

GEOGRAPHY HONOURS

+3 I Year

Semester –I

Paper: AH-1.1.1

PRINCIPLES OF GEOGRAPHY

Credits: 3

Mark:50

Objectives are to:

- introduce the field of geography.
- acquaint learners with major concepts, themes and traditions in geography.

Unit- I: Introduction: Geography in Making: Definition, Nature, Scope and Purpose, Relevance; Place of Geography in the Classification of Knowledge; Relations with Other Branches of Knowledge; Branches of Geography; Basic Concepts in Geography: Earth Surface, Site, Situation, Location, Area, Space, Region in Geography.

Unit –II: Geography as the Study of Human-Environment Relationships: Culture and Society in Geography, Environmental Determinism and Possibilism; Environmentalism. Geography as Science of Relationships; Geography as Integrated Science.

Unit –III: **Methods and Materials in Geography**

Methodology: Cartographic-History of map making and types of map and mapping techniques; statistical methods; Field work-collection of primary data through physical and socio-economic surveys; statistical analysis of data and preparation of maps; survey instruments; Air photos and satellite imageries, remote sensing as a tool for data generation and mapping, computer cartography.

Reading List:

1. Dikshit, R.D. (2006), *The Art and Science of Geography*, New Delhi: Phi Learning.
2. Dikshit, R. D. (2004). *Geographical Thought. A Critical History of Ideas* New Delhi: Prentice-Hall of India. (in English and Hindi).
3. Hussain, M. Husain, Majid. (1995). *Evolution of Geographic Thought*. New Delhi: Rawat Publications.
4. Gregory, D. J., Johnson, R. J., Pratt, G., Watts, G, J. and Whatmore, S. (2009). (Fifth Edition). *Dictionary of Human Geography*. Chichester: Wiley-Blackwell.
5. Haggett, Peter. (2001). (2nd edition). *Geography: A Global Synthesis*. New York: Prentice Hall.
6. Hartshorne, Richard. (1959). *Perspective on the Nature of Geography*. Chicago: Rand McNally & Company.
7. Holt-Jensen, Arild. (2009), (Fourth Edition) *Geography: Its History and Concepts*. London: Sage Publications.
8. Martin, Geoffrey J. and Sideway, ,(2005). *All Possible Worlds: A History of Geographical Ideas*. New York: John Wiley and Sons, INC.
9. Minshull, R. (1970). *The Changing Nature of Geography*. London: Hutchinson University Library.
10. Stoddart, D.R. (1981), *Geography, Ideology and Social Concern*, Oxford: Basil Blackwell.

Paper: AH-1.1.2
GEOMORPHOLOGY

Credits: 3
Mark: 50

Objectives are to:

- Acquaint learners with the origin of the earth and enable learners to understand the roles of agent and associated processes operating and bringing changes in the lithosphere.

Unit- I : Origin and Internal Structure and Exterior Form:

- a) Origin of the Earth – The Big Bang Theory and recent evidences
- b) Internal Structure of Earth, Continental Drift Theory of Wegener, Plate Tectonic Theory.
- c) Constituents of earth's surface: Rocks- origin, classification and rock cycle.
- d) Concept of Isostasy, Views of Airy and Pratt.

Unit –II: Earth Movements and Lithosphere:

- a) Epirogenic and Orogenic movements: Folds and Faults ; Earthquakes and Volcanoes
- b) Exogenetic Processes: Weathering and Mass Wasting
- c) Soil and soil forming processes

Unit –III: Geomorphic Features:

- a) Landforms produced by following agents: River, Glaciers, Underground Water , Wind and Sea Waves
- b) Concept of Cycle of Erosion by Davis and Penck.
- c) Polycyclic landscapes, case study of Chhotanagpur Plateau

Reading list:

Thornbury, W.D. (1960) *Principles of Geomorphology*, JohnWiley, New York.

Dayal, P. (1996): A Text Book of Geomorphology, Shukla Book Depot, Patna.

Lal, D.S (2009): *Physical Geography*, Allahabad: Sharda Pustak Bhawan.

Critchfield, H.J. (1966). *General Climatology*, New York: Prentice Hall.

Singh, S. (2003). *Physical Geography*. Allahabad: Prayag Pustak Bhawan. (English and Hindi editions).

Dasgupta, A. and Kapoor, A.N. (2001): *Principles of Physical Geography*, Delhi: S.Chand and Co.

- Hess, D. (2011): *Physical Geography: A Landscape Appreciation*, New Delhi: PHI Learning.
- Bryant, H. Richard. (2001). *Physical Geography Made Simple*. New Delhi: Rupa and Company.
- Bunnett R. B. (2003). (Fourth GCSE edition). *Physical Geography in Diagrams*. Singapore: Pearson Education (Singapore) Private Ltd.
- Strahler, A. N. and Strahler, A. M. (2006). *Modern Physical Geography*. New Delhi: Cambridge.
- Vatal & Sharma. *Oceanography for Geographers*, Chytanya Publications, Allahabad.

Paper: AH-1.1.3

Principles of Cartography (Practical)

Credits: 3

Objectives are to:

- Acquaint the learners with the basic concepts along with various techniques in Cartography to illustrate both physical and cultural details meaningfully.
- Enable the learners to carry out statistical calculations in relation to varied set of phenomenon's spread over the earth's surface.

Unit 1: Introduction to Cartography

- a) Basic Concepts: Nature and Scope of Cartography, History of Cartography, Variation of time with longitudes, Earth as a Cartographic Problem.
- b) Scale: Plain Linear, Statement, Diagonal and Comparative; Representative Fraction.
- c) Representation Methods of Geographical Data: One Dimensional: Bar diagram (Simple and Compound), Line Graph, Band Graph, Pyramidal Diagram, Polygraph and Pie Diagram. Two Dimensional: Rectangles and squares. Three Dimensional: Proportionate Circles, Blocks and Spherical Diagrams.,
- d) Representation of Climatic Data: Hythergraph, Climograph, and Ergograph.

Unit II : Introduction to Map Reading

- a) Basic Concept of Maps, Map Scale, Conventional Map Symbols, Importance and Uses of Maps, Map Drawing Equipments
- b) Interpretation of Topographical Maps: Topographical Maps and their Types, Representation of Relief by Contours, Identification of Physical and Cultural Details, Slope Determination Methods (Wentworth)
- c) Interpretation of Weather Maps

Unit III: Thematic Maps

- a) Choropleth and Isopleth.
- b) Chorochromatic, Choroschematic and Dot.

c) Flow maps and charts

Reading List:

Singh, G. (2004). *Map Work and Practical Geography*, Delhi: Vikas Publication House.

Monkhouse, F.J. & Wilkinson, H.R. (1972). *Maps and Diagrams*, London: Mothuen and Co. Ltd.

Singh, R.L. & Dutt, P.K. (1968). *Elements of Practical Geography*, Allahabad: Learners Friends.

Singh, L.R. & Singh, R. (1973). *Map Work and Practical Geology*, Allahabad: Central Book Depot.

Alvi, Z. (1995). *Statistical Geography-Methods & Application*, Jaipur: Rawat Publications.

Misra, R.P. & Ramesh, A. (1986). *Fundamentals of Cartography*, New Delhi: McMillan.

Singh, R.L. & Singh Rana, P.B. (1992). *Elements of practical Geography*, New Delhi: Kalyani Publisher.

Robinson, Arthur, H.J., Morrison, P., Muehrke, A., Kimmerling & Guphill, S. (eds.) (1995). *Elements of Cartography*, New York: Wiley.

SEMESTER -II

Paper: AH-1.2.4

CLIMATOLOGY AND OCEANOGRAPHY

Credits: 3

Objectives are to:

- Impart the learners with the basic knowledge of composition and structure of atmosphere, wind circulation etc.
- Enable the learners to understand the topics related to temperature, pressure and the related phenomenon of precipitation and other atmospheric disturbances.
- Introduce learners with many facets of oceans like origin of oceans, physical and chemical properties of sea water, atmospheric and oceanographic circulation, marine resources etc.
- Acquaint the learners with the contemporary issues like global warming, climatic change etc.

Unit 1: Elements and Factors:

- a) Weather and Climate: Significance of Climatology, elements of weather and factors of Climate and Composition and Structure of Atmosphere; Atmospheric Temperature: Insolation and Heat Budget; horizontal, vertical and seasonal distribution of Temperature W
- b) Atmospheric Pressure and Winds: Vertical and Horizontal Distribution of Air Pressure, Planetary, seasonal and local winds A
- c) Atmospheric Moisture: Humidity Evaporation and Condensation, Hydrological Cycle, Types of Precipitation, world pattern of rainfall. A

Unit- II: Fronts, Disturbances and Climatic Classification:

- a) Air masses and Fronts: Concepts, Classification and Properties
- b) Atmospheric Disturbances: Tropical and Temperate Cyclones, Thunderstorms and Tornadoes, atmospheric pollution and global warming.
- c) Classification of Climates: Classification of Climates according to Koeppen and Thornthwaite.

Unit III : Oceanography:

- a) Relevance of Oceanography in earth and atmospheric sciences; Meaning and Scope of Oceanography
- b) Configuration of the Ocean Floor with special reference to Indian Ocean: Continental Shelf, Continental Slope, Abyssal Plains, Mid-Oceanic Ridge Oceanic Trenches
- c) Circulation of Water in the Ocean: Waves, Tides and Ocean Currents, Currents of the Atlantic, Pacific and Indian Ocean
- d) Marine Deposits, Types and Distribution, Theories of Origin of Coral Reefs and Atolls.

Reading List

- Lal, D.S. (1986). *Climatology*, Allahabad: Chaitanya Publishing House.
- Critchfield, H.J. (1966). *General Climatology*, New York: Prentice Hall.
- Pettersson, S. (1958). *Introduction to Meteorology*, Tokyo: McGraw Hill.
- Trewartha, G.T. (1968). *An Introduction to Climatology*, New York: McGraw Hill.
- Barry, R.G. & Chorley, R.J. (1985). *Atmosphere, Weather and Climate*, London: Methuen
- Das, P.K. (1988). *The Monsoons*, New Delhi: National Book Trust.
- Henderson-Sellers, A. & Robinson, P.J. (1966). *Contemporary Climatology*,

ELBS/ Longman.

Mather, J.R. (1974). *Climatology: Fundamentals and Applications*, New York: McGraw Hill.

Singh, S (2005). *Climatology*, Allahabad: Prayag Pustak Bhawan.

Vattal & Sharma. *Oceanography for Geographers*, Chytanya publications, Allahabad.

Sharma, R.C. (1985). *The Oceans*, Rajesh, New Delhi.

Garrison, T.(2001). *Oceanography - An Introduction to Marine Science*, Books/Cole, Pacific Grove, USA

Paper: AH-1.2.5 MAN AND ENVIRONMENT

Credits: 3

Objectives are to:

- Acquaint the students to the concept, components and functions of environment and ecosystem
- Make students aware of the environmental problems and ecological imbalances and measures and policies to check the same.

Unit I: Concept of Environment:

Meaning, concept, Components and Types of environment

Ecology - meaning, scope and concepts. Sub-vision of ecology.

Environmental Controls: Concept of Tolerance, Components-Light, Temperature, Water, Wind, Topography, Edaphic and Biotic

Unit-II.: Ecosystem

Ecosystem: Meaning and concepts, Functions; Classification and components of eco-system; trophic structure, ecological pyramid, energy flow and biogeochemical cycle (Nitrogen, Carbon and Oxygen);

Major Biomes of the world: i) Forested: equatorial, boreal; ii) Intermediate environmental zones: savanna, steppes; iii)Barren: Arid, Tundra, and Polar

Unit-III: Environmental Problems and Policies

Nature, process, types and causes of environmental degradation; Types, Sources and impacts of environmental pollution: air, water, soil and noise; Global Ecological Imbalance-Green House effect, Global warming, Deforestation and Loss of Biodiversity;

Man-Environment Discourse in Human Geography, Human Pressure on ecosystems and their modifications, Role of Man in Environmental Management; Environmental policies and programmes-The Stockholm Conference, The Earth Summit

Reading List :

1. Chandana, R.C. : Environmental Awareness, Kalyani Publisher, New Delhi, 1997.

2. Hagget, P. : Geography-A Modern Synthesis, Harper& Row Publication, New York, 1975.
3. Singh, Savindra: Environment Geography, Prayag Publication, Allahabad, 1991.
4. Miller,G.T. :Living in the Environment
5. Odum,E.P. :Fundamentals of Environmental Science, Prentice Hall, NewYork, 1996.
6. Eyne, S.R. and Jones,G.R.J.(eds): Geography of Human Ecology, Edward Arnold, London,

Paper: AH-1.2.6
STATISTICAL METHODS IN GEOGRAPHY-I

Credits: 3

Objectives are to:

Make students aware about the sources, tabulation and classification of data and process of sampling design and measures of central tendency and measures of dispersion-help learners to learn and use simple statistical techniques

UNIT-I

Use of Data in Geography:- Geographical Data, Significance of Statistical Methods in Geography; Sources of Data, Scales of Measurement (Nominal, Ordinal, Interval, Ratio);

Tabulation of Data, Data Matrix and Frequency Distribution; Graphical Representation of data- Histogram, frequency Polygon, Frequency Curve and Cumulative frequency curve or Ogive.

UNIT-II

Measures Central Tendency (Mean, Median and Mode), Measures Dispersion (Range, Quartile Deviation, Standard Deviation, Variance and Coefficient of Variation).

UNIT-III

Sampling Techniques for Geographical Analysis Universe and sample,

Types of sampling: Purposive, Random, Systematic and Stratified.

Reading List:

1. Bhagwathi, V. and Pillai, R.S.N. (2003). *Practical Statistics*. New Delhi: Sultan Chand and Company.
2. Ebdon, D. (1977). *Statistics in Geography: A Practical Approach*. Massachusetts: Blackwell Publishers Inc.
3. Gregory, S. (1973). *Statistical Methods and the Geographer*, London: Longman.
4. Gupta, S.P. (1998). *Advanced Practical Statistics*, New Delhi: Sultan Chand and Company.
5. Hammond P. and McCullagh P. S., 1978: *Quantitative Techniques in Geography: An*

Introduction, Oxford University Press.

6. Ishtiaq, A. (2002). *Statistical Geography: Methods and Applications*, Jaipur : Rawat Publications.
7. Mahmood, A. (1986). *Statistical Methods in Geographical Studies*, New Delhi: Rajesh Publications.
8. King L. S., (1969) *Statistical Analysis in Geography*, Prentice-Hall.
9. Pal, S.K. (1998) *Statistics for geoscientists - Techniques and Applications*, Concept, New Delhi.
10. Silk, John (1979). *Statistical Concepts in Geography*, London: George Allen & Unwin.
11. Zamir, A. (2002). *Statistical Geography: Methods and Applications*, Jaipur : Rawat Publications.

SEMESTER –III

Paper: AH-2.3.7

ECONOMIC GEOGRAPHY

Credits: 3

Objectives are to: Integrate various factors of economic development and to acquaint the students about various aspects of economic geography like minerals, trade and resource utilization and conservation.

UNIT –I : Concept of Economic Geography and Resources

- a) Meaning, Concept, Scope, Approaches and Recent Developments in Economic Geography, Sectors of Economy, World Economic Development: Measurement and Problems.
- b) Resources – concept, types and global problems; changing nature of economic activities; mining, forestry, agriculture, industry, trade and transport.

UNIT-II : Minerals and Trade

- a) Minerals and Energy resources: distribution, mode of occurrence, exploitation and use of : iron ore, bauxite, coal, petroleum, hydroelectricity and atomic minerals.
- b) Trade: Types of Trade, Export and Import (Exim), World Trade Organization(WTO) and globalization and their impact.

Unit III: Resource Utilization & Conservation

- a) Resource Utilization & Conservation Policies, World Energy Crisis and measures to overcome, Optimum and Sustainable Use of Natural Resources.

- b) Concept, Methods and Dimensions of Resource Management.

Reading List

Gautam, A. (2006). *Aarthik Bhugol Ke Mool Tattava*. (in Hindi). Allahabad: Sharda Pustak Bhawan.

Clark, Gordon L., Feldman, Maryann P., Gertler, Meric S. (2003). (eds.). *The Oxford Handbook of Economic Geography*. Oxford: Oxford University Press.

Guha, J. S. and Chattoraj, P. R. (2002). *A New Approach to Economic Geography: A Study of Resources*. Kolkata: The World Press Private Limited.

Hanink, D. M. (1997). *Principles and Applications of Economic Geography: Economy, Policy, Environment*. New York: John Wiley and Sons, Inc.

Knowles, R. and Wareing, J. (2000). *Economic and Social Geography Made Simple*. New Delhi: Rupa and Company.

Leong, G. C. and Morgan, G. C. (1982). *Human and Economic Geography*. Singapore: Oxford University Press.

Bagchi-Sen, Saharmistha and Smith, Helen Lawton. (2006). *Economic geography: past, present and future*, Oxon (United Kingdom): Routledge.

Sharma, T.C. and Coutinho, O. (1999): *Economic and Commercial Geography of India*, New Delhi: Vikas Publishing House Pvt. Ltd.

Singh, J. (2010): *Economic Geography* (Hindi and English), Gorakhpur: Gyanoday Prakashan.

Paper: AH-2.3.8

GEOGRAPHY OF POPULATION

Credits: 3

Objectives are to:

- acquaint learners with the sources of population data and various measures to study population.
- make learners understand different aspects of population dynamics and population characteristics & population-resource interactions

UNIT-I

1. Defining the Field – Nature and Scope; Relationship between population geography and demography; Sources of Data with special reference to India (Census, Vital Statistics and National Sample Survey).

2. Population Size, Distribution and Growth – Determinants and Patterns

UNIT-II

1. Population Dynamics: Fertility, Mortality and Migration – Measures, Determinants and Implications.
2. Population Theory- Malthusian Theory and Demographic Transition Theory

UNIT-III

1. Population Composition and Characteristics – Age-Sex Composition; Rural and Urban Composition; Literacy.
2. Population and Resources-Concepts of Optimum, Over and Under Population , Population -Resource Region, Population Policies with special reference to India.

Reading List

1. Barrett H. R., 1995: *Population Geography*, Oliver and Boyd.
2. Bhende A. and Kanitkar T., 2000: *Principles of Population Studies*, Himalaya Publishing House.
3. Chandna, R. C. (2006). *Geography of Population*. New Delhi: Kalyani Publishers.
4. Chandna R. C. and Sidhu M. S., 1980: *An Introduction to Population Geography*, Kalyani Publishers.
5. Clarke J. I., 1965: *Population Geography*, Pergamon Press, Oxford.
6. Demko, G. J., Rose, H. M., and Schnell, G. A. (1970). *Population Geography: A Reader*. New York: McGraw-Hill.
7. Garnier, B. J. (1993). (3rd edition). *Geography of Population*. London: Longman.
8. Jones H. R., 1990: *Population Geography*, Sage.
9. Jones, H. R., 2000: *Population Geography*, 3rd d. Paul Chapman, London.
10. Lutz W., Warren C. S. and Scherbov S., 2004: *The End of the World Population Growth in the 21st Century*, Earthscan
11. Newbold K. B., 2009: *Population Geography: Tools and Issues*, Rowman and Littlefield Publishers.
12. Pacione M., 1986: *Population Geography: Progress and Prospect*, Taylor and Francis.
13. Peters G. L. and Larkin R. P., 1979: *Population Geography – Problems, Concepts and Prospects*, Kendall Hunt Publication Co.
14. Trewartha, G. T. (1985). *Geography of Population: World Patterns*. New York: John Wiley and

Sons.

15. Wilson M. G. A., 1968: *Population Geography*, Nelson.

Paper: AH-2.3.9

STATISTICAL METHODS IN GEOGRAPHY-II

Credits: 3

This course aims to make the students of geography familiar with quantitative techniques for the analysis of spatial associations and inequalities.

UNIT-1: Association and Correlation: Rank Correlation, Product Moment Correlation, Chi-Square and Simple Regression, Residuals from Regression

UNIT-II: Measurement of Regional Disparities: Scaling Techniques, Rank Score, Weighted Score. Kendall's and Bhatia's method; Lorenz Curve and Location Quotient

UNIT-III: Spatial Distribution and Interactions: Nearest-Neighbour Analysis; Rank-Size Rule,

Reading List:

1. Bhagwathi, V. and Pillai, R.S.N. (2003). *Practical Statistics*. New Delhi: Sultan Chand and Company.
2. Ebdon, D. (1977). *Statistics in Geography: A Practical Approach*. Massachusetts: Blackwell Publishers Inc.
3. Gregory, S. (1973). *Statistical Methods and the Geographer*, London: Longman.
4. Gupta, S.P. (1998). *Advanced Practical Statistics*, New Delhi: Sultan Chand and Company.
5. Ishtiaq, A. (2002). *Statistical Geography: Methods and Applications*, Jaipur : Rawat Publications.
6. Mahmood, A. (1986). *Statistical Methods in Geographical Studies*, New Delhi: Rajesh Publications.
7. Pal, S.K. *Statistics for geoscientists - Techniques and Applications*, Concept, New Delhi, 1998.
8. Silk, John (1979). *Statistical Concepts in Geography*, London: George Allen & Unwin.
9. Zamir, A. (2002). *Statistical Geography: Methods and Applications*, Jaipur : Rawat Publications.

Semester –IV

AH/SH-2.4.10

GEOGRAPHY OF SETTLEMENTS

Objectives are to:

- Acquaint the students with the origin, evolution and growth of settlements
- Acquaint the students with distribution, pattern, morphology and functions of settlements.

Unit - I : Nature and scope of Settlement Geography. Concept of rural and urban settlements, Hierarchy , types and pattern of rural settlements; Morphology and functions of rural settlements.

Unit - II : Origin, evolution and characteristics of urban settlements, Hierarchy of urban settlements, Size and spacing of urban settlement; functional morphology of urban settlements.

Unit - III : Rural-urban fringe; concept of hinterland & umland; Chirstaller's concept of Central Places; Concept of primate city and Rank-size rule.

Reading List :

1. Sundaram K.V. and Sudesh Nangia, (ed.) Population Geography, Heritage, Publications, Delhi 1986.
2. Woods R. Population Analysis in Geography. Longman, London 1979.
3. Zelinsky Wilbur, A Prologue to Population Geography, Prentice Hall, 1966.
4. Singh, R.L Rural Settlement in Moonsoon Asia, 1972
5. Singh, R.Y Geography of Settlements, 1994
6. Hudson, J.H Geography of Settlement, 1976
7. Doxiadis, C.A. Ekistics – An introduction to science of human settlements, 1968
8. Trewartha, G.T. Geography of Population. New York, 1969.

AH-2.4.11

SOCIAL AND CULTURAL GEOGRAPHY

Objectives are to:

Make the learners aware of the spatial aspects of society and culture in general and India in particular.

UNIT-I: Social Aspects

Nature and development of social geography, social geography in the realm of social sciences; space and society: understanding society and its structure and process, Geographical bases of social formation

UNIT-II: Cultural Aspects

Nature and scope of cultural geography; Components of culture, Cultural Diversity:-race, religion and language, ethnic groups; Cultural Evolution and Diffusion, Cultural Landscape, Role of Environment in the Development of Folk Culture and its Diversity.

UNIT-III: Socio cultural Issues

Towards a Social Geography of India: Concept of Social differentiation, socio- cultural regions of India, Caste system and social transformation in India, Religious and linguistic groups of India. Rural-urban deprivation in India with respect to health care, education and shelter.

Reading List :

- Ahemd, Aijazuddin (1999) **Social Geography**, Rawat: New Delhi.
- De Blij. B.d. **Human Geography**. John Wiley and Son, New York.
- Dreze Jean, Amartya Sen(1996) **Economic Development and Social Opportunity**, Oxford University press, New Delhi.
- Dubey, S.C(1991) **Indian Society**, National Book Trust, New Delhi, 1991.
- Gregory, D. and UJ. Larry. (eds.) **Social relations and Spatial Structures**, McMillan, 1985
- Haq, Mahbubul: **Reflection on Human Development**. Oxford University Press.New Delhi
- Planning Commission, **Government of India**: Report on Development of Tribal areas.1981
- Rao, M.S.A.: **Urban Sociology in India**. Orient Longman, 1970 .
- Schwartzberg Joseph: **An Historical Atlas of South Asia**. University of Chicago Press. Chicago, 1978 .
- Sen, Amartya and Dreze Jean, **Indian Development Selected Regional Perspectives**. Oxford University Press,1996 .

AH-2.4.12(Practical)

FIELD SURVEY METHODS (Socioeconomic)

Unit –I

Meaning and Significance of Socioeconomic Survey in Geography, Social and Economic Indicators.

Analysis of pattern of a settlement from topsheets; Collection of data demographic, social and economic aspects of a village from the census reports.

Unit –II

Preparation of Questionnaires, Schedule and Interviews for Socioeconomic Survey.

Survey of a Village: Collection of demographic, social and economic data from the village.

Unit – III

Report Writing: Preparation of field survey reports based on the results of the socioeconomic aspects of the households, photographs, sketches and maps.

Reading List

1. Young, *Scientific social surveys and research*
2. Saltiz. L. *Research methods in social relations*
3. Kothari, C.R. *Research Methodology-Methods & Techniques*, New Age International (P) Limited, New Delhi.
4. Kundu, A. *Measurement of urban processes: A study in Regionalisation*. Popular Prakashan, Bombay.
5. Ghosh, B.N. *Scientific Method and Social Research*. Sterling Publishers Private Limited.

6. Chorley, R.J., P. Haggett. *Integrated Models in Geography. Methuen & Co. Ltd., London, United Kingdom.*

Semester –V

Paper - AH-3.5.13

REGIONAL DEVELOPMENT AND PLANNING

Credits: 3

Objectives are to:

- To understand and evaluate the concept of region in geography and its role and relevance in regional planning
- To identify the causes of regional disparities in development perspectives and policy imperatives.

Unit I: Conceptual Framework:

Regional concept in Geography and its application to planning, Concept and Indicators of Development, Regional Development, Regional Planning.

Unit II: Types of Regions:

Formal, Functional; Uniform and nodal; Hierarchy of Regions, Methods of Delineation of Regions, Perspective, Dynamic & Problem regions; Physical, River valley, Metropolitan

Unit III: Regional Planning in India:

Regional Disparities- Causes & Consequences, Measurement of Regional Disparities; IRDP, Area Development Planning, Tribal area Development Programme, Hill Area Development Programme.

Reading List:

1. Bhatt, L.S. (1972) **Regional Planning in India**, Statistical Publishing Society, Calcutta.
2. Bhatt, L.S. et. al. (eds) (1982) **Regional Inequalities in India**, Society for the study Regional Disparities, New Delhi.
3. Blunder. J. et. al. (1973) **Regional Analysis and Development**, Harper & Row, London.
4. Chand, M and V.K. Puri (1985) **Regional Planning in India**, Allied Pub. Pvt. Ltd. New Delhi.
5. Coates, B.R. and R.J. Johnston (1977) **Geography and Inequality**, Oxford University Press, Oxford.
6. Friedmann, J and William Alonso (1967) **Regional Development and Planning: a Reader**, MIT Press, Cambridge Massachusetts.
7. Kuklinski, A.R. (ed) (1972) **Growth Poles and Growth Centres in Regional Planning**, Monton, The Hague.
8. Misra R.P. et. al. (eds.) (1974) **Regional Development Planning in India**, Vikas, New Delhi.
9. Raza, Moonis (1988) **Regional Development**, Heritage, New Delhi.
10. Sundram, K. V. (1977) **Urban and Regional Planning in India**, Vikas Publishig House Pvt Ltd, New Delhi.

Paper: AH-3.5.14

NATURAL RESOURCE MANAGEMENT

Objectives:

- to understand concepts and approaches of natural resource management;
- to examine use and misuse of various resources and to analyse future prospects
- to understand the concept of sustainable resource development

Unit I Introduction:

- a) Concept and approaches to natural resource management;
- b) Problems of resource utilization
- c) Population pressure, development and resource use

Unit II Resource Crisis:

- a) Use and Misuse of Resources: Global and Indian Scenario
- b) Resource Scarcity Hypothesis
- c) Sustainable Resource Development

Unit III Historical Development and future prospects of various resources:

- a) Soil,
- b) Water,
- c) Minerals
- d) Forests.

Reading List

1. **Borton, I. and R.W. Kates. (1984) Readings in Resource Management and Conservation, University of Chicago Press, Chicago.**
2. **Bruce, Mitchell (1989) Geography and Resource Analysis, John Wiley and Son, New York.**
3. **Eliot Hurst, M.E. (1972) A Geography of Economic Behaviour : An Introduction, Duxbury Press, California.**
4. **Guha, J.L. and P.R.Chattroj (1994) Economic geography- A Study of Resources, The World Press Pvt. Ltd. Calcutta**
5. **Martino, R.L. (1969) Resource Management. Mc Graw Hill Book Co., London.**
6. **Negi, B.S.(2000) Geography of Resources, Kedar Nath and Ram Nath, Meerut**
7. **Owen, Oliver, S.(1971) Natural Resource Conservation : A Ecological Approach. Mc Million New Delhi.**
8. **Raja, M. (1989) Renewable Resources, Development, Concept Pub. New Delhi.**
9. **Ramesh, A.(1984) Resource Geography (Ed.) R.P. Misra, Contribution to Indian geography, Vol Heritage Publishers, New Delhi.**
10. **Singh, A and Raja, M. (1982) Geography of Resources and conservation (Hindi Edition) Pargati Parkashan, Meerut.**
11. **Zimmermann, E. W. (1951) World Resources and Industries, Harper and Brothers, New Delhi.**

Paper: AH/SH -3.5.15

GEOGRAPHY OF INDIA WITH SPECIAL REFERENCE TO ODISHA

Objectives are to:

Acquaint the students with regional variations in physical and socio-economic and cultural phenomenon of India with special reference to Odisha.

UNIT –I: Physical Aspects

- a) Location, relief features, Physiography and drainage systems.
- b) Climate : seasons, origin and mechanism of monsoon, significance and impact of monsoon, problem of flood and drought.
- c) Soil : Classification, types and distribution, Soil erosion and Soil Conservation
Natural vegetation: types and Classification of Natural Vegetation, Factors affecting natural vegetation

UNIT –II: Economic Aspects

- a) Agriculture: Types, characteristics, infrastructure and institutional factors, Cropping pattern and combination, Production and distribution of major crops: Rice, Wheat, Jute, Sugarcane Problems of agriculture, Green Revolution, Major irrigation Projects.
- b) Mineral & Power Resources : aspects of spatial distribution, productions, distribution and utilization of Iron ore,bauxite,Coal and Hydel Power
- c) Industry: Iron and steel, cotton textile and cement, Major Industrial regions
- d) Transport- Railways, Roadways and Waterways

Unit-III: Social and Cultural Aspects

- a) Population : Distribution, Density and Growth of Population, Rural – Urban Population, Population Problems.
- b) Settlements – Rural and Urban settlements
- c) Natural Regions of India and Odisha – Regional study of the following area
 - i) Ganga Plain
 - ii) Chhotangpur Plateau
 - iii) Mahanadi Delta

Reading List

Singh, R.L. (1971). (Eds). *India: A Regional Geography*. Varanasi: National Geographical Society of India.

Sukhwai, B.L. (1987). *India: Economic Resource Base and Contemporary Political Patterns*. New Delhi: Sterling Publication.

Spatte O.H. K., & Learmonth, A. T. A. & Farmer, B. H (1996). *India, Pakistan and Sri Lanka*. London: Methuen.

Sharma, T.C. & Coutinho, O. (2003). *Economic and Commercial Geography of India*, New Delhi: Vikas Publishing House Private Ltd

Singh, J. (2003): *India: A Comprehensive Systematic Geography* (also in Hindi) Gorakhpur: Gyanodaya Prakashan.

Rao, B.P. (2007). *Bharat kee Bhaugolik Sameeksha*, Gorakhpur: Vasundhara Prakashan.

Tiwari, R.C. (2007). *Geography of India*, Allahabad: Prayag Pustak Bhawan.

Khullar, D.R. (2010). *India: A Comprehensive Geography*, New Delhi: Kalyani Publishers.

R. N. Tikha, Geography of India

Deshpande, CD. Regional Geography of India

Gopal Singh, Geography of India

Mamoria, C.B. – Economic and Commerce Geography of India

Paper : AH-3.5.16

GEOGRAPHY OF TRANSPORT AND TOURISM

Objectives are to:

- Make students aware of the scope, content and theoretical frameworks relating to transport and tourism in Geography and their contribution to economic development.

Unit-I

- a) Nature and scope of transport geography, Transport and Development: conceptual frameworks.
- b) Nature and scope of tourism geography; Concept of Tourism; Approaches to the study of Tourism.

Unit- II

- a) The Modes of Transport: Roads, Railways, Pipelines, Ropeways and Cableways, Waterways and Airways.
- b) Transport Development in India, Railways: Distribution Patterns of Railways in India, Problems and Issues in Railways Development, Road Transport: Growth and Development of Roads, Importance and Problems of Road transport in India, Road transport and regional development in India.

Unit- III

- a) Infrastructure and Support System of Tourism: Accommodation and Supplementary Accommodation, Agencies and Intermediaries.
- b) Tourism Industry. Impact of Tourism: Physical, economic and social, perceptual, positive and negative impacts, Ecotourism.

Reading List:

1. Bamford, C.G. and Robinson, H. (1978), **Geography of Transport**, Macdonald and Evans, London.
2. Bhaduri S. (1992), **Transport and Regional Development**, Concept Publishing Company, New Delhi.
6. Hay, A. (1973), **Transport Economy**, Macmillan, London.
7. Hoyle, Band Knowles, R. (2000), **Modern Transport Geography**, John Wiley and Sons, New York.
8. Hoyle, B.S. (1973) **Transport and Development**, Macmillan, London.
10. Raza, M. and Aggarwal, Y.P. (1985), **Transport Geography of India Concept Publishing Company**, New Delhi.
11. Saxena, H.M. (2010), **Transport Geography**, Rawat Publications, New Delhi.
12. Taaffe, E.J. and Gauthier, H.L. (1973) **Geography of Transportation**, Prentice Hall Englewood Cliff, New Jersey.
13. Vaidya, B.C. (1998), **Reading's in Transport Geography**, Devika Publications, Delhi.
14. Bhatia A.K. - Tourism Development: Principles and Practices, Setrling Publishers, New Delhi, 1996.
15. Carter, E and G. Lowman, - Ecotourism, John Wiley and Sons, New York, 1994.
16. Robinson, H.A. - Geography of Tourism, Macdonald and Evans, London, 1996.
17. Williams Stephen - Tourism Geography, Routledge, contemporary Human Geography, London, 1998.
18. Kamra K.K. and Mohinder Chand - Basics of Tourism: Theory, Operation and Practice, Kanishka publishers New Delhi, 2007.

Paper: AH-3.5.17

MAP PROJECTION (Practical)

This paper intends to acquaint students about both graphical and mathematical methods of map projection.

Unit - I

- a) Shape, Size and dimension of the earth, the coordinate plane, rectangular and spherical
- b) The fundamentals of map projection, the classification of projection, the basic attributes of projection, the choice of map projection.

UNIT- II: Map Projection- Cylindrical & Zenithal

- a) Cylindrical – Simple cylindrical and Cylindrical Equal Area.
- b) Zenithal – Gnomonic, Stereographic, Orthographic, equidistance and Equal area.

UNIT- III: Map Projection –Conical & Polyconic

- c) Conical with one standard parallel, conical with two standard parallel

d) Polyconic and Bonnes modified projection.

Reading Lists:

1. Monkhouse, F.J. and H.R. Wilkinson (1980), **Maps and Diagrams**, B. I. Publications, Bombay.
2. Singh, R.L. (1979), **Elements of Practical Geography**, Kalyani Publishers, New Delhi.
3. Singh, R.L. & Dutt, P.K. (1968). *Elements of Practical Geography*, Allahabad: Learners Friends.
4. Singh, L.R. & Singh, R. (1973). *Map Work and Practical Geology*, Allahabad: Central Book Depot.
5. Sarkar, A. (2008): *Practical Geography: A Systemic Approach*, Kolkata: Orient BlackSwan

Paper: AH-3.5.18 (Practical)

FIELD SURVEY METHODS IN GEOGRAPHY (Physical)

Unit I : Introduction, scope and purpose of physical chain and tape survey.

Open traverse, triangulation. Plane table surveys with different methods, radiation, intersection, traversing and resection.

Unit II: Prismatic compass: open and close traverse. Elimination of error.

Unit III: Dumpy level: Traverse survey contour preparation. Theodolite – horizontal and vertical measurement.

Reading Lists:

1. Monkhouse, F.J. and H.R. Wilkinson (1980), *Maps and Diagrams*, B. I. Publications, Bombay.
2. Punmia, B.C. (1989). *Surveying*, Vol. I, II and III, Laxmi Publications
3. Singh, R.L. (1979), *Elements of Practical Geography*, Kalyani Publishers, New Delhi.
4. Kanetkar, T.P. (1994). *Surveying and Leveling*, Vols. I and II, United Book Corporation.
5. Sarkar, A. (2008): *Practical Geography: A Systemic Approach*, Kolkata: Orient BlackSwan.

Semester –VI

Paper: AH-3.6.19

AGRICULTURAL GEOGRAPHY

Credits: 3

Objectives:

To familiarize the learners with main features of Indian agriculture and to acquaint the learners with the factors influencing agriculture.

Unit I: Introduction to Agricultural Geography:

- a) Meaning & Nature of Agricultural Geography;
- b) Approaches to the study of Agricultural Geography

- c) Origin of Agriculture and Agricultural Systems of the world

Unit II: Agricultural Productivity, Regionalization and Models

- a) Physical and Socio-Economic factors in Agricultural Productivity;
b) Agricultural Regionalisation: Crop Concentration, Crop Combination and Crop Diversification
c) Models in Agricultural Geography: Diffusion and von-Thunen's

Unit III: Agriculture in India:

- a) Agricultural Productivity in India-Issues and Challenges
b) Green Revolution, White Revolution and Blue Revolution in India
c) Agro-climatic regions of India

Reading List:

Hoggard, K. and Buller H. (1987). *Rural Development: A Geographical Perspective*, New York, Croom Helm.

Singh, K. (2009): *Rural Development*, Manohar Publishers & Distributors: New Delhi.

Hussain, M. (2009). *Agriculture Geography*, Jaipur: Rawat Publications.

Singh, J. and Dhillon, S.S. (2006). *Agricultural Geography*. New Delhi: Tata McGraw Hill Publications Ltd.

Shafi, M. (2006). *Agricultural Geography*, Doring Kindersley India Pvt. Ltd., New Delhi

Reddy, Venkata, K. : *Agriculture and Rural Development (A Gandhian Perspective)*, Himalaya Publishing House.

Datt R. and Sundaram K.P.M : *Indian Economy*, S.chand & Company limited New Delhi (latest edition)

Misra, S.K and Puri, V.K. , : *Indian Economics* , Himalaya Publishing House, Bombay (latest edition)

Paper : AH-3.6.20

INDUSTRIAL GEOGRAPHY

Objectives are to:

- To introduce the nature, development and significance of industries and its links with economic development.

UNIT –I : Nature, scope and recent developments, Elements and factors of localization of manufacturing industry; centralization and decentralization industrial enterprises.

UNIT –II Theories and Models of Industrial location: Weber, Hoover, Losch and Smith

UNIT –III Methods of delineating manufacturing regions: Major manufacturing regions of the world; location quotient and index of concentration, industrial hazards and occupational health and role of globalization on manufacturing sector.

Reading List:

1. Alexander, J.W.(1988):*Economic Geography*, Prentice Hall, Englewood Cliffs.
2. Alexanderson.(1967):*Geography of Manufacturing*, Prentice Hall, Bombay.
3. Hoover,E.M.(1948):*The Location and Space Economy*, McGraw Hill, New York.
4. Isard,W.(1956):*Methods of Regional Analysis*, The Technology Press of M.I.T & John Wiley & Sons, New York.
5. Miller,E.(1962): *A Geography of Manufacturing*, Prentice Hall,Englewood Cliff,New Jersey.
6. Weber,Alferd,(1957):*Theory of Location of Industries*,Chicago University Press,Chicago.

Paper: AH-3.6.21

POLITICAL GEOGRAPHY

Credits: 3

Objectives are to :

Acquaint the learners with the basic concepts and approaches to the study of Political Geography; familiarise learners with geopolitical dimensions.

Unit –I : Nature and Scope of Political Geography

Meaning and Scope of Political Geography;

Historical Development of Political Geography

Approaches to the study of Political Geography: morphological, functional and

Unified- field theory.

Unit-II: State as a politico-territorial phenomenon

- | | | |
|----|--|------------|
| a) | nature of location of State, Its Shape and Size | Changing |
| b) | and Administrative Framework | Political |
| c) | Frontier, Boundaries, Core-Periphery and Capitals. | Concept of |

Unit –III : Geopolitics and Global Geostrategic Views

- a) Concept of Geopolitics and its changing discourse
- b) Geostrategic Views of Mahan, Mackinder, Spykman and de. Seversky
- c) Geopolitics of Kashmir Valley

Reading List

- Dixit R. D., (2004). *Political Geography-The Spatiality of Politics*, Tata McGraw-Hill Publishing Company Limited, New Delhi.
- Sukhwai B. L. (1968). *Modern Political Geography of India*, Sterling Publishers Private Limited, New Delhi.
- Cox K. R., Low M. and Robinson J., (2008): *The Sage Handbook of Political Geography*, Sage Publications.
- Cox K., (2002). *Political Geography: Territory, State and Society*, Wiley-Blackwell
- Gallaher C., et al, (2009). *Key Concepts in Political Geography*, Sage Publications.
- Jones M., (2004). *An Introduction to Political Geography: Space, Place and Politics*, Routledge.
- Taylor P. and Flint C., (2000): *Political Geography*, Pearson Education.
- Prescott, JR.V (1972). *Political Geography*, Methuen & Co. London,
- Pounds N.J.G.(1972): *Political Geography*. McGraw Hill, New York.
- Adhikari, Sudipta. *Political Geography*, Rawat Publication, New Delh

Paper: AH-3.6.22

GEOGRAPHY: CONCEPTS AND HISTORY

Objectives: This paper intends to acquaint the students with various concepts of Geography and the evolution of Geography as a discipline.

UNIT- I: Concepts :

Area, Space, Region, Areal Differentiation, Spatial Organization, Approaches of Geography (Ideographic & Nomethetic), Models in Geography (Iconic, Analog & Symbolic)

UNIT- II : Dichotomies in Geography:

Physical & Human, Systematic or General & Regional, Determinism & Possibilism.

UNIT- III : Historical Development of Geography:

Contributions of Greeks, Romans, Indians(Ancient and Modern) and contributions of Alexander Von Humboldt, Carl Ritter, Vidal de La Blache, Ratzel to Geographical Thought

Reading List:

1. Dixit, R.D. (1997): *Geographical Thought: A Contextual History of Ideas*, Prentice Hall of India: New Delhi.
2. Dickinson, Robert E.(1978):*The Makers of Modern Geography*, Routledge & Kegan Paul, London & Henley.
3. Johnston, R J : *The Future of Geography*,
- 3 Adhikari, S *Fundamental of Geographical Thought*
- 4 Hartshorne, R. *Perspective on the Nature of Geography*.
- 5 Hussain, M : *Evolution of Geographical Thought*, Rawat Publications, Jaipur.
- 6 James & Jones - *American Geography – Inventory and Prospects*
- 7 Harvey, David, *Explanations in Geography*

Paper AH-3.6.23 (Practical) GIS AND COMPUTER AIDED CARTOGRAPHY

This course aims to make the students of geography familiar with GIS as a tool for geographical studies and research.

Objectives are

- to introduce GIS as a tool of spatial science
- to indicate the relationship between GIS and cartography

UNIT-I

Geography as a spatial science, maps and spatial information, Use of computer in cartographic communication.

Geographical Information System (GIS) – Definition, Components and Significance. Role of Geographic Information System (GIS) in cartography

UNIT-II

Spatial data-Elements of Spatial data; Primary and Secondary data sources; raster and vector data structures.

Elements of GIS-Data Capture-verification and pre-processing- data storage and maintenance of databases-Database Management Systems; Data Manipulation, analysis (integrated analysis of spatial and attribute data, overlay analysis); Spatial modeling-output format and generation

UNIT-III

Co-ordinate System-Basic principles of cartography and computer assisted cartography; Remote Sensing(RS) data for GIS and integration of GIS and RS; Global Positioning System(GPS) and GIS.

Preparation of Thematic Maps through GIS

Reading list

1. Burrough, P.A. & McDonell, R.A. (1998). *Principles of Geographical Information Systems*. New York: Oxford University Press.
2. Chang, Kang-tsung, (2010). *Introduction to Geographic Information Systems*. New Delhi: Tata McGraw-Hill.
3. Heywood, I., Cornelius, S. & Carver, S. (2000). *Geographical Information Systems*, Longman New York: (Low Priced Edition).
4. Mark S Monmonier (1982): *Computer Assisted Cartography*, Prentice-Hall, Englewood Cliff, New Jersey.
5. Star J and J.Estes(1994): *Geographic Information Systems -An Introduction*, Prentice-Hall, Englewood Cliff, New Jersey.

Paper: AH-3.6.24 (Practical)

MAP INTERPRETATION

UNIT- I: Introduction to Maps:

Basic Concept of Maps, Story of Maps, Definition and Types of Maps, Map Scale, Conventional Map Symbols, Importance and Uses of Maps, Map Drawing Equipments

UNIT- II: Enlargement and Reduction of Area :

- a) Enlargement and reduction of maps – methods of square and triangles.
- b) Measurement of distance from the maps, use of Rotameter to measure the length of drainages and roads.
- c) Measurement of area from maps – strip method, use of planimeters.

UNIT- III: Interpretation of Topographical Maps:

- a) Topographical Maps and their Types, Numbering and nomenclature of Toposheets in India, Representation of Relief by Contours, Identification of Physical and Cultural Details, Slope Determination Methods (Smith and Wentworth)
- b) Basic information on Topographical sheets, Preliminary information, Conventional Signs, Interpretation of SOI topo- sheets of a hilly and plain area of India in respect of
 - (i) Relief (ii) Drainage (iii) Settlement and (v) Communication pattern.
- c) Interpretation of Indian daily weather report on consecutive days, predictions of daily weather report
- d) Interpretation of Geological maps

Reading List:

- Singh, G. (2004). *Map Work and Practical Geography*, Delhi: Vikas Publication House.
- Monkhouse, F.J. & Wilkinson, H.R. (1972). *Maps and Diagrams*, London: Mothuen and Co. Ltd.
- Singh, R.L. & Dutt, P.K. (1968). *Elements of Practical Geography*, Allahabad: Learners Friends.
- Singh, L.R. & Singh, R. (1973). *Map Work and Practical Gleography*, Allahabad: Central Book Depot.
- Kanetkar,T.P. (1994). *Surveying and Levelin*, Vols. I and II, United Book Corporation.
- Alvi, Z. (1995). *Statistical Geography-Methods & Application*, Jaipur: Rawat Publications.
- Punmia, B.C. (1989). *Surveying*, Vol. I, II and III, Laxmi Publications.
- Misra, R.P. & Ramesh, A. (1986). *Fundamentals of Cartography*, New Delhi: McMillan.
- Singh, R.L. & Singh Rana, P.B. (1992). *Elements of practical Geography*, New Delhi: Kalyani Publisher.
- Sarkar, A. (2008): *Practical Geography: A Systemtic Approach*, Kolkata: Orient BlackSwan