HEMCHAND YADAV VISHWAVIDYALAYA, DURG (C.G.)

Website - www.durguniversity.ac.in, Email - durguniversity@gmail.com

SCHEME OF EXAMINATION
&
SYLLABUS
of
M.A./M.Sc.(Geography) Semester Exam

Session 2026-27

(Approved by Board of Studies)
Effective from July 2026

Dr. RK Thakare
Dr KK Dwivedi
Sh. Girwar Singh Bhardwaj Osbhardwaj

Dr. S. Jemamarie
Sh. N. Sahare
Dr. Jay Singh Sahu

Hemchand Yadav Vishwavidyalaya, Durg (C.G.)

M.A. / M. Sc.

GEOGRAPHY

SEMESTER I (2026-27)

M. A. /M. Sc. Geography Semester I shall consist the following papers:

S. N	Paper	T	M. M.			Credit Score
			Written	Inte. Asse.	Total	
1.	I	Geomorphology	80	20	100	05
2.	II	Climatology	80	20	100	05
3.	III	Geographical Thought	80	20	100	04
4.	IV	Geography of India	80	20	100	04
5.	V	Practical-I : Advanced Cartography	---	---	100	02

1. The M. A. /M. Sc. Semester I examination in Geography shall consist of 500 marks. There shall be four theory papers each of 100 marks and one practical of 100 marks as follows:

Paper I	Geomorphology
Paper II	Climatology
Paper III	Geographical Thought
Paper IV	Geography of India
Paper V	Practical-I: Advanced Cartography

2. The theory papers shall be of three hours duration.
3. Candidates will be required to pass separately in theory and practical examinations.
4. (a)In the practical examination the following shall be the allotment of time and marks.

(i)	Practical record	20%
(ii)	Lab work (up to three hours)	70%
(iii)	Viva on i. ii.	10%

(b) The external and internal examiners shall jointly submit marks.

(c) All the candidates shall present at the time of the practical examination their practical record regularly signed by the teachers concerned.

Dr Jaisingh Sahu

Rishabh Dev Jain

PAPER –I
GEOMORPHOLOGY

UNIT – I Nature and scope of Geomorphology; Fundamental concepts; Interior of the earth; Earth movement: epeirogenic and orogenic movements, Forces of Crustal instability: Isostasy, Plate tectonic, Mountain building Theories: Geosyncline theory of Kober,Convection current theory of Holms,Thermal Contraction theory of Jeffreys , Earthquake and Vulcanicity.

UNIT – II Exogenic processes: concept of gradation; Agents and processes of gradation: weathering and erosion, slope evolution: Wood's Model of Slope Evolution, Slope Decline theory of Davis , Hill Slope Cycle Theory of L C King, topography: Arid , Karst, Fluvial and Glacial topographies.

UNIT – III Concept of Geomorphic cycle and its controversy; Dynamic of glacial and pergiglacial processes and resulting landforms, Complications of fluvial geomorphic cycle and resulting landforms.

UNIT – IV Geological structure and landform: development of landscape and drainage on uniclinal, folded and domal structures and Erosion surfaces, Applied Geomorphology.

SUGGESTED READINGS:

1. Ahnned, E.: Coastal Geomorphology of India.
2. Chorley, R.. J.: Spatial Analysis in Geomorphology, Methuen, London, 1972.
3. Cooke R.IJ.and Doornkamp, J.C. : Geomorphology in Environmental Management. An Introduction, Clarendon press, Oxford, 1974.
4. Dury, G.H.: The Face of the Earth, Penguin Hormondsworth 1959.
5. Fairbridge, R.W. Encyclopedia of Geomorphology, Reinholdts, New York, 1968.
6. Goudie, A.: The Nature of the Environment Oxford & Blackwell, London, 1993.
7. Garner, H.F. : The Origin of landscape- A Synthesis of Geomorphology, Oxford University Press. London, 1974.
8. Holms, A.: Principles of Physical Geology, Thomas Nelson, London.
9. Mitchell, C.W.: '1'erra.ii'i Evaluation. Longman, London, 1973.
10. Oilier, C.D. : Weathering, Longman, London, 1979.
11. Pitty, A.F.: Introduction to Geomorphology, Methuen, London, 1971.
12. Stoddart, D.R. (ed.) : Process and Form in Geomorphology, Roullcdge, New York, 1996.
13. Skinner, B.J. & Porter, S.C.: The Dynamic Earth John Wilely. New York, 1995.
14. Sparks, B.W. Geomorphology, Longman, London, 1960.
15. Sharma, H.S. (cd.): Perspective in Geomorphology, Concept, New Delhi, 1980.
16. Singh, S : Geomorphology, Prayag Publication, Allahabad, 2021.
17. Steers, J.A. : The Unstable Earth Methuen, London.
18. Thornbury, W.I.). Principles of Geomorphology, John Wiloy, New York, 1960.
19. Strahler, A.N.: Physical Geography, Willey, New York.
20. कौशिक,एस.डी.: भू–आकृति विज्ञान
21. नेगी, बी,एस., भू–आकृति विज्ञान
22. दयाल परमेश्वर, भू–आकृति विज्ञान
23. यादव तथा रामसुरेश., भू–आकृति विज्ञान, ग्रनयि, कानपुर
24. सिंह,सविन्द्र के, भू–आकृति विज्ञान, शारदा पुस्तक भवन, इलाहाबाद

Dr Jaisingh Sahu

PAPER - II

CLIMATOLOGY

UNIT – I Nature and scope of climatology and its relationship with meteorology; composition of atmosphere; Insolation, heat balance of the earth, stability and instability, greenhouse effect, vertical and horizontal distribution of temperature.

UNIT – II Jet stream; General circulation in the atmosphere; Acid rain; concept of air masses and Front. EL Nino and La Nino. Monsoon winds and cyclones.

UNIT – III The application of general principles of elementary physical and synoptic meteorology to the study and classification of climate. Climatic classification of Koeppen and Thornthwaite. Major climate of the world-tropical, temperate, desert and mountain climate.

UNIT – IV Climatic changes during geological and historical times, evidences, possible causes, global warming, Applied climatology.

SUGGESTED READINGS:

1. Barry, R.G. and Chorley P..1.; Atmosphere, Weather and Climate, Roulledge, London and New York, 1998.
2. Critchfiedid, J.H. : General Climatology, Prentico Hall, India, New Delhi, 1993.
3. Das, P.K. : Monsoons 'National Book Trust, New Delhi, 1987.
4. Fein, J.S. and Slephens, P.N. : Monsons. Wiley Interscience, 1987.
5. India Met. Deptt : Climatological Tables of Observatories in India, Govt. of India 1968.
6. Lal, D.S. : Climatology, Chaitanaya Publications, Allahabad, 1986.
7. Lydolph, P.H. : The Climate of the Earth, Rowiman, 1985.
8. Menon, P.A. : Our Weather, N.B.T.., New Delhi, 1989.
9. Pelerson, S. : Introduction to Meteorology, Me G-r-aw Hill Book, London, 1969.
10. Robinson, P.J. and Henderson S. : Contemporary Climatology, Henlow, 1999.
11. Thompson, R.D. and Perry, A (ed.) : Applied Climatology, Principles and Practice. Raoutledge, London. 1997.
12. तिवारी अनिल कुमार : जलवायु विज्ञान, राजस्थान हिन्दी ग्रंथ अकादमी
13. सिंह,सविन्द्र, प्रवालिका पब्लिकेशन्स, इलाहाबाद

PAPER – III
GEOGRAPHICAL THOUGHT

UNIT – I Definition,Nature and Scope of Geography. Geography as science of relationship, as science of areal differentiation,Man -Nature Relationship: Determinism, Possiblism and Neo-Detreminism.Geographical information in Ancient Indian literature. Dark Age and Contribution of Arab Geographers (Alberuni Ibn-Battuta and Al -Masudi).

UNIT – II Contributions of Greek and Roman thinkers. The Great Age of Maritime Discovery and Exploration.

Contributions of various schools of thought in modern Geography:

(i) German School - A.V. Humbolt, Carl Ritter. Friedrich Ratzel
(ii) French School - Vidal-De- Blache, Jean brunhes
(iii) British School - H.J. Mackinder, L.D. Stamp
(iv) American School - E.C. Semple, G. Taylor

UNIT – III Theories and Models in geography, Quantitative revolution . Behaviourlism and Humanistic, radical geography, Status of Indian Geography,

UNIT – IV Dualism in geography; Regional Vs Systemetic, Physical Vs Human, positivism in Geography,Changing paradigms in Geography,Future of Geography.

SUGGESTED READINGS:

1. Abler, Ronald; Adams, John S.Gold, Peler: Spatial Organization:The Geographer's view of the world. Prentice Hall, N.J. 1971.
2. Ali S.M. : The Geography of Puranas, Peoples Publishing House, Delhi, .1968.
3. Amedeo, Douglas : An Introduction to Scientific Reasonign in Geography, John Wiley, U.S.A. 1971.
4. Dikshit, R.D. (ed.): The Art & Science of Geography Rand Me Nally & Co., 1959.
5. Hartshorne, R.: Perspectives on Nature of Geography Rand Me Nally & Co., 1959.
6. Husain, M. : Evolution of Geographic Thought, Rawat Pub., Jaipur, 1984.
7. Johnston, R.J.: Philosophy and Human Geography, Edward Arnold, London, 1983.
8. Johnston, R.J.: The Future of Geography, Methuen, London, 1988.
9. Minshull, R.: The Changing Nature of Geography, Hutchinson University Library, London, 1970.
10. Ali, S. M.- Arab Geography.
11. Taylor, G.: Geography in the 20th Century.
12. Dikshit, R.D.: Geographical Thought : A Contexual History of Ideas, Prentice Hall of India, New Delhi.
13. Harvey D.: Explanation in Geography.
14. सिंह उजागर : भौगोलिक चिन्तन का विकास
15. त्रिपाठी एवं बिरले: भौगोलिक चिन्तन का विकास एवं विधितंत्र
16. कौशिक, एस,डी.: : भौगोलिक विचारधाराओं का इतिहास एव विधितंत्र
17. सिंह, जगदीश : भौगोलिक चिंतन का मूलाधार.

PAPER – IV

GEOGRAPHY OF INDIA

UNIT – I Physical and Biological elements in the Geography of India: Geological structure, relief, climate, Drainage, vegetation and soil,Mechanism of Indian Monsoon.

UNIT – II Agriculture: Major characteristics and problems, Impact of infrastructural and institutional factors on agriculture. Important crops-wheat, rice, cotton, sugarcane, oil-seeds, tea and coffee, Agricultural regions. Green revolution, Agro-climatic regions.

UNIT – III Sources of power: Coal; Petroleum, Natural gas. Hydroelectricity and Atomic energy. Mineral resources with special reference to iron ore, manganese and bauxite. Industrial development with special reference to iron and steel, cement, cotton,Chemical &Fertilizer , sugar and paper industries; Industrial regions.

UNIT – IV Regional division of India: by O.H.K. Spate and R.L. Singh.Detailed regional study of Middle Gangetic Plain ,Narmada Basin ,Kashmir Valley,Chottanagpur Plateau ,Chhattisgarh Plain.

SUGGESTED READINGS:

1. Centre for Science & Environment (1988) State of India's Environment, New Delhi.
2. Desphande C.D. India. : a Regional Interpretation ICSSR & Northern Book Centre 1992.
3. Dreza, Jean & AMartya. Sen (ed.) India Economic Development and Social opportunity Oxford University Person, New Delhi. 1996.
4. Kundu A. Raza Moonis : lndian Economy : the Regional Dimension Speclaum Publishers, New Delhi, 1992.
5. Robinson, Francs : The Cambridge Encyclopedia of India, Pakistan, Bangladesh, Sri Lanka, Nepal, Bhutan & Maldives Cambridge University Press, London, 1989.
6. Singh R.L. (ed.) : India - A Regional Geography National Geographical Society, India Varanasi, 1971.
7. Spale OHK & ATA Learnont-India & Pakistan Methuen, London. 1967.
8. Tirtha R. & Gopal Krishna, Emerging India Reprinted by Rawat Publications, Jaipur 1996.
9. Sharma T.C. and O. Coutinho : Economic and Commercial Geography of India.
10. अग्रवाल पी.सी. भारत का भौतिक का भूगोल, एशिया प्रकाशन कं.,रायपुर 2003
11. बंसल सुरेशचंन्द : भारत का भौतिक का भूगोल, मिनाक्षी प्रकाशन , मेरठ.
12. वर्मा रामविलास, भारत : एक भौगोलिक विवेचन , भवदीय प्रकाशन श्रृंगारघाट – अयोध्या, फैजाबाद, पिन –224123,2007

PAPER – V

PRACTICAL I - ADVANCED CARTOGRAPHY

Graphs and Diagrams: Triangular graph. Logarithmic and semi logarithmic graphs, scatter graphs; climatograph. Proportional circles, spheres and cubes.

Thematic Maps: Choropleth maps, isolines, Flow maps, isochrones and class intervals. Morphometric Analysis: Profiles, Slope Analysis; Altimetric, and Clinographic curves; Block Diagrams.

SUGGESTED READING:

1. Monk house F.J. & H.R. Wilkinson: Maps and Diagrams, Methuen, London.
2. मॉक हाउस तथा विल्किन्सन (अनु.प्रो.प्रेमचन्द अग्रवाल) : मानचित्र तथा आरेख म.प्र. हिंदी ग्रंथ अकादमी
3. हीरालालः प्रायोगिक भूगोल.
4. शर्मा, जे. पी. प्रायोगिक भूगोल,

Hemchand Yadav Vishwavidyalaya, Durg (C.G.)

M.A. /M. Sc. GEOGRAPHY

SEMESTER – II

M. A. /M. Sc. Geography Semester II shall consist the following papers:

S. No.	Paper	Title	M. M.			Credit
			Written	Inte. Asse.	Total	
1.	VI	Economic and Natural Resource Management	80	20	100	04
2.	VII	Oceanography	80	20	100	05
3.	VIII	Regional Development and Planning	80	20	100	05
4.	IX	Social Geography	80	20	100	04
5.	X	Practical-II : Map Projections, Map Interpretation and Surveying	---	---	100	02

1. The M. A./M. Sc. Semester II examination in Geography shall consist of 500 marks.

There shall be four theory papers each of 100 marks and one practical of 100 marks as follows:

Paper VI	Economic and Natural Resource Management.
Paper VII	Oceanography
Paper VIII	Regional Development and Planning
Paper IX	Social Geography
Paper X	Practical-II : Map Projections, Interpretation and Surveying.

2. The theory papers shall be of three hours duration.

3. Candidates will be required to pass separately in theory and practical examinations.

4. (a) In the practical examination the following shall be the allotment of time and marks.

(i) Practical record	20%
(ii) Lab work (up to three hours)	40%
(iii) Field work (up to three hours)	30%
(iv) Viva on i, ii & iii above	10%

(b) The external and internal examiners shall jointly submit marks.

(c) Candidates shall be examined in survey individually. They will however be allowed to take the help of a labourer each at their own expense.

(d) All the candidates shall present at the time of the practical examination their Practical record regularly signed by the teachers concerned.

PAPER- VI

ECONOMIC AND NATURAL RESOURCE MANAGEMENT

UNIT – I Nature and scope of economic Geography; fundamental concepts in economic geography; classification of economies, sectors of economy (primary, secondary, tertiary). Meaning, nature and classification of resources, Resource appraisal: human wants and social objective, technological status and resources. Appraisal of quality and quantity of human resources, relation between population and resource, natural resources and economic development, resource adequacy and scarcity, limits to growth. Resource use, concept of absolute and relative abundance of resources, optimum, under use, misuse and over use of resources.

UNIT – II World pattern of major natural resources: land and soils, biotic resources, water resources mineral and energy resources, oceanic resources.

UNIT – III Classification of Industries, Theories of industrial location; case studies of selected industries; Iron and Steel; Aluminium, Chemical, Textile. Means of transport, International trade, trade blocks, globalization and Indian economy.

UNIT– IV Conservation and management of resources; evolution of the concept, principles, philosophy and approaches to conservation, resource conservation and management methods. Policy making and resource management; sustainable development of resources.

SUGGESTED READING:

Ahemd, Jaleel - Natural Resources in Low Income Countries. Bennet,

II.II. - Elements of Soil Conservation.

Ciriacy, Wantrup,S.V.& - Natural resources: Quality & Quantity Persons (eds.)

Betall,R.C. & R.O.Buehanan - Industrial Activity and Economic Geography. Edvard

and Rosers - Agricultural Resources.

Freeman, T.W. - Geography and Planning.

Fryer, D.M. - World Economic Development.

Isard, Walter - Method of Regional Analysis.

Mehta, M.M. - Human Resource Development Planning.

Owen, O.S. - Natural Resource Conservation.

Peach, W.N.& James, A. - Zimmerman's World Resources Contenting and Conservation.

Parkin's,E.A. & J.R. Whitakr - Our Natural Resource and their conservation. Renner,

G.T. - Conservation of National Recourses.

Stamp, L.D. - Land of Britain Its use and Misue. Smith, G.H.(ed.)

- Conservation. of Natural Recourses. Symoos, L. - Agriculture Geography.

Thomas W.L.(et.al.reds.) - Man's Role in Changing the face of the Earth. Wales,

H.& H.O. Lathrop - The Conservation of Natural Recourses.

Wheeler, T.O. et al - Economic Geography, John Wiler New York 1995.

PAPER – VII

OCEANOGRAPHY

UNIT – I Nature and scope of Oceanography; Distribution of land and water; Major features of ocean basins(Pacific ,Atlantic and Indian Ocean) Ocean Water Salinity and Temperature .

UNIT – II Interlink between atmospheric circulation and circulation pattern in the oceans, Origin of surface currents and its distribution in Pacific ,Atlantic and Indian Ocean, Thermohaline, waves and tides.

UNIT– III Marine-biological environment: Bio-geo- chemical cycle in the ocean. biozones, types of organisms; plankton, nekton and benthos, food and mineral resources of the sea. Major marine environments; coastal : esturary, deltas, barrier island, rocky coasts : Open : reefs, continental shelf, continental slope and deep : Pelagic environment and floor of the ocean basins.

UNIT – IV Impact of Humans on the marine environment. Law of the sea; exclusive economic zone; marine deposits and formation of coral-reefs.

SUGGESTED READINGS:

1. Davis Rechard J.A. : "Oceanography-An Introduction to the Marine Environment". Wm. C. Brown Iowa, 1986.
2. Duxbury, C.A. and Duxbury B. : An Introduction to the world's Oceans-C. Brown. Iowa 2nd ed., 1986.
3. Garrison, T. : "Oceanography - An Introduction to Marine Science" Books/Cole, Pacific Grove, USA, 2001.
4. Gross, M. Grant : Oceanography, a View of the earth, prantice-Hall inc, New Delhi, 1987.
5. King C.A.M. Oceanography for Geographers 1962.
6. Sharma, R. C. "The Oceans" Rajesh N. Delhi, 1985.
7. Urnmerkutty, A.N.P. Science of the Eceans and Human life, NBT, New Delhi, 1985.
8. Ornmany, F.D. : The Ocean.
9. Sharma, R. C. & M. Vital : Oceanography : A Brief Introduction kislaya Pub. New Delhi.
10. Siddartha, K.. : Oceanography : A Brief Introduction, Kislya Pub. New Delhi.
11. नेगी ,बी.एस.: जलवायु तथा समुद्र विज्ञान.
12. सिंह, सविन्द्र सिंह – समुद्र विज्ञान, प्रयाग पुस्तक भवन, इलाहाबाद (उ.प्र.) 2011
13. लाल, डी. एस – समुद्र विज्ञान,

PAPER – VIII

REGIONAL DEVELOPMENT AND PLANNING

UNIT – I Regional Planning: Definition, Scope, evolution and Objectives. Region and Regionalism, Planning Regions: Concept and Delineation. Type of Region. Central Place Theory of Christaller ,

UNIT – II Regional Development Theories: Gunnar Myrdal, Hirschman, , Friedmann's and Frank .

UNIT – III Approaches and Strategies of Regional Development: Growth Pole Theory Agropolitan Development, Community Development, River Basin Planning, Metropolitan Planning: National Capital Region(NCR) .

UNIT– IV Regional Planning in India:Regional Imbalances and Inequalities, Indicators of Regional Development; Regional Planning in Five Year Plans, Multilevel Planning in India ,Planning for special problem Regions: Hill areas, Tribal areas, Drought prone areas, Command areas and River basins.

SUGGESTED READING:

1. Daysch, C.H.J. & others: Studies in Regional Planning.
2. Deckinsonm R.E. : City Region and Regionalism.
3. Freeman, E.W. : Geography arid Planning.
4. Golksin A. : Regional Planning and Development.
5. Keeble, L. : Principle and Practice of Town and Country Planning.
6. Stamp L.D. : The Land of Britain : Its use and Misure.
7. Sdasyuk. Gatina and Dengupta, P. : Economic Regionalization of India problems and Approaches.
8. Desai, P.B. & others : Regional Perspective of Industrial and Urban Growth the case of Kanpur, Bombay, 1969.
9. Prakash, Rao V.L. & S.P. : Regional Planning.
10. Censuts of India : Economic and Socio Cultural Dimensions of regionalization (An Indo-USSR Collaborative Study)
11. Friedmann J. & Alonsow : Regional Development and Planning, M.I.T. Press.
12. Misra R.P. (ed.) : Regional Planning : Concept; Techniques, Policies and cade studies Mysore 1969.
13. Misra, R.P. & others : Regional Development and Planning in India.
14. Timbergen : Essays on World Regional Planning.
15. Lord, W. : Methods of Regional Analysis, M.I.T., I960.
16. Zimmerinan, E.W. : World Resources and Industries.
17. Burton & Kates : Reading in Resource Management Conservation.
18. Burton & Kates : Regional Planning in India.

19. Ahamed, Enayet : Regional Planning with particular Reference to India. Vol. I and li New Delhi.
20. Bhatt L.S. and others: Micro level planning - A Case Study of Karnal Area, Hyryana (K.B. Publishing, New Delhi)
21. Bhatt LS : Regional Planning in India, Statistical Publishing Society, Calcutta, 1973.
22. Gosal GS, and G. Krishanan : Regional Disparities in levels of Socio-economic Development in Punjab, Vishal Publications Kurukshetra, 1984.
23. Chandna, R.C. : Regional Planning : A comprehensive 'Text-Kajyani Publishers.
24. Ray Choudhari, Jayasri : An Introduction to Development and Regional Planning Orient Longman.
25. Sundaram, KV (ed) Geography and Plann8ing, Essaya in houour of VLS Prakasa Rao, Concept Publishing Co., New Delhi, 1985.
26. Raza, Meomis (ed) Regional Development, Hefitage Publishiers, Delhi, 1988.
27. Mishra R.P. et al : Multilevel Planning, Heritage Phulishers Delhi,1980.
28. श्रीवास्तव व्ही .के. एवं अन्य : प्रादेशिक नियोजन एवं संतुलित विकास.
29. ओझा, रघुनाथः प्रादेशिक नियोजन का भूगोल,.
30. शर्मा, राजीवलोचन : प्रादेशिक एवं नगरीय नियोजन.
31. चन्द्राकर, इन्द्रमन : व्यावहारिक भूगोल, वसुन्धरा प्रकाशन, गोरखपुर, 1998.

PAPER – IX
SOCIAL GEOGRAPHY

UNIT– I Definition, meaning and scope of Social geography and its Nature and relationship with other Social sciences. Development of Social Geography, Approaches to the study of Social Geography.

UNIT– II Concept of Society – Social Environment, Geographic bases of Social Formation. Social Geography of India - Social Stratification, Caste and Class. Social organization and groups, Social transformation and change in India, Religion and linguistic group of India. Evolution of Socio-Cultural Regions of India.

UNIT – III Social well- being– meaning and indicators of Social well- being. **Quality of life:** (Meaning,definition Concept,Bases, HDI Index),Deprivation and discrimination issues relating to women and under privileged groups. Cultural Realms and Cultural Region of Asia.

UNIT – IV Social development planning – meaning and importance. Public policy and social planning in India: Review of Five year Plans strategies to improve social well-being in tribal, hill, drought and flood prone Areas.

SUGGESTED READINGS:

1 Ahmad Aijazuddin, Social Geography, Rawat Publication, New Delhi, 1999.
2 De Blij. H.D. Human Geography. John Wiley and son, New York.
3 Dreze Jean, Amariya Sen,Economic Development and Social opportunity. Oxford University Press. New Delhi. 1996
4 Dubey. S.C : lndian Society. National Book Trust, New Delhi, 1991.
5. Gregory. D . and J. Larry (Eds.) Social. relations and spatial structures. MC Millan. 1985.
6. Haq. Mahbubul : Reflections on Human Development. Oxford University Press, New Delh6.
7. Jones, Emrys, Reading in Social Geography, Oxford University Press, Ely House, London, 1977.
8. Jones, Emrys and John Eyles, An Introduction to Social Geography, Oxford University Press, London,1977.
9. Maioney. Clarence: People of South Asia, Winston, New York, 1974.
10. Planning Commission, Government of India: Report on Development of Tribal areas, 1981.
11. Rao, M.S.A.. Urban Sociology in India, Orient Iongman, 1970.
12. Schwartzberg Joseph : An Historical Atlas of South Asia, University of Chicago Press, (Chicago, 1978.
13. Sen, Amartya & Dreze Jean. Indian Development : Selected Regional Perspectives. Oxford University Pres-s, 1996
14. Smith, David: Geography : A welfare Approach, Edward Arnold, London, 1977.
15. Sopher, David. An Expoloration of Inda, Cornell University Press, 1980.
16. Subba. Rao. Personality of India : Pre and Proto Historic foundation of India and Pakistan, M.S. University Baroda. Vadodai'a, 1958
17. मौर्य, एस.डी., सामाजिक भूगोल शारदा पुस्तक भवन,11 युनिवर्सिटी रोड इलाहाबाद–2,2004.

PAPER – X

PRACTICAL II- MAP PROJECTIONS, INTERPRETATION AND SURVEYING

Map Projections: Mathematical/Graphical construction of world

projections. Interpretation of Maps: Geological Maps.

Principles and methods of topographical surveying involving the use of Theodolite and Dumpy level. Solution of problems in Surveying.

Topographical Information – International series, South east Asia Series, Indexing, Classification & Interpretation of topographical sheets.

SUGGESTED READINGS:

1. Davis, R. C. & E. S. Forte: Surveying: Theory and Practical.
2. Kanetkar, T.R. & S.V. Kulkarni: Surveying and leveling part I & IJ A.V.G. Prakashan, Poona.
3. Monkhouse F.J. & H.R. Wilkinson: Maps and Diagrams, Methuen, London.
4. मॉक हाउस तथा विल्किन्सन (अनु.प्रो.प्रेमचन्द अग्रवाल) : मानचित्र तथा आरेख म.प्र. हिंदी ग्रंथ अकादमी .
5. हीरालालः प्रायोगिक भूगोल.

Hemchand YadavVishwavidyalaya, Durg (C.G.)

M.A./M. Sc. GEOGRAPHY
SEMESTER III

M.A. /M. Sc. Geography Semester III shall consist the following papers:

S. No	Paper	Title	M. M.			Credit
			Written	Inte. Asse.	Total	
1.	XI	Population Geography Settlement	80	20	100	05
2.	XII	Geography	80	20	100	04
3.	XIII (A)	Remote Sensing Techniques	80	20	100	04
	OR	**OR**				or
	XIII (B)	Biogeography and Ecosystem	80	20	100	04
4.	XIV	Research Methodology	80	20	100	05
5.	XV	Practical-III : Remote Sensing and Quantitative Techniques	---	---	100	02

1. The M.A. /M. Sc. Semester III examination in Geography shall consist of 500 marks. There shall be four theory papers each of 100 marks and one practical of 100 marks as' follows:

Paper XI	:	Population Geography
Paper XII	:	Settlement Geography
Paper XIII (A)	:	Remote Sensing Techniques
		OR
Paper XIII (B)	:	Biogeography and Ecosystem
Paper XIV	:	Research Methodology
Paper XV	:	Practical – III: Remote Sensing and Quantitative Techniques

2. The theory papers shall be of three hours duration.
3. Candidates will be required to pass separately in theory and practical examinations.
4. (a) In the practical examination the following shall be the allotment of time and marks.

(i) Practical record	:	20%
(ii) Lab work (up to Four hours)	:	70%
(iii) Viva on i.& ii. Above	:	10%

(b) The external and internal examiners shall jointly submit marks.

(c) All the candidates shall present at the time of the practical examination their practical record regularly signed by the teachers concerned.

SEMESTER – III

PAPER - XI

POPULATION GEOGRAPHY

UNIT – I Definition and scope of Population Geography. Relation of Population Geography with other subjects of social sciences. Historical development of Population Geography in western countries and in India. Sources of population data, Census and its history.

UNIT – II Distribution of Population: The concept of population density and its types. Factors affecting population distribution. Distribution & Density of population in the world with special reference to Europe, Asia and India. Growth of population: Measure of decennial and annual rates of population growth, prehistoric and modern trends of population growth in the world. Regional aspect of population growth in India. Population theories. Demographic transition.

UNIT– III Population composition in terms of age and sex, rural, urban residence, educational status and occupational structure. Significance of these elements in population analysis, factors affecting their composition in population, broad world patterns and detailed spatial patterns in India. Fertility and Mortality of population: Significance and factor. Indices and rates. World pattern and pattern in India. Human Development Index and its Components.

UNIT– IV Migration of population: Causes, characteristics and types. Methods of estimating value of internal migration. Important international migrations of the world, internal migration in India: Population and Resources: Population-Resource regions. Population Regions: Concept and methods, population regions of India, population policies of India.

SUGGESTED READINGS:

1. Bilasborruw, Richard Ii and Daniel Hogan, Population and Deforestation in the Humid Eropics, International Union for the Scientific Study of Population, Belgium 1999.
2. Boglia, D.J. Principles in Demography, John Wiley, New York 1969.
3. Bose, Ashish el at. : Population in India's Development (1947-2000); Vikas Publishing House, New Delhi, 1974.
4. Census of India, India : A State Profile, 1991.
5. Chandna, R. C. Geography of Population, Concept, Determinants and Patterns. Kalyani Publishers, New York, 2000.
6. Clarke, John 1. Population Geography, Pergamon Press, Oxford, 1973.
7. Crook, Nigel Principles of Population and Development Pergmaon Press. New York 1997.
8. Daugherty, Helen Gin, Kenneth C.W. Kammeyir, An Introduction to Population (Second Edition), The Guilford Press, New York, London, 1998.
9. Garnier, B.J. Geography of population Longrrian, London. 1970.
10. Ocihar, Ra)esh, The Veclic People : Their History and Geography Orient I ongman Ltd., New Delhi, 2000.'

11. Mamoria, C.B. India's Population Problem, Kitab Mahal New Delhi, 1981.
12. Mjtra, Ashok India's Population : Aspects of Quality and (control Vol I & 11. Abhiman Publications, New Delhi, 1978.
13. Premi, M.K. India's Population : Heading Towards a Billion, B.R.., Publishing Corporation 1991.
14. Srinivasan, K. and M. Vlassoff, Population Development Nexus in India :Challenges for the New Millennium Lata Me Graw-Hill, New Delhi, 2001.
15. Srinivasan K. Basic Demographic Techniques and Applications Sage, Publications, New Delhi, 1998.
16. Sunda.ra.m K. V. a.nd Sudesh Nangia., (ed.) Population Geography, Henlage Publications, Delhi, 1986.
17. UNDP : Human Development Report, Oxford University Press, Oxford, 2000.
18. United Nations, Methods for Projections of urban and Rural Population No. VIII, New York, 1974.
19. Woods R.. Population Amalysis' in Geography Longman, London, 1979.
20. Zeiinsky Wilbur, A Prologue to Population Geography, Prentic Hall, 1966.
21. बघेल, अनुसुइया : अनुसूचित जातियों एवं अनुसूचित जनजातियों में प्रजननता प्रतिरूप : छत्तीसगढ़ राज्य के रायपुर संभाग के विशेष संदर्भ में', पं. रविशंकर शुक्ल विश्वविद्यालय, रायपुर, 2002.
22. बघेल, अनुसुइया : शिशु मर्त्यता : सिंघई पब्लिशर्स एण्ड डिस्ट्रीब्यूटर, रायपुर, 2004.
23. शर्मा, सरला : औद्योगिक नगरों में जनसंख्या आप्रवास (भिलाई एवं कोरबा नगर के विशेष संदर्भ में), पं.रविशंकर शुक्ल विश्वविद्यालय, रायपुर, 2002.
24. शर्मा, सरला : छत्तीसगढ़ बेसिन में ग्रामीण शिशु मर्त्यता प्रतिरूप. .पंडा, बी.पी. : जनसंख्या भूगोल.
25. ओझा, रघुनाथ : जनसंख्या भूगोल. हीरालाल : जनसंख्या भूगोल.
26. चन्दना, आर.सी.: जनसंख्या भूगोल. त्रिपाठी,
27. रामदेव : जनसंख्या भूगोल.

SEMESTER – III
PAPER - XII
SETTLEMENT GEOGRAPHY

UNIT – I	Meaning, Objectives and Scope of Settlement Geography; Evolution, Distribution, Types and Patterns of Rural Settlements; Rural House Types; Rural Service Centers.
UNIT – II	Evolution and growth of urban settlements; The Geographical setting of Urban Centers: Site, Situation and Location.
UNIT – III	Rank- size-relationship; Cities as Central Places, Central Place Theory, Growth Centre Theory.
UNIT – IV	City- Country Relationship: Umland, Rural-Urban Fringe.

SUGGESTED READINGS:

1. Abercrombee, Sir P. : Town and Country planning 1961.
2. Alani, Shah Manzoor : Hyderabad Secuiidrabad (Twin Cities) A. study in urban geography)
3. Alam, S.M. & V.V. Tokshishevesky : Urbanization in developing countries.
4. Berry Brain .1. L. : Geographic Prospective on Urban .Systems.
5. Bresse, C. & D.F. Whiteman : An approach to Urban Planning
6. Dickinson, R.E, : City, Religion and Regionalism.
7. Gallion and Fisher : The Urban Pattern.
8. Grifitth, , J.P : A study of Urban constructions in India.
9. Gibbs : Urban Research Methods.
10. Mayor, H.M. & (.,'.1". Kohn : Readings in Urban Geography.
11. Morgan, F.W. : Ports and Harbours.
12 Mumford L. : Culture of cities.
13. Robson, W.A. : Great cities of world.
14. Robson, B.T. : Urban Growth : An approach, Methuen, London.
15. Carter, Harold : Study of Urban Geography, London, Edward Arnold, 1979.
16. Singh R.I.,. & K.N. Singh : Readings in Rural Settlement Geography, NGSI Varanasi, 1975.
17. सिंह, उजागिर : नगरीय भूगोल
18. तिवारी, आर.सी. अधिवास भूगोल, प्रयास पुस्तक भवन, इलाहाबाद

SEMESTER – III

PAPER – XIII (A)
REMOTE SENSING TECHNIQUES

UNIT– I Historical development of remote sensing as a technology - Relevance of remote sensing in Geography - Concepts and basics: Energy source, energy and radiation principles, energy interactions in the atmosphere and earth surface features, remote sensing systems: platform sensors and radiation records. Microwave sensing interpretation of SLAR imageries, thermal imageries.

UNIT– II Remote Sensing Satellite: platforms LANDSAT, SPOT, NOAA, RADARSAT, IRS, INSAT: principles and geometry of scanners and CCD arrays, orbital characteristics and data products - MSS, TM, LISS I & II, SPOTPLA & MLA, SLAR.

UNIT– III Image Processing: Types of imagery, techniques of visual interpretation, ground verification transfer of interpreted thematic information to base maps-digital processing: rectification and restoration, image enhancement - contrast manipulation, Classification: Supervised and Unsupervised, post-classification analysis and accuracy assessment.

UNIT– IV Applications: Air photo and image interpretations, arid mapping land use and land cover, land evaluation, urban land use, landform and its processes, weather studies and studies of water resources: integration of Remote Sensing and GIS. Remote sensing and hazard management, remote sensing and environmental management.

SUGGESTED READINGS:

1. American Society of Photogrammetry: Manual of Remote Sensing. ASP, Falls Church V.A., 1983.
2. Barrett E.C. and L.F. Curtis: Fundamentals of Remote Sensing and Air Photo Interpretation on, Memillan, New York, 1992.
3. Compbell J.: Introduction to Remote Sension, Guilford, New York, 1989.
4. Curran, Paul J.: Principles of Remote Sensing. Longman, London, 1985.
5. Hord R.M.: Digital Image Processing of Remotely Sensed Date, Academic, New York, 1983.
6. Luder D,, Aerial Photography Interpretation: Principles and Application, Cc Graw Hill, New York, 1959.
7. Pratt W.K. Digital Image Processing. Wiley, New York, 1978.
8. Rao D. P. (eds.): Remote Sensing for Earth Resources, Association of Exploration Geophysicist, Hederabad, 1998.
9. Thomas M. Lollesand and Ralph W. Kefer, Remote Sensing and Image Interpretation, Wiley & sons, New York, 1994.
10. Aronoff S. Geographic Information Systems: A. Management Perspective, Publication Offiawa, 1989.
11. Burrough P.A. Principles of Geographic Information Systems for Land Reson Assessment Oxford University Press, New York, 1986.
12. Fraser Taylor D.R. Geographic information Systems. Pergamor Press, Oxford 1990.
13. Maquire D.J.M.F. Goodchild and D.W. Rhind (eds.). Geographic information System Principles arid Application. Taylor & Francis, Washingron, 1991.
14. Mark S. Monmonier. Computer - assisted Cartography, Prentice-Hall, Englewood Cliff, Jersey, 1982.
15. Peuquet D . . . 1. And D.F. - Marble, Introductory Reading in Geographic. Information System Taylor & Francis, Washington, 1990.
16. Star J. and J. Estes, Geographic Information Systems: An Introduction, Prentice Englewood Cliff, New Jersey, 1994.
17. चौनियाल, देवी दत्त : सुदूर संवेदन एवं भौगोलिक सूचना प्रणाली.

PAPER – XIII (B)

BIOGEOGRAPHY AND ECOSYSTEM

UNIT– I Definition and scope of Biogeography Environment, Habitat and Plant-animal association, Biome Types.

UNIT– II Elements of plant geography, distribution of forests and major communities. Plant successions in newly formed land forms. Zoogeography and its Environmental Relationship. Palaeo botanical and Palaeo climatological records of environmental change.

UNIT– III Ecosystems: concept and components, Ecosystem-form and function: tropic level, ecological pyramids, ecological niche, energy and nutrients in the ecosystem, hydrological cycle, food chains and food webs. Major terrestrial ecosystems of the world: agriculture, forests, grassland and desert. Population growth and environment.

UNIT– IV Biodiversity and its Conservation. Preservation and conservation of the ecosystem through resource management, Environment legislation. Environmental laws in India (the Wild Life Act, Water Act, Forest Act, Environment Protection Act and National Environment Tribunal Act).

SUGGESTED READINGS -

1. Agrawal D.P.: Man and Environment in India through Ages, Book & Books, 1992.
2. Bradshaw, M.J.: Earth and Living Planet, ELBS. London, 1979.
3. Cox, C.D. and Moore, P.D.: Biogeography: An Ecological and Evolutionary Approach 5th edn. Blackwell, 1993.

SEMESTER – III
PAPER - XIV
RESEARCH METHODOLOGY

UNIT – I Research Methodology-An Overview; Procedure of scientific Research, Defining Research Problem; Formulating Hypothesis; Research Design.

UNIT – II Methods of Data Collection: Observation, Questionnaire, Schedule and Interview; Sampling: Sampling Methods, Size of Sample;

UNIT – III Processing and Analysis of Data: Processing- Editing, Coding, Classification and Tabulation, Analysis – Measurement of Central Tendency, Dispersion, and Correlation.

UNIT – IV Preparation of Research Reports: Steps, Layout and Types of Reports.

1. Gaur, R. : Environment and Ecology of Early Man in Northern India R. B. Publication Corporation 1987.
2. Hoyt, J.B. Man and the Earth, Prentice Hall, U.S.A. 1992.
3. Huggett. R.J. : Fundamentals of Biogeography, Routledge, U.S. A. 1998.
4. Illes, J. : Introduction to Zoogeography, Mcmillan, London, 1974.
5. Khoshoo, T. N. and Sharma. M. (eds) : Indian Geosphere-Biosphere Har-Anand Publiction, Delhi 1991
6. Lapedes, D.N.(ed) : Encyclopedia of Environmental Science, McGraw Hill, 1974.
7. Mathur H.S. : Essentials of Biogeography, Anuj Printers, Jaipur, 1998.
8. Pears, N. : Basic Biogeography, 2nd edn. Longman, London, 1985.
9. Simmons, I.G. Biogeography, Natural and Cultural, Longman, London, 1974.
10. Tivy J. : Biogeography: A Study of Plants in Ecosphere 3rd edn. Oliver and Boyd, U.S. A., 1992.
11. Ackerman, E.A. : Geography as a Fundamental Research Discipline, University of Chicago Research Papers, 1958
12. Agarwal, A. and Narain, S. : The Citizens Fith Report. Centre for Science and Environmental, New Delhi, 1999.
13. Bertalanffy, L. : General Systems Theory, George Bragiller, New York, 1958.
14. Bodkin, E. : Environmental studies, Charles E Merril Pub. Co., Columbus, Ohio, 1982.
15. Chandana, R.C. : Environmental Awareness, Kalyani Publishers, New Delhi, 1958.
16. Chorley, R.J. : Geomorphology and General Systems Theory, U.S.G.S. Professional Paper, 500B, 1962.
17. Eyre, S.R. and Jones, G.R.J. (eds) Geography as Human Ecology, Edwares Arnold, London, 1966.
18. Kormondy, E.J. : Concepts of Ecology, Prentice Hall, 1989.
19. Manners, I.R. and Mikesell, M.W. (eds.) Prespectives on Environment, Commission on College Geography, Publ. No. 13 Washington, D.C., 1974.
20. Nobel and Wright: Environmental Science, Prentice Hall, New York, 1996.
21. Odum, E.P.: Fundamentals of Ecology, W.B. Saunders, Philadelphia, 1971.
22. Russwurm, L.H. and Sommerville, E. (eds.) : Man's Natural Environment-A Systems Approach, Duxbury, Massachuselts, 1985.
23. Sharma, H.S. : Ranthambhore Sanctuary – Dilemma of Eco-development, Concept, New Delhi, 2000.
24. Simmons, I.G. : Ecology of Natural Resources, Edward Arnold, London, 1981.
25. Singh S. : Environmental Geography, Prayag Publications, Allahabad, 1991.
26. Smith, R.L. : Man and his Environment : An Ecosystem Approach, Harper & Row, London, 1992.
27. U.N.E.P. : Global Environmental Outlook, U.N. Pub. , New ork, 1998.
28. World Resources Institute: World Resoources, (Latest Report) Washington.
29. कुलश्रेष्ठ, कामता प्रसाद: जैव भूगोल.

SUGGESTED READING:

1. Selltiz, C.M. Jahoda, M. Deutsch and others.	Research Methods in Social Relations, Holt, New York, 1961.
2. Goode, W and P.K, Hatt	Methods in Social Research, Mc Graw Hill, Tokyo, 1962.
3. Harvey, David	Explanation in Geography, Edward Arnold, London, 1971
4. Chorley, R.J. and P. Hagg & tt (ed)	Models in Geography, Methuen, London, 1967.
5. Minshull, R.	Introduction to Models in Geography. Longman London, 1975.
6. Sheskin, I.M.	Survey Research for Geographers Scientific Publisher, Jodhpur, 1987.
7. Kothari, C. R.	Research Methodo!ogy : Methods and Techniques, Wishwa Prakashan, 1994.
8. Misra H.N. and V.P. Singh	Research Methodology in Geography: Social, Spatial and Policy Dimensions, Rawat Publications New Delhi, 1998.
9. Har Prasad	Research Methods and Techniques in Geography, Rawat Publications, New Delhi. 1992.



SEMESTER – III
PAPER - XV
PRACTICAL -III

Remote Sensing, Interpretation of Topographical Sheets and Quantitative Techniques

1. **Principles of Photogrammetry: -** Air Photo- Stereo test, Orientation of stereo model under mirror stereoscope, Preparation of photo/line index and determination of photo scale, Use of parallax bar and determination of heights, Identification of features on aerial photo graph, Tracing of details from stereo pair, Interpretation of physical and cultural details, Preparation of Land use map pre field interpretation, Field visit for ground trothing.
2. **Remote Sensing: –** Study of satellite Image – Annotation Identification of features on FCC imageries, Tracing of details from satellite imageries, Basic Principles of Image interpretation, Interpretation of Physical and Cultural details and preparation of land use and land cover map using IRS Images. Pre field visit.

Statistical Techniques:

Product moment and Rank Correlation Coefficients, Linear Regression. Hypothesis Testing: Chi-Square test, t-test & F test, Sampling Techniques, Point, Line and Area Sampling.

SUGGESTED READINGS:

1. American Society of Photogrammetry: Manual of Remote Sensing. ASP, Falls Church V.A. 1983.
2. Barren E.C. and I...F. Clirtis : Fundamentals of Remote Sensing and Air Photo Interpretation 'on, Memillan, New York, 1992.
3. Conipbell .1. : Introduction to Remote Sension, Glinford, "New York, 1989.
4. Clirran, Paul J. : Principles of Remote Sensing. Longman, London, 1985.
5. Hord R.M. : Digital Image Processing of Remotely Sensed Date, Academic, New York,1983
6. Luder D., Aerial Photograpliy Interpretation: Principles and Application, Cc Graw Hill, New York, 1959.
7. Pratt W.K. Digital Image Processing. Wiley, New York, 1978.
8. Rao D. P.. (eds.) : Remote Sensing for Earth Resources, Association of Exploration Geophysicisi, Hederabad, 1998.
9. Thomas M. Lollesand and Ralph W. Keler, Remote Sensing and Image Interpretation, Wiley & sons. New York, 1994.
10. Aronoff S. Geographic Information Systems: A Management Perspective, Publication Offawa, 1989.
11. Burroligh P. A. Principles of Geographic Information Systems for Land Reson Assessment Oxford University Press, New York, 1986.
12. Fraser Taylor D.R. Geographic information Systems. Pergamor Press, Oxford 1990.
13. Maquire D.J.M.F. Goodchiln and D.W. Rhind (eds.). Geographic information System Principles and Application. Taylor& Francis, Washingron, 1991.
14. Mark S. Monrnonicr. Computer-assisted Cartography, Prentice Hall, Englewood Cliff, Jersey, 1982.
15. Peuquer D.J. and D.F. Marble, Introductory Reading in Geographic Information System Taylor & Francis, Washington, 1990.
16. Star J. and J. Estes, Geographic Information Systems; An Introduction, Prentice Eaglewood Cliff, New Jersey. 1994.

Hemchand Yadav Vishwavidyalaya, Durg (C.G.)

M.A./M. Sc. GEOGRAPHY

SEMESTER IV

M.A./M.Sc. Geography Semester IV shall consist the following papers:

S. No.	Paper	Title	M. M.			Credit
			Written	Int. Ass.	Total	
1.	XVI	Urban Geography	80	20	100	04
2.	XVII	Agricultural Geography	80	20	100	05
3.	XVIII (A)	Health Geography	80	20	100	05
	OR	**OR**				or
4.	XVIII (B)	Environmental Geography	80	20	100	05
5.	XIX	Field Work (Physio-Socio-Economic)	---	---	100	04
6.	XX	Practical-IV :Geographical Information System and Quantitative Techniques	---	---	100	02

1. The M.A./M.Sc. Semester IV examination in Geography shall consist of 500 marks.

   There shall be three theory papers and one Field Work report each of 100 marks and one practical of 100 marks as follows.

S. No.	Paper		Title
1.	XVI	:	Urban Geography
2.	XVII	:	Agricultural Geography
3.	XVIII (A)	:	Health Geography
			OR
4.	XVIII (B)	:	Environmental Geography
5.	XIX	:	Field Work (Physio-Socio-Economic)
6.	XX	:	Practical-IV: Geographical Information System and Quantitative Techniques

2. The theory papers shall be of three hours duration.
3. Candidates will be required to pass separately in theory and practical examinations.
4. Candidates will be required to submit their Field Report in three copies in hard bound at least one hundred pages for Valuation.
5. (a) In the practical examination the following shall be the allotment of time and marks

   (i) Practical record 20%

   (ii) Lab Work (up to Four Hours) 70%

   (iii) Viva on i & ii above 10%

   (b) The external and internal examiners shall jointly submit marks.

   (c) All the candidates shall present at the time of practical examination their practical record regularly signed by the teacher concerned.

SEMESTER – IV
PAPER-XVI
URBAN GEOGRAPHY

UNIT – I Definition, Objective and Scope of urban geography, General Nature of City Structure.

UNIT – II Internal structure: Morphology and Land use. Theories of Urban Structure: The Concentric Zone Theory, the Sector Theory, the Multiple Nuclei Theory. Commercial Structure of Cities; The Central Business District (CBD),

UNIT – III Centrifugal and Centripetal forces in Geography, Economic Base of Towns: Basic, Non-basic concept. Urban Functions: Functional Classification of Towns: Webb, Harris, and Nelson.

UNIT – IV Contemporary Urban Issues: Urban renewal, Urban sprawl, Slums, Environmental Pollution, Urban Planning; Land use Planning, Urban and Metropolitan Planning in India.

SUGGESTED READINGS:

1. Abercrombee, Sir P.: Town and Country planning 1961.
2. Alam, Shah Manzoor : Hyderabad Securdrabad (Twin Cities) A. study in urban geography)
3. Alam, S.M. & V.V.Tokshishevesky : Urbanization in developing countries.
4. Berry Brain .1. L. : Geographic Prospectives on Urban .Systems.
5. Bresse, C. & D.F. Whiteman : An approach to Urban Planning
6. Dickinson, R.E, : City, Religion and Regionalism.
7. Gallion and Fisher : The Urban Pattern.
8. Grifitth, , J.P : A study of Urban constructions in India.
9. Gibbs : Urban Research Methods.
10. Hall P. : Urban and Regional Planning, Rout ledge, London, 1992.
11. Kundu, A. : Urban Development and Urban Research in India, Khanna Publication, 1992.
12. Mayor, H.M. & Kohn : Readings in Urban Geography.
13. Morgan, F.W. : Ports and Harbours.
14. Mumford L. : Culture of cities.
15. Nangia Sudesh : Delhi Metropolitan Region ; A Study in Settlement Geography, Rajesh Publication, 1976.
16. Robson, W.A. : Great cities of world.
17. Robson, B.T.: Urban Growth : An approach, Methuen, London.
18. Smailes, A E : The Geography of Town, Hutchinson, London, 1953.
19. Tewari, Vinod K, Jay A : Indian Cities : Ecological
20. Weinstein, VLS Prakash Rao (editors) : Perspectives, Concept, 1986.
21. Carter, Harold: Study of Urban Geography, London, Edward Arnold, 1979.
22. Singh R.I.,. & K.N. Singh: Readings in Rural Settlement Geography, NGSI Varanasi, 1975.
23. सिंह,उजागर : नगरीय भूगोल.
24. करन,एम.पी. : नगरीय भूगोल.
25. बंसल सुरेश चन्द : नगरीय भूगोल.
26. सिंह, ओमप्रकाश : नगरीय भूगोल.
27. तिवारी आर.सी.: आधिवास भूगोल प्रयाग पुस्तक भवन, इलाहाबाद 1997.
28. करण एंव यादवः आधिवास भूगोल.
29. यादव रामसुरेश : आधिवास भूगोल.

SEMESTER – IV
PAPER – XVII
AGRICULTURAL GEOGRAPHY

UNIT – I Nature, scope, significance and development of agricultural geography. Approaches to the study of agricultural geography: Commodity, systematic and regional systems. Origin and dispersal of agriculture. Sources of agricultural data.

UNIT – II Determinants of agricultural land use - Physical, economic, social, and technological Land holding and land tenure systems, Land reforms, land use Agriculture policy and planning. Selected agricultural concepts and their measurements; cropping pattern, crop concentration, intensity of cropping, degree of commercialization, diversification and specialization, efficiency and productivity, crop combination regions and agricultural development.

UNIT – III Theories of agricultural location based on several multi-dimensioned factors:-Von Thunen's theory of agricultural location and its recent modifications; Whittlesey's classification of agricultural regions; land use and land capability.

UNIT – IV Contemporary Issues: Food, nutrition and hunger, food security, drought and food-security, .food aid Programmes; role of irrigation, fertilizers, insecticides and pesticides, technological know-how. Employment in the agricultural sector: landless labourers, woman, children: occupational and agricultural activities.

SUGGESTED READINGS:

1. Bayliss Smith, IP.: The Ecology of Agricultural Systems. Cambridge University London, 1987.
2. Berry, BJ.L et. al. : The Geography of economic Systems. Prentice Hall, New York, 1976.
3. Brown, L.R. : The Changing World Food Prospects - The Nineties and Beyond, World Watch Institute, Washington D.C., 1990.
4. Dyson, T. : Population and Food - Global Trends and Furure Prospects. Routledgle. London, 1996.
5 Gregor, H.P. : Geography of Agriculture. Prentice Hall, New York, 1970.
6. Grigg, D.B. : The Agricultural Systems of the World. Cambridge University Press, New York 1974.
7. Hartshorn, T.N. and Alexander, J.W. : Economic Geography. Prentice Hall, New Delhi, 1988
8. Mannion, A.M. : Agriculture and Environment Change, John Wiley, London, 1995.
9. Morgan W.B. and Norton , R.J.C. : Agricultural Geography. Mathuen, London, 1971.
10. Morgan, W.B.:Agriculture in the Third World - A Spatial Analysis. Westview Boulder, 1978.
11. Sauer, C.O. : Agricultural Origins and Dispersals,. M.I.T. Press, Mass, U.S.A., 1988.
12. Singh, J. and Dhillon, S.S. : Agricultural Geography. Tata McGraw Hill' Pub.; Delhi, 1988.
13. Tarrant, J.R. : Agricultural Geography. Wiley, New York, 1974.
14. कुमार प्रमीला एवं शर्मा : कृषि भूगोल, म.प्र. हिन्दी ग्रंथ अकादमी.

SEMESTER – IV
PAPER – XVIII (A)
GEOGRAPHICAL INFORMATION SYSTEM

UNIT – I Spatial Science : Geography as a spatial science, maps and spatial information dynamics of spatial information, elements of information technology, Geographic objects and their relations definition and development of GIS, computer environment for GIS.

UNIT – II Spatial Data: Elements of spatial data: data sources: Primary and secondary census and sample data, quality and error variations Raster and vector data structures, data conversion comparison of raster and vector data bases, methods of spatial interpolation – GIS data formats for the computer environment.

UNIT – III GIS Technology: Coordinate system-basic principles of cartography and computer assisted cartography for GIS – remote sensing data as a data source for GIS integration of GIS and remote Sensing-GPS and GIS: technology, data generation and limitations – visualization in GIS-Digital Elevation Models (DEM and TINS).

UNIT – IV GIS Application: GIS as a Decision Support System –expert system for GIS-basic flow chart for GIS application – GIS standard legal system and national GIS policy application of GIS in Land Information System, Urban Management, Environmental Management and Emergency Response System.

SUGGESTED READINGS:

1. American Society of Photogrammetry: Manual of Remote Sensing. ASP, Falls Church V.A., 1983.
2. Barrett E.C. and L.F. Curtis: Fundamentals of Remote Sensing and Air Photo Interpretation on, Memillan, New York, 1992.
3. Compbell J. : Introduction to Remote Sension, Guilford, New York, 1989.
4. Curran, Paul J. : Principles of Remote Sensing. Longman, London, 1985.
5. Hord R.M.:Digital Image Processing of Remotely Sensed Date, Academic, New York, 1983.
6. Luder D,, Aerial Photography Interpretation: Principles and Application, Cc Graw Hill, New York, 1959.
7. Pratt W.K. Digital Image Processing. Wiley, New York, 1978.
8. Rao D. P. (eds.): Remote Sensing for Earth Resources, Association of Exploration Geophysicist, Hederabad, 1998.
9. Thomas M. Lollesand and Ralph W. Kefer, Remote Sensing and Image Interpretation, Wiley & sons, New York, 1994.
10. Aronoff S.Geographic Information Systems: A. Management Perspective, Publication Offiawa, 1989.
11. Burrough P.A. Principles of Geographic Information Systems for Land Reson Assessment Oxford University Press, New York, 1986.
12. Fraser Taylor D.R. Geographic information Systems. Pergamor Press, Oxford 1990.
13. Maquire D.J.M.F. Goodchild and D.W. Rhind (eds.). Geographic information System 'Principles arid Application. Taylor & Francis, Washingron, 1991.
14. Mark S. Monmonier. Computer-assisted Cartography,Prentice-Hall, Englewood Cliff, Jersey, 1982.
15. Peuquet D. .1. and D.F.- Marble, Introductory Reading in Geographic. Information System Taylor & Francis, Washington, 1990.
16. चौनियाल, देवी दत्त,: सुदूर संवेदन एवं भौगोलिक सूचना प्रणाली.

SEMESTER – IV
PAPER – XVIII (B)
ENVIRONMENTAL GEOGRAPHY

UNIT – I Environment: Meaning, definition, concepts and theories related to environment. Environment and its components: Classification, Characteristics and their interdependent relationship, Development of the environmental studies and their approaches: Development of environmentalism in Geography.

UNIT – II Environment and development. Ecological concepts; Geography as human ecology; Ecosystem: meaning definition, Concept and components. Main terrestrial ecosystems of the world-forests and agriculture.

UNIT – III Environmental hazards- natural and human made, environmental pollution: meaning definition, nature and types (air, water and noise). Ecological impacts of pollution. Resource use and ecological imbalance with special reference to soil, forests and water resources.

UNIT – IV Environmental Management: Meaning, importance and approaches, need for environmental policy and laws. Preservation and conservation of environment through Green revolution, Chipko movement, National Parks (Jim Corbett National Park, Kanha Tiger Reserve, Ranthambore National Park,Bandipur National Park, Kaziranga National Park and Kanger Valley National Park). Environmental Summits : Stockholm Conference, Earth Summit.

Suggested Readings:

1. Agrawal, Anil and Sunita Narain. Dying Wisdom: The Fourth citizen Report. Centre for Science and Environment, New Delhi, 1998.
2. Burton I.; R.W. Kates & G.F. Whiley. The Environment as Hazards. O. U.P. New York, 1978, Carledge, Bryen. Population and the Environment, O.U.P., New York, 1995.
3. Chandna, R.C. Environmental Awareness Kalyani Punlishers, New Delhi, 1998.
4. Dawson, J. and J.C. Doornkamp, eds.: Evaluating the Human Environment. Edward Amold, London, 1975
5. Detwyler, J.R.: Man,s impact on Environment. Pelican, 1970.
6. Edington, J.M. & M.A. Edington: Ecology and Environmental Planning. Chapmap & Hall, London, 1977.
7. Goudie, Andrew. The Human Impact on the Natural Environment, Blackwell Oxford, U.K. 1994
8. Jain, R. K., L.V. Urban and G.S. Stacy; Environmental Impact Analysis-A New Dimension in Decision-Making. Van Norstrand Reinhold Co. New York, 1977.
9. Khoshoo, T.N. Environmental Concepts and Strategies. Ashish Publishing House, New Delhi.
10. Mohan, M. Ecology and Development. Rawat Publications; Jaipur, 2000.
11. Munn, R.E. Environmental Impact Assessment: Principles and Procdures. John Wiley & Sons, New York, 1979.
12. Narain, Sunita. The Citizen Fifth Report. Centre for Science and Environment, New Delhi 2003.

1. Mukherji, A and V. K. Agnihotri : Environment and Development. Concept Pu. Co. New Delhi, 1993.
2. Rudig Wolfgeng. Environmental Policy Edward Elger Publishing Ltd. UK. 1998.
3. Saxena, H.M. Environmental Geography. Rawat Punlications, Jaipur, 1999
4. Saxena, H.M. Environmental Management. Rawat Punlications, Jaipur, 2000

5. Sharma, B.L. & Puar P: Global Environmental Challenges. Rohini Books, Publishers & Distriburors, Jaipur, 2004.
6. Singh, K.N. and D.N. Singh : Population Growth, Environment and Development Issues, Impacts and Responds. Environment & Development Study Centre, Varanasi, 1991.
7. Singh, R. B. and S. Mishra : Environmental Law in India : Issues and responses, Concept Pub. Co. New Delhi, 1966.
8. Singh, S. Environmental Geography. Prayag Pustak Sadan, Allahabad, 2000.
9. Smith, R.L. : Man and his Environment: An Ecosystem Aproach. Harper & Row. London, 1992.
10. U.N.E.P.: Global Environmental Outlook. U.N. Pub. New York.
11. अवस्थी एन. एम. एवं आर.पी. तिवारी पर्यावरण भूगोल, मध्यप्रदेश ग्रथ अकादमीए भोपाल ।
12. नेगी, पी. एस. : परिस्थितिकीय विकास एवं पर्यावरण भूगोल, रस्तोगी एन्ड कम्पनी, मेरठ, 1995।
13. रघुवंशी अरूण और चन्द्रलेखा रघुबंशी : पर्यावरण तथा प्रदूषण, मध्यप्रदेश हिन्दी ग्रथ अकादमी, भोपाल, 1989
14. सविन्द्र सिंह : पर्यावरण भूगोल, प्रयाग पुस्तक सदन इलाहाबाद, 1993 ।
15. शर्मा, बी एल : पर्यावरण : साहिन्य भवन, आगरा, 1992।
16. तिवारी, विजय कुमार : पर्यावरण और परिस्थितिकी, हिमालय पब्लिशिंग हाउस, दिल्ली 1998 ।
17. तिवारी, विजय कुमार, : पर्यावरण अध्ययन, हिमालय पब्लिशिंग हाउस, दिल्ली, 1998।

SEMESTER – IV

PAPER - XIX

FIELD WORK (PHYSICAL AND SOCIO-ECONOMIC)

UNIT – I Trace the prominent features of area to be surveyed. Identify salient landform features of selected area on a topographical sheet. Identify the landforms on the surface, while in the field. Also note the agents of erosion, transportation and deposition associated with the landforms.

UNIT – II Identity and classify the Bio-diversity in the area (Flora & fauna). Observe the relationship of various landforms, flora and fauna with land-use, settlement structure and life style of people.

Socio – Economic

UNIT – III Procure a cadastral map of the village/town for field mapping of the features of land-use and land quality. Procure/prepare the settlement –site map through rapid survey to map the residential, commercial, recreational (parks, playground), educational, religious and other prominent features. Conduct a socio-economic survey of the households with a structured questionnaire. Supplement the information by personal observations and perceptions.

UNIT – IV Based on observations of the land-use and results of the socio-economic enquiry of the households, prepare a critical field-survey report. Photographs and sketches, in addition to maps and diagrams, may supplement the report.

SEMESTER – IV

PAPER - XX PRACTICAL-IV

GEOGRAPHICAL INFORMATION SYSTEM AND QUANTITATIVE TECHNIQUES

Geographical Information System

An overview of GIS software, Elements of GIS: Data capture-verification and preprocessing-data storage and maintenance of databases-Database Management Systems: Spatial data creation, Editing the layers and table creation, Creation of non Spatial data, data manipulation, analysis (integrated analysis of spatial and attribute data, overlay analysis, neighborhood operations and connectivity functions) and spatial modeling-output format and generation. Buffer analysis, Network Analysis, Creation of DEM & TIN Generation of thematic map.

GPS – Demonstration and handling of Hand held GPS receivers, Checking and updating of existing map, Use of GPS to Check/update the existing topographical map, Ground truthing by GPS.

Quantitative Techniques:

Running mean, Mean centre, Nearest Neighbor Analysis; Lorenz Curve, Normal distribution curve, Probability.

SUGESSTED READINGS:

1. Singh, R.L. & P.K. Dutt : Elements of Practical Geography Students trends.
2. Monkhouse, F.J. & H.R. Wilkinson; Maps and Diagrams Mathuen, London.
3. Mahmood, Aslam 1971 : Statistical Methods in Geographical studies Rajesh Pub., New Delhi.
4. Gregory, S. Statistical Methods and The Geographer.
5. Hammond & Mccullah 1977 : Quantitative Techniques in Geography, Clarendon Press,Oxford.
6. Fitz, Gomid, B.P. : Science in Geography, Developments in Geographical Method, Oxford University Press.
7. Yeaters, M. : An Introduction to Quantitative Analysis in Human Geography, McGraw Hill, New York.
8. मॉक हाउस तथा विल्किन्सन 1976 : मानचित्र तथा आरेख, म.प्र. केदारनाथ , रामनाथ, मेरठ.
9. नेगी, डी.एस. : भूगोल में आधारभूत सांख्यिकी, केदारनाथ , रामनाथ, सेठ.
10. हीरालाल : प्रायोगिक भूगोल, किताबघर, कानपुर.
11. आर.सी. तिवारी एवं सुधाकर त्रिपाठी : अभिनव प्रयोगात्मक भूगोल, प्रयाग पुस्तक भवन, इलाहाबाद