

**M.A./ M.SC. (GEOGRAPHY)**  
**SCHEME OF EXAMINATIONS**  
**(July 2018 Onwards)**

<b>Semester and Course No.</b>	<b>Nomenclature</b>	<b>Max. Marks</b>	<b>Hours of Teaching per week</b>
<b>SEMESTER I</b>			
GEOG-101	Geomorphology	100	6 Hours
GEOG-102	Climatology	100	6 Hours
GEOG-103	Human Geography	100	6 Hours
GEOG-104	Cartography	100	12 Hours
<b>SEMESTER-II</b>			
GEOG-201	Economic Geography	100	6 Hours
GEOG-202	Population Geography	100	6 Hours
GEOG-203	Bio-geography	100	6 Hours
GEOG-204	Fundamentals of Geographical Information System (GIS)	100	12 Hours
<b>SEMESTER-III</b>			
GEOG-301	Regional Planning	100	6 Hours
GEOG-302	Quantitative Techniques in Geography	100	6 Hours
GEOG-303	History of Geographical Thought	100	6 Hours
GEOG-304	Field Survey	100	12 Hours
<b>SEMESTER-IV</b>			
GEOG-401	Geography of Himachal Pradesh	100	6 Hours
GEOG-402	Cultural Geography	100	6 Hours
GEOG-403	Geography of Social Well-being	100	6 Hours
GEOG-404	Fundamentals of Remote Sensing	100	12 Hours
	<b>Total</b>	<b>1600</b>	<b>120 Hours</b>

## **COURSE-I GEOMORPHOLOGY**

**Max.Marks: 100**

### **Unit I**

Definition, nature and scope of geomorphology. Approaches to and methods of geomorphological analysis.

Some fundamental concepts in geomorphology: geological structure and landforms, uniformitarianism, characteristic assemblages of landforms, sequential changes in landforms, climatic geomorphology.

### **Unit II**

Structural geomorphology: Characteristics and topographic expression of fault and fold structures.

Mountain and mountain building theories by Suess and Argan, Kober and Holmes. Plate tectonics and mountain building.

Forces of crustal instability: Isostasy, plate tectonics, and vulcanicity

### **Unit III**

Meaning, causes, types and geomorphic significance of weathering and mass-movement.

Concept of Hill-slope development approaches to slope studies, slope elements.

Theories of slope evolution: Slope decline theory by Davis, Slope replacement by Penck and parallel retreat by King.

### **Unit IV**

Fluvial, Periglacial, Glacial, and Eolian processes and landforms.

Meaning of denudation chronology and erosion surfaces, Peneplain concept.

### **Unit V**

Meaning and types of drainage systems and patterns. Concept of river capture.

Concept of Applied geomorphology: Geomorphology and Hazard management, Geomorphology and Urbanization, Geomorphology and hydrology.

Concept of Anthropogenic geomorphology: Man and mass-movement, man and river processes, man and coastal processes.

### **Notes for paper setter and the students:**

- i) Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment will also be 40%.
- ii) 100 marks for the course would be divided as follows:

(a) Written examination	80 marks
(b) Internal assessment	20 marks
- iii) Written examination would be of 3 hours duration and would be conducted in the university. The question paper for the written examination shall be set by the external examiner as per the university norms.
- iv) Internal assessment marks would be given by the course teacher on the basis of lecture attendance (5 marks) and classroom performance (15 marks). The marks in the classroom attendance would be given in the following manner: ( upto 75% : Nil; 75 - 80% : 1; 81-85% : 2; 86-90% : 3; 91-95 : 4 and above 95 : 5) The classroom performance of the students would be assessed by the course teacher on the basis of performance in class room test(s)/ seminar(s)/ class room assignment(s) as per the choice of the course teacher.
- v) The paper would be set from the syllabus covering the full content. The question paper in this course will be divided into two parts. Part-1 will be compulsory and consist of 10 short answer type questions covering full syllabus and carrying 2 marks each. Part II will consist of 10 descriptive(long answer type) questions, two from each

unit are to be framed, out of which candidates will have to attempt five questions selecting one from each unit. Each question carries 12 marks.

### **Suggested Readings:**

1. Bloom, A.L. (1979) Geomorphology, New Delhi: Prentice Hall of India Pvt. Ltd.
2. Dayal, P. (1995) A Textbook of Geomorphology, Patna: Shukla Book Depot.
3. Embleton, C. and King, C.A.M. (1975) Glacial Geomorphology, London: Edward Arnold.
4. Fairbridge, R.W. (1968) **Encyclopedia of Geomorphology**, New York: Reinholds.
5. Morisawa, M (1968) Streams, New York: McGraw Hill.
6. Pitty, A.F. (1982) The Nature of Geomorphology, New York: Methuen.
7. Rice, R.J. (1990) Fundamentals of Geomorphology, London: ELBSL.
8. Schumn, S. (1977) The Fluvial System, New York: John Wiley and Sons.
9. Sharma, Anurag (1993) Ecology of Landslide Damages, Jaipur: Pointer Publishers.
10. Sharma, H.S.(ed.) (1980) Perspectives in Geomorphology, New Delhi: Concept.
11. Sharma, V.K. (1986) Geomorphology, New Delhi: Tata McGraw Hill.
12. Singh, Savindra (1998) Geomorphology, Allahabad: Prayag Pustak Bhawan.
13. Small, R.J. (1978) The Study of Landforms, Cambridge: Cambridge University.
14. Sparks, B.W. (1960) Geomorphology, London: Longman.
15. Strahler, A.N. (1992) Physical Geography, New York: John Wiley and Sons.
16. Thornbury, W.D. (1969) Principles of Geomorphology, New York: John Wiley and Sons.

## COURSE-II CLIMATOLOGY

Maximum Marks:100

### Unit-I

Compositional and thermal structure of the atmosphere, Insolation: Solar source, heat balance of the earth, greenhouse effect and global warming, vertical and horizontal distribution of temperature

### Unit-II

Atmospheric motion: Forces controlling motion of air, vertical motion and vorticity, local winds, jet stream, general circulation in the atmosphere; Atmospheric moisture: humidity, evaporation, condensation, precipitation: formation, types, acid rain, world pattern of precipitation

### Unit-III

Tropical, temperate and high latitude weather systems- concept of air masses and atmospheric disturbances, ocean atmospheric interaction- El Nino, southern oscillation (ENSO) and La Nina, monsoon winds, norwesters and cyclones, Tropical and Temperate phenomena, climate of India and its controls: Eastern disturbances.

### Unit – IV

Climatic classification of Koppen, and Thornthwaite, Major climates of the world-tropical, temperate, desert and mountain climate.

### Unit-V

Climatic Changes: Ozone Depletion; Global Warming: Strengthening of Greenhouse effect; Evidences and Possible causes of global warming; Environmental impacts of global warming and societal responses.

### Notes for paper setter and students

- i) Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment will also be 40%.
- ii) 100 marks for the course would be divided as follows:

(a) Written examination	80 marks
(b) Internal assessment	20 marks
- iii) Written examination would be of 3 hours duration and would be conducted in the university. The question paper for the written examination shall be set by the external examiner as per the university norms.
- iv) Internal assessment marks would be given by the course teacher on the basis of lecture attendance (5 marks) and classroom performance (15 marks). The marks in the classroom attendance would be given in the following manner: ( upto 75% : Nil; 75 - 80% : 1; 81-85% : 2; 86-90% : 3; 91-95 : 4 and above 95 : 5). The classroom performance of the students would be assessed by the course teacher on the basis of performance in class room test(s)/ seminar(s)/ class room assignment(s) as per the choice of the course teacher.
- v) The paper would be set from the syllabus covering the full content. The question paper in this course will be divided into two parts. Part-1 will be compulsory and consist of 10 short answer type questions covering full syllabus and carrying 2 marks each. Part II will consist of 10 descriptive(long answer type) questions, two from each unit are to be framed, out of which candidates will have to attempt five questions selecting one from each unit. Each question carries 12 marks.

## Suggested Readings

1. Barry, R.G. and Chorley P.J., Atmosphere, Weather and Climate, Routledge, London and New York, 1998.
2. Critchfield, J.H.: General Climatology, Prentice Hall, India, New Delhi, 1993.
3. Das, P.K.: Monsoons National Book Trust, New Delhi, 1987.
4. Fein, J.S. and Stephens, P.N.: Monsoons, Wiley Inter-science, 1987.
5. India Met, Deptt.: Climatological Tables of Observatories in India, govt. of India, 1968.
6. Lal. D.S.: Climatology, Chaitanya Publications, Allahabad, 1986.
7. Lydolph, P.E.: The Climate of the Earth, Rowman, 1985.
8. Menon, P.A.: Out Weather, N.B.T., New Delhi, 1989.
9. Oliver, J.E. and John J. Hidore. 2002. Climatology- An Atmospheric Science (2<sup>nd</sup> Ed.) Pearson Education (Low Price Edition).
10. Peterson, s.: Introduction to Meteorology, McGraw Hill Book, London, 1969.
11. Robinson, P.J. and Henderson S.: Contemporary Climatology, Henow, 1999.
12. Thompson, R.D. and Perry, A (ed.): Applied Climatology, Principles and Practice, Rourtledge, London 1997.

## **COURSE –III: HUMAN GEOGRAPHY**

**Max. Marks: 100**

### **UNIT-I**

#### **Human Geography: Changing Scales of Experience**

- Human Geography versus Human Ecology, Subject Matter of Human Geography, Human Geography through the corridors of time.
- Pre capitalist world: A classification of Human Societies; Defining capitalism, organized capitalism and its salient features, disorganisation of capitalism.

### **UNIT-II**

#### **Urbanism, Globalization and Changing Culture**

- Defining Urban area: Town and City, Origin and Growth of Urbanization in India.
- Concept of Globalization, Cultural globalization, Impact of globalization on Indian culture.

### **UNIT-III**

#### **Population and Food Supply**

- Population Growth and Food Supply, Demographic transition model and Emergence of second demographic transition, Population Ageing and development

### **UNIT-IV**

#### **Geopolitical Traditions and States**

- Organic Theory of State, German Geopolitics, Heartland and Rimland Theories, Concept of State, Nation and Nation-States, Concept of Boundaries, their classification and Frontiers.

### **UNIT-V**

#### **Uneven Global Development and Sustainability**

- Geography and Third world Development, Conceptions of Development-the Modernization and Dependency Schools
- Sustainable Development and environmental sustainability with reference to India.

#### **Notes for paper setter and students**

- i) Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment will also be 40%.
- ii) 100 marks for the course would be divided as follows:

(a)	Written examination	80 marks
(b)	Internal assessment	20 marks
- iii) Written examination would be of 3 hours duration and would be conducted in the university. The question paper for the written examination shall be set by the external examiner as per the university norms.
- iv) Internal assessment marks would be given by the course teacher on the basis of lecture attendance (5 marks) and classroom performance (15 marks). The marks in the classroom attendance would be given in the following manner: ( upto 75% : Nil; 75 - 80% : 1; 81-85% : 2; 86-90% : 3; 91-95 : 4 and above 95 : 5). The classroom performance of the students would be assessed by the course teacher on the basis of performance in class room test(s)/ seminar(s)/ class room assignment(s) as per the choice of the course teacher.
- v) The paper would be set from the syllabus covering the full content. The question paper in this course will be divided into two parts. Part-1 will be compulsory and consist of 10 short answer type questions covering full syllabus and carrying 2 marks

each. Part II will consist of 10 descriptive(long answer type) questions, two from each unit are to be framed, out of which candidates will have to attempt five questions selecting one from each unit. Each question carries 12 marks.

**Books Recommended:**

- Bergwan, Edward E (1995). Human Geography: Culture, Connections and Landscape, Prentice-Hall, New Jersey.
- Carr, M. (1987). Patterns, Process and Change in Human Geography. MacMillan Education, London.
- Cloke, P., Crang, P. and Goodwin, M (1999). Introducing Human Geographies. Arnold, London.
- Daniels, P., Bradshaw, M., Shaw, D and Sidaway, J. (2001). Human Geography: Issues for the 21<sup>st</sup> Century. Pearson, Delhi.
- DeBlij H.J. (1996). Human Geography, Culture, Society and Space. John Wiley, New York.
- Fellmah, J.L. (1997). Human Geography- Landscapes of Human Activities. Brown and Benchman Pub., U.S.A.
- Johnston, R.J. (1994). Dictionary of Human Geography. Balckwell, Oxford.
- Majid Husain. (2002). Human Geography. Rawat Publications.
- McBride, P.J.(1996). Human Geography Systems, Patterns and Change. Nelson, U.K. and Canada.
- Michael, Can (1997). New Patterns: Process and Change in Human Geography, Nelson.
- Potter, Rob, Dennis Conway, Ruth Evans and Sally Lloyd Evans (2012). Key Concepts in Development Geography. Sage Publications, London and New Delhi

## Paper IV: Cartography

Max. Marks: 100

(Practical Paper)

### UNIT-I

Nature and history of cartography  
Map essentials and classification  
Types of data and symbols  
Cartographic communication process

### UNIT-II

**Mapping physical phenomena:** Depiction of relief: contour method, spot heights and layer shading  
Gradient and Profiles: Serial, longitudinal, transverse, superimposed, composite and projected.  
Methods of slope analysis: Wentworth, Smith, and Robinson.  
Representation of climatic data: Hythergraphs, Climograph, Wind rose Diagram.

### UNIT-III

**Mapping Social Phenomena:** Distribution of population, density, growth, age & sex composition, urbanisation, literacy and occupational composition.

### UNIT-IV

Mapping Economic data: Land use, Cropping pattern and irrigation, employment, traffic flow and accessibility

### Notes for paper setter and the students:

- (1) Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment will also be 40%.
- (2) 100 marks for the course would be divided as follows:

(a) Written examination	50 marks
(b) Record book	20 marks
(c) Viva Voce	10 marks
(d) Internal assessment	20 marks
- (3) Written examination would be of 3 hours duration and would be conducted in the Department.
- (4) The question paper for the written examination shall be made by the external examiner in assistance with the internal examiner (who generally would be the course teacher). The question paper in this course will be divided into three parts. Part-I will consist of 20 multiple choice type/ true or false/ fill in the blanks type questions carrying 0.5 mark each. Part-II will consist of 10 short answer type questions of 2 marks each. The questions in Part-I and Part –II would be set from the entire syllabus of the course paper. Part- III will consist of 4 choice based descriptive (long answer type) questions each from all units and carrying 5 marks each. Students will have to answer 4 questions selecting 1 from each unit.
- (5) External examiner would be appointed by the VC/PVC out of a panel of four university teachers supplied by the Department Chairperson in consultation with the course teacher.
- (6) Record book would be evaluated by the external examiner.



- (7) Viva- voce would be conducted by the external examiner and would pertain to the complete contents of the syllabus.
- (8) Internal assessment would be given by the course teacher on the basis of lecture attendance and classroom performance.
- (9) Answer books would be evaluated jointly by external and internal examiners on the day of examination.

### **BOOKS RECOMMENDED**

1. Keats, J.S. (1973): Cartographic Design and production Longman, London
2. Monkhouse, F.J. and H.R. Wilkinson (1967) Maps and Diagrams, B.T. Publications Pvt. Ltd., Delhi 1989.
3. Raisz Erwin (1962): Principles of Cartography, McGraw Hill, New York.
4. Misra R.P. and A. Ramesh (1989): Fundamentals of Cartography, Concept Publishing Company New Delhi.
5. Singh L.R. and R.N. Singh (1975): Map work and Practical Geography, Central Book Depot, Allahabad.
6. Singh R.L. (1979): Elements of Practical Geography, Kalyani Publishers, new Delhi.
7. John Compbell (1991):Map Use and Analysis, WCB Dubuque.
8. Dent Borden D. (1990): Cartography, Thematic Map Design, Wim.C. Brown Publishers.
9. Kraak, M.J. and Ferjan Ormeling (2003): Cartography, Visualization of Geospatial Data, Pearson Education Limited, Patparganj, Delhi, India.
10. Robinson, Arthur and et.al.(2005): Elements of Cartography, John Wiley and Sons, New York.

## **COURSE-V: ECONOMIC GEOGRAPHY**

**Max. Marks: 100**

### **UNIT-I**

#### **Nature of Economic Activity**

Definition, nature, and scope of economic geography  
Types of Economic Activity  
Geographical Configuration of World trade (WTO, NAFTA, SAPTA, EU)  
Open World Trading System (FTA): Merits & Demerits  
International Trade and Foreign Direct Investment (FDI)

### **UNIT-II**

#### **Location and Land Use**

Central Place Theory: Christaller's Model  
Agricultural Land Use: Von Thunen's Model  
Industrial location: Weber's Model  
Urban Land Use: Monocentric city and Polycentric city

### **UNIT-III**

#### **Resource Economics**

Resource: Concept and Types  
Natural Resources and Development: An Overview of Land, water and Minerals  
World Production and Distribution of Coal, Petroleum and Iron Ore

### **UNIT-IV**

#### **Economic Growth**

Concept of Economic Growth and Development  
Rostow's Stage Model  
Polarized Development: Models of Myrdal, Hirschman and Friedman  
Growth Pole Theory of Perroux

### **UNIT-V**

#### **Economic Development in India**

Regional Disparities in the levels of Development  
Impact of Green Revolution on Indian economy and Environment  
Need for New Green Revolution  
Impact of Globalisation on Indian Economy

#### **Notes for paper setter and students**

- i) Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment will also be 40%.
- ii) 100 marks for the course would be divided as follows:
  - (a) Written examination 80 marks
  - (b) Internal assessment 20 marks

- iii) Written examination would be of 3 hours duration and would be conducted in the university. The question paper for the written examination shall be set by the external examiner as per the university norms.
- iv) Internal assessment marks would be given by the course teacher on the basis of lecture attendance (5 marks) and classroom performance (15 marks). The marks in the classroom attendance would be given in the following manner: ( upto 75% : Nil; 75 -80% : 1; 81-85% : 2; 86-90% : 3; 91-95 : 4 and above 95 : 5). The classroom performance of the students would be assessed by the course teacher on the basis of performance in class room test(s)/ seminar(s)/ class room assignment(s) as per the choice of the course teacher.
- v) The paper would be set from the syllabus covering the full content. The question paper in this course will be divided into two parts. Part-1 will be compulsory and consist of 10 short answer type questions covering full syllabus and carrying 2 marks each. Part II will consist of 10 descriptive(long answer type) questions, two from each unit are to be framed, out of which candidates will have to attempt five questions selecting one from each unit. Each question carries 12 marks.

#### **Suggested Readings**

- Abler, R., Adams, J.S., and Gould, P., Spatial Organization (Prentice Hall, 1991).  
Anderson, William P., Economic Geography. Rotledge 2012  
Berry, B.J.L. Corkling, E.C., Ray, D.M., The Geography of Economic System Prentice Hall, 1976.  
Broadford, M.G. and Kent, W.A., Human Geography: Theories and their Application, Oxford University Press, 1977.  
Gautam, Alka, Aarthik Bhugol Ke Mool Tatav, Sharda Pustak Bhavan 2010  
Haggeett, P., Locational Analysis in Human Geography, Arnold, 1965.  
Losen, A, The Economics of Location, Yale University Press, 1954.  
Misra. H.N. (Ed.) Managing Natural resources Focus on Land and water, Prentice Hall, 2014  
Hartshorne, T.A. and Alexander, J.W., Economic Geography, Prentice Hall, 1988

## **Paper VI: POPULATION GEOGRAPHY**

Max. Marks 100

### **UNIT-I**

Historical Development of Population Geography as a discipline

Nature and Scope of population geography.

Sources of population data; their quality and reliability.

Major theories of population: Malthusian perspective and Marxist perspective, Demographic transition theory.

### **UNIT-II**

Concept, determinants & world pattern of the following attributes of population:

Density and distribution, Growth and Literacy

### **UNIT-III**

Concepts, determinants and patterns in India of the following attributes of population:

Age & Sex Composition, Occupational composition and Urbanisation

### **UNIT-IV**

Migration, types, determinants and consequences

Laws of migration: Reverbstein's and Lee's laws of migration.

International migration pattern.

### **UNIT-V**

Population and resources: Concepts of optimum population over population and under population.

Population policy: Concept, Population Policy of India.

Population problems and policy formulation in developed and developing countries

### **Notes for paper setter and students**

- i) Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment will also be 40%.
- ii) 100 marks for the course would be divided as follows:

(a) Written examination	80 marks
(b) Internal assessment	20 marks
- iii) Written examination would be of 3 hours duration and would be conducted in the university. The question paper for the written examination shall be set by the external examiner as per the university norms.
- iv) Internal assessment marks would be given by the course teacher on the basis of lecture attendance (5 marks) and classroom performance (15 marks). The marks in the classroom attendance would be given in the following manner: ( upto 75% : Nil; 75 - 80% : 1; 81-85% : 2; 86-90% : 3; 91-95 : 4 and above 95 : 5). The classroom performance of the students would be assessed by the course teacher on the basis of performance in class room test(s)/ seminar(s)/ class room assignment(s) as per the choice of the course teacher.
- v) The paper would be set from the syllabus covering the full content. The question paper in this course will be divided into two parts. Part-1 will be compulsory and consist of 10 short answer type questions covering full syllabus and carrying 2 marks each. Part II will consist of 10 descriptive(long answer type) questions, two from each

unit are to be framed, out of which candidates will have to attempt five questions selecting one from each unit. Each question carries 12 marks.

### **BOOKS RECOMMENDED**

1. Beaufeu Garnier,J. (1966): Geography of Population, Longman, London.
2. Brooks, S. (1977): The World Population Today (Ethnodemographic Processes), USSR Academy of Sciences; Moscow.
3. Chandna, R.C. (2000): Geography of Population Concepts Determinants and Patterns, Kalyani Publishers, New Delhi:
4. Clarke, John, I (1972): Population Geography, Pergamon Press, New York.
5. Charles B. Nam & Susn G. Philliber (1984): Population A Basic Orientation, Prentice Hall, New Jersey.
6. Demko, G.J and Others (Eds) (1971): Population Geography- A Reader, McGraw-Hill Books Co. New York.
7. Ghosh, B.N. (1985): Fundamentals of Population Geography, Sterling Publishers Private Limited, New Delhi.
8. Jones, H.R. (1981): A Population Geography, Harper and Row London.
9. Petrov, V. (1985): India: Spotlight of population, Progress Publishers, Moscow.
10. Trewartha, G.T. (1969): A Geography of Population: World Patterns, Wiley, New York.
11. Trewartha, G.T. (1972): The Less Developed Realm- A Geography of its population, Pergamon Press, New York.
12. Trewartha, G.T. (1978): The More Developed Realm- A Geography of its population, Pergamon Press, New York.
13. Weeks, John R. (1978): Population, An Introduction to Concepts and Issues, Wadsworth Publishing Company, Belmont, California.
14. Woods R.I. (1979): Population Analysis in Geography, Longman, London.
15. Zelinsky, W. (1970): A Prologue to population, Prentice Hall, London.

## COURSE-VII BIO GEOGRAPHY

Max. Marks: 100

### Unit I

Concept, field and significance of biogeography. Approaches to bio-geographical studies  
Basic concepts in biogeography: Environment, Habitat, ecological niches  
Ecosystem: Concept, properties, components, types and functioning.  
Food chain and Food web.

### Unit II

Soil system: Definition, function, components and characteristics; Soil Profiles.  
Biomes: Meaning and major forest biomes of the world.  
Biodiversity: Meaning, types and importance of biodiversity, Biodiversity loss, Causes of biodiversity loss, Biodiversity hot spots

### Unit III

The characteristics and evolution of living things: Lamarck and Darwin views of evolution, Factors affecting distribution of organisms.  
Extinctions of species and their global concern.  
Island biogeography.

### Unit IV

General characteristics of plants and animals. Animals and plants in relation to man.  
Plant association and succession.  
Animals and plants dispersals.

### Unit V

Field of phytogeography and zoogeography.  
Taxonomic, Climatic, and Raunkiaer's classification of plants.  
A study of world floristic regions and zoogeographical realms.

### Notes for paper setter and students

- i) Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment will also be 40% .
- ii) 100 marks for the course would be divided as follows:

(a) Written examination	80 marks
(b) Internal assessment	20 marks
- iii) Written examination would be of 3 hours duration and would be conducted in the university. The question paper for the written examination shall be set by the external examiner as per the university norms.
- iv) Internal assessment marks would be given by the course teacher on the basis of lecture attendance (5 marks) and classroom performance (15 marks). The marks in the classroom attendance would be given in the following manner: ( upto 75% : Nil; 75 - 80% : 1; 81-85% : 2; 86-90% : 3; 91-95 : 4 and above 95 : 5). The classroom performance of the students would be assessed by the course teacher on the basis of performance in class room test(s)/ seminar(s)/ class room assignment(s) as per the choice of the course teacher.
- v) The paper would be set from the syllabus covering the full content. The question paper in this course will be divided into two parts. Part-1 will be compulsory and consist of 10 short answer type questions covering full syllabus and carrying 2 marks each. Part II will consist of 10 descriptive(long answer type) questions, two from each unit are to be framed, out of which candidates will have to attempt five questions selecting one from each unit. Each question carries 12 marks.

### **Suggested Readings:**

1. Chapman, J.L. and Reiss, M.J. (1997) Ecology, London: Cambridge University Press.
2. Cox, C.D. and Moore, P.D. (1993) Biogeography: An Ecological and Evolutionary Approach, Blackwell.
3. Hoyt, J.B. (1992) Man and the Earth, USA: Prentice.
4. Huggett, R.J. (1998) Fundamental of Biogeography, London: Routledge.
5. Illies, J. (1974) Introduction to Zoogeography, London: Macmillan
6. Lapedes, D.N. ed. (1974) Encyclopedia of Environment Science, London: McGraw Hill.
7. Mathur, H.S. (1988) Essentials of Biogeography, Jaipur: Pointer Publishers.
8. Pears, N. (1985) Basic Biogeography, London: Longman.
9. Robinson, H. (1978) Biogeography, London: The English Language Book Society.
10. Simmon, I.G. (1974) Biogeography, Natural and Cultural, London: Longman.
11. Singh, Svindra (1991) Environmental Geography, Allahabad Prayag Pustak Bhawan.

## **Paper VIII: Fundamentals of Geographical Information System (GIS)**

**Max. Marks: 100 Marks**

### **(Practical Paper)**

#### **UNIT-I**

Geographical Information Systems (GIS): Definitions, Sub-systems and components of GIS, History of GIS, Potential of GIS, Approaches to the study of GIS: GIS as an Academic Discipline, GIS as a branch of Information Technology and GIS as a Spatial Data Institution and its societal implications, Major application areas of GIS.

#### **UNIT-II**

GIS data types: Spatial and attribute data, Spatial data models-Raster and vector, Raster data format- tessellated data structure, Vector data formats-topologic data structure and CAD data structure, Vector and Raster-advantages and disadvantages, Spatial data relationships-topology in GIS.

#### **UNIT-III**

Georeferencing, geoid and ellipsoid, global and local datum. Sources of Spatial and Non-spatial data, data input techniques, database generation, editing and errors Spatial data analysis- retrieval, reclassification, topological overlay techniques, region transformations, neighbourhood operations and connectivity functions, global positioning system.

#### **UNIT-IV**

GIS Issues: Interoperability and open GIS, Spatial data warehouses and metadata, National geospatial data infrastructure and Indian initiatives, Internet GIS and issues in the development of Internet GIS.

**Practical Exercises** would include Georeferencing SOI toposheets and Administrative Maps of Himachal Pradesh, Satellite images and Google Earth Images, Raster Subset, Vectorization- Generation of data base on ArcGIS software, Preparation of Base map, Basic morphometric analysis of any watershed, socio-demographic and economic data mapping and other exercises given by course teacher.

#### **Notes for paper setter and the students:**

- (1) Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment will also be 40%.
- (2) 100 marks for the course would be divided as follows:

(a) Written examination	50 marks
(b) Record book	20 marks
(c) Viva Voce	10 marks
(d) Internal assessment	20 marks
- (3) Written examination would be of 3 hours duration and would be conducted in the Department.
- (4) The question paper for the written examination shall be made by the external examiner in assistance with the internal examiner (who generally would be the course teacher). The question paper in this course will be divided into three parts. Part-I will consist of 20 multiple choice type/ true or false/ fill in the blanks type questions carrying 0.5 mark each. Part - II will consist of 10 short answer type



questions of 2 marks each. The questions in Part-I and Part –II would be set from the entire syllabus of the course paper. Part- III will consist of 4 choice based descriptive (long answer type) questions each from all units and carrying 5 marks each. Students will have to answer 4 questions selecting 1 from each unit.

- (5) External examiner would be appointed by the VC/PVC out of a panel of four university teachers supplied by the Department Chairperson in consultation with the course teacher.
- (6) Record book would be evaluated by the external examiner.
- (7) Viva- voce would be conducted by the external examiner and would pertain to the complete contents of the syllabus.
- (8) Internal assessment would be given by the course teacher on the basis of lecture attendance and classroom performance.
- (9) Answer books would be evaluated jointly by external and internal examiners on the day of examination.

### **Books Recommended**

C.P. Lo and Albert K.W. Yeung (2002): Concepts and Techniques of Geographic Information System, Prentice-Hall of India Private Limited, New Delhi.

Ian-Haybood *et.al.* (2002): An Introduction to Geographical Information System.

Kang-tsung Chang (2002): Geographic Information System, Tata-McGraw Hill, New Delhi.

Keith C. Clarke (1997): Getting Started with Geographic Information Systems, Prentice Hall, New Jersey.

Michael N. Demers (2000): Fundamentals of Geographic information Systems, John Wiley and Sons, Inc, New York.

Paul, A. Longley *et.al.* ( ): Geographic Information Systems and Science, John Wiley and Sons Ltd. New York.

Peter A. Burrough and Rachael A. McDonnell (1998): Principles of Geographic Information Systems, Oxford University Press

## **COURSE-IX REGIONAL PLANNING**

Max. Marks: 100

### **UNIT-I**

#### **Basic Concepts and Historical Development**

Regional Planning: Concept, Nature and scope, Aims and objectives  
Rationale of Regional Planning, Principles of Regional Planning  
Historical Development: Regional Planning in the Developed World  
Regional Planning in Less Developed World

### **UNIT-II**

#### **Geography and Regional Planning**

Background and Philosophical Base.  
Role of Geography in Regional Planning  
Methodology: Design Method, Regional Method.  
Techniques of Regional Planning: Analytical technique, Procedural techniques

### **UNIT-III**

#### **Regions for Planning**

Concept of Regions: Delineation and variables.  
Types of Regions  
Planning Region: Concept and Characteristics  
Need and Importance of Planning Region  
Principle, Criterion and Method for Planning Region.  
Planning Regions of India: Detailed Study of Planning Regions given by C.S. Chandrasekhara

### **UNIT-IV**

#### **Surveys and Methods for Planning**

Concept and Functions of Surveys  
Types of surveys: Regional and Diagnostic survey  
Role of Geospatial Technology in planning  
Environment Impact Assessment

### **UNIT-V**

#### **Regional Planning in India**

Regional Planning in India in Retrospect.  
Planning Commission and NITI Aayog: Role and Functions  
Problems and Prospects of Regional Planning.  
Detailed Study of Damodar Valley Corporation (DVC) and National Capital Region Delhi (NCR)

#### **Notes for paper setter and students**

- i) Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment will also be 40%.
- ii) 100 marks for the course would be divided as follows:

(a)	Written examination	80 marks
(b)	Internal assessment	20 marks
- iii) Written examination would be of 3 hours duration and would be conducted in the university. The question paper for the written examination shall be set by the external examiner as per the university norms.

- iv) Internal assessment marks would be given by the course teacher on the basis of lecture attendance (5 marks) and classroom performance (15 marks). The marks in the classroom attendance would be given in the following manner: ( upto 75% : Nil; 75 - 80% : 1; 81-85% : 2; 86-90% : 3; 91-95 : 4 and above 95 : 5). The classroom performance of the students would be assessed by the course teacher on the basis of performance in class room test(s)/ seminar(s)/ class room assignment(s) as per the choice of the course teacher.
- v) The paper would be set from the syllabus covering the full content. The question paper in this course will be divided into two parts. Part-1 will be compulsory and consist of 10 short answer type questions covering full syllabus and carrying 2 marks each. Part II will consist of 10 descriptive(long answer type) questions, two from each unit are to be framed, out of which candidates will have to attempt five questions selecting one from each unit. Each question carries 12 marks.

### **Books Recommended:**

- Abler, R.et.al.: Spatial Organisation: The Geographer's View of the World, Prentice Hall, Englewood Cliffs, N.J., 1971.
- Bhat, L.S.: Regional Planning in India, Statistical Publishing Society, Calcutta, 1973.
- Bhat, L.S. et.al.: Micro-Level Planning: A Case Study of Karnal Area, Haryana, K.B. Publications, New Delhi, 1976.
- Chandna, R.C. 2010. Regional Planning- A Comprehensive Text, Ludhiana: Kalyani Publishers.
- Choreley, R.J. and Haggett, P.: Models in Geography, Methuen, London, 1967.
- Christaller, W. Central Places in Southern Germany, Translated by C.W. Baskin, Prentice Hall, Englewood Cliff, New Jersey, 1966.
- Friedmann, J. and Alonso, W., Regional Development Policy- A Case Study of Venezuela, M.I.T. Press Cambridge, Mass, 1966.
- Friedmann, J. and Alonso, W.: Regional Development and Planning- A Reader, M.I.T. press, Cambridge, Mass, 1967.
- Glikson, Arthur: Regional Planning and Development, Netherlands Universities foundation for International Co-operation, London, 1955.
- Gosal, G.S. and Krishan, G.: Regional Disparities in Levels of Socio-Economic Development in Punjab, Vishal Publications, Kurukshetra, 1984.
- Government of India, Planning Commission: Third Five Year Plan, Chapter on Regional Imbalances in Deveopment, New Delhi, 1961.
- Indian Council of Social Science Research: Survey of Research in Geography, Popular Prakashn, Bombay, 1992.
- Johnson, E.A.J.: The Organisation of Space in Devleoping Countries, Harvard University Press, Cambridge, 1970.
- Kuklinski, A.R.(ed): Growth Poles and Growth Centres in Regional Planning, Mouton, The Hague, 1972.
- Kundu, A. and Raza, Moonis: Indian Economy- The Regional Dimension, Spectrum Publishers, new Delhi, 1982.
- Losch, A.: The Economics of location, University Press, Yale, New Haven, 1954.
- Misra, R.P.: Regional Planning: Concepts, Techniques and Policies, University of Mysore, Mysore, 1969.
- Misra, R.P. and Others (editors): Regional Development Planning in India- A Strategy, Institute of Development Studies, Mysore, 1974.
- Mitra, A. : Levels of Regional Development, Census of India, Vol.I, Part IA (I) and (ii), New Delhi, 1965.

- Myrdal, G.: Economic Theory and Under-Development Regions, Gerald Duckworth, London, 1957.
- Nangia Sudesh, Delhi Metropolitan Region Rajesh Publication, Delhi, 1976.
- Richardson, H.W.: Regional Economics, Weidenfeld and Nicolson, London, 1969.
- Sundaram, K.V. (ed.): Geography and Planning, Essays in Honour of V.L.S. Prakasa Rao, Concept Publishing Co., New Delhi, 1985.
- Tarlok Singh India's Development Experience, McMillan new Delhi, India, 1974.
- Raza Moonis (editor) Regional Development Heritage Publishers, Delhi, 1988.
- Misra, R.P. et al. Multi-Level Planning, Heritage Publishers, Delhi, 1980.

## **Paper X: Quantitative Techniques in Geography**

**Max. Marks: 100**

### **UNIT-I**

Measures of Central tendency: Mean, median and mode. Measures of Central locations in spatial situation: types of spatial data and scales of measurement, concept of Mean centre, weighted mean centre and median point.

### **UNIT-II**

Measures of dispersion: Mean deviation, standard deviation, coefficient of variation, measures of spatial dispersion along point, line and area distributions.

### **UNIT-III**

Probability: Classical and relative frequency approaches to probability, calculation of probability: Law of addition, law of multiplication. Probability distributions: normal and binomial. Sampling: Basic concept, sampling frame, different sampling designs. Basic concepts of testing hypothesis.

### **UNIT-IV**

Measuring the strength of relationship: Scatter diagram, Spearman's rank correlation, Karl Pearson's product moment correlation coefficient, co-efficient of variation and correlation coefficients as areal association.

### **UNIT-V**

Regression analysis: Fitting a regression line by semi-averages and least square methods, coefficient of regression; residual from regression; Factor analyses theory and concepts.

### **Notes for paper setter and students**

- i) Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment will also be 40%.
- ii) 100 marks for the course would be divided as follows:

(a) Written examination	80 marks
(b) Internal assessment	20 marks
- iii) Written examination would be of 3 hours duration and would be conducted in the university. The question paper for the written examination shall be set by the external examiner as per the university norms.
- iv) Internal assessment marks would be given by the course teacher on the basis of lecture attendance (5 marks) and classroom performance (15 marks). The marks in the classroom attendance would be given in the following manner: ( upto 75% : Nil; 75 - 80% : 1; 81-85% : 2; 86-90% : 3; 91-95 : 4 and above 95 : 5). The classroom performance of the students would be assessed by the course teacher on the basis of performance in class room test(s)/ seminar(s)/ class room assignment(s) as per the choice of the course teacher.
- v) The paper would be set from the syllabus covering the full content. The question paper in this course will be divided into two parts. Part-1 will be compulsory and consist of 10 short answer type questions covering full syllabus and carrying 2 marks

each. Part II will consist of 10 descriptive(long answer type) questions, two from each unit are to be framed, out of which candidates will have to attempt five questions selecting one from each unit. Each question carries 12 marks.

### **BOOKS RECOMMENDED**

1. Cole, John P. and Cuchlaine a. M. King (1968): Quantitative Geography, Techniques and Theories in Geography, John Wiley and Sons Ltd., London.
2. Taylor, Peter J. (1977): Quantitative Methods in Geography, An Introduction to Spatial Analysis. Houghton Mifflin Company, Boston, USA.
3. Hammond, R. and Patrik McCullagh (1974): Quantitative Methods in Geography, Clarendon Press, Oxford.
4. Smith, David M. (1975): Patterns in Human Geography, An introduction to Numerical Methods, Crane Russak & Company, Inc New York.
5. Frank Harry and Steven C. Althoen (1994): Statistics Concepts and Applications, Cambridge University Press.
6. Gulot, S.K. ( ): Statistical Methods
7. Elhance, D.N. (1972): Fundamentals of Statistics, Kitab Mahal, Allahabad.

## **COURSE-XI**

## **HISTORY OF GEOGRAPHIC THOUGHT**

Max. Marks: 100

### **Unit I**

The field of geography and characteristics of geographical work.

Place of geography in the classification of sciences.

Geography as a social and natural sciences. Geography as the study of distribution, man-nature relationship, spatial interaction and areal differentiation.

### **Unit II**

Contribution to geographic thought by the Greeks and Romans.

Geography in the middle ages.

The age of exploration and the impact of discoveries.

Contributions of Varenius, Immanuel Kant, Humboldt and Ritter to geographic thought.

### **Unit III**

Development of geographic thought in Germany, France, Britain and America.

Dualism in geography.

Regional Geography: Concept, attributes and classification of regions.

Significance, need, features and types of models in geography.

### **Unit IV**

Meaning, nature, approaches and realm of historical geography. Role of time and genesis in geography. Major areas of temporal explanation in geography.

Role of evolutionary biology in geographic thought.

Meaning, need and constructing of scientific explanation; routes of scientific explanation (inductive/deductive)

### **Unit V**

Paradigms in geography

Positivism

Behavioural geography

Postmodernism

### **Notes for paper setter and students**

- i) Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment will also be 40%.
- ii) 100 marks for the course would be divided as follows:
  - (a) Written examination 80 marks
  - (b) Internal assessment 20 marks
- iii) Written examination would be of 3 hours duration and would be conducted in the university. The question paper for the written examination shall be set by the external examiner as per the university norms.
- iv) Internal assessment marks would be given by the course teacher on the basis of lecture attendance (5 marks) and classroom performance (15 marks). The marks in the classroom attendance would be given in the following manner: ( upto 75% : Nil; 75 - 80% : 1; 81-85% : 2; 86-90% : 3; 91-95 : 4 and above 95 : 5). The classroom performance of the students would be assessed by the course teacher on the basis of performance in class room test(s)/ seminar(s)/ class room assignment(s) as per the choice of the course teacher.
- v) The paper would be set from the syllabus covering the full content. The question paper in this course will be divided into two parts. Part-1 will be compulsory and consist of 10 short answer type questions covering full syllabus and carrying 2 marks

each. Part II will consist of 10 descriptive(long answer type) questions, two from each unit are to be framed, out of which candidates will have to attempt five questions selecting one from each unit. Each question carries 12 marks.

**Suggested Readings:**

1. Ali, S. Muzzaffar (1966), The Geography of Puranas, Delhi: Peoples Publishing House.
2. Dickinson, R.E. (1969), The Maker of modern Geography, London.
3. Dikshit, R.D. (1994), The Art and Science of Geography, new Delhi: Prentice Hall of India Pvt. Ltd.
4. Dikshit, R.D. (1997) Geographical Thought, New Delhi: Prentice Hall of India, Pvt. Ltd.
5. Gauld, J.R. (1980), An Introduction to Behavioural Geography, Oxford.
6. Hartshorne, R. (1939) Nature of Geography, Pennsylvania: AAAG
7. Harvey, David (1989) Explanation in Geography, London: Edward Arnold
8. Hussain, Majid (1995) Evolution of Geographical Thought, Jaipur: Rawat Publications.
9. James, P.E. (1972) All Possible World, New York: John Wiley.
10. Minshull, R. (1970) The Changing Nature of Geography, London: Hutchinson University Library



**COURSE XII: FIELD SURVEY**

Max. Marks 100

(Practical Paper)

**Note: Students would be taught the following topics in the class in order to make them aware of the tools and techniques before going to the field:**

**UNIT-I**

**Geographic Field Methods and Techniques**

Role of Field methods and techniques in modern Geographical research (Physical & Socio-economic)

Historical development of Field investigation: Travelogue, sketches, photographs

The structure of Modern Field Research

Training in Field Geography

Geographic Field Instruction

**UNIT-II**

**Maps and Instruments**

Base Map for Field Survey

Use topographic maps, Aerial photographs and Satellite Imageries for Field Survey

Use of Brunton Compass and Abney Level

Global Positioning System (GPS)

Selection of Mapping Techniques

**UNIT-III**

**Procedures for Geographical Field Survey**

Methods of Data collection : Primary/ Secondary

Observation Method

Census and Sampling

Questionnaire Design, Inventory Design

Administration of the questionnaire

Tabulation of Data

**UNIT-IV**

**Field Research Design & Report Writing**

Basic Phases of Field Research Design

The Problem Statement

Hypothesis Formulation

Project Timing and Management

Importance of Research Design

Mechanics of writing a report

## **Writing of Field Report:**

Field trip to the selected station (s) shall be compulsory to all the students. They will make study of physico-cultural milieu of the selected station (s) through personal observations and questionnaire/ schedule methods. On the basis of data collected from the field the students shall prepare a field report on the allotted subject/ topic and will make use of tables, figures and photo-plates.

## **Notes for paper setter and the students:**

- (1) Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment will also be 40%.
- (2) 100 marks for the course would be divided as follows:

(a) Written examination	50 marks
(b) Record book	20 marks
(c) Viva Voce	10 marks
(d) Internal assessment	20 marks
- (3) Written examination would be of 3 hours duration and would be conducted in the Department.
- (4) The question paper for the written examination shall be made by the external examiner in assistance with the internal examiner (who generally would be the course teacher). The question paper in this course will be divided into three parts. Part-I will consist of 20 multiple choice type/ true or false/ fill in the blanks type questions carrying 0.5 mark each. Part-II will consist of 10 short answer type questions of 2 marks each. The questions in Part-I and Part –II would be set from the entire syllabus of the course paper. Part- III will consist of 4 choice based descriptive (long answer type) questions each from all units and carrying 5 marks each. Students will have to answer 4 questions selecting 1 from each unit.
- (5) The evaluation of the report shall be jointly done by an external examiner and by an internal examiner who would generally be the course teacher. The external examiner will be appointed by the Vice-Chancellor out of a panel of FIVE experts submitted to him/her by the Chairperson of the Department.
- (6) Viva- voce would be conducted by the external examiner and would pertain to the complete contents of the syllabus.
- (7) Internal assessment would be given by the course teacher on the basis of lecture attendance and classroom performance.
- (8) Answer books would be evaluated jointly by external and internal examiners on the day of examination.

## **Suggested Readings:**

1. Lunsbury J.F. and Aldrich, F.T (1979) Introduction to Geographic Field Methods and Techniques, Charles E. Merrill Publishing Company, Columbus.
2. Association of American Geographer (1965) Field Training in Geography, Technical Paper No.1.
3. Anderson, Janathan et.al. 1970) Thesis and Assignment Writing, Wiley Eastern United , New Delhi.
4. Panneerselvam, R. (2004) Research Methodology, Prentice Hall of India Pvt. Limited, New Delhi.
5. Kothari, C.R. (2004) Research Methodology, New Age International (P) Limited Publishers, New Delhi.

## **COURSE-XIII: GEOGRAPHY OF HIMACHAL PRADESH**

**Max. Marks: 100**

### **UNIT-I**

Emergence of Himachal Pradesh  
Pre Independence Period  
Independence to period of Re-organisation (1947-1966)  
Modern Himachal Pradesh  
Regions of Himachal Pradesh: Criteria for Regionalisation

### **UNIT-II**

#### **Physical Setting**

Relief, Drainage, Climate, Natural Vegetation, Soils and Mineral Resources

### **UNIT-III**

#### **Cultural Setting**

Population: Distribution, Density, Sex Ratio, Literacy and Urbanisation  
Agriculture: Crops and Cropping Pattern, Irrigation  
Horticulture: Significance, Horticulture zones, Major Fruits: Area and Production  
Transport and Communication

### **UNIT-IV**

Socio-Economic Development  
Industries: Structure, Distribution,  
Health: Spatio-Temporal Development of health Sector  
Education: Distribution and development  
Hydro Power Generation: Potentials, Development, Achievements.  
Tourism: Different types of Tourism, Destinations

### **UNIT-V**

Problems, Prospects and Policies  
Problems & Prospects: Physical, Economic and Social  
Natural Hazards and Disasters: Earthquake, Floods, Cloudburst, Snow Avalanches  
Policies: Forest Policy, Industrial Policy, Tourism Policy

#### **Notes for paper setter and students**

- i) Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment will also be 40%.
- ii) 100 marks for the course would be divided as follows:
  - (a) Written examination 80 marks
  - (b) Internal assessment 20 marks
- iii) Written examination would be of 3 hours duration and would be conducted in the university. The question paper for the written examination shall be set by the external examiner as per the university norms.
- iv) Internal assessment marks would be given by the course teacher on the basis of lecture attendance (5 marks) and classroom performance (15 marks). The marks in the classroom attendance would be given in the following manner: ( upto 75% : Nil; 75 - 80% : 1; 81-85% : 2; 86-90% : 3; 91-95 : 4 and above 95 : 5). The classroom performance of the students would be assessed by the course teacher on the basis of

performance in class room test(s)/ seminar(s)/ class room assignment(s) as per the choice of the course teacher.

- v) The paper would be set from the syllabus covering the full content. The question paper in this course will be divided into two parts. Part-1 will be compulsory and consist of 10 short answer type questions covering full syllabus and carrying 2 marks each. Part II will consist of 10 descriptive(long answer type) questions, two from each unit are to be framed, out of which candidates will have to attempt five questions selecting one from each unit. Each question carries 12 marks.

**Suggested Readings:**

1. Ahmad, Enayat (1991) Geography of the Himalaya, Kalyani Publisher, Ludhiana & New Delhi.
2. Joshi, K.L (1984) Geography of Himachal Pradesh, National Book Trust of India, New Delhi.
3. Jreat, Manoj (2006) Geography of Himachal Pradesh, Indus Publishing Company, New Delhi.
4. Singh, R.L. (1992) India, A Regional Geography, National Geographical Society of India, Varanasi.
5. Spate, O.H.K and Learmonth, A.T.A. (1960) India & Pakistan. A General and Regional Geography, Methuen and Company
6. State of Environment Report- Himachal Pradesh (2000), State Council for Science, Technology & Environment, Kasumpti, Shimla.

## **COURSE-XIV**

## **CULTURAL GEOGRAPHY**

**Max. Marks: 100**

### **UNIT-I**

The concept of culture. Components of culture, cultural traits, complexes and systems. Meaning and nature of cultural geography.

Basic cultural processes. Functional concepts and interlocking relationships. Man-environment relations as changeable.

Themes in cultural geography: Cultural regions, cultural diffusion, cultural ecology, cultural integration and cultural landscapes.

### **UNIT-II**

Linguistic cultural regions, language patterns in India, linguistic diffusion, linguistic ecology, linguistic cultural integration, and linguistic landscapes.

Religious cultural regions, Major religions of the world, religious diffusion, religious ecology, cultural integration in religion, religious landscapes.

Agricultural world: Agricultural regions, agricultural diffusion, agricultural ecology, cultural integration in agriculture, agricultural landscapes.

### **UNIT-III**

Concept of folk Geography, folk culture region, folk culture diffusion, folk ecology, folk architecture in the cultural landscape, folk dwelling, features of houses, house types.

Concept of Popular Culture, popular culture regions, cultural diffusion in popular culture, the ecology of popular culture. Landscape in popular culture.

Concept of Ethnic Geography, ethnic cultural regions, cultural diffusion and ethnic groups, cultural ecology and ethnicity, cultural integration and ethnicity, ethnic landscapes.

### **UNIT-IV**

Meaning scope and approaches of settlement geography, Human settlement system.

Significance of settlement studies, Place names versus settlements. Types and pattern of settlements. Causes of diverse types of rural settlements.

Urban culture regions, cultural diffusion in the city, cultural ecology of the city, cultural integration of the city, urban landscapes.

### **UNIT-V**

Behavioral geography as a sub-field of cultural geography.

A general account of cultural geography of the Himalayas.

Humankind as a geomorphic and biotic agent.

### **Notes for paper setter and students**

- i) Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment will also be 40%.
- ii) 100 marks for the course would be divided as follows:
  - (a) Written examination 80 marks
  - (b) Internal assessment 20 marks

- iii) Written examination would be of 3 hours duration and would be conducted in the university. The question paper for the written examination shall be set by the external examiner as per the university norms.
- iv) Internal assessment marks would be given by the course teacher on the basis of lecture attendance (5 marks) and classroom performance (15 marks). The marks in the classroom attendance would be given in the following manner: ( upto 75% : Nil; 75 - 80% : 1; 81-85% : 2; 86-90% : 3; 91-95 : 4 and above 95 : 5). The classroom performance of the students would be assessed by the course teacher on the basis of performance in class room test(s)/ seminar(s)/ class room assignment(s) as per the choice of the course teacher.
- v) The paper would be set from the syllabus covering the full content. The question paper in this course will be divided into two parts. Part-1 will be compulsory and consist of twenty multiple choice type/true or false/ very short answer type questions carrying 1 Mark each. Part II will consist of 10 descriptive(long answer type) questions, two from each unit are to be framed, out of which candidates will have to attempt five questions selecting one from each unit. Each question carries 12 marks.

**Suggested Readings:**

1. Jackson, W.A.D. (1986) The shaping of Our World, New York: John Wiley and Sons.
2. Jordan, T.G. and Rowntree, L. (1990) The Human Mosaic, New York: Harper and Row.
3. Karan, P.P. (1984) “A Cultural Geography of Himalaya”, in ed. Eitd, R.C. Singh, R.B. and Singh, K.N. ed., Man Culture and Settlement, New Delhi: Kalyani Publishers, pp.24-30.
4. Mitra, Asok, Mukherjee S. and Bose, R. (1980) Indian Cities, New Delhi: Abhinay Publications.
5. Rubenstein, J.M. (1989) The Cultural Landscape, Columbus: Merrill Pub. Com.
6. Singh, R.L. (1993) India: A Regional Geography, Varanasi: National Geographical Society of India.
7. Singh, R.L. and Singh, K.N. (1975) Readings in Rural Settlement Geography, Varanasi: NGS.
8. Spencer, J.E. and Thomas, W.L. (1978) Introduction to Cultural Geography, New York: John Wiley and Sons.
9. Stoddart, R.H. Wishart, D.J. and Blouct, B.W. (1989) Human Geography: People, Places and Cultures, New Jersey: Prentice Hall.
10. Wagner, P.L. and Mikesell, M.W. (1962) Readings in Cultural Geography, Chicago: The University of Chicago Press.

## Course-XV: Geography of Social Well-being

Max Marks: 100

### Unit-I

#### **Social Well Being, Human Development and Quality of Life**

Meanings of development, Concept of social well-being, Measuring development as human development: The Human Development Index- Concept and measurement.

Quality of Life: Concept and measurement, the origins and nature of the sustainable development goals (SDGs).

#### **Education as Factor in Social Well Being**

Indicators of educational development in India and their data sources, Historical development of education in India: Education Policies in India and State wise patterns of total literacy in India (1991 and 2011 census years).

### Unit-III

#### **Health and sanitation as Factor in Social Well Being**

Indicators of health development in India and their data sources, current scenario of undernourished children in India, Dynamics and state wise patterns of sanitation (toilet provisions) in India (1991 and 2011).

### Unit-IV

#### **Poverty as Expression of Poor State of Social Well Being**

Poverty: Concept and measurement (UNDP and Indian Perspectives), Causes of poverty in India, Current pattern (statewise) of poverty in India

Concept of BPL households and their current State wise pattern in India

### Unit-V

#### **Food Security and Public Distribution System**

Concept of food security, Indicators of food security, Public distribution system as a tool to ensure food security in India, Major challenges of food security in India.

### Notes for paper setter and students

- i) Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment will also be 40%.
- ii) 100 marks for the course would be divided as follows:
  - (a) Written examination 80 marks
  - (b) Internal assessment 20 marks
- iii) Written examination would be of 3 hours duration and would be conducted in the university. The question paper for the written examination shall be set by the external examiner as per the university norms.
- iv) Internal assessment marks would be given by the course teacher on the basis of lecture attendance (5 marks) and classroom performance (15 marks). The marks in the classroom attendance would be given in the following manner: ( upto 75% : Nil; 75 - 80% : 1; 81-85% : 2; 86-90% : 3; 91-95 : 4 and above 95 : 5). The classroom performance of the students would be assessed by the course teacher on the basis of performance in class room test(s)/ seminar(s)/ class room assignment(s) as per the choice of the course teacher.
- v) The paper would be set from the syllabus covering the full content. The question paper in this course will be divided into two parts. Part-1 will be compulsory and consist of 10 short answer type questions covering full syllabus and carrying 2 marks each. Part II will consist of 10 descriptive(long answer type) questions, two from each unit are to be framed, out of which candidates will have to attempt five questions selecting one from each unit. Each question carries 12 marks.

**Suggested Readings:**

- Coates, B.E., R.J. Johnston and P.L. Knox (1977). *Geography and Inequality*, Oxford University Press, London.
- D.M. Smith (1977). *Where the Grass is Greener: Geographical Perspectives on Inequality*, Penguin, Harmondsworth.
- D.M. Smith (1973). *The Geography of Social Well-being in the United States*. McGraw-Hill, New York.
- David M. Smith (1977). *Human Geography: A Welfare Approach*, Arnold Heinemann.
- Drze, Jean and Amartya Sen (2002). *India: Development and Participation*, OUP, New Delhi.
- Drze Jean and Amartya Sen (1996). *Economic Development and Social Opportunity*, Oxford University Press, New Delhi.
- National Nutrition Monitoring Bureau (2000). *Dynamic Database on Diet and Nutrition*, National Institute & Nutrition, Hyderabad.
- Planning Commission of India Reports.
- Sen, Amartya & Drze Jean (1966). *Indian Development: Selected Regional Perspectives*, Oxford University Press.
- Uma Kapila (2007). *India's Economic Development Since 1947*(ed). Academic Foundation.



## **COURSE XVI : FUNDAMENTALS OF REMOTE SENSING**

Maximum Marks: 100

(Practical Paper)

### ***Unit-I***

History of remote sensing: Development of aerial photography (pre-1960 period); Development of satellite-based remote sensing (post-1960 period)  
Basic principles of remote sensing; electromagnetic energy; energy and radiation principles; energy interactions in the atmosphere and with earth surface features; spectral signatures and spectral reflectance Curve

### ***Unit-II***

Air photos and photogrammetry: Photograph geometry, Vertical aerial photogrammetry: relief displacement, image parallax, stereoscopic viewing and measurements.  
Elements of aerial photographic interpretation- shape, size, pattern, tone, texture, shadow, association and site etc

### ***Unit-III***

Satellite Remote Sensing: RS Satellites- Polar sun-synchronous, geo-stationary; satellite platforms- LANDSAT, SPOT, IRS, Recent satellite Based Image Products. Major applications areas of Remote sensing

### ***Unit-IV***

Digital Image Processing: Digital image and gray scale images; image rectification and restoration; image enhancement, contrast manipulation, rationing; image classification: Supervised and unsupervised classification approaches

### **Notes for paper setter and the students:**

- (1) Maximum marks for the course paper would be 100 and pass marks would be 40% in written examination. The pass marks in internal assessment will also be 40%.
- (2) 100 marks for the course would be divided as follows:

(a) Written examination	50 marks
(b) Record book	20 marks
(c) Viva Voce	10 marks
(d) Internal assessment	20 marks
- (3) Written examination would be of 3 hours duration and would be conducted in the Department.
- (4) The question paper for the written examination shall be made by the external examiner in assistance with the internal examiner (who generally would be the course teacher). The question paper in this course will be divided into three parts. Part-I will consist of 20 multiple choice type/ true or false/ fill in the blanks type questions carrying 0.5 mark each. Part - II will consist of 10 short answer type questions of 2 marks each. The questions in Part-I and Part –II would be set from the entire syllabus of the course paper. Part- III will consist of 4 choice based

descriptive (long answer type) questions each from all units and carrying 5 marks each. Students will have to answer 4 questions selecting 1 from each unit.

- (5) External examiner would be appointed by the VC/PVC out of a panel of four university teachers supplied by the Department Chairperson in consultation with the course teacher.
- (6) Record book would be evaluated by the external examiner.
- (7) Viva- voce would be conducted by the external examiner and would pertain to the complete contents of the syllabus.
- (8) Internal assessment would be given by the course teacher on the basis of lecture attendance and classroom performance.
- (9) Answer books would be evaluated jointly by external and internal examiners on the day of examination.

### **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, Mcmillan, New York, 1992.
3. Compbell J.: Introduction to remote Sensing, Guilford, New York, 1989.
4. Curran, Paul J. : Principles of Remote Sensing, Longman, London, 1985.
5. Gibson, Paul J. 2000. Introductory Remote Sensing- Principles and Concepts. London & New York: Routledge.
6. Hord R.M. : Digital Image Processing of Remotely Sensed Data, Academic, New York, 1989.
7. Jensen, John R. 1996. Introductory Digital Image Processing- A Remote Sensing Perspective (2<sup>nd</sup> Ed.). Upper Saddle River, New Jersey: Prentice Hall.
8. Juder D.: Aerial Photography Interpretation: Principles and Application, McGraw Hill, New York, 1959.
9. Pratt W.K. Digital Image Processing, Wiley, New York, 1978.
10. Rao D.P. (eds.): Remote Sensing for Earth Resources, Association of Exploration Geophysicist, Hyderabad, 1998.
11. Thomas M. Lilesand and Ralph W.Kefer, Remote Sensing and Image Interpretation, John Wiley & Sons, New York, 1994.
12. Jensen, John R. 1996