

**Department of Geography**  
**S.N.D.T. Women's University, Pune**  
**Campus**  
**M.A. Syllabus**

# M. A. Geography

## Course Part: Part I

### Term : Sem I

The papers for Part I- Sem I are classified into following groups:

1. **Compulsory Group** (Min Papers: 5, Max Papers: 5, Separate Passing Head: No, Max. Marks: 500)

Select minimum 5 paper(s)

Select maximum 5 paper(s)

- 107001 Geomorphology
- 107002 Climatology
- 107003 Economic Geography
- 107004 Population and Settlement Geography
- 107201 Practicals in Physical Geography

### Term: Sem II

The papers for Part I- Sem II are classified into following groups:

1. **Compulsory Group** (Min Papers: 3, Max Papers: 3, Separate Passing Head: No, Max. Marks: 300)

Select minimum 3 paper(s)

Select maximum 3 paper(s)

Papers:

- 207005 Research Methodology
- 207006 Statistical Methods
- 207202 Practicals in Human Geography

2. **Optional Group** (Min Papers: 2, Max Papers: 2, Separate Passing Head : No, Max. Marks: 200)

Select minimum 2 paper(s)

Select maximum 2 paper(s)

Papers:

- 207101 Regional Geography of India
- 207102 Geography of Resources
- 207103 Biogeography
- 207104 Socio-cultural Geography

## Course Part: Part II

### Term : Sem III

The papers for Part II- Sem III are classified into following groups:

1. **Compulsory Group** (Min Papers: 3, Max Papers: 3, Separate Passing Head: No, Max. Marks: 300)

Select minimum 3 paper(s)

Select maximum 3 paper(s)

- 307888 Dissertation-I
- 307008 Urban Geography
- 307203 Advanced Cartography (Practical)

2. **Optional Group** (Min Papers: 2, Max Papers: 2, Separate Passing Head : No, Max. Marks: 200)

Select minimum 2 paper(s)

Select maximum 2 paper(s)

- 307105 Regional Geography of the World
- 307106 Geography of Disaster Management
- 307107 Advanced Statistics
- 307108 Geography and International Relations

**Term: Sem IV**

**The papers for Part II- Sem IV are classified into following groups:**

**1. Compulsory Group** (Min Papers:1, Max Papers: 1, Separate Passing Head: No, Max. Marks: 100)

Select minimum 1 paper

Select maximum 1 paper

407005 Principles of Regional Planning

407204 Practicals in Remote Sensing

**Optional Group** (Min Papers: 2, Max Papers: 4, Separate Passing Head: No, Max. Marks: 400)

Select minimum 1 paper or } **from each group**  
Select maximum 2 papers }

**Group 1:**

Papers:

407999 Internship

**or any two of the following**

407301 Geography of Soils

407302 Oceanography

407303 Geography of Energy Resource

407304 Geography of Environment

**Group 2:**

Papers:

407888 Dissertation-II

**or any one of the following**

407401 Geography of Tourism

407402 Geography of Transport

407403 Food Security in India

407404 Geography of Agriculture

The structure contains Core as well as Choice based courses. Semester II and III offered Choice based courses. These can be offered as *inter* or *Intra* disciplinary courses.

\*Students can offer Internship or Dissertation or both in Semester III & IV. These will carry 8 Credits each. Both these courses can be offered by a candidate on the basis of merit. The candidate should not have any back log from I<sup>st</sup> and II<sup>nd</sup> semester.

# Maximum number of candidates per faculty will be three.

## **M.A Part-I (Sem-I)**

### **Title: Geomorphology**

**Credits: 4**

**Marks: 100**

**Code No: 107001**

### **Objective**

Of late Geomorphology is recognized as a science for land resource management and planning. In order to assess the land resources, students need to be introduced to various processes that determine the availability of land resources and modify its qualitative status. The objective of this course is to sensitise the students towards the judicious use of natural resources and particularly the land resource which is most immobile in nature. The study of the processes will make the students appreciate the limitations in utilizing land resources.

### **Course Content**

#### **Unit-1: Nature and Scope of Geomorphology**

Nature of Geomorphology and Geomorphic Thought, Fundamental concepts: Catastrophism, Uniformitarianism, Dynamic equilibrium, Steady State, Threshold concept and episodic erosion

#### **Unit-2: Earth Movements**

Interior of the Earth, Epeirogenic and orogenic movements, Forces of crustal instability Isostasy, Plate Tectonics, Seismicity and Vulcanism.

#### **Unit-3: Exogenic Processes: Classification and Resultant Landforms**

Concept of Gradation, Agents and processes of gradation: denudation, Mass movement, weathering, erosion, transportation and deposition

#### **Unit-4: Applied Geomorphology**

Slope – models of slope development, Applied geomorphology-Geomorphology as science for land resource management and planning: Terrain evaluation, Geomorphic mapping.

### **Suggested Reading**

- Bloom, A.L. (2002) : “*Geomorphology: A systematic analysis of late Cenozoic landforms*”, Prentice-Hall of India, New Delhi.
- Chorley, R.J., Schumm, S.A. and Sugden, D.E. (1984) : “*Geomorphology*”, Methuen, London.

- Goudie, A.S. (2004): (Edt). “*Encyclopedia of Geomorphology*”, Routledge, London. London.
- Goudie A.S. et.al (1990):(Edt) “*Geomorphological Techniques*”, Routledge, London.
- Kale, V.S. and Gupta, A. (2001): “*Introduction to Geomorphology*”, Orient Longman, Calcutta.
- King C.A.M. (1967): “*Techniques in Geomorphology*”, Edward Arnold Publishers Ltd.
- Ollier, C (1981): “*Tectonics and Landforms*”, Longman Group Ltd.
- Selby M.J. (1986): “*Earth’s Changing Surface*”, Oxford University Press.
- Singh Savindar (2002): “*Geomorphology*”, Prayag Pustak Bhawan, Allahabad.
- Sparks, B.W (1972): “*Geomorphology*”, Longman Group Ltd.
- Strahler, A. H and Strahler A. N (1992): “*Modern Physical Geography*”, John Wiley and Sons (Asia) Pvt. Ltd.
- Thornbury, W.D. (1960) : “*Principles of Geomorphology*”, John Wiley and Sons, New York.
- Young A. (1975) : “*Slopes*”, Longman publishing Group.

## **Pedagogy**

Geomorphology is essentially a field science, therefore students be taken to the field for effective understanding of geomorphic forms and processes. Department is expected to have good geomorphic lab equipped with photographs of landforms of various climatic regions and toposheets of Survey of India.

## M.A Part-I

### Title: Climatology

Credits: 4

Marks: 100

Code No: 107002

### Objective

The course aims at training students in basic principles of climatology, understanding emerging issues such as global climate change and its consequences.

### Course Content

#### Unit I: Nature and Scope

Climate and Weather, Climatology and Meteorology, sub-divisions of climatology,

**Earth's Atmosphere:** Evolution, structure and composition.

**Solar Radiation:** Electromagnetic spectrum, Factors affecting insolation, Latitudinal and Seasonal variation, Effect of Atmosphere, terrestrial Radiation, Heat Budget, Atmospheric Window.

#### Unit II: Temperature

Heat and temperature, measurement and controls, Vertical and horizontal distribution, Lapse rate, Inversion.

#### Atmospheric Pressure and Wind

Measurement, Factors affecting Pressure and General Circulation model  
Wind observation and measurement, factors affecting wind, geostrophic and gradient wind, Jet stream, local winds.

#### Atmospheric Moisture

Humidity measurement, forms of condensation, precipitation, hydrological cycle.

#### Unit III: Atmospheric Stability

Stable and unstable atmosphere, Environmental lapse rate, dry and wet adiabatic lapse rate and stability.

**Air Masses:** Source region, classification and modification

**Fronts:** Characteristics and Types.

**Cyclones:** Tropical and extra-tropical cyclones, life cycle, anticyclones.

#### Unit IV: Monsoon

Different concepts regarding origin of monsoon, classical theory of Indian Monsoon, Onset and withdrawal, Weather forecasting.

**Climate Change:** Theories of climatic change, contemporary climate change, global warming and its effects.

**Climate and Society:** Human clothing and comfort, transportation, climate and agriculture, monsoon and Indian economy.

## Suggested Readings

- Barry, R. G. and Chorley P. J. (1998): Atmosphere, Weather and Climate, Routledge, London and New York.
- Critchfield, J. H. (1993): “*General Climatology*”, Prentice Hall, India, New Delhi.
- Das, P. K. (2005): “*Monsoons*”, Natinal Book Trust, New Delhi.
- Fein, J.S. and Stephens, P.N. (1987): “*Monsoons*”, Wiley Interscience.
- India Meteorological Department (2011): “*Climatological Tables of Observatories in India*”, Government of India.
- Indian Weather Reports, ([www.imdpune.gov.in](http://www.imdpune.gov.in))
- Lal, D. S. (1986): “*Climatology*”, Chaitanya Publications, Allahbad.
- Lutgens, Frederic K. & Tarbuck, Edward J. (2010): “*The Atmosphere: An Introduction to Meteorology*”, Prentice Hall, New Jersey
- Lydolph, P. E. (1985): “*The Climate of the Earth*”, Rowman, 1985.
- Navarra J. G. Atmosphere, (1979): “*Weather and Climate: An Introduction to Meteorology*”, W.B. Saunders Company.
- Pant G. B. and Rupa Kumar K. (1997): “*Climates of South Asia*”, John Wiley and Sons,
- Robinson, P. J. and Henderson S. (1999): “*Contemporary Climatology*”, Henlow.
- Thompson, R. D. and Perry, A (1997): (edt), “*Applied Climatology, Principles and Practice*”, Routledge, London.
- Triwanta and Hola (1980): “*Introduction to climate*”,
- Savindra Singh (2005): “*Climatology*”, Prayag Pustak Bhawan, Allahabad

## Pedagogy

Weather and climatic charts be made available to the students to explain weather conditions. Audio-visual aids be used for effective teaching

Students visit should be arranged to Indian Meteorological Department / Indian Institute of Tropical Meteorological observatory to understand measurement of weather parameters and weather forecasting procedure

## **M.A Part - I**

**Title:** Economic Geography

**Credits:** 4

**Marks:** 100

**Code No:** 107003

### **Objective**

The students have to comprehend the basic concepts in economic geography in view of the modernization of world economy and change in various sectors of economic activities.. Theoretical models alongwith technological advancement and their application for the economic development of lagging regions of the country and people there in.

### **Course Content**

#### **Unit-I: Introduction to Economic Geography**

- A. Definition, Nature and Scope of Economic Geography
- B. Approaches to Economic Geography
- C. Classification of economic sectors;- Primary, Secondary and Tertiary activities.
- D. Basic Economic Processes;- Production, Exchange and Consumption

#### **Unit-II**

- A. Factors of Location of Economic activities- physical, social, economic and cultural factors
- B. Location and Spatial organization of economic activities;-
- C. Location Theories:
  - a. VonThunen's Theory of Agricultural Location
  - b. Webers theory of Industrial Location
  - c. Tord Palander's theory of Industrial Location

#### **Unit III: Trade and Transportation**

- A. International Trade:-
  - a. Factors affecting International Trade
  - b. Trading Bloc
  - c. Pattern of World Trade
- B. Transportation
  - a. Types of Transportation
  - b. Merits and demerits of transportation
  - c. Variation in cost of Transportation



## Unit-IV: Economic Environment and Economic development in the World

- A. Measurement of Economic Development:
  - a. Economic measures of Development
  - b. Social Measures of Development
  - c. Demographic Measures of Development
- B. Problems of Economic Development
- C. Patterns of Economic Development
  - a. Economically advanced countries
  - b. Economically less advanced countries
- D. Economic Development in India:- Regional Disparity

### Suggested Reading

- Goh cheng Leong, Gillian C. Moran (2009): “*Human and Economic Geography*”, Oxford Uni.Press, Honk Kong Second edition.
- Haggett Peter (1975): “*Geography: A Modern synthesis*”, Arnold, London.
- Hanink, D.M. (1997): “*Principles and Applications of Economic Geography, Economy, Policy, Environment*”, John Wiley and Sons, New York.
- Janaki, V.A. (1985): “*Economic Geography*”, Concepts Publishing Co.
- K. Siddhartha, (2009): “*Economic Geography: Theories, Process and Patterns*”, Kisalaya Publications Pvt. Ltd., Delhi.
- Knox P. and J. Agnew (1998): “*The Geography of the World Economy*”; Arnold, London.
- Lloyd, P. and P. Dicken (1972): “*Location in space and Theoretical Approach to Economic Geography*”, Harper and Row, New York.
- Smith D.W.L.: “*A Geography and Industrial Location*”, John Wiley, McGraw Hill Co. New York.
- Thomon Conkling and Yeats (1974): “*Geography of Economic Activity*”, Mc.Graw Hill, New York.
- Truman A Hartshorn, John W. Alexander (2010): “*Economic Geography*” PHL Learning Private Limited, New Delhi.

### Pedagogy

The students should be acquainted with the different branches of economic geography with examples. They should be motivated to interact with the teacher to identify economic activities of the people residing in different parts of the world. They should be understand the correlation between economic activities and economic development.

## M.A Part - I

**Title:** Population and Settlement Geography

**Credits:** 4

**Marks:** 100

**Code No:** 107004

### Objectives

1. To introduce to the students, the basic concepts and issues of population and settlement geography.
2. To understand the complex relationship between man – environment and the emerging issues.

### Course Content

#### Unit I: Introduction to Population and Settlement Geography

Introduction to Population Geography: Historical development of Population Geography, definition, approaches & methodologies .Emerging population studies in India

Introduction to Settlement Geography: Definition, Nature, approaches and scope of geography of settlement Geography. Development of urban geography, Declining of rural settlements. Emerging studies in Settlement Geography

Understanding Census of India in Population and settlement classifications: Census as source of Data - Brief history of Census, census classification of population characteristics and classification of settlements, overview of census of India, 2011.

#### Unit II: Concepts in Population and Settlement Geography

Concept in Population Geography: Fertility and Mortality and their determinants, Migration: definition, types, cause and effect, Literacy and education, Age-sex ratio: definition, types and determinants, population nexus resources (environment), over population, under population and optimum population

Concepts in Settlement Geography : Dichotomy of rural and urban settlements, Evolution of settlements , Site and situations of settlements (villages & towns), functional classification of villages & towns , land use of villages & towns , Nodality, centrality & hierarchy, city region concept (Umland)

#### Unit III: Models

**Population Geography:** Demographic transition Model, Dalton's theory of optimum population, Ravensteins's theory of mobility, Lee's theory of Migration

**Settlement Geography:** Central Place theory of settlement hierarchy, Rank size and Primate City index, Concentric model of urban landuse

#### Unit IV: Issues

Gender issues related to sex ratio and literacy, Human Development Index, Population Policy and march towards population stabilization in India.

Rural – urban migration and impact: Slum, environmental degradation, declining agriculture , changing rural –urban landscape

Globalization & human Migration in recent times with special reference to India and issues.

### **Suggested Reading**

- Bose Ahish (2000): “*India Towards Billion Plus*”, Vikas Publishing House.
- Carter Harold (2004): “*The study of Urban Geography*”, Hodder Headline group, London.
- Carter Harold (2007): “*The study of Urban Geography*”, Edward Arnold, London.
- Chandana R.C. (2004): “*Introduction to Population Geography- Concepts, Determinants and Patterns*”, Kalyani Publishers, New Delhi.
- Clarke John (1973): “*Population Geography*”, Pergamon Press, Oxford.
- Clout R.D. (1970): “*Rural Geography*”, London, Pergamon Press.
- Ghosh Sumita (1998): “*Introduction to Settlement Geography*”, Orient Longman, Calcutta.
- Mayer. H.M. & Kohn C.F. (2002): “*Readings in Geography*”, Central Book Depot , Allahabad.
- Misra H.N. (1972): “*Rural Development*”, Heritage Publishers, New Delhi.
- Money D.C. (1972): “*Patterns of Settlements*”, Evan Brothers, London.
- Mukherjee R. K.: “*Man and His Habitation*”, Popular Books, Bombay.
- Perpillon A. (1966): “*Human Geography*”, Longman, London.
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- Ramachandran R. (1992): “*Urbanisation and Urban Systems In India*”, Oxford University Press, New Delhi.
- Siddharata K & Mukherjee (2010): “*Cities: Urbanisation and Urban System*”, Kisalya Publications , New Delhi.
- Singh R.L. et al (1975): “*Reading in Rural Settlement Geography*”, National Geographical society of India, Varanasi.
- UNDP Report (2012): Oxford University Press, Oxford.
- Verma L.N. (2006): “*Urban Geography*”, Rawat Publications, New Delhi

## **Pedagogy**

Classroom discussion may focus on population and development linkages. Students may also be encouraged to consider various quantitative attributes of population from Census 2011, India. Discussion may be arranged on the implication of population policies announces from time to time.

The student should be trained in the interpretation of settlement patterns from the topographical sheets.

The students should be taken for field visits to identify the exact form of relationship between population growth, changes in morphological structure and environmental degradation in and the settlements and should be encouraged to write field report based on their observations.

## M.A Part-I

**Title:** Practical in Physical Geography

**Credits:** 4

**Marks:** 100

**Code No:** 107201

### Course Content:

#### Unit-I: Representation of Relief

Conventional methods, longitudinal profile, Cross profile, Superimposed and composite profile, Block diagrams, Methods of slope analysis, Darlymple's 9 Unit model.

#### Unit-II: Interpretation of SOI and Foreign Topographical maps

Interpretation of at least three SOI sheets from different terrain conditions and Two Foreign topographical maps.

#### Unit-III: Representation of Climatic Data

Simple and compound wind roses, Hythergraph, Circular graph, Station model, Koppen's classification of climate, 'T' phigram, Water Budget.

#### Unit-IV: Indian Weather Reports

Analysis of Indian weather reports (based on online data),  
Field visit or survey

### Suggested Reading

- Goudie A.S. and et.al (1990): (Edt) "*Geomorphological Techniques*", Routledge, London.
- Indian Weather Reports, ([www.imdpune.gov.in](http://www.imdpune.gov.in))
- King, C. A.M (1966): "*Techniques in Geomorphology*", Edward Arnold, London
- Lutgens, Frederic K. & Tarbuck, Edward J. (2010): "*The Atmosphere: An Introduction to Meteorology*", Prentice Hall, New Jersey
- Miller, Austin (1953): "*The skin of the Earth*", Methuen & Co. Ltd. London
- Monkhouse, F. J. and Wilkinson, H. R., (1976): "*Maps and Diagrams*", Methuen & Co.

### Pedagogy

The practical exercises should aim at identification of micro-geomorphic features on the ground and their interrelationship.

Students visit should be arranged to Indian Meteorological Department / Indian Institute of Tropical Meteorological observatory to understand measurement of weather parameters and weather forecasting procedure

## M.A. Part-I (Sem-II)

Title: **Research Methodology**

Credits: 4

Marks: 100

Code No: 207005

### Objectives:

1. To make the students research oriented.
2. To make the students learn the methods and techniques in Geography research.
3. To enable and encourage the students to undertake independent research work or dissertation of a selected area.

### Course contents:

- Unit-I** Introduction to Research  
Basic concepts, theories and trends in Geographic research, Explanation in Geography, Approaches in geographic research, review of Literature problems of data collection, Trends in Geographic research.
- Unit-II** Research Methods  
Research Methods in Geography, Sampling techniques, Procedure and tools of data collection, Objective, Hypothesis, Assumptions, Variables, Spatial and non-spatial data.
- Unit-III** Research design  
Formulation of research problem, analytical framework, designing of a questionnaire, Computer based analysis viz. techniques of analysis spatio-temporal changes.
- Unit-IV** Report Writing  
Organization of a research report. (Cauterization sections, Sub-sections),  
Techniques of writing a scientific paper, steps in report writing Bibliography, writing of synopsis, writing research. Use of computer/ internet in report writing.

### Pedagogy:

1. Problem identification and designing the methods for solving the problems should be emphasize.
2. Student should be encourage to make use of recent technologies for collection of information.

### REFERENCES

1. A. Stewart Fotheringham, Chris Brunsdon and Martin Charlton, (2000): "*Quantitative Geography: Perspectives on Spatial Data Analysis*", Sage Publications Ltd.
2. Basil Gomez and John Paul Jones, (2010): "*Research Methods in Geography: A Critical Introduction (Critical Introductions to Geography)*", Wiley-Blackwell.
3. Davies Wayne K.D.(ed.), (1972): "*The Conceptual Revolution in Geography*", University of London Press Ltd., London.
4. Dydia DeLyser, Steve Herbert, Stuart Aitken and Mike A Crang, (2009) : "*The SAGE Handbook of Qualitative Geography*", Sage Publications Ltd.

5. Gatrell Anthony C., (1983): *"Distance and Space : A Geographical Perspective"*, Clarendon Press, Oxford
6. Haggett Richard, (1989): *"System Analysis in Geography"*, Oxford University Press, Oxford.
7. Har Prasad,(1992): *"Research Methods and Techniques in Geography"*, Rawat Publications.
8. Harvey D., (1973): *"Explanation in Geography"*, Edward Arnold, London.
9. Iain Hay, (2010): *"Qualitative Research Methods in Human Geography"*, Oxford University Press, USA.
10. Ismael Vaccaro, Eric Alden Smith and Shankar Aswani, (2010): *"Environmental Social Sciences: Methods and Research Design"*, Cambridge University Press.
11. Keith Hoggart, Loretta Lees and Anna Davies, (2002): *"Researching Human Geography"*, Oxford University Press, USA.
12. Melanie Limb and Claire Dwyer, (2002): *"Qualitative Methodologies for Geographers: Issues and Debates"*, Oxford University Press, USA.
13. Misra R. P., (1989): *"Research Methodology : A Handbook"*, Concept Publishing Company, New Delhi.
14. Nicholas Clifford, Shaun French and Gill Valentine,(2010): *"Key Methods in Geography"*, Sage Publications Ltd.
15. Robert Kitchin and Nick Tate, (1999): *"Conducting Research in Human Geography: theory, methodology and practice"*, Benjamin Cummings.
16. Robin Flowerdew and David Martin, (2005): *"Methods in Human Geography: A guide for students doing a research project"*, Prentice Hall.
17. Rod Gerber and Goh Kim Chuan, (2010): *"Fieldwork in Geography: Reflections, Perspectives and Actions"* (GeoJournal Library), Springer.
18. Shah Vimal P.,(1977): *"Papers on Research Methodology Reporting Research"*, Rachana Prakashan, Ahmedabad.

## M.A Part-I (Sem-II)

**Title:** Statistical Methods

**Credits:** 4

**Marks:** 100

**Code No:** 207006

**Hrs:** 60

### **Objectives:**

To make the students learn the methods and techniques in Geography research.

- Unit I Process of Quantification:** Measurement and counting; Levels of measurement; Frequency Distribution – Measures of Central Tendency (mean, mode and median) and Dispersion (Variance, standard deviation, mean deviation. Quartiles). Characteristics of Frequency Distribution:- Skewness and Kurtosis. Computation of Indices of Skewness and Kurtosis
- Unit-II** Sample and Population A) Concept of sample; Sampling Methods and Sampling Frame; Sampling distribution B) Testing of hypothesis: Concepts of levels of significance, null hypothesis, degrees of freedom: Type I and Type II errors. Parametric Tests: student's 't' test , F-test, Non-parametric Tests: Chi square test and KS test
- Unit -III** Probability: Concept of Probability. Characteristics of probability distributions: normal, binomial and Poisson Computation of probabilities on the basis of above distributions
- Unit IV** Bivariate statistics: Concepts of covariance and correlation: Computation of Rank-Order and Product-moment Correlation. Concept of partial correlation, computation of first order partial correlation: Regression: Scatter diagram, expressing the trend of Bivariate data.



**Suggested Readings:**

1. Ebdon David (1989). *Statistics for Geographers*
2. King, (1975). *Statistical Geography*
3. Norcliffe G.B. (1977). *Inferential Statistics for Geographers*, Hutchinson, London.
4. John Matthews, (1981). *Quantitative & Statistical Approaches to Geography: A Practical Manual*, Pergamon Press.
5. Rogerson P.A. (2001). *Statistical for Geography* (SAGE pub. London, New Delhi)
6. Shaw G. & Wheller D. (1985). *Statistical Techniques in Geographical Analysis*, John Wiley & Sons, New York.
7. Hubert M. Blalock, *Social Statistics*, Tata McGraw Hill.
8. David Ebdon, *Statistics in Geography-A Practical Approach*, 2nd Edn., Blackwell Publishing.
9. Stanley Gregooy (1968), *Statistical Methods and the Geography*, Longmans
10. Peter Rogerson, *Statistical Methods for Geography*, 3rd Edn. Sage Publishing New Delhi.

## M.A Part-I (Sem-II)

**Title:** Practicals in Human Geography

**Credits:** 4

**Marks:** 100

**Code No:** 207202

**Objective:** To comprehend the students about the basic concepts in human geography.

### Course contents:

- Unit-I** Importance and application of surveying in geography.  
Types of land surveys and survey systems in India. Field survey with the help of Prismatic and Theodolite
- Unit-II** Crop Combination Methods: Weavers and Thomas; Agricultural Efficiency Kendall's. Method; Measures of Network Structure: Alpha, Beta and Gama; Lorenz Curve: calculation and plotting
- Unit-III** Indices and Projection: Age sex pyramid, Child women ratio, Infant mortality rate, Population Growth rate and Population projection; Methods for calculation of urban data and Dispersion: Rank size Rule; Functional Classification of towns – H. J. Nelsons Method; Degree of Dispersion method- Demangeon.
- Unit-IV** Field work – Socio Economic survey – Village/City Survey and Report writing

### Suggested Readings:

1. Carter Harold (1977): *"The study of Urban Geography"*
2. Kulkarni and Kanitkar (1960): *"Surveying and leveling (Part I & II)"*, A. V. Ghriha Prakashan, Pune.
3. Michael E. and E. Hurse : *"Transportation Geography"*
4. Pugh, J. C. (1975): *"Surveying for Field Scientists"*, Methuen & Co. Ltd., London.
5. Singh Jasbir and Dhillon S.S. (1994): *"Agricultural geography"*, Tata McGraw Hill Publication, New Delhi
6. Yeats, M. H. (1978): *"An Introduction to Quantitative Analysis in Human Geography"*
7. Monkhouse, F. J. and Wilkinson, H. R., (1976): *"Maps and Diagrams"*, Methuen & Co.

## M.A Part-I (Sem-II)

**Title:** Regional Geography of India

**Credits:** 4

**Marks:** 100

**Code No:** 207101

**Objectives:** · To understand India in terms of various regional divisions, their important characteristics, Intra-regional and inter-regional linkages; to analyze the natural and human resource endowments, their conservation and management; To sensitize the students with development issues and policies and programmes designed for regional development.

**UNIT I** Basis of Regionalization: Concept of regional personality and perception of regional issues. Identification and demarcation of macro and mesoregions: Elements of regional enquiry: Identification of India's region on the basis of Physiographic, Climatic, Socio-economic, Linguistic and geopolitical conditions/characteristics: Physiography and drainage, Climate, Natural resources (land, water, Soils, Vegetation, Minerals), Economic activities(agriculture, industries, service sector), Infrastructure (transport, communication), Demographic characteristics (population, growth, distribution, density, occupational structure), Environmental issues and natural disasters.

**UNIT II** North Indian Mountain System: Mesoregions. : Physiography and drainage, Climate, Natural resources (land, water, Soils, Vegetation, Minerals), Economic activities(agriculture, industries, service sector), Infrastructure (transport, communication), Demographic characteristics (population, growth, distribution, density, occupational structure), Environmental issues and natural disasters.

**UNIT III** North Indian Plains : Physiography and drainage, Climate, Natural resources (land, water, Soils, Vegetation, Minerals), Economic activities(agriculture, industries, service sector), Infrastructure (transport, communication), Demographic characteristics (population, growth, distribution, density, occupational structure), Environmental issues and natural disasters

**UNIT IV** The Peninsula and Island components: Physiography and drainage, Climate, Natural resources (land, water, Soils, Vegetation, Minerals), Economic activities(agriculture, industries, service sector), Infrastructure (transport, communication), Demographic characteristics (population, growth, distribution,

density, occupational structure), Environmental issues and natural disasters

**Suggested Readings:**

1. Centre for Science and Environment (1988) State of India's, Environment, New Delhi.
2. Deshpande C.D: "*India: a Regional Interpretation*", ICSSR and Northern Book Centre, 1992.
3. Dreze, Jean and Amartya Sen(ed.) (1996): "*India Economic Development and Social Opportunity*" Oxford University Press, New Delhi,
4. Kundu A. Raza Moonis: "*Indian Economy: the Regional Dimension*", Spectrum Publishers, New Delhi, 1982.
5. Singh R.L. (ed.): "*India- A Regional Geography*", National Geographical Society, India, Varanasi, 1971.
6. Spate OHK and ATA Learmonth (1967): "*India and Pakistan*" Methuen, London,.
7. Tirtha R. and Gopal Krishna, (1996): "*Emerging India*" Rawat Publications, Jaipur.

**M.A Part-I (Sem-II)**

**Title:** Geography of Resources

**Credits:** 4

**Marks:** 100

**Code No:** 207102

**Objective:** To aware the students about various resources of the world and their distribution.

**Course Contents:**

**Unit 1** Introduction: Concept of resource as related to economic, technological and cultural development stages; Classification of resources according to biogenesis, renewability, availability and distribution condition.

**Unit II** Natural Resources:

- a) Land: Use and misuse: protective measures to check soil erosion.
- b) Water resources: Domestic, agricultural and industrial use, hazards from pollution.
- c) Forest resources: Use and misuse; Regeneration measures.
- d) Mineral and energy resources: Techniques of maintaining the reserve level by scientific conservation and recycling, necessity for increasing reliance from conventional to non conventional sources of energy.

**Unit III** Human Resources: Concept. Qualitative and quantitative aspects. Disparities between developed and developing countries. Disparities between urban & rural and intra urban with special reference to India.

**Unit IV** Conservation and Management of Resources:

- a) Meaning and methods of Conservation.
- b) Conservation for land, water & forest
- c) Concept of resource development and sustainable management and integrated resource development surveys.

Indian Resources; development Policy and Planning

## REFERENCES:

- 1) Burton I & Kates R.W. (1978): “*Readings in Resources Management & Conservation*”, Mc Graw Halls, New York.
- 2) Ehrlich P.R., Ehrlich R.H. & holdlen J.P. (1998) : “*Eco science, Population, Resources & Development*”, Freeman & Company, San Francisco.
- 3) Elcome D (1998): “*Natural Resources: Their use and Abuse*”, Nelson Thomes.
- 4) Mitra A.(2000): “*Resource Studies*”, Shridhar Publishers, Kolkata
- 5) Ramesh A (ed 1984): “*Resource Geography*”, Heritage Publishers, New Delhi
- 6) Robbias Paul, Hirtz J & Moore Sarah (2010) : “*Environment & Society : A Critical Introduction*”, wdey, Backwell
- 7) Owen S. & Owens P.L. (1991) : “*Environment Resources & Conservation*”, Cambridge University Press, New York.
- 8) Holechek J.L. etal (2000) : “*Natural Resources, Ecology, Economics & Policy*”, Prentice Hall, New Jersey.
- 9) Mc Lavan D.J. & Skinnnet B.J. eds (1986): “*Resources & World Development*”, John Wiley & Sons New York
- 10) Rees j (1988): “*Natural Resources: Allocation, Economics & Policy*”, Mathuen, London
- 11) Mitchel Bruce (1979) : “*Geography& Resource Analysis*”, Longman Group, London.

## M.A Part-I (Sem-II)

**Title:** Biogeography

**Credits:** 4

**Marks:** 100

**Code No:** 207103

**Objective:** To understand the concept of biogeography  
To sensitize the students with issues, related to biogeography

**Unit I** Introduction : Nature Scope and Relevance, Basic classification : (Zoogeographical Provinces, Floral Kingdom, Altitudinal zonation), Ancient pattern in distribution of plants and animals: (Gondwanaland & Laurasia, Continental Drift, Changing pattern of continents)

**Unit II** Basic Process & Patterns: 1. Basic processes of evolution, adaptation, extinction, dispersal and Colonization. 2. Basic patterns (Habitats & Microhabitats with special reference to islands also, Limits of distribution, Endemics, Relicts, Disjunction patterns, Pattern of rarity, Pattern of biodiversity).

**Unit III** Study of the characterizing of Terrestrial Biomes (Tundra, Forest, Grasslands, Deserts)

**Unit IV** Aquatic Biomes (River, Lake, Tidal, Continental Shelf, Deep Sea)

### References Books:

1. Cox. C. D. and Moore P. D. (1993): "*Biogeography: An Ecological and Evolutionary Approach*", 5<sup>th</sup> Ed. Blackwell.
2. Huggett R. J. (2004): "*Fundamentals of Biogeography*", Routledge.
3. Lilies J. (1974): "*Introduction to Zoogeography*", McMillan, London.
4. Khoshoo T.N. and Sharma M. (ed.)(1991): "*Indian Geosphere-Biosphere*", Har-Anand Publication, Delhi.
5. Lapedes D.N. (ed) (1974): "*Encyclopaedia of Environmental Science*", McGraw Hill.
6. Mathur H.S. (1998): "*Essentials of Biogeography*", Anuj Printers, Jaipur.
7. Pears, N. (1985): "*Basic Biogeography*", 2<sup>nd</sup> edn. Longman, London.
8. Simmon I.G. (1974): "*Biogeography, Natural and Cultural*", Longman, London.
9. Tivy, J(1992): "*Biogeography: A study of Plants in Ecosphere*", Oliver and Boyd.
10. Ian N Healey, C Barry Cox, Peter D Moore (1972): "*Biogeography An Ecological and Evolutionary Approach*", Blackwell, Oxford.
11. Pielou E. C. (1973): "*Biogeography*", John Wiley. New York.
12. Husain M. (1994): "*Biogeography*", Anmol Publication, New Delhi.

## M.A Part-I (Sem-II)

### Title: Social and Cultural Geography

Credits: 4

Marks: 100

Code No: 207104

**Objectives:** The course attempts to examine the impact of human society and culture on the earth's surface. It seeks to understand how places develop meaning for people, through the analysis of socio- cultural processes , landscapes and their identity.

**Unit I** Concept in Social Geography: Definition, scope and content of Social Geography, Evolution of Social Geography: recent methodologies. Measures of social well being ( quantitative and qualitative methods )  
Approaches- Possibilistic , Behavioral, Radical, Humanist, Positivism and Welfare approach  
Concept of space and region, types of regions: functional and types.

**Unit II** Geography of social well being and Development: Nutrition and Health in India, Gender ratio, women equity and empowerment indicators & measures. Urbanization as a socio- economic indicator, Migration slums and poverty. Social exclusion in rural India, Ageing in India & impact of globalization. Indicators of development of the nations of the world : social, economic and demographic characteristics , Human Development Index ( Nations of World & States of India )

**Unit III** **Cultural Geography**  
Concept of culture in Geography; definition, scope and content of Cultural Geography. Methodologies and approaches.  
Characteristics of culture , Cultural assimilation and diffusion , Cultural regions , Cultural areas and Cultural landscape ,  
Globalisation: Socio – cultural change, Cultural identity and implications , case study one global and India.

**Unit IV** Mosaic of culture : Race, Religion and language :  
Race and ethnic group, basis of racial classification, global Racial calcification (Mongoloids, Caucasians, Negroids and their sub groups), racial & ethnic groups in India. Evolution of religions of the world, their characteristics and distributions, religious and racial conflicts and its implications.  
Language and their importance, language families and their distribution, Linguistic classification India. Socio – cultural regions in India.  
Racial and religious conflicts and management.



## REFERENCES

- Aijazuddin Ahmad (1999): "*Social Geography*", Rawat Publications, Jaipur
- Atkinson David, et .al (2005): "*Cultural Geography*", Rawat Publication, Jaipur
- Carter John & Jones Trevor: "*Social Geography: An Introduction to Contemporary Issues*", Arnold, London
- D.Stanley Etizen and Maxine Baca Zinn, (2000): "*Social Problems*", (8<sup>th</sup> edition). Allyn and Bacon, Boston.
- H. J.de Blij and Alexander. B.Murphy, (1999): "*Human Geography: Culture, Society and Space*", (6<sup>th</sup> Edition), John Wiley and Sons Inc, Newyork.
- Haq Mahbulul (2000): "*Reflections on Human Development*", Oxford University Press, New Delhi.
- Hussain Masjid, (2008): "*Human Geography*", Rawat Publications, New Delhi.
- John.A.Perry and Erna.K.Perry, (2000), "*Contemporary Society: An Introduction to Social Science*" (9<sup>th</sup> Edition), Allyn and Bacon, Boston.
- Mohanty G S (ed) (2005): "*Social & Cultural Geography*", Isha Books, New Delhi
- Pain, Rachel et .al (2001): "*Introducing Social Geographies*", Arnold, London.
- Sawant et al Globalisation (2009): "*Issues and Challenges for India*", Published by Indian Institute of Geographers and Smt. Parvatibai Chowgule College, Goa
- Sen Amartya & Droze Jean, (1996): "*Indian Development: Selected Regional Perspective*", Oxford University Press.

## M.A. Part-II (Sem-III)

Title: Urban Geography

Credits: 4

Marks: 100

Code No: 307008

### OBJECTIVES:

1. To acquaint the students with the spatial and structural characteristics of urban settlements.
2. To bring about awareness of/on special issues related to urban settlements enabling them to research and understand the practical applications of the same.

### Course Content

**Unit 1** : Definition, nature and scope of urban geography – approaches, development of urban geography. Definition of urban places. Concepts in Urban geography.

**Unit 2** : Site and situations of urban places,  
Functional classification of towns.

**Unit 3** : Urban morphology and land use structure ,  
Hierarchy of Urban settlements, City – Region concept, structure of city regions.  
Measurements of urbanization

**Unit 4** : Trends and patterns of urbanization – India, World and National Capital Region.  
Problems of urbanization  
Sustainable development and Urbanisation.  
Trends of Urban Research in India. Application of GIS and RS in Urban  
Geography

### Pedagogy:

1. The Urban Geography need to be learn through the real world and observable examples.
2. Student should be encourage to conduct discussion on Problems of housing, urban crowding, sprawl urban Traffic etc.

### REFERENCES

1. Cater (2002): *“The study of urban Geography”*, Edward Arnold Publication, London.
2. Chandana R C (2006): *“Regional Planning”* , Kalyani Publication, New Delhi.
3. Doniwal H K (2009): *“Urban Geography”*, Gnosis, Delhi.
4. Dutt Ashok, Misra H N And Chatterjee (2008): *“Explorations in Applied Geography”*, Prentice Hall of India Private Limited , New Delhi.
5. Jog and Diddee (2004): *“Geography of Maharashtra”*, Rawat Publication, Jaipur.

6. Kundu A (1992): "*Urban Development and Urban research in India*", Khanna Publication, New Delhi.
7. Mayer and Kohn (2000): "*Readings in Urban Geography*", University of Chicago Press, Chicago.
8. Ramachandran R (2007): "*Urbanisation and Urban Systems in India*", Oxford University Press, New Delhi.
9. Sidhartha and Mukherjee (2007): "*Cities, Urbanisation and Urban System*", Kishalaya Publications , New Delhi
10. Verma L N (2006): "*Urban Geography*", Rawat Publications, New Delhi

## **M.A. Part-II (Sem-III)**

**Title: Advanced Cartography (Practical)**

**Credits: 4**

**Marks: 100**

**Code No: 307203**

### **OBJECTIVES:**

1. To make student aware about the fact that cartography tools and techniques of geographical Analysis.
2. To expose a student to recently developed techniques like GIS.
3. To provide hands on training on map making.

### **Course contents:**

#### **Unit-I** Cartographic Techniques

1. History and Development of Cartography.
2. Representation of Statistical Data.
3. One Dimensional figures: Line graphs.
4. Two Dimensional figures: Bar, Circle, Pie.

#### **Unit-II** Computer Cartography

1. Three dimensional figures : Cube, Sphere Maps.
2. Isopleth, Choropleth, Choroschematic, Dot maps.
3. Representation of data and map making using computer (Excel and paint).

#### **Unit-III** Introduction to GIS

1. Components of GIS.
2. Computer Hardware, GIS Softwares.
3. Sources of data : Maps, Images and other records.
4. Data and Data models.

#### **Unit-IV** Map Making

1. Georeferencing – coordinate systems.
2. Digitization.
3. GPS mapping.
4. Applications of GIS.

### **Pedagogy:**

1. Student should be encourage to independently handling data and represent them.
2. Student should be able to ascertain the method of representation.
3. Student should be expose to different GIS softwares and provides it the hands on training.

## REFERENCES

- 1 Burroughs, P. A (1986): "*Principles of Geographical Information Systems for land Resources Assessment*", Oxford University Press
- 2 Environmental Systems Research Institute (1993): "*Understanding GIS: The Arc Info method*".
- 3 Training Course for GIS for resource management and development planning: Lecture notes, V1: "*GIS Fundamentals and Techniques*", Government of India
- 4 Bernhardsen, Tor (1999): "*Geographic Information Systems: An Introduction*", John Wiley and Sons
- 5 Clarke, Keith C. (1999): "*Getting Started with Geographic Information Systems*", Prentice Hall
- 6 Demers, Michael N. (2000): "*Fundamentals of Geographic Information Systems*", John Wiley
- 7 Haywood, Ian (2000): "*Geographical Information Systems*", Longman
- 8 Chang, Kang-taung (2002): "*Introduction to Geographic Information Systems*", Tata McGraw-Hill

## M.A. Part-II (Sem-III)

Title: **Regional Geography of the world**

**Credits:** 4

**Marks:** 100

**Code No:** 307105

### Objectives:

1. To make the student consider the globe as a single entity.
2. To make student understand different regions based on Physical characteristics.
3. To understand regional disparities in development and causes behind it.

### Course contents:

**Unit-I** Physical regions of the world a)Physiography b)Climate c)Soils d)Vegetation

**Unit-II** Regional World geography in terms of economy and development disparities with reference to MDC's and LDC's.

**Unit-III** Regional World geography with reference to, human aspect, population and level of urbanization, Human Development Index.

**Unit-IV** World Trade Blocs:

### Pedagogy:

1. Student should be make collect the information about a physical factor of their choice and give a seminar on regionalization with respect to the given factor.
2. Student should be expose to study regional geography through maps and atlases.
3. Learning through geographical games should be introduced and encouraged.

### REFERNCES

1. Berglee Royal (2012): *“World Regional Geography:people, Places and Globalization.”*
2. Bradshaw Michael (2001): *“World Regional geography”*, Mcgraw Hill
3. Clawson David,Fisher James (Ed) (1998): *“World Regional Geography:A Development Approach”*, Prentice Hall.
4. Cole J.A (1996): *“A Geography of the World's Major Regions”*, Routeledge
5. Erhunmwunsee,George,Hambrick,Iyegha,Tribble (2002): *“Fundamentals of World Regional Geography”*.
6. Heintzelman Oliver, Highsmith Richard(1965): *“World Regional Geography”* Prentice Hall of India”.
7. Hobbs Joseph (2008): *“World Regional Geography”*
8. Pulsipher Lydia,Pulsipher Alex (2010): *“World Regional Geography: Global Patterns”*,
9. Smith David (1982): *“Where the Grass is Greener: Living in an Unequal World”*

## M.A. Part-II (Sem-III)

Title: **Geography of Disaster Management**

Credits: 4

Marks: 100

Code No: 307106

### Objectives:

- i) To understand the nature and types of disasters.
- ii) To increase awareness among students about disasters in India.
- iii) To understand the basic principles of disaster management and get familiar with preventive and protective measures.
- iv) To explain that concept of disaster is anthropocentric.

### Course contents:

**Unit-I** : Concept of hazard, Difference between hazard and disaster, risk vulnerability Purpose and significance of their study. Types of disaster-an overview.

**Unit-II** : Natural disasters: Geological, Geomorphological, Climatological and Biological.

**Unit-III** : Man-made disasters: Meaning and types- Causes and effects of man-made disasters.

**Unit-IV** : Disaster management Meaning and importance. Stages of management: - Legislative framework, Preventive measures, preparedness, emergency response relief and recovery and International cooperation.

### Pedagogy:

1. To make the student aware about predictability or otherwise of a disaster and reasons there of.
2. To explain the student the natural disasters is a manifestation of natural processes.
3. To encourage the student collect the information about a natural as well as man-made disasters and make a presentation.
4. Student should be encourage to prepare disaster management plan for a given area.

### Suggested Reading

1. Morisawa, M. (Ed.) (1994): "*Geomorphology and Natural Hazards*", Elsevier, Amsterdam.
2. Valdiya, K. S. (1987): "*Environmental Geology*", Tata McGraw Hill, New Delhi
3. Turk J. (1985): "*Introduction to Environmental studies*", Saunders College Publ. Japan.
4. Singh Savindra (2000): "*Environmental Geography*", Prayag Pustak Bhavan, Allahabad.
5. Morisawa, M. (Ed.)(1994): "*Geomorphology and Natural Hazards*", Elsevier, Amsterdam

## **M.A Part-II (Sem-III)**

**Title:** Advanced Statistics

**Credits:** 4

**Marks:-**100

**Code No:** 307107

### **Objectives:**

1. To make the student understand need of multivariate analysis in geography.
2. To expose them to advance statistical techniques for handling complex geographical situations.
3. To explain the techniques of multivariate classification and regionalization.

### **Course contents:**

#### **Unit-I Elementary ideas of Matrix Algebra**

- a) Deference of Matrix, Addition, Subtraction, Multiplication.
- b) Transpose and Inverse of Matrix
- c) Determination of unknown in simultaneous equation by matrix solutions (cramer's rule and inverse method)

#### **Unit-II Nonlinear bivariate relationship and Multicolinearity**

- a) Nature and types of curvilinear bivariate relationship examples from geographical situations
- b) Second and third degree bivariate non-linear regression equations – computations, plotting and interpretations.
- c) Concept of multicollinearity definition and recognition

#### **Unit-III Multivariate Analysis and Trend Surface Analysis**

- a) Meaning of multiple correlation multiple regressions and stepwise regression. Computation of multiple regression equation (involving a maximum of three independent variables) coefficients of multiple correlation and determination.
- b) Importance of TSA in the study of spatially distributed data Examples.
- c) Computation, application and plotting of linear surface. Interpretation of trends. Ideas of quadratic and cubic trend surfaces.

#### **Unit-IV Analysis of interdependence and logistic model**

- a) Correlation Matrix, Principal components, eigen vector, explained variance, component scores and mapping of scores.
- b) Concept and mathematical basis of logistic model.



- c) Logistic function and calculation of logistic curve equation and plotting of logistic curve. Application and uses of logistic curve.

**Pedagogy:**

1. Student should be able to analyse real world problem involving multivariate considerations.
2. Teachers should provide examples of complex situations solved by these techniques.

**Reference Books**

1. Clark W.A.V. and Hosking P. L. (1986): “Statistical Methods for Geographers”
2. Collins (1984): “Introduction to Multivariate Analysis”
3. Shaw G and Wheller D. (1985): “Statistical techniques in Geographical analysis”, John Wiley and Sons, New York
4. Sumner G. N. (1978): “Mathematics for Physical Geographers”; Edward Arnold
5. Taylor P. J. (1977): “Quantitative Methods in Geography” Houghton Mifflin, Boston

**M.A. Part-II (Sem-III)**  
**Title: Geography and International Relations**

**Credits: 4**

**Marks: 100**

**Code No: 307108**

**Objectives:**

1. To expose the student to geopolitical concepts and their impact on changing strategic order.
2. To expose the student to understand changing nature of world strategic order.
3. To encourage the student to explore the reasons behind the changing order.

**Course contents:**

**Unit I** : Geographic elements of state-Physical elements(Location, size, shape, topography, climate, natural resources etc.) and cultural elements (Economic, social, demographic etc.).Study of following concepts-state, nation and nation-state, geopolitics and geostrategy. Heartland and Rimland theories.

**Unit II** : Frontiers and boundaries: Classification of boundaries. Laws of the sea and maritime boundaries. Problems associated with international land and maritime boundaries. Transnational riparian disputes with reference to India.

**Unit III** : International relations-Meaning, significance and importance. Concepts of transnationalism, Balance of power and National power. Changing historical perspective since 1900 A.D.to the present.(Peak of British Empire, WW-I,WW-II, Cold War, Disintegration of USSR, Unification of Germany, Rise of China etc.)

**Unit IV** : Globalization and the new world order. Major international institutions and pacts.(including GATT,WTO and SAARC).Geopolitics of oil. India and adjacent countries with reference to national security. India and Indian Ocean.

**Pedagogy:**

1. The international relationship is a dynamic fact and student should be made aware about the factors responsible for this dynamism.
2. Student should be encouraged to participate in group discussion based on contemporary issues.

**REFERENCES**

1. Cohen (S L). (2010): *“Geopolitics: The Geography of International Relations”*.
2. Dikshit R. D , (1994): *“Political Geography: The Discipline and its Dimensions”* Tata Macgraw Hill, New Delhi
3. Dikshit, R.D. (1996): *“Political Geography: A Contemporary Perspective,”* Tata McGraw Hill, New Delhi.
4. Dikshit, R.D. (1999): *“Political Geography: A Century of progress”*, Sage, New Delhi.

5. Harm j. Di Blij, (1973): "*Systematic Political Geography*", John Wiley and Sons, New York.
6. Panikkar K.M. (1959): "*Geographical Factors in Indian History*", 2 Vols. Asia Publishing House, Bombay.
7. Peet Richard (2011): "*Global Political Ecology*".
8. Peltier Louis and G. Etzel Perarcy, (1981): "*Military Geography*", East West Publications, New Delhi
9. Presscot J. R. V, (1972): "*Political Geography*", Methuem and Co, London.
10. Stott , Philip and Sullivan S, (2000): "*Political Ecology: Science*", Myth and Power.
11. Sukhwal B. L, (1985): "*Modern Political Geography*", Sage Publication, New Delhi
12. Taylor P. J, (1895): "*Political Geography: World Economy, Nation Stae and Locality*", Longman, London.
13. Mahan A T., (1975): *Sea Power* Methuem and Co.

## M.A. Part-II (Sem-IV)

**Title:** Principles of Regional Planning

**Credits:** 4

**Marks:** 100

**Code No:** 407005

**Objectives:** To understand and evaluate the concept of region in geography and its role and relevance in regional planning.

To identify the issues relating to the development of the region through the process of spatial organization of various attributes and their inter relationship.

To identify the causes of regional disparities in development, perspectives and policy imperatives.

**Unit I** Concept of Planning.

- 1) The Concept and need of Regional Planning.
- 2) Different Approaches of Regional Planning.
- 3) Hierarchy of Planning
- 4) Types of Planning
- 5) Levels of Planning

**Unit II** Role of Geography in Regional Planning

- 1) Concept of a Region
- 2) Type of Region
- 3) Concept of Planning region
- 4) Indicators of development
- 5) Measurement of Regional Development

**Unit III** Theoretical Structure of Planning

- 1) Central Place Theory
- 2) Growth Pole Theory
- 3) Gunnar Myrdal's Cumulative Causation
- 4) Application of these theories in India

**Unit IV** Developmental Planning in India

A]

- 1) Hilly Area
- 2) Drought – Prone Area
- 3) Tribal Area
- 4) Metropolitan Region
- 5) Rural – Urban

B]

Regional Disparities: Causes, effects and Remedies of any three of the above.

**Reference Books:**

1. Chandana, R.C. (2000): “*Regional Planning – A Comprehensive Text*”, Kalyani Publishers, Ludhiana.
2. Friedmann, J Alanso W (1967): “*Regional Development and planning – A Reader*”, MIT Press Mass.
3. Mishra R. P. (Ed.) (1992): “*Regional Planning, Concepts, Techniques, Policies and Case Studies*”, Concept Publication, New Delhi.
4. Dube K. N. (ed) (1990): “*Planning and Development in India*”, Asia Publishing House, New Delhi.
5. Govt. of India (1986), “*Regional Plan 2001- National Capital Region*”, NCRPB, Ministry of Urban Development, New Delhi.
6. Bhat, L.S. (1973): “*Regional Planning in India*”, Statistical Publishing Society, Kolkata.

## M.A. Part-II (Sem-IV)

**Title:** Practicals in Remote Sensing

**Credits:** 4

**Marks:** 100

**Code No:** 407204

### Objectives:

- 1 To introduce to the students the basic principles of Remote sensing
- 2 To indicate the methods of visual & digital interpretations of satellite images & Aerial photography.
- 3 To outline the application value of remote sensing

### Course contents:

#### Unit-I: Remote Sensing:

History and Development of Remote Sensing  
Elements of RS- Solar energy, platform and sensor  
Solar Energy-EMS, (Electro – Magnetic - Spectrum)  
Interaction with Atmosphere and Earth surface  
Types of satellite Remote sensing.

#### Unit-II: Platforms

-Types of Platforms  
-Satellite orbits  
Sensors  
Aerial photographs – camera, film  
Satellite Remote sensing – Types of Sensors  
Sensors used in Indian Satellites  
Image resolution 1) Spatial, 2) Temporal, 3) Spectral 4) Radiometric

**Unit-III:** Elements of Aerial Photo photogrammetry:- Scale of Aerial Photo, Flight management, Image displacement, Errors in Aerial Photo, 3D visualization of Aerial Photos, Visual Interpretation of A.P. (Area measurement)

#### Unit-IV: Image Analysis:

Visual Analysis Interpretation, Data products Application of Remote Sensing.  
Journal & Oral

### Pedagogy:

1. The practical exercises should at identification of physical and human features and their interrelationship with the help of Remote Sensing data.
2. Student should be encourage to independently handling Remote Sensing data and represent them.

### REFERENCES

- 1 Agarwal and Garg (2000): “*Remote Sensing*”.
- 2 Guha P.K. (2003): “*Remote Sensing for the Beginner*”, Affiliated East-West Press Pvt. Ltd. New Delhi.
- 3 Lillesand T.M. and Kiefer R.W. (2010): “*Remote Sensing and Image Interpretation*”, John Wiley & Sons Pvt. Ltd.
- 4 Karlekar Shrikant (2007): “*DoorSamvedan*”, Daimond Publication, Pune.

## **M.A. Part-II (Sem-IV)**

**Title:** Geography of Soils

**Credits:** 4

**Marks:** 100

**Code No:** 407301

### **Objectives:**

The aim of the course is to introduce the students to soil which is one of the important elements of the earth which supports the life system. The overuse and misuse of soil in recent years resulting in degradation of soil. Study of soil will help the student to appreciate the inherent limitation of soil to a particular use and managing the soil effectively.

### **Course Contents:**

**Unit-I** : Introduction: nature, scope and significance of Soil Geography, its relationship with Pedology, Soil forming factors, soil components.

**Unit-II** : Processes of soil formation and soil development: physical, biotic and chemical. Soil Profile and its development; Pedogenic Regimes.

**Unit-III**: Physical properties of soils, chemical properties of soils, classification and spatial distribution of Indian soils.

**Unit-IV** : Evaluation of land and soil, Land capability and suitability classification, Soil survey.

Integrated soil and water management: Soil Degradation, Techniques of soil conservation in India, Sustainable development of soil resources with reference to India.

### **Pedagogy:**

1. Student should be encouraged to observe soil profile and interpret the formation process in field.
2. Importance of soil as a resource and danger of land turning unproductive due to degradation may be emphasized.

### **REFERENCES**

1. Backman, H.O and Brady, N.C. (1960): "*The Nature and Properties of Soils*", McMillan, New York.
2. Basile, R.M. (1971): "*Geography of Soils*", William C. Brown, Dubuque, Ia.
3. Bennet, Hugh H.: "*Soil Conservation*", McGraw Hill, New York.
4. Briggs David: "*Soils*", Butterworths, London.
5. Bunting, B.T. (1973): "*The Geography of Soils*", Hutchinson, London.

6. Clarke G.R. (1957): "*Study of the Soil in the Field*", Oxford University Press, Oxford.
7. De N.K. and Ghos, P. (1993): "*India: A Study in Soil Geography*", Sribhumi Publishing Co., Calcutta.
8. Foth H.D. and Turk, L.M. (1972): "*Fundamentals of Soil Science*", John Wiley, New York.
9. Govinda Rajan, S.V. and Gopala Rao, H.G. (1978): "*Studies on Soils of India*", Vikas, New Delhi.
10. James S. Gardiner (1977): "*Physical Geography*", Harper's College Press, New York.
11. McBride, M.B. (1999): "*Environmental Chemistry of Soils*", Oxford University Press, New York.
12. Mcknight, Tom L. (1987): "*Physical Geography: A Landscape Appreciation*" (2nd Ed.), Prentice Hall, inc., Englewood Cliffs, N.J.
13. Raychoudhuri, S.P. (1958): "*Soils of India*", ICAR, New Delhi.
14. Steila, D. (1976): "*The Geography of Soils*", Prentice Hall, inc., Englewood Cliffs, N.J.



## M.A. Part-II (Sem-IV)

**Title:** Oceanography

**Credits:** 4

**Marks:** 100

**Code No:** 407302

### Objectives:

The objectives of the course are to introduce students to the many facets of Oceans, such as, evolution of the oceans, physical and chemical properties of sea water, atmospheric and oceanographic circulation, the fascinating world of marine life and the characteristic of marine environment and the impact of man on the marine environment.

### Course contents:

- Unit-I** Definition: Nature and Scope of oceanography, distribution of land and water, ocean floor relief, configuration of ocean floors of Indian Ocean and Atlantic Ocean.
- Unit-II** Physical and chemical properties of sea water. Ocean circulation: dynamics of ocean currents, currents of Atlantic, Pacific and Indian Ocean
- Unit-III** Marine biological environment: bio-geochemical cycles in the ocean, food and mineral resources of the sea.
- Unit-IV** Major Marine Environments: Coastal, estuaries, deltas, barrier Island, rocky coasts, coral reefs origin and Distribution, Pelagic environment, marine sediments and marine ecosystem. Climate change and its impact- on oceans.  
SST: Variations in SST and its impact on rainfall and human impact.

### Pedagogy:

1. Material available on internet Video clipping of oceans should be accessed to clarify certain areas as well as process. Which are unobservable for students.

### REFERENCES

1. Davis. Richard J.A. (1986): "*Oceanography – An Introduction to the Marine Environment*" Wm C. Brown, Iowa.
2. Duxbury, C.A and Duxbury B. (1996): "*An Introduction to the world's Oceans*"- C. Brown low .
3. Garrison, T. (2001): "*Oceanography – An Introduction to Marine Science*", Books/Cole, Pacific Grove, USA.

4. Gross, M. Grant, (1987): "*Oceanography: A View of the earth*", Prantice- Hall Inc. New Jersey.
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13. S. Kerhsaw, (2004): "*Oceanography: An Earth Science Perspective*", Routledge, UK.

## M.A. Part-II (Sem-IV)

**Title:** Geography of Energy Resource

**Credits:** 4

**Marks:** 100

**Code No:** 407303

### Objectives:

- 1 To explain the importance of energy resources availability and utilization in Indian economy
- 2 To describe and map the regional variations of energy resources
- 3 To assess use of new alternative sources of energy

### Course contents:

**Unit-I** Energy resources –Definitions Types of energy - Energy for livelihood and energy for activity - Changing pattern of energy utilization - Industrial revolution – mass production – discovery of oil – changes in means of transport – transport as major sector of energy consumption Energy to power: Power generation hydal, wind, wave, thermal: Problem of storage – and transmission of power : power grid of India

**Unit-II** Non renewable /Conventional energy resources: coal, petroleum and natural gas - Regional distribution and development of coal and oil industry in India - Location and characteristics of power plants in India  
Renewable / Non- conventional energy resources availability and potentials in India: Wind, solar, nuclear and hydro energy resources - Location and distribution of wind, solar and hydro electric power projects in India

**Unit-III** Status of energy sector in India: energy demand - Energy security  
Impact of globalization on the energy sector Energy crisis and problems shortage of energy supply, transmission networks, rise in costs of energy imports, energy storage, climate change, Energy policies and national corporations in India

**Unit-IV** Power Grid Corporation of India National electricity policy - Clean Development Mechanism [CDM] and its use in energy industries - Green energy exploring alternative sources and - Energy for future: wave, geothermal, bio-mass, Extraction and use of coal bed methane, gas hydrates and shale gas Sustainable Energy policy.

### Pedagogy:

1. Energy resources in India have multifaceted dimensions.
2. Reflects on the GDP and GNP of the country
3. Study of geological, geophysical, geoenvironmental and geo-economic aspects are essential in the study of energy resources

## REFERENCES

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2. Ahmed Basir, (2009): *“Energy Security: Emerging Issues in the World Energy Market”*.
3. Kelly K.M., (2010): *“Energy Supply and Renewable Resources”*.

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Richard Woodbridge, Mohit Sharma and David Fuente (2010) Atlas of Household Energy Consumption and Expenditure in India: Institute for Financial and Management Research Chennai 600113

## M.A. Part-II (Sem-IV)

**Title:** Geography of Environment

**Credits:** 4

**Marks:** 100

**Code No:** 407304

### Objectives:

- i) To provide students with a general understanding of the processes and spatial distribution of the Earth's primary physical systems
- ii) To enhance students understanding about the ways in which humans interact with these systems.
- iii) To develop a historical, geographical & humanistic foundation for understanding the environment & plethora of environmental issues at the regional, national & global levels.
- iv) To make them aware about the need of environmental conservation & management.

### Course contents:

- Unit-I: Meaning, development, nature and scope of Environmental Geography. Major physical and cultural elements of environment
- Unit II: Meaning and Importance of Ecology, Ecosystem Structure and function, biogeochemical cycles. Ecological hierarchy: Biosphere, mega/ macro/ meso/ micro/ nano ecosystems.
- Unit III : Environmental quality: Air, water, soil. Major pollutants: types, sources and effects. Environmental problems (with reference to India): Urban and Rural, General-Population growth & its impact on natural resources. Global issues- Climate change.
- Unit IV: Environment conservation and management: Environment Conservation and challenges in developing countries. Environmental limitations in technology transfer, interventions.  
Significance of environmental laws, controls micro and macro regions. Environmental regulatory zones. Environmental evaluations, impact statement and EIA(Environmental Impact Assessment).

### Pedagogy:

1. Problems of Environmental crises of the contemporary world can be taken as topics for group discussions.
2. Student should encourage to explore cases of environmental degradation at global, regional level from Internet resources.

## REFERNCES

1. Blowers, Andrews, (1993): *“Planning for a sustainable Environment,”* Earthscan Publication, London.
2. J. Edwin Becht and L. D. Belzung(1975): *“World Resources Management”*, Prentice Hall, Inc., New Jersey.
3. Vinue Vichit – Vadakan and others, Editors (June 1980): *“Readings in Environmental Management”*, UN, Asian and Pacific Development Institute, Bangkok.
4. Winin Pereira and Jeremy Sea Brook (1996): *“The spread of unsustainable development”* The Other India Press Mapusa 403507, Goa, India.
5. Savindra Sing: *“Environmental Geography”* Payop Publication, Varanasi
6. Arthur N. Strahler and Alan H. Strahler (1973 1<sup>st</sup> Ed): *“Environmental Geoscience – Interaction between natural systems and man”*, Wiley International Ed.

## M.A. Part-II (Sem-IV)

### Title: Geography of Tourism

Credit : 4

Marks: 100

Code No: 407401

#### Objective:

1. To acquaint the students with basic concepts of the tourism
2. To make the students aware the research opportunity in tourism.

#### Course contents:

**UNIT-I:** Basics of tourism: Definition of tourism and tourists; inbound and outbound tourism, Factors influencing tourism; brief history of growth of tourism. Globalisation and tourism, Tourism as an industry. Types and forms of Tourism, Motivators of tourism, Mactosh model of motivators.

**UNIT-II:** a) Tourism services and Products: Infrastructure and support system – accommodation and supplementary accommodation; role of travel agencies, role of tourist guides, entertainment. Tourism circuits-short and longer, Agencies and intermediacies - Indian hotel industry.  
b) Tour planning and costing.  
c) Special features of tourism marketing.

**UNIT-III:** Impacts of tourism: Physical, economic, social and perceptual. Environmental laws and Tourism, Globalization and Tourism.

**UNIT-IV:** Tourism planning and research  
Multiplier effect, tourist profiling, socio- economic and demographic profile, basic statistical applications, perception based studies, assessment of tourism potential.

#### Pedagogy:

1. Importance of Tourism as developed cultural ties between nations may be emphasized.
2. Student should be make aware of the care they should take while visiting tourist places.

#### REFERENCES

1. Bhatia A.K. (1996): *“Tourism Development: Principles and Practices”*, Sterling Publishers
2. Bhatia, A.K. (1991): *“International tourism – Fundamentals and Practices”*, Sterling Publishers, New Delhi
3. Chawla Romila (2003): *“Tourism in 21<sup>st</sup> Century”*, Sonali Publication, New Delhi
4. Chawla Romila. ( 2002 1<sup>st</sup> ed.): *“Tourism research planning and development”*, Sonali publications New Delhi.
5. Hunter C and Green H (1995): *“Tourism and the Environment-A Sustainable Relationship”*, Routledge, London,.

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8. Kaur J. (1985): *“Himalayan Pilgrimages & New Tourism Himalayan Books”*, New Delhi.
9. Lea J. (1988): *“Tourism and Development in the Third World”*, Routledge, London.
10. McLeod Donald VL (2006): *“Tourism globalization and cultural change”*, An island community perspective viva book private limited.
11. Milton D. (1993): *“Geography of World Tourism Prentice”*, Hall, New York,.
12. Mujumdar D. Mishra L. (2010): *“Contemporary Tourism Development- issues and challenges”*, Rajat publications, New Delhi.
13. Pearce D.G. (1987): *“Tourism To-day: A Geographical Analysis”*, Harlow, Longman.
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15. Sharma J.K. (2000): *“Tourism Planning and Development – A new perspective”*, Kanishka Publishers, New Delhi.
16. Sinha P.C. (1998): *“Tourism Impact Assessment”*, Anmol Publishers, New Delhi.
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18. Williams Stephen (1998): *“Tourism Geography”*, Routledge, Contemporary Human Geography, London.



## M.A. Part-II (Sem-IV)

**Title:** Geography of Transport

**Credits:** 4

**Marks:** 100

**Code No:** 407402

### Objectives:

1. To provide clarity about elements of transport as an infrastructure that facilitates linkages among locations and areas with varied demographic socio-cultural and economic attributes and natural and agricultural resources.
2. To acquaint the students with scope, content and theoretical framework relating to transport routes, hierarchies, accessibility (physical and economic).
3. To understand the spatial variations in movement of commodities, and trade relations within and between regions.
4. To relate the characteristics of flow pattern and their intensity with levels of functional economic organization in space.

### Course contents:

- Unit-I** a) Nature, scope, significance and development of Transport Geography.  
b) Factors associated with the development of Transport system.  
c) Transport and regional development.  
d) Significance of transport for trade.
- Unit-II** a) characteristics and relative significance of different modes of transport:  
b) Patterns of movements and movement geometry.
- Unit-III** Transport Structure; Accessibility and Flow models, network structure.
- Unit-IV** Transport policy and planning:  
a) Problems of urban transportation.  
b) Environmental problems related to transport.  
c) Alternatives to transport system in megacities.  
d) National Highway Development and Planning in India.

### Pedagogy:

1. A trends of changing nature of means of transportation should be discuss in detail and need of fast transport in contemporary world should be emphasized.
2. Problems of transport accidental due to inefficiency of means and networks can be a subject of group discussion.

### REFERENCES

1. Bamford C. G. (1978): "*Geography of Transport*"
2. Bhaduri S (1992): "*Transport and Regional Development Concept*"
3. Chorley R. J., Haggett P. (1967): "*Models in Geography Methuen and Company*", London.

4. Hurst M.E.(Ed) (1974): "*Transportation Geography*", McGraw Hill.
5. Haggett P., Chorley R.J. (1968): "*Network Analysis*", Edward Arnold.
6. Hoyle B.S.(1973): "*Transport and Development*", McMillan.
7. Raza M. Agarwal Y.P.: "*Transport Geography of India Concept*", New Delhi.
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## M.A. Part-II (Sem-IV)

**Title:** Food Security in India

**Credits:** 4

**Marks:** 100

**Code No:** 407403

### Objectives:

1. To explain the factors of spatial inequality and disparity of food availability, access and use in India.
2. To study the concept of food security.
3. To analyze the problems of deprivation and poverty.
4. To describe the various aspects related to nutrition, diet, health and welfare of women and children in rural areas.

### Course contents:

**Unit-I** 1. Concepts of food security, availability, accessibility, utilization, food stability.  
2. Economic Growth, Hunger and Malnutrition.

**Unit-II** 1. Physical factors affecting food security – agricultural productivity, land Availability, Land degradation, Land rights and holding (ownership).  
2. Food crops and cash crops and  
3. Distribution of major food and cash crops. Production of food crop Availability of food for masses.

**Unit-III** Socio – economic factor in food security, concept of food justice, food Sovereignty. Economic constraint on access and availability, social injustice, gender inequalities.

**Unit-IV** Food security conditions in India at national and state level.

### Pedagogy:

Regional news items analysis from magazines, journals and newspapers is essential.

An interdisciplinary approach will be useful in knowing the multi-dimensions of food security.

Study of spatiotemporal aspects by various physical and socio-economic maps.

### Suggested Reading:

1. Chose Arpita (2010): *“Globalization, Agriculture Growth and Food Security in India”*.
2. Kumar (2008): *“Agriculture Finance in India: The Role of Nabard”*.
3. Parera (2003): *“Irrigation Development and Agrarian Change”*.
4. Shrivastava, Sahay, Vidyarti and Singh (2010): *“Second Green Revolution Vs. Rainbow Revolution”*.

## M.A. Part-II (Sem-IV)

**Title:** Geography of Agriculture

**Credits:** 4

**Marks:** 100

**Code No:** 407404

### Objectives:

1. To familiarise the students with the concept, origin, and development of agriculture; to examine the role of agricultural determinants towards changing cropping patterns, intensity, productivity, diversification and specialization. The course further aims to familiarise the students with the application of various theories, models and classification schemes of cropping patterns and productivity;
2. Its objectives is also to discuss environmental, technological and social issues in agricultural sector with special reference to India.

### Course contents:

**Unit I** Nature, scope, significance and development agricultural geography, Various approaches to the study of agricultural geography.

**Unit II** Place of agriculture in the world and regional economies, origin and dispersal of agriculture.

**Unit III** Factors influencing agriculture: Physical, Cultural and Technological.  
Agricultural types: Shifting cultivation. Intensive, Subsistence agriculture. Mixed farming, commercial grain farming. Plantation agriculture.

**Unit V** Agricultural regionalization, Measures of agricultural productivity, Land use Surveys and Land classification.

### Pedagogy:

1. Agricultural practices and problems in the local area should be discussed.
2. Debate can be arranged on agriculture as a occupation and Agriculture as a business and similar topics.

### REFERENCES

1. Grigg David (1995): *"An introduction to agricultural geography"*, (second edition), Routledge, London and New York
2. Sing Jasbir and Dhillon, S.S. (1994): *"Agricultural Geography"*.
3. Shrivastava, Sahay, Vidyarti and Singh (2010): *"Second Green Revolution Vs. Rainbow Revolution"*.
4. Parera (2003): *"Irrigation Development and Agrarian Change"*.
5. Alka Gautam (2012): *"Agricultural Geography"* Sharda Pustak Bhawan, Allahabad.