

**DEPARTMENT OF GEOGRAPHY**  
**CH. CHARAN SINGH UNIVERSITY (Campus)**  
**MEERUT**

B.A./ B.Sc. (Hons.) programme in Geography for NEP course related shall be of three years duration spread over six semesters. Each semester shall consist of four theory papers and one practical paper carrying 100 marks each. Two semesters in the second year and two semester in the third year. Every semester ordinarily shall be of 21 weeks of duration inclusive of teaching and examination. The B.A. Geography (Honors) Program shall consist of total 150 credits and each paper shall consist of 05 (Five) credits shall be equivalent to 100 marks which shall be classified into the ratio of 75 % external and 25 % internal. The division of marks is as under:

Internal Test : 15 Marks each

Two Quiz : 05 Marks each

Attendance & Co-Curricular Activities (To be announced by the Department) : 05

Max Marks : 100 Marks

Passing Marks : 40 Marks

The internal Assessment awarded to student in any particular course will be based on performance of the students in two internal tests, quiz test and attendance & Co - Curricular activities (Assessment, Viva - Voce, Presentation, Live assignment, Group Discussion, Case study, etc.). The students who fail in internal assessment as well as in aggregate will have the option to improve their score in the internal assessment giving a special chance to such students. However no student will be allowed to improve his/her score of internal assessment, if he/she has already scored 40% marks in aggregate as well in external examination. A student who could not secure 40 % marks in external will have to reappear in the external examination of the respective paper as per university rules. Instructions to the examiners and students for the external examination of 75 marks: The examiner is required to set nine questions in all. The first question will be compulsory consists of seven short questions covering the entire syllabus. In addition, eight more questions will be set comprising two questions from each unit in addition to the

compulsory Question No. 01. All question shall carry equal marks. The maximum time allotted for the external examination is 03 hours.

### **Semester Wise Titles of the paper B.A./B.Sc Honors (Geography)**

#### **First Semester**

Sl. No	Course Code	Course Name	Hours per Week		Credits
			Lecture	Practical	
1	GEOG01	Geomorphology	5	0	5
2	GEOG02	Climatology	5	0	5
3	GEOG03	Oceanography	5	0	5
4	GEOG04	Environmental Geography	5	0	5
5	GEOG05	Statistical Techniques (Practical)	2	6	5

#### **Second Semester**

Sl. NO	Course Code	Course Name	Hours per Week		
			Lecture	Practical	Credits
6	GEOG06	Geography of India (Physical)	5	0	5
7	GEOG07	Geography of India (Socio & Economic)	5	0	5
8	GEOG08	Geography of Resource	5	0	5
9	GEOG09	Bio Geography	5	0	5
10	GEOG010	Cartographic Techniques (Practical)	2	6	5

#### **Third Semester**

Sl. No	Course Code	Course Name	Hours per Week		
			Lecture	Practical	Credits
11	GEOG011	Human Geography	5	0	5
12	GEOG012	Economic Geography	5	0	5
13	GEOG013	Agricultural Geography	5	0	5
14	GEOG014	Geographical Thought	5	0	5
15	GEOG015	Remote Sensing (Practical)	2	6	5

#### **Fourth Semester**

Sl. No	Course Code	Course Name	Hours per Week		
			Lecture	Practical	Credits
16	GEOG016	Urban Geography	5	0	5
17	GEOG017	Rural Geography	5	0	5
18	GEOG018	Population Geography	5	0	5

19	GEOG019	Recent Issues in Geographic Thought	5	0	5
20	GEOG020	Basic of GIS (Practical)	2	6	5

#### **Fifth Semester**

Sl. No	Course Code	Course Name	Hours per Week		
			Lecture	Practical	Credits
21	GEOG021	Regional Planning & Development	5	0	5
22	GEOG022	Social Geography	5	0	5
23	GEOG023	Political Geography	5	0	5
24	GEOG024	Disaster Management	5	0	5
25	GEOG025	Field Techniques in Geography (Practical)	2	6	5

#### **Sixth Semester**

Sl. No	Course Code	Course Name	Hours per Week		
			Lecture	Practical	Credits
26	GEOG026	Geography of Tourism	5	0	5
27	GEOG027	Contemporary Environmental Issues	5	0	5
28	GEOG028	Fundamental of Remote Sensing	5	0	5
29	GEOG029	Aerial Photography	5	0	5
30	GEOG030	Thematic Application of R.S & GIS (Practical)	2	6	5

# Semester I

## GEOMORPHOLOGY

**Max. Marks: 100**  
*Theory Exam: 75*  
*Int. Assessment: 25*

### Course Contents:

- Unit – I : Nature and scope of Geomorphology, Concepts – Uniformitarianism.
- Unit – II : Earth Movements – epeirogenic and orogenic earth movements, Isostasy.
- Unit – III : Exogenic Process: Weathering, Mass movement, Erosional and Depositional process.
- Unit – IV : WM Davis, Penck, LC King.
- Unit – V : Evolution of Landform – Fluvial, glacial, Aeolin, Glacial, Karst, Coastal.

### Suggested Reading:

- Ahmed , E. (1985): Geomorphology, Kalyani Publishers, New Delhi.
- Bloom, A.L. (1998/2001): Geomorphology, 3<sup>rd</sup> Edition, Prentice Hall of India, New Delhi.
- Chorley, R.J., Schuman, S.A. and Sugden, D.E. (1984): Geomorphology, Methuen and Company Ltd., London.
- Chorley, R.J. (1972): Spatial Analysis in Geomorphology, Methuen, London.
- Dayal, P. (1996): A Textbook of Geomorphology, Shukla Book Depot, Patna.
- Dury, G.H. (1959): The Face of the Earth, Penguin Harmondsworth.
- Fairbridge, R.W. (1968): Encyclopedia of Geomorphology, Reinholds, New York.
- Garner, H.F. (1974): The Origin of landscape – A Synthesis of Geomorphology, Oxford University Press, London.
- Singh, Shavendra: Geomorphology (in Hindi).

# Semester I CLIMATOLOGY

**Max. Marks: 100**  
*Theory Exam: 75*  
*Int. Assessment: 25*

## Course Contents:

- Unit – I : Nature and scope of Climatology and structure of the Atmosphere.
- Unit – II : Isolation and Heat Budget, Green House Effect.
- Unit – III : Distribution of Temperature and Pressure, Planetary wind system, Jet Streams.
- Unit – IV : Humidity and Precipitation, Acid Rain, Air Masses, Origin of Cyclones, Anticyclones.
- Unit – V : Climate classification of Koppen and Thornwaite, Climate Change and Global warming.

## Suggested Reading:

- Barry, R.G. and Chorley P.G. (1998): Atmosphere, Weather and Climate, Routledge, London and New York.
- Critchfield, J.H. (1993): General Climatology, Prentice Hall, India, New Delhi.
- Das. P.K. (1987): Monsoons National Book Trust, New Delhi.
- Fein, J.S. and Stephens P.N. (1987): Monsoon, Wiley Interscience journal.
- Indian Met. Deptt. (1968): Climatological Tables of Observatories in India, Govt. of India.
- Lal, D.S. (1986): Climatology, Chaitanya Publication, Allahabad.
- Lydolph, P.E. (1985): The Climate of the Earth, Rowman.
- Menon, P.A. (1989): Our Weather, P.B.T. New Delhi.
- Peterson, S. (1969): Introduction to Meteorology, Mc Graw Hill Book, London.
- Robinson, P.L. and Henderson S. (1999): Contemporary Climatology, Henlow.
- Sharma, R.C. & Meena Vatal : Oceanography for Geographers.

# Semester I

## OCEANOGRAPHY

**Max. Marks: 100**

*Theory Exam: 75*

*Int. Assessment: 25*

### Course Contents:

- Unit – I : Nature and scope of Oceanography, Surface configuration of the ocean floor,
- Unit – II : Submarine relief of the Pacific, Atlantic and Indian Ocean.
- Unit – III : Oceanic movement, Waves, Tides and Currents.
- Unit – IV : Corals and coral reefs: Types and theories of their origin.
- Unit – V : Composition of Oceanic Water, Distribution of Temperature and Salinity.

### Suggested Reading:

- Barry, R.G. and Chorley P.G. (1998): Atmosphere, Weather and Climate, Routledge, London and New York.
- Das. P.K. (1987): Monsoons National Book Trust, New Delhi.
- Indian Met. Deptt. (1968): Climatological Tables of Observatories in India, Govt. of India.
- Menon, P.A. (1989): Our Weather, P.B.T. New Delhi.
- Peterson, S. (1969): Introduction to meteorology, Mc Graw Hill Book, London.
- Robinson, P.L. and Henderson S. (1999): Contemporary Climatology, Henlow.
- Sharma, R.C. & Meena Vatal : Oceanography for Geographers.

# Semester I

## ENVIRONMENTAL GEOGRAPHY

**Max. Marks: 100**

*Theory Exam: 75*

*Int. Assessment: 25*

### Course Contents:

- Unit – I : Meaning and definition of Environmental Geography, The Environment – meaning, structure and types.
- Unit – II : Major Environmental problems: Natural hazards – floods,
- Unit – III : Man – induced hazards – Rapid urbanization, transport Development.
- Unit – IV : Environmental Pollution – the concept and types of pollution, ecological impact of pollution.
- Unit – V : Environmental programmes and policies – Global, Natural and Local levels.

### Suggested Reading:

- Anjaneyulu, Y. (2004): Introduction to Environmental Science, B.S. Publications, Hyderabad.
- Athavale, R. N. (2003): Water Harvesting and Sustainable Supply in India. Rawat Publication., Jaipur.
- Blaikie, P., Cannon, T. and Davis, I. (eds.) (2004): At Risk: Natural Hazards, Peoples Vulnerability and Disasters. Routledge, London.
- Bodkin, E. (1982): Environmental Awareness, Kalyani Publisher, New Delhi.
- Chandna, R.C. (1998): Environmental Awareness, Kalyani Publisher, New Delhi.
- Eyre, S.R. and Jones, GRJ. (eds) (1996): Geography as human Ecology, Edward Arnold, London.
- Gautam, A. (2007): Environmental Geography, Sharda Pustak Bhawan, Allahabad.
- Khoshoo, T.N. (1981): environmental Concerns and Strategies. Ashish Publishing House, New Delhi.

# **Semester I**

## **Statistical Techniques (Practical)**

### **Course Contents:**

Unit – I	:	Representation of Statistical Data, Statistical Diagrams, Bar/Column Diagrams.
Unit – II	:	Line Graph, Simple Line Graph, Compound Line Diagram, Cumulative Graph, Logarithmic Graph.
Unit – III	:	Star Diagram, Vector Diagram.
Unit – IV	:	Pyramid Diagram, Rainfall Dispersion Diagram.
Unit – V	:	Wheel Diagram, Ring Diagrams, Rectangular Diagram, Block Diagram.

### **Suggested Readings:**

- David Unwin (1981): Introductory Spatial Analysis, Methuen, London.
- Gregory, S. (1978): Statistical Methods and the Geographer, Longman, London.
- Hammond, R. and P.S. McCullagh (1974): Quantitative Techniques in Geography: An Introduction, Clarendon Press, Oxford.
- John, P. Cole and Cuchlaine A.M. King (1968): Quantitative Geography, John Wiley, London
- Johnston R.J. (1973): Multivariate Statistical Analysis in Geography, Longman, London.
- Koutsoyannis, (1973): Theory of Econometrics, McMillan, London.
- Maurice Yeats (1974): An Introduction to Quantitative Analysis in Human Geography, McGraw Hill, New York.



## **Semester II**

### **Advanced Geography of India (Physical & Regional)**

**Max. Marks: 100**

*Theory Exam: 75*

*Int. Assessment: 25*

#### **Course Contents:**

- Unit – I : Making of India: Geology, Structure, Physical Division of India.
- Unit – II : Drainage System, Climate characteristics, Indian Monsoon, Climate regions of India.
- Unit –III : Natural Resource, Problems Conservation, Soil, Forest, Water etc.
- Unit – IV : Different Schemes of Physiographic Regionalization of India (Spate and R.L. Singh).

#### **Suggested Reading:**

- Centre for Science & Environment: State of India's Environment, New Delhi, 1998.
- Deshpande, C.D. (1992): India: A regional Interpretation ICSSR & Northern book Centre.
- Ganguly, S. and Neil, De Votta (eds) (2003): Understanding Contemporary India. Lynne Rienner Publications, Boulder and London.
- Gole, P.N. (2001): Nature Conservation and Sustainable Development in India. Rawat Publications, Jaipur and New Delhi.
- Khullar, D.R. (1968): India. A Comprehensive Geography. Kalyani Publishers, New Delhi, 2006.
- Bansal, S.C. (2011): India: An Advanced Geography of India: Meenakshi Prakashan, Meerut (in Hindi).

## **Semester II**

### **Advanced Geography of India (Socio - Economic)**

**Max. Marks: 100**

*Theory Exam: 75*

*Int. Assessment: 25*

#### **Course Contents:**

- Unit – I : Agriculture system and Technological problems of India, Agro Climatic region of India.
- Unit – II : Energy in India – Conventional and Non Conventional Power Resources.
- Unit – III : Analysis of Agro – based (Sugar), forest Based and Mineral Based Industries.
- Unit – IV : Distribution and density of Population, Population resource Regions, Population problems and polices.
- Unit – V : Meso and Micro Regional division of India, Economic regionalization in India.

#### **Suggested Reading:**

- Centre for Science & Environment: State of India's Environment, New Delhi, 1998.
- Singh R.L. (ed), India-A Regional Geography.
- Sen Gupta, P., Economic Regions and Regionalization of India.
- Mitra Ashok, Levels of Economic Development of India.
- Singh, J., India-A Comprehensive Systematic Geography.

## **Semester II Geography of Resource**

**Max. Marks: 100**

*Theory Exam: 75*

*Int. Assessment: 25*

### **Course Contents:**

- Unit – I : Resource Geography: Its Importance and relation with other sub-disciplines, Concept and classification of Resources.
- Unit – II : Distribution, Utilization, Problems and Management of Soil Resources, Water Resources, Forest Resource, Mineral and power Resource.
- Unit – III : Population Resources, Distribution and density, problems and Management.
- Unit – IV : Resource Conservation: Principles and Methods.
- Unit – V : Sustainable Development planning of resources management.

### **Suggested Readings:**

- Cutter S. N., Renwich H. L. and Renwick W., 1991: Exploitation, Conservation, And Preservation: A Geographical Perspective on Natural Resources Use, John Wiley and Sons, New York.
- Gadgil M. and Guha R., 2005: The Use and Abuse of Nature: Incorporating This Fissured Land: An Ecological History of India and Ecology and Equity, Oxford University Press. USA.
- Dr. alka Gautam 2002: Resource Geography.

## **Semester II Bio Geography**

**Max. Marks: 100**

*Theory Exam: 75*

*Int. Assessment: 25*

### **Course Content:**

- Unit – I : Definition and Scope of Bio-geography, Meaning of Biosphere.
- Unit – II : Factors affecting the community – Plant succession, Arresting Factors, Vegetation Climax.
- Unit – III : Ecology, Ecosystem, Environment, Communities, Habitats, Niche, Ecotone and Biotopes.
- Unit – IV : Biomass – Forest, Grassland, Desert and Mountain.
- Unit – V : Biodiversity – Preservation and Conservation.

### **Suggested Readings:**

- Chapman J.L. and Reiss. J.J. 1993, Ecology: Principles and Applications, Cambridge University Press, Cambridge.
- Chiras D.D. Reganold J.P. and Owen, O.S. 2002, Natural Resource Conservation. Management for a Sustainable Future. 8 th edition, Prentice Hall. Englewood Cliffs.
- Dash. M.C. 2001, Fundamentals of Ecology, 2<sup>nd</sup> edition, Tata McGraw-Hill, New Delhi.
- Huggett. R. 1998, Fundamentals of Biogeography, Routedledge. London. Kormondy. E.J. 1996, Concepts of Ecology, 4th edition. Prentice-Hall, India. New Delhi.
- Myers. A.A. AND Giller. P.S. (editors) 1988, Analytical Biogeography: An Integrated Approach to the study of Animal and Plant Distributions. Chapman and Hall. London.
- Odum E.P. 1997, Ecology: A Bridge between Science and Society, Sinaur Associates Inc. Publishers, Sunderland.

## **Semester II**

### **Cartographic Techniques (Practical)**

- Unit – I : Nature and Scope of Cartography.
- Unit – II : Scales – Concept and application; Graphical Construction of Plain, Comparative and Diagonal Scales.
- Unit – III : Map Projections – Classification, Properties and Uses; Graphical Construction of Polar Zenithal Stereoscopic, Bonne’s Projections and reference to Universal Transverse Mercator (UTM) Projection.
- Unit – IV : Topographical Representation and generation, Measurement of Heights and slopes.
- Unit – V : Graphical representation of statistical data: types of Graphs and diagrams, construction of climograph, Ergograph, Hythergraph, Band graph, Wind Graph.

#### **Suggested Readings:**

- Cromely, Robert G. (1992): Digital Cartography Englewood Cliffs, New Jersey, Prentice-Hall, Inc.
- Dent, B. (1985): Principles of Thematic Map Design, Reading, Massachusetts, Addison – Wesley Publishing Co.
- Dorling, D. and Fairborn, D. (1997): Mapping, Ways of Representing the World, Longman, Harlow.

## **Semester III**

### **Human Geography**

**Max. Marks: 100**

*Theory Exam: 75*

*Int. Assessment: 25*

- Unit – I : Concept and Nature; Meaning, Scope and Development of Human Geography, Approaches to the study of Human Geography.
- Unit – II : Man and Environment relationship-Determinism, Possibilism, Neo-determinism, Probabilism, Basic Principles-Principle of Activity or Change, Principle of Terrestrial Unity or Whole.
- Unit – III : Human adaptation to the environment (i) Cold region – Eskimo (ii) Hot region – Bushman (iii) Plateau – Gonds (iv) Mountains – Gujjars.
- Unit – IV : Economy Evolution of Human Economy; Sequence of human occupation, Primitive Economies – Food gathering, Hunting, Pastoral herding, Fishing, Lumbering and Primitive agriculture.
- Unit – V : Man’s spread over the earth during the Pleistocene. Cultural Diffusion, Cultural realms. World Human Races-Classification, Characteristics and Distribution. Races of India.

#### **Suggested Readings:**

- Spencer, J.E. and Thomas, W.L. Introducing Cultural Geography.
- Thomas, W.L. (ed.) Man’s Role in Changing the Face of the Earth.
- Peripillou, Human Geography.
- Smith, D.M. Human Geography – A Welfare Approach.
- Forde, C.D., Habitat, Economy and Society.
- Dicken, S.N. and Pitts, F.R., Introduction to Human Geography.
- Kaushik, S.D., Manav Bhoogol (Hindi).

## **Semester III**

### **Economic Geography**

**Max. Marks: 100**

*Theory Exam: 75*

*Int. Assessment: 25*

- Unit – I : Nature, Scope and development of Economic Geography .Major concepts – Economic landscape, Stages of economic development, typology of economic activities (Primary, secondary, tertiary quaternary).
- Unit – II : World Natural Resources: types, basis and classification. Conservation, Utilization of Natural Resources.
- Unit – III : Spatial distribution of food (rice and wheat), commercial (Cotton and sugarcane) and plantation crops (tea, rubber and coffee). Mineral and power resources.
- Unit – IV : Locational factors of Industries and their relative significance, Weber’s theory of Industrial location. Classification of Industries – Iron and Steel, Textile Industries, major industrial regions of the World (USA, UK, India, Japan).
- Unit – V : Transport, communication and Trade: Geographical Factors in their development, Major modes of water, land and air transport, recent trends in International Trade.

#### **Suggested Readings:**

- Allexander, J.W. , Economic Geography Robinson, A.H. jones,
- C.F. and Darkenwarld G.G. Principles of Economic Geography.
- Boesh, Hans, A Geography of World Economy.
- Bengston and Reyen, Fundamentals of Economic Geography.
- Zimmerman, E.W. Introduction to World Resources.
- Chisholm, M., Modern World Development- A Geographical Perspective.
- Singh, K.N. & Singh, J., ArthikBhoogolkeMooltatva (Hindi).
- Jain, P, ArthikBhoogolki Samiksha (Hindi).

## **Semester III**

### **Agricultural Geography**

**Max. Marks: 100**

*Theory Exam: 75*

*Int. Assessment: 25*

- Unit – I : Nature, scope, significance and development of agricultural geography. Approaches to the study of agricultural geography.
- Unit – II : Determinants of agricultural land use-Physical, cultural, Social, Economical etc.
- Unit – III : Agricultural region of India, Agro Climatic regions, Crop Combination region. Crop Productivity, Crop Intensity.
- Unit – IV : Agricultural system of the World (Whittlesey's Classification) and agricultural land use model (Von Thunen).
- Unit – V : Problem and solution in Indian Agriculture, agricultural revolution in India, Green, White, Blue.

#### **Suggested Readings:**

- Bayliss Smith, T.P. (1987): The Ecology of Agricultural Systems. Cambridge University Press, London.
- Berry, B.J.L. et. Al. (1976): The Geography of Economic Systems. Prentice Hall, New York.
- Brown, L.R. (1990): The Changing World Food Prospects- The Nineties and Beyond. World Watch Institute, Washington D.C.
- Dyson, T. (1996): Population and Food-Global Trends and Future Prospects. Routledge, London.
- Gregor, H.P.(1970): Geography of Agriculture. Prentice Hall, New York.



## **Semester III**

### **Geographical Thought**

**Max. Marks: 100**

*Theory Exam: 75*

*Int. Assessment: 25*

- Unit – I : The field of geography: its place in the classification of sciences, selected concepts of geography-distributions, relationships, interactions, areal differentiations.
- Unit – II : Dualisms in geography, systematic & regional geography, physical & human geography. The myth and reality about dualisms.
- Unit – III : Geography in ancient period – Contribution of Indian, Greek & Roman geographers, Geography in middleage – Dark Age ,Arab Geographers, Renaissance period.
- Unit – IV : School of thought – German, French, Britishand American.
- Unit – V : Development of Geography in India after Independence.

#### **Suggested Readings:**

- Abler, Ronald: Adams, John S. Gould Peter: Spatial Organization: The Geographers View of the World, Prentice Hall, N. J. 1971.
- Ali S. M.: The Geography of Puranas, Peoples Publishing House, Delhi, 1966.
- Amedeo, Douglas: An Introduction to Scientific Reasoning in Geography, John Wiley, U.S.A. 1971.
- Dikshit, R. D. (ed.): The Art & Science of Geography Integrated Readings, Prentice Hall of India, New Delhi – 1994.
- Hartshorne, R.: Perspective on Nature of Geography, Rand McNally & Co., 1959.
- Husain, M.: Evolution of Geographic Thought, Rawat Pub., Jaipur 1984.
- Bansal, S. C.: Evolution of Geographical Thought, 2010.

## **Semester III**

### **Practical of Remote Sensing**

**Max. Marks: 100**

*Theory Exam: 75*

*Int. Assessment: 25*

- Unit – I : Introduction to Aerial Photographs: Meaning, Definition of Aerial photography their advantages and types.
- Unit – II : Introduction to Remote Sensing; Electromagnetic spectrum, stages in remote sensing, Resolution and their types, Orbit of satellites and types,
- Unit – III : introduction to Geographical information system: Definition, scope. Importance of GIS in Geography.
- Unit – IV : Introduction to GPS and their Frequency, Constellation.
- Unit – V : Introduction to Digital Image Processing, Current importance of Digital Image.

#### **Suggested Readings:**

- Barrett, E.C. and Curtis L.F.: Fundamentals of Remote Sensing and Air Photo Interpretation.
- Campbell, J.: Introduction to Remote Sensing.
- Luder, D.: Aerial Photography Interpretation: Principles and Application.
- Star, J. and J. Estes: Geographic Information Systems :An Introduction.
- Fraser Taylor D.R.: Geographic Information Systems.
- Burrough P.A.: Principles of Geographic Information Systems for Land Resources Assessment.
- Campbell, J. B. (2002): Introduction to Remote Sensing. 5th edition. Taylor and Francis, London.
- Cracknell, A. and Hayes, L. (1990): Remote Sensing Year Book, Taylor and Francis, London.
- Curran, P.J. (1985): Principles of Remote Sensing, Longman, London.
- Deekshatulu, B.L. and Rajan, Y.S. (ed.) (1984): Remote Sensing. Indian Academy of Science, Bangalore.
- Floyd, F. and Sabins, Jr. (1986): Remote Sensing: Principles and Interpretation, W.H.Freeman, New York.
- Guham, P. K. (2003): Remote Sensing for Beginners. Affiliated East-West Press Private Ltd., New Delhi.

## **Semester IV**

### **Urban Geography**

**Max. Marks: 100**

*Theory Exam: 75*

*Int. Assessment: 25*

Unit – I	:	Urban Geography: Introduction Nature and Scope, History of Urbanization.
Unit – II	:	Pattern of Urbanization in Developed an Undeveloped countries,
Unit – III	:	Functional classification of cities, Quantitative, Qualitative methods.
Unit – IV	:	Contemporary urban issues: urban poverty, urban renewal, urban sprawl, slums;transportation, housing, environmental pollution; air, water, noise.
Unit – V	:	Urban policy and planning, development of small and medium sized towns, case study of Delhi, Mumbai, Kolkata, Chennai with reference to Urban issue.

#### **Suggested Readings:**

- Alam, S.M. (1964): Hyderabad – Sikandrabad Twin Cities Asia Publishing House, Bombay.
- Berry, B.J.L. and Horton, F.F. (1970): Geographic Perspectives on Urban Systems, Prentice Hall, Englewood Chiffs, New Jersey.
- Bansal, S.C. : Urban Geography (English & Hindi both), Meenakshi Prakashan, Meerut.
- Carter (1972): The Study of Urban Geography, Edward Arnold Publishers, London.
- Chorley, R.J.O Haggett P. (ed.) (1966): Models in Geography, Methuen, London.
- Dickinson, R.E. (1964): City and Region, Routledge, London.
- Dwyer, D.J. (ed.) (1971): The City as a Centre of Change in Asia, University of Hong Kong Press, Hongkong.
- Gibbs, J.P. (1961): Urban Research Methods, D. Van Nostrand Co. Inc. Princeton, NewJersey.
- Hall, P. (1992): Urban and Regional Planning, Routledge, London.

## **Semester IV**

### **Rural Geography**

**Max. Marks: 100**

*Theory Exam: 50*

*Int. Assessment: 50*

- Unit – I : Nature, scope, significance and development of rural settlement geography. Approaches to rural settlement geography. Rural-urban continuum
- Unit – II : Types, forms and Patterns of rural settlements: cause and effect, Classification of rural settlements, Rural service centers, their nature, hierarchy and functions, rural-urban fringe.
- Unit – III : Area based approach to Rural Development: Green Revolution, Drought Prone Area Programmes, PMGSY, SJSY (integrated rural development programme).
- Unit – IV : Social issues in rural settlements: poverty, housing and shelter, deprivation and inequality, empowerment of women, health care, rural-urban interaction.
- Unit – V : Environmental issues in rural settlements: access to environmental infrastructure, water supply, sanitation, drainage, health hazards.

#### **Suggested Readings:**

- Alam, S.M. et. al. (1982): Settlement System of India, Oxford and IBH Publication Co., New Delhi.
- Brock, J.O.M. and Welb, J.W. (1978): Geography of Mankind, McGraw Hill, London.
- Grover, N. (1985): Rural Settlement – A Cultural Geographical Analysis, Inter-India Publication, Delhi.
- Hudson, F.S. (1976): A Geography of Settlement, MacDonal & Evans, New York.
- Mishra R.P. and Sundaram, K.V. (eds.), 1979: Area Development: Perspectives and Approaches, Sterling, New Delhi.
- Wan Mali S., 1992: Rural Infrastructure Settlement Systems and Development of the Regional Economy in South India, International Food Policy Research Institute, Washington, D.C.

## **Semester IV**

### **Population Geography**

**Max. Marks: 100**

*Theory Exam: 75*

*Int. Assessment: 25*

- Unit – I : Population Geography: Nature and Scope; Sources of Data with special reference to India (Census, Vital Statistics and NSS).
- Unit – II : Population distribution: density and growth – theoretical issues, Classical and modern theories in population distribution and growth.
- Unit – III : Population Dynamics: Fertility, Mortality and Migration – Measures, Determinants and Implications.
- Unit – IV : Population composition and Characteristics – Age – Sex Composition; Rural and Urban Composition; Literacy rural and urban.
- Unit – V : Population and development: population-resource regions and levels of population and socio-economic development, population policies in developed and less developed countries.

#### **Suggested Readings:**

- Bilasborrow, Richard E and Daniel Hogan (1999): Population and Deforestation in the Humid Tropics, International Union for the Scientific Study of Population, Belgium.
- Bogue, D.J. (1969): Principles in Demography, John Wiley, New York.
- Bose, Ashish et.al. (1974): Population in India's Development (1947-2000): Vikas Publishing House, New Delhi.
- Census of India (1991): India: A State Profile.
- Chandna, R.C. (2000): Geography of Population, Concept, Determinants and Patterns, Kalyani Publishers, New Delhi.
- Clarke, John I. (1973): Population Geography, Pergamon Press, Oxford.
- Crook, Nigel (1997): Principles of Population and Development, Pergamon Press, New York.

## **Semester IV**

### **Recent Issues in Geographical thought**

**Max. Marks: 100**

*Theory Exam: 75*

*Int. Assessment: 25*

- Unit – I : Recent Conceptual Development in Geography: Philosophical Issue – Positivism, Behavioralism, Idealism and Humanistic Geography, Spatial Justice, Radicalism.
- Unit – II : Recent Methodological Development in Geography: Quantitative Revolution and use of Statistical Techniques. use of models and paradigms in geography.
- Unit – III : Use of Technologies in Geography: Remote Sensing and GIS and GPS.
- Unit – IV : Scientific Methods in Geographical Research: Hypothesis Testing, Problem Solving approach in Geography, Project Formulation and Project Evaluation Techniques.
- Unit – V : Recent Issues in Indian Geography: Indian Geography, Trends of Geographical Research in India, Future of Indian Geography, Problems, Perspectives and Prospects.

#### **Suggested Readings:**

- Adams, P., Steven, H. and Karel, T. (eds.) (2001): *Texture of Place. Exploring Humanistic Geographies*. University of Minnesota Press, Minneapolis.
- Anderson, K., Domosh, M., Pile, S. and Thrift, N. (eds.) (2003): *Handbook of Cultural Geography*. Sage Publications, London.
- Barnes, T. and Gregory, D. (eds.) (1997): *Readings in Human Geography: The Poetics and Politics of Inquiry*. Arnold, London.
- Bunkše, E. V. (2004): *Geography and the Art of Life*. John Hopkins University Press, Baltimore.
- Buttner, A. (1971): *Society and Milieu in the French Geographic Tradition*. Rand McNally, Chicago.
- Daniels, P., Bradshaw, M., Shaw, D. and Sidaway, J. (2000): *An Introduction to Human*

## **Semester IV**

### **Basic of GIS (Practical)**

Unit – I	:	Definition and scope of GIS, Introduction to computers, Basic operating systems DOS and Windows.
Unit – II	:	Geographic data: Spatial and non-spatial; Data Models: Raster and Vector, Database management System (DBMS).
Unit – III	:	GIS data Analysis: Input, Editing and Output; Overlays.
Unit – IV	:	Application of GIS: Agriculture Monitoring, Urban Sprawl Analysis.
Unit – V	:	Practical Record: A project file consisting of 6 exercises on QGIS Software.

#### **Suggested Readings:**

- Arnoff, Stan (1989), Geographical Information System: A Management Perspective, WDL Publication, Ottawa.
- Bernhardsen, T. (1992), Geographical Information Systems, VIAKIT IT, Norway.
- Burrough, Peter and R. Mc Donnell (1998), Principles of Geographical Information Systems, Oxford University Press, Oxford.
- Faust, N.L., W.H. Anderson and J.L. Star (1991), Geographic information systems and Remote Sensing future computing environment, Photogrammetric Engineering and Remote Sensing, Vol. 57, Issue 6, pp. 655-68.
- Nag. P. and M. Kudrat (1998), Digital Remote Sensing, Concept Publishing Company New Delhi.

## **Semester V**

### **Regional Planning Development**

**Max. Marks: 100**

*Theory Exam: 75*

*Int. Assessment: 25*

- Unit – I : Regional Concept in geography, Nature and Scope of Regional planning, Need for Regional Planning.
- Unit – II : Types of region: Formal and functional; uniform and nodal, single purpose and composite regions, in the context of planning; regional hierarchy.
- Unit – III : Regional Planning in India: Regional Approach to Planning in India's Five plans; Experience of Regional Planning in India: Multi-level Planning (State, District and Block level Planning).
- Unit – IV : Regions for Planning (identification, Characteristics, problems and policies): Case studies of:
- a. River Valley Development Plan: Damodar Valley and tribal Area Development Plan: Baster District.
  - b. Hill area Development Plan: Western Ghats and Himalaya
  - c. Metropolitan Regional Plan: National Capital Region.
- Unit – V : Regional development strategies – concentration vs. dispersal, case studies for plans of developed and developing countries, regional planning of India.

#### **Suggested Readings:**

- Bhat, L.S.(1973): Regional Planning in India, Statistical Publishing Society, Calcutta.
- Bhat, L.S. et al.(1976) : Micro-Level Planning : A Case Study of Karnal Area, Haryana, K.B. Publications, New Delhi.
- Chandna, R.C. (2000): Regional Planning: A Comprehensive Text. Kalyani Publishers, New Delhi.
- Chaudhuri, J. R. (2001): An Introduction to Development and Regional Planning with special reference to India. Orient Longman, Hyderabad.



## **Semester V**

### **Social Geography**

**Max. Marks: 100**

*Theory Exam: 75*

*Int. Assessment: 25*

- Unit – I : Social Geography: Concept, Origin, Nature and Scope.
- Unit – II : Peopling Processing of India: Technology and Occupational Change; Migration.
- Unit – III : Social Categories: Caste, Class, Religion, Race and Gender and their Spatial distribution.
- Unit – IV : Geographies of Welfare and Well being: concept and Components – Healthcare, Housing and Education.
- Unit –V : Social Geographies of Inclusion Exclusion, Slums, Gated Communities, Communal Conflicts and Crime.

#### **Suggested Readings:**

- Ahmad A., 1999: Social Geography, Rawat Publication.
- Casnio V.J.D., Jr., 2009) Social Geography: A Critical Introduction, Wiley Blackwell.
- Cater J. and Jones T., 2000: social Geography: An Introduction to Contemporary Issues, Hodder Arnold.
- Hold L., 2011: Geographies of children, Youth and Families: An International Perspective, taylor&francis.
- Panelli R., 2004: Social geographies: From Difference to Action, Sage,
- Smith D.M., 1977: Human geography: A Welfare Approach, Edward Arnold, London.
- Sopher, David (1980): An Exploration of India, Cornell University Press, Ithasa.

## **Semester V**

### **Political Geography**

**Max. Marks: 100**

*Theory Exam: 75*

*Int. Assessment: 25*

- Unit – I : Nature, scope, subject matter and recent development in political geography; approaches to study.
- Unit – II : Geographic Elements and the State: Physical Elements; Human elements; Economic elements; Political geography and environment interface.
- Unit – III : State Nation and Nation State: Concept of Nation and State, Attribute of State: Frontiers, Borders, Shape, Size, Territory and Sovereignty, Concept of Nation State.
- Unit – IV : Political Geography of Resource Conflicts: Water Sharing disputes, Disputes and Conflicts Related to Forest rights and Mineral, Issues of land locked states in Asia and Africa.
- Unit – V : Politics of Displacement: Issues of relief, compensation and rehabilitation: with reference to Dams and Special Economic Zones.

#### **Suggested Readings:**

- Alexander, L.M. (1963): World Political Patterns Ran McNally, Chicago.
- De Blij, H.J. and Glassner, Martin (1968): Systematic Political Geography, John Wile, New York.
- Dikshit, R.D. Political Geography (1996): A Contemporary Perspective. Tata MCGraw Hill New Delhi.
- Dikshit, R.D. Political geography (1999): A Century of progress, Sage, New Delhi.
- Sukhwal, B.L. (1968): Modern Political Geography of India Sterling Publishers, New Delhi.
- Taylor, Peter (1985): Political Geography Longman, London.
- Fisher Charles A. (1968): Essays in Political Geography, Methuen, Landon.
- Pounds N.J.G. (1972): Political Geography. McGraw Hill, New York.

## **Semester V**

### **Disaster Management**

**Max. Marks: 100**

*Theory Exam: 75*

*Int. Assessment: 25*

- Unit – I : Disasters: Definition, Classification and related concepts of Hazards and risk.
- Unit – II : Impact of Disasters: Case Studies from Development and Development Countries.
- Unit – III : Vulnerability to Disasters: Concept and Dimension.
- Unit – IV : Response to Disasters: Community, Non – Government Organizations, National and International.
- Unit – V : Disaster Management: Mitigation and Preparedness.

#### **Suggested Readings:**

- Frampton C., Hardwick and McNaught, 1999: Causes, Consequences and Management of Disasters, Hodder Stoughton, London.
- Frank W.L., 1986: The Violent Earth, Croom Helm, London.
- Goel S.L., 2001: Encyclopedia of Disaster Management, Vol. 1, 2 and 3, Deep and Deep Publications, New Delhi.
- Kanpur A., 2010: Vulnerable India: A Geographical Study of disasters, Sage Publication, New Delhi.
- Keith S., 2002: Environmental Hazards: Assessing Risk and Reducing Disaster, Routledge, London.
- Keller E.A. and Blodgett R.H., 2006: Natural Hazards: Earth's Processes as Hazards, Disasters and Catastrophe, Prentice Hall, New Jersey.

## **Semester V**

### **Field Techniques in Geography (Practical)**

- Unit – I : Surveying, Definition, Principles, Methods, Classification; Plane and Geodetic Survey; Triangulation: Principles, Base line measurement, extension of the base.
- Unit – II : Chain and Tape Survey, Plane Table Survey: Radiation, Intersection and Resection Methods;
- Unit – III : Dumpy level Survey: Simple and Compound Levelling, Prismatic Compass Surveying (Mathematical Techniques for Closed Traversing).
- Unit – IV : Overview of Global Positioning System: Receivers. Satellite Constellations, Segments, Antennas, Signals, Application of GPS.
- Unit – V : Field work based Micro report.

#### **Suggested Readings:**

- Barrett, E.C. and Curtis L.F.: Fundamentals of Remote Sensing and Air Photo Interpretation.
- Campbell, J.: Introduction to Remote Sensing.
- Luder, D.: Aerial Photography Interpretation: Principles and Application.
- Star, J. and J. Estes : Geographic Information Systems :An Introduction.
- Fraser Taylor D.R. : Geographic Information Systems.
- Burrough P.A.: Principles of Geographic Information Systems for Land Resources Assessment.
- Campbell, J. B. (2002): Introduction to Remote Sensing. 5th edition. Taylor and Francis, London.

## **Semester VI**

### **Geography of Tourism**

**Max. Marks: 100**

*Theory Exam: 75*

*Int. Assessment: 25*

- Unit – I : Basics of tourism: Definition of tourism; Factors influencing tourism: historical, natural, socio-cultural and economic.
- Unit – II : Geography of tourism: - its spatial affinity; areal and locational dimensions comprising physical, cultural, historical and economic.
- Unit – III : Tourism types: cultural, eco- ethno-coastal and adventure tourism, national and international tourism; globalization and tourism.
- Unit – IV : Impact of tourism: Physical, On Economy, Environment and Society; Concept of Ecotourism.
- Unit – V : tourism Infrastructure: Transport, Facilitations and Hospitality Industry.

#### **Suggested Readings:**

- Bhatia A.K. (1996) : Tourism Development: Principles and Practices. Sterling Publishers, New Delhi.
- Inskeep. E(1991): Tourism Planning: An Integrated and Sustainable Development Approach, Van Nostrand and Reinhold, New York.
- Kaul R.K.(1985): Dynamics of Tourism & Recreation. Inter-India, New Delhi.
- Kaur J.(1985): Himalayan Pilgrimages & New Tourism Himalayan Books, New Delhi.
- Lea J.(1988): Tourism and Development I the Third World, Routledge, London.
- Milton D.(1993): Geography of World Tourism Prentice. Hall, New York.
- Peace D.G.(1987): Tourism To-day: A Geographical Analysis, Harlwo, Longman.
- Robinson, H.A(1996): A Geography of Tourism. Macdonald and Evans, London.

## **Semester VI**

### **Contemporary Environmental Issues**

**Max. Marks: 100**

*Theory Exam: 75*

*Int. Assessment: 25*

- Unit – I : Global Environmental Challenges: Trends, Issues and International Agreements.
- Unit – II : Climate Change: Mechanism, Impact and Coping Strategies.
- Unit – III : Water: Conflicts and Policies – Surface and Ground Water.
- Unit – IV : Water Disposal and Pollution: Problems of Mega Cities.
- Unit – V : Deforestation and extinction: Extent and Magnitude.

#### **Suggested Readings:**

- Barrow, C.J., (1995): Developing the Environmental Problems & Management, Longman, Harlow.
- Burgess, R. : Marisa Carmono and ThedKolstee, (1997): The Challenge of Sustainable Cities, Zed Books, New Jersey.
- Canter, L.W., (1996): Environment Impact Assessment, McGraw Hill Inc., New York.
- Cliff, A. And Haggett, P., (1989): Atlas of Distribution, Basil Blackwell, Oxford.
- Digby, A. and Stewart, Z. (eds.) (1996): Gender, Health and Welfare, Routledge, New York.
- Dutta, A and M.M. Agarwal, (1992): The Quality of Life in Indian Cities, Institute of Advanced Studies, Shimla.
- Gilbert and Josef Guglar, (1987): Cities Poverty and Development- Urbanization in the 3<sup>rd</sup>World, Oxford University Press, Oxford.
- Goudie, A., (1993): The Human Impact on Natural Environment, Blackwell, USA.

## **Semester VI**

### **Fundamental of Remote Sensing**

**Max. Marks: 100**

*Theory Exam: 75*

*Int. Assessment: 25*

- Unit – I : Introduction to Remote Sensing; Definition and Scope; Stages of Remote Sensing; Remote Sensing and its Types.
- Unit – II : Electromagnetic Radiation and Electromagnetic Spectrum, Role of atmosphere in Remote Sensing.
- Unit – III : Remote Sensing Platforms and Sensors; Satellite Series: IRS, Sopot, IKONOS and Quick Bird.
- Unit – IV : Ground truth data in remote sensing: Instruments for ground truth data collection Spectral signatures of different objects.
- Unit - V : Introduction to Image interpretation: Factors affecting image interpretation.

#### **Suggested Readings:**

- Arnoff, Stan (1989), Geographical Information System: A Management Perspective, WDL Publication, Ottawa.
- Bernhardsen, T. (1992), Geographical Information Systems, VIAKIT IT, Norway.
- Burrough, Peter and R. Mc Donnell (1998), Principles of Geographical Information Systems, Oxford University Press, Oxford.
- Faust, N.L., W.H. Anderson and J.L. Star (1991), Geographic information systems and Remote Sensing future computing environment, Photogrammetric Engineering and Remote Sensing, Vol. 57, Issue 6, pp. 655-68.
- Nag. P. and M. Kudrat (1998), Digital Remote Sensing, Concept Publishing Company New Delhi.

## **Semester VI**

### **Aerial Photography**

**Max. Marks: 100**

*Theory Exam: 75*

*Int. Assessment: 25*

- Unit – I : Aerial photography – Definition, scope, advantages and limitations: Flight planning, Elements of photographic system.
- Unit – II : Stereophotogrammetry and types of stereophotogrammetry; Stereoscopic parallax.
- Unit – III : Geometry of Aerial Photographs; Scale of Aerial Photographs, Difference between aerial photographs and Maps, difference between aerial photographs and imageries.
- Unit – IV : Importance of Aerial photographs, Procurement of aerial photographs in India.
- Unit – V : Definition of Cartography; Aspects of cartography: Scale projection, Map Design.

#### **Suggested Readings:**

- Arnoff, Stan (1989), Geographical Information System: A Management Perspective, WDL Publication, Ottawa.
- Bernhardsen, T. (1992), Geographical Information Systems, VIAKIT IT, Norway.
- Burrough, Peter and R. Mc Donnell (1998), Principles of Geographical Information Systems, Oxford University Press, Oxford.
- Faust, N.L., W.H. Anderson and J.L. Star (1991), Geographic information systems and Remote Sensing future computing environment, Photogrammetric Engineering and Remote Sensing, Vol. 57, Issue 6, pp. 655-68.
- Nag. P. and M. Kudrat (1998), Digital Remote Sensing, Concept Publishing Company New Delhi.



## **Semester VI**

### **Thematic Application of R.S. & GIS (Practical)**

- Unit – I : Remote Sensing Application of Human Settlement Analysis.
- Unit – II : Remote Sensing Application in Geosciences.
- Unit – III : Remote Sensing Application in Agriculture and Soil.
- Unit – IV : Remote Sensing Application in Hydrology & Water Resources Management.
- Unit – V : Remote Sensing Application in Regional Planning.

#### **Suggested Readings:**

- Burrough P A and Mc Donneu R: Principles of Geographical Information System, OxfordUniversity Press, London.
- Campbell Jhon, B: 1996 : Introduction to Remote Sensing, Taylor & Francis.
- Census: 2001 : Bangalore Urban and Rural Districts.
- ERDAS IMAGINE field guide • ERDAS IMAGINE tour guide.
- FAO: (1976) : A framework for land evaluation. Soil Bulletin 32, Food and Agricultural Organization of United Nations.
- Indore Development Plan 2011 (Draft) : 2003 : published by Directorate of Town and Country Planning and ISRO, Ahmedabad.
- Jacek Malczewski : 1999 : GIS and Multi-Criteria Decision Analysis, Jhon Wiley & Sons.
- James Heitzman: 2004: Network City Planning the Information Society in Bangalore:Published by Oxford University Press, New Delhi.
- Jenson Jhon, R: 1996: Introduction to Digital Image Processing: A Remote Sensing Perspective, II Edition, Prentice Hall.