Chattoraj (2004), A New Approach to Economic Geography, A Study of Resources, The World Press Pvt. Ltd. Culcutta
3. Zimmerwan – World Resources and Industries
4. Khanna K.K. and Gupta V.K. (1993); Economic and Commercial Geography, Sultan Chand, New Delhi

5. Mallappa P. (2004) Udyam Saupahmagalu, Chetan Book House, Mysore
6. Roy. PR. (2001) Economic Geography – A study of Resources, New Central Book Agency, (P) Ltd. Calcutta
7. P. Hagget (1997), Geography, A Modern Synthesis, Haper and Roo Publications, New York
8. Dubey R.N. and Negi BS (2002) - Economic Geography of India, Kitabmahal, Allahabad

Paper GEOG3.3 – Physical Survey (PRACTICAL)

Full Marks: 100 ESUE (Survey Rep.): 80, Viva:20 Pass Marks: 50 Time- 6 Hrs.

Objective:

The main objective of the field work (Physical survey) is to conduct an extensive survey of a contiguous wider region and identify salient landforms, their genesis and their impact on human life, flora and fauna.

Unit 1: Trace the prominent features of the area to be surveyed, Identify the salient landform features of the selected area on a topographical sheet.

Unit 2: Identify the landforms on the surface, while in the field, Also note the agents of erosion, transportation and deposition associated with the landforms.

Unit 3: Identify and classify the biodiversity in the area (Flora and Founa).

Unit 4: Observe the relationship of various landforms, flora and fauna with land use, settlement, structure and life style of the people.

Based on observations of the above characteristics, prepare a field survey report. The report need to be supplemented with maps, sketches, diagrams and photographs etc.

The practical exercises should aim at identification of micro-geomorphic features on the ground and their relationship to land use/settlement pattern. This is also a training in Report Writing.

References:

- 1. Physical Survey report will have to be submitted to the H.O.D. ten days before examination and it will be placed before the external examiners who will ask questions related to the concerned report.*
- 2. Marking will be made on the basis of the report presentation and viva.*

Elective (GE/DC) EC-2 (To elect any one paper)

Paper GEOG3.4.1 – Hydrology and Water Resources

Full Marks: 100 (SIA: 30, ESUE: 70) Pass Marks: 45 Credit-5, Time- 3 Hrs.

(Out of 08 Questions (two from each unit) 04 are to be answered)

Unit 1: Definition and Scope of Hydrology, Importance of water, Hydrological cycle, Water storages – Glaciers, River channels, Lakes and Reservoirs, Soil Moisture, Ground Water.

Unit 2: Surface water: Sources and factors affecting quality and quantity; Precipitation: forms and factors; Interception: factors; Runoff: sources and factors affecting runoff; Evaporation: Measurement and factors; Evapotranspiration: Control and factors.

Unit 3: Ground water: Characteristics of stream flow, Darcy's law, Permeability, Infiltration, Ground water storage, Ground water aquifers in different rock systems, Movement and discharge.

Unit 4: Environmental influences on water resources; sectoral demands for water; urban water supply; water management; water harvesting; water pollution and control.

References:

1. Timothy, Davie (2003); Fundamentals of Hydrology, Routledge, Taylor and Francis Group, UK
2. Todd, D.K. (2009); Groundwater Hydrology, John Wiley & Sons Inc.
3. Mahajan G. (1989); Evaluation and Development of Ground Water: Ashish Publishing House, New Delhi
4. Karanth, K.R.C. (1988); Ground Water: Exploration, Assessment and Development, Tata McGraw Hill, New Delhi
5. Andrew D. Ward and Stanley Trimble, 2004 (2nd edition), Environmental Hydrology, Lewis Publishers

6. Wright, R.T. and Nebel B.J. 2002 (8th Edition), Environmental Science: Towards a Sustainable Future, Prentice Hall India Ltd.
7. Vijay P. Singh, 1995, Environmental Hydrology. Kulwer Academic Publications, The Netherlands.
8. Subramaniam V. 2002, Text Book of Environmental Science, NarosaPublishing House, Delhi
9. Santhosh Kumar Garg 2007, Hydrology and Water Resources Engineering, Khanna Publishers, Delhi
- 10.Patra, K.C. 2004, Hydrology and Water Resources Engineering, Narosa Publications, New Delhi
- 11.Viessmann, Warren, Lewis, Gary, 2002 (5th Edition) Introduction to Hydrology, Prentice Hall
- 12.Hendriks Martin, 2010, Introduction to Hydrology, Oxford University Press, London
- 13.Raghunath H.M., 2006, Hydrology: Principles, Analysis and Design, New Age International Publishers, Mysore.

Paper GEOG3.4.2 – Environmental Geography

Full Marks: 100 (SIA: 30, ESUE: 70) Pass Marks: 45 Credit-5, Time- 3 Hrs.

(Out of 08 Questions (two from each unit) 04 are to be answered)

Unit 1: Nature and Interdisciplinary aspect of Environmental Geography, Ecological Approaches, Definition and meaning of environment, Habitat, Ecological Niche, Bio-sphere and Biodiversity.

Unit 2: Ecosystem: Structure and functioning of Ecosystem, Pond as a Ecosystem, Food chains, Food webs, Food Pyramid, Biomes – Equatorial to Tundra i.e. 11 types. Man and Environmental relationships, Resource use and ecological imbalance with reference to soil, forests and energy resources, Man made Ecosystem – urban, Ecotourism, National Parks and Sanctuaries, Depletion of Ozone, Green House Effect and Acid Rain.

Unit 3: Man induced changes in Environment: Environmental pollution, i.e. Air, Water, Noise, Solid waste with special reference to India. Environmental hazards, i.e. earth as warehouses, Flood, Famines, Land slides, Avalanches, Forest fires, Impact of Green revolution and Extinction of species.

Unit 4: Principal of Environmental Management – Environmental Policy of India (Post 2000 AD). Environment Impact Assessment (EIA). Global Summits and Agencies of Environmental Conservation.

References:

1. Strahler A.N. (1968); The Earth Sciences, harper International Education, New York
2. Richard H.B. (2004), Physical Geography, Heinmann Simple Services, Rupa & company, New Delhi
3. Robinsoh H. (1982), Bio Geography, ELBS, New York

4. Healey I.N. and Moore P.D. (1973); Bio-Geography, Backwell Oxford, UK
5. Strahler A.N. and Strahler A.H. (1973); Environmental Geo Science, Hamilton, California, USA
6. Savindra Singh (2004) Environmental Geography, Prawalika Publication, Allahabad
7. Savindra Singh (2004) Paryawaran Bhugol, Prawalika Publication, Allahabad
8. Paul Selman (2000); Environmental Planning, Sage Publications, New Delhi
9. Tiwari, Ram Kumar (2005); Paryawaran Adhyayan, Luxmi Publications, New Delhi
10. Rao, B.P. (2000); Paryawaran Bhugol, Vasundhara Prakashan, Gorakhpur
11. Strahler A.N. and Strahler A.H. (1973); Geography and Man's Environment, John Wiley & Sons, New York

Paper GEOG3.4.3 – Remote Sensing, GIS and GPS

Full Marks: 100 (SIA: 30, ESUE: 70) Pass Marks: 45 Credit-5, Time- 3 Hrs.

(Out of 08 Questions (two from each unit) 04 are to be answered)

Unit 1: Stages of Remote Sensing data acquisition: Physics of Remote Sensing: Electro Magnetic Spectrum (EMS); EMR and its interaction with atmosphere and earth surface features.

Unit 2: Remote Sensing – Platforms: Types and their orbital characteristics; Sensors types: Active and passive; Sensors systems: Whiskbroom and push broom; Satellite series: IRS, SPOT, IKONOS and Quick bird.

Unit 3: Digital Image Processing: Digital data formats; Image restoration; geometric radiometric, corrections and filtering, Image enhancement: linear and non linear contrast stretch; Band combinations; Image classifications, supervised and unsupervised.

Unit 4: Geographic Information System and Global Positioning System: Components of GIS; Data structures, Date base management system (DBMS); Data models; spatial data analysis and applications; Fundamentals of GPS; Segments of GPS; GPS Applications.

References:

1. Lillesand T.M. and Keifer R.W. 2008 (6th Edition), Remote Sensing and Image Interpretation, John Wiley & Sons, New York
2. Joseph George, 2005 (2nd Edition), Fundamentals of Remote Sensing, University Press, Hyderabad
3. Sabins, F.F. 1986, Remote Sensing: Principles and Interpretation, Freeman, New York
4. Rashid S.M. and Mazhar A.K. 1993, Dictionary of Remote Sensing, Manak Publishing House, Delhi

5. Lo, C.P. and Yeung A.K. 2006 (2nd Edition), Concept and Techniques of GIS, Prentice Hall of India, New Delhi
6. Masood, A.S. 2006, Introduction to GIS, Allahabad
7. Fazal S. and Rahman A. 2007, GIS Terminology, New Age International Publishing, New Delhi
8. Leick, A. 2003 (2nd Edition), GPS Satellite Surveying, John Wiley & Sons, New York
9. N.K. Agarwal, 2004, Essentials of GPS, Spatial Network Pvt. Ltd.

4th SEMESTER

Paper GEOG4.1 – Geography of Jharkhand

Full Marks: 100 (SIA: 30, ESUE: 70) Pass Marks: 45 Credit-5, Time- 3 Hrs.

(Out of 08 Questions (two from each unit) 04 are to be answered)

Unit 1: Physical: Areal differentiation and characterization of land units based on rock type, topography, drainage, climate, vegetation and soil.

Unit 2: Agriculture: Areal pattern differentiation of different crops, crop intensity (irrigated and unirrigated), yield of crops and agricultural productivity of the land, impact of physical, economic and institutional factors (size of land holding, land tenure, agricultural practices etc.)

Unit 3: Location of economic activities, types of industries (Large, medium and small), relationship of the resource based and footloose industries, industrial regions, minerals and power resources.

Unit 4: Population: Demographic and socio-economic characteristics and locations of infrastructure facilities and amenities, Demographic and socio-economic conditions of tribes – Oraon, Munda and Santhal, Settlement hierarchy and pattern, Urbanization, Tourism.

References:

1. Ahmad E.; Bihar: A Physical, Economic and Regional Geography, Ranchi University, Ranchi, 1965
2. Tiwari R.K.; Jharkhand Ka Bhoogol, Rajesh Publications, New Delhi
3. Tiwari R.K.; Jharkhand Ki Rooprekha, Shivangan Publications, Ranchi
4. Singh R.L.; India: A Regional Geography, National Geographic Society, India, Varanasi, 1971
5. Ram, L.N. ; A Systematic Geography of Bihar, Department of Geography, Patna University, Patna

Paper GEOG.4.2 – Regional Planning and Development

Full Marks: 100 (SIA: 30, ESUE: 70) Pass Marks: 45 Credit-5, Time- 3 Hrs.

(Out of 08 Questions (two from each unit) 04 are to be answered)

Unit 1: Concept of Region: Types, hierarchy and characteristics of regions, Delineation methods of regions – Formal, Functional and Nodal, Geography and regional planning, Concept and scope of regional planning, Regional Approaches, principles, methods, techniques of regional planning, need for planning.

Unit 2: Conceptual and theoretical framework of regional planning: Growth pole and growth foci, Planning processes – Sectoral, multilevel, decentralized planning, Integrated Area Development Planning (IADP), Planning for tribal and hill areas, drought prone areas, command areas and watershed, Planning for metropolitan region: CDP, Satellite towns, Urban green belt.

Unit 3: Concept of Development, Indicators of Development, Regional imbalance, Regional development strategies, Problems and issues in regional planning, Sustainable Development of regions, Regionalization of India: Based on natural, economic and administration (macro and meso levels only)

Unit 4: Theories of regional development: Central place theory, Diffusion theory (Hegerstand's), The role of locational theories in regional planning process. An evaluation of regional disparities/imbbalances – backward regions of India, Identification of backward areas, Planning backward area, Harnessing the information through GIS, Remote Sensing, GPS for regional planning and development

References:

1. Tiwari R.C.(2005), Geography of India, PrayagPustak Bhavan, Allahabad

2. Singh Jagadish (2003), India – A Comprehensive Systematic Geography, Gyanodaya Prakashan, Gorakhpur, UP
3. Mishra R.P. (1969), Regional Planning Concepts Techniques Policies and Case Studies, Prasaranga, The Mysore Univeristy, Mysore
4. V.K.R.V. Rao (1978), Planning in Perspective, Allied Publishers Pvt. Ltd., Bombay
5. Mahesh Chand and Vinay K. Puri (1958); Regional Planning in India, Allied Publishers Pvt. Ltd., Bombay
6. Mishra R.P. (1979), Regional Planning and National Development, Vikash Publising House Pvt. Ltd., New Delhi
7. Laxmidevi (1997), Planning Development and Regional Deisparities, Anmol Publication Pvt. Ltd., New Delhi.

Elective (GE/DC) EC-3 (To elect any one paper)

Paper GEOG4.3.1 – Soil Geography

Full Marks: 100 (SIA: 30, ESUE: 70) Pass Marks: 45 Credit-5, Time- 3 Hrs.

(Out of 08 Questions (two from each unit) 04 are to be answered)

Unit 1: Nature, scope and significance of soil geography, its relationship with pedology. Soil forming factors: parent material, organic, climatic, topographic spatio-temporal dimensions. Processes of soil formation and soil development: Physical, biotic and chemical. Soil profile

Unit 2: Soil organisms, macro – animals (earthworms, sowbugs, mites, centipedes, rodents and insects), Micro-animals and plants – Nematodes, Protozoa Rotifers, Fungi, Bacteria, algae and actinomyces.

Unit 3: Physical properties of soils: Morphology, Texture, Structure, Water, Air, Temperature and other properties of soil Chemical properties of soil and soil reaction, Soils erosion, degradation and conservation

Unit 4: Evaluation of land and soil: Parametric and non-parametric systems, Land capability classification, Soil reclamation and management: Soil survey and landforms in environmental management, sustainable development of soil resources with reference to India.

References:

1. Miller, R.W. and Donahue, R.L. (1992), Soils: An Introduction to soils and plant growth, Prentice Hall of India, New Delhi
2. Brady, N.C. and Weil, R.R. (2008); The Nature and Properties of Soils, Prentice Hall, new Jersey
3. Pitty, A.F. (1978), Geography and Soil Properties, Methuen and Co., London
4. Bridges, E.M. and Davidson, D.A. (1982); Principles and Applications of Soil Geography, Longman Group, London

5. Daji, J.A. (1970); A Textbook of Soil Science, Asia Publication House, New York
6. Birkeland, P.W. (1999); Soils and geomorphology, Oxford University Press, New York
7. Govinda Rajan, S.V. and Gopala Rao, H.G.; Studies on Soils of India, Vikas, New Delhi, 1978
8. Raychoudhuri, S.P.; Soils of India, ICAR, New Delhi, 1958
9. Bunting, B.T. ; The Geography of Soils, McGraw Hill, New York
10. Clarke, G.R.; Study of the Soil in the Field, Oxford University Press, Oxford, 1957
11. Foth H.D. and rutk, L.M.; Fundamentals of Soil Science, John Wiley, New York, 1972
12. Bannet, B.T.; Soil Conservation, McGraw Hill, New York

Paper GEOG.4.3.2 – Urban Geography

Full Marks: 100 (SIA: 30, ESUE: 70) Pass Marks: 45 Credit-5, Time- 3 Hrs.

(Out of 08 Questions (two from each unit) 04 are to be answered)

Unit 1: Nature and scope of Urban Geography, definition of urban settlements (Towns, Cities and Metro etc.), Attributes of urban places during ancient, medieval and modern period, classification of urban settlements on the basis of size and function, urban growth and theories; Central placed theory of Christaller and Losch, contribution of Indian scholars to the studies of urban settlements

Unit 2: Urban population density and land value curves – urban land use – vertical and horizontal growth of cities, Concentric, Zonal and Multiple Nuclei Theories of Urban Structure.

Unit 3: Urban Functions – Basic and Non-basic, Urban Hierarchy- Rank-size rule – Central Place Theory- Functional Classification of towns by C.D. Harris and H.J. Nelson, Urban Issues & Challenges: Water Supply, Traffic congestion, Solid waste, Smog, Sewerage and Drainage System.

Unit 4: Concept of City, Region and Urban Hinterland – Urban Sprawl, Urban Slums, Urban Crimes and their trends with reference to India, concept and issues of Peri-urbanization, Elements of urban planning – Urban renewal, Policies of urban development in India- Master Plans of Ranchi City.

References:

1. Beanjen-Garnier J&G, Chabot (1967), Urban Geography, Jhonwiley, New York
2. Northham Ray M. (1975), Urban Geography, John Wiley & Sons, Inc. New York
3. Ranan Paddison (2001), Hand Book of Urban Studies, University of Glasgow, UK, Sage Publications, New Delhi

4. Peter Roberts (2000), Urban Regeneration, University of Dundee, U.K., Sage Publication, New Delhi
5. Saskia Sassen (2000), Cities in a World Economy, University of Chicago, USA, Sage Publications, New Delhi
6. Stephen Ward (2004), Planning and Urban Change, Sage Publications, New Delhi
7. Karen Stromme Christensen (1999), Cities and Complexity, University of California, Berkely USA, Sage Publications, New Delhi
8. Mayer H.M. & Kohn C.F. (1967), Urban Geography, Central Depot, Allahabad, India
9. King Leslie J. & Regional G. Golledge (1978), Cities, Space and Behaviour of the Elements of Urban Geography, Prentice Hall, Inc. Englewood Cliffs, New Jersey, USA
10. Mandal R.B. (2002), Urban Geography – A Text Book, Concept Publishing Company, New Delhi
11. Siddartha K. and S. Mukherjee (1996), Cities, Urbanization and Urban Systems, Transworld Media and Communication Pvt. Ltd., New Delhi
12. Johnson James H. (1966) Urban Geography – An Introductory Analysis, Pergamon Press Oxford, London
13. Bansal, S.C. (2011), Nagariya Bhoogol, Meenakshi Publication, Meeruth
14. www.geography.about.com/cs/cities/urban/geo/
15. www.brixworth.demon.co.uk/leeds/

Paper GEOG4.3.3 – Remote Sensing, GIS and GPS (Practical)

Full Marks: 100-ESUE: 80, Record & Viva: 20, Pass Marks: 50, Time- 6 Hrs.

Unit 1: Image analysis: Principles of visual image interpretation, Recognition elements and interpretation keys for visual interpretation (Shape, Size, colour, tone, texture, association), Interpretation of Satellite Image (Landsat, LISS III, LISS IV, Cartosat etc.)

Unit 2: Photographs Identification of Spatial Data: Point line and Polygon features, Representation of spatial features; Raster and vector data model, data structure, overlay analysis, change analysis and buffer analysis.

Unit 3: Introduction GIS Software, Geo-referencing and Projection Spatial data entry, editing, query building and executing, Topology creation and linking spatial and non spatial data, Spatial data visualization and output map generation.

Unit 4: Introduction to GPS, Finding latitude, Longitude and altitude, Tracking in GPS, Routing in GPS.

References:

1. Peter A. Burrough and Rachael A. McDonnel (1998), Principles of Geographic Information Systems, Oxford University Press, New York
2. Aronoff S. (1989), Geographic Information System, A Management Perspective, WDL Publications, Ottawa, Canada
3. Ian Heywood, Sarah Cornelius, Steve Carver (2003), An Introduction to Geographic Information System, Pearson Education Ltd., India
4. Chrisman N.R. (1997), Exploring Geographic Information System, Wiley, New York
5. www.gisdevelopment.net/tutorials/human008.html
6. www.gislounge.com/remotesensing.html

Paper GEOG4.4 – Dissertation

Full Marks: 100-ESUE: 80, Viva-voce: 20, Pass Marks: 50, Time- 6 Hrs.

1. Each student enrolled for examination in 4th Semester will have to complete a Dissertation for which an area, preferably any community development block nearer to the department, will be selected by the DRC
2. Different topic will be allotted to each student under a supervisor (Faculty member of the Department)
3. Students will complete the work within specified period and submit the Dissertation thesis to the H.O.D. 15 days before the practical examination.