

## Ph.D. Course Work 2012

### Sub : Geography

#### Important points to be noted:

- ☐ Duration of Course Work : One Semester (6 Months)
- ☐ Total Marks : 200 (Four papers 50 Marks Each)
- ☐ Passing marks will be: 40 %.
- ☐ Duration of Examination: 2 Hrs. for each paper

**Paper I:** Research Methodology : 50 Marks  
**Paper II:** Subject paper -I : 50 Marks  
**Paper III :** Subject paper – II : 50 Marks  
**Paper IV:** Review of literature : 50 Marks

Subject Course Work: 100 Marks (2 Hrs.)

- ☐ Examination will be held at the end of the Semester.
- ☐ Total Lecture Hour (periods) for Paper II (elective units): 60 (sixty).

#### Scheme of Examination of Pre-Ph.D. (Course Work) Examination

Paper No.	Nomenclature of the Paper	Internal Assessment	Theory (Written Exam)	Max. Marks	Lectures (One hour per lecture)
Paper I	Research Methodology	-	50	50	42
Paper II (Subject)	Subject Paper – I	-	50	50	25
Paper III (Subject)	Subject Paper – II	-	50	50	25
Paper IV	Review of Literature	50	-	50	60

Paper No.	Nomenclature of the Paper	Internal Assessment	Theory (Written Exam)	Max. Marks	Lectures (One hour per lecture)
Paper I	Research Methodology	-	50	50	42

### **Paper-I – Research Methodology**

#### **Unit - 1**

1. **Introduction to Research Methodology:** Meaning, Objectives, Significance, Types
2. **Research Problem:** Definition, testing and procedures

#### **Unit-2**

1. **Hypothesis:** Definition, testing and procedures
2. **Research Design/Plan:** Meaning, need and features, Basic principle of experimental signs

#### **Unit-3**

1. **Data collection/data analysis:** Tools for data collection
2. **Statistical Applications:** Mean, Median, Mode, Mean Deviation & Standard deviation, Correlation and Regression, Probability distributions ,chi square test, z test, t test, two sample t test, paired-t test

#### **Unit- 4**

1. **Report Writing:** Types of Reports, Research Report Format, Referencing, Bibliography, Appendices
2. **Computer Applications:** Fundamentals of Computers, Operating systems, use of software (MS-Office, SPSS)

#### **Unit-5**

1. **Safety and safety measures:** Introduction, safety of individuals/laboratory/community/environment
2. **Code of Ethics/ethics of research/good laboratory practices:** IPR and record keeping/archives

#### **References:**

1. Methodology of Research in Social Sciences by O. R. Krishnaswamy and M. Rangnatham Himalaya publication House, 2005, ISBN: 8184880936
2. Research Methodology: Methods and Techniques by C. R. Kothari, New Age International Publishers, ISBN:81-224-1522-9
3. Statistical Methods for Research Workers by Fisher R. A., Cosmo Publications, New Delhi ISBN:81-307-0128-6
4. Design and Analysis of Experiments by Montgomery D.C. (2001), John Wiley, ISBN: 0471260088
5. SPSS online manual
6. MINITAB online manual

Paper No.	Nomenclature of the Paper	Internal Assessment	Theory (Written Exam)	Max. Marks	Lectures (One hour per lecture)
Paper II (Subject)	Subject Paper – I	-	50	50	25

## Geography Course Work Paper - II

### Unit - 1

**Geomorphology** : Fundamental concepts; Factors controlling landform development, Endogenetic and Exogenetic forces; Denudation process, weathering and erosion; Geosynclines, mountain building, continental drift and plate tectonics; Concept of geomorphic cycle; Landforms associated with fluvial, glacial, arid, coastal and karst cycles, Slope forms and processes, Environmental and Applied Geomorphology.

### Unit - II

**Climatology** : Composition and structure of the atmosphere; Heat budget of the earth; Distribution of temperature; Atmospheric pressure and general circulation of winds; Monsoon and jet stream; Stability and instability of the atmosphere, Air-masses, Fronts, temperate and tropical cyclones; Types and distribution of precipitation, Classification of world climates; Koppen's and Thornthwaite's schemes, Hydrological Cycle; Global warming.

### Unit - III

**Oceanography** : Origin of Ocean basins; Bottom relief of Indian, Atlantic and Pacific Oceans; Ocean deposits; Coral reefs; Temperature and salinity of the oceans; Density of sea water; Tides and ocean currents; Sea-level changes.

**Bio-Geography** : Physical factors influencing world distribution of plants and animals; forms and functions of ecosystem : Forest, grassland, marine and mountain ecosystem; Bio-diversity and its depletion through natural and man induced causes; Conservation and management of ecosystems; Environmental hazards and problems of pollution; Ozone depletion.

### Unit - IV

**History of Geographic Thought** : General character of Geographic knowledge during the ancient and medieval period; Foundations of Modern Geography, Contribution of German, French, British and American schools; Conceptual and methodological developments during the 20<sup>th</sup> century; Changing paradigms; man and Environment, Determinism and possibilism; Areal differentiation and spatial organization; Quantitative revolution; Impact of positivism, humanism, radicalism and behaviouralism in Geography.

### Unit - V

**Population Geography** : Nature, Scope, Subject matter and recent trends; Patterns of world distribution, growth and density of population; Policy issues Patterns and processes of migration, Demographic transition; Population-resource regions.

**Settlement Geography** : Site, situation, types, size, spacing and internal morphology of rural and urban settlements; Ecological processes of urban growth; Urban fringe; City-region; Settlement system; Primate city; Rank-size rule, Settlement hierarchy, Christaller's Central Place theory; August Losch's theory of market centres.

Paper No.	Nomenclature of the Paper	Internal Assessment	Theory (Written Exam)	Max. Marks	Lectures (One hour per lecture)
Paper III (Subject)	Subject Paper – II	-	50	50	25

### **Geography Course Work Paper - III**

#### **Unit - I**

**Economic Geography :** Location of economic activities and spatial organization of economics, Classification of economics, Sectors of economy : primary, secondary, tertiary and quaternary; Natural resources; Renewable and non-renewable, Conservation of resources.

**Agricultural Geography :** Concept and techniques of delimitation of agricultural regions, Measurement of agricultural productivity and efficiency; Crop combination and diversification; Von Thunen's Model; Agricultural systems of the world.

**Industrial Geography :** Classification of industries; Weber's and Losch's approaches; Resource based and footloose industries.

**Geography of Transport and Trade :** Models of transportation and transport cost, Accessibility and connectivity; Inter-regional and Intra-regional; Comparative cost advantages.

#### **Unit - II**

**Political Geography :** Definition and scope of political Geography; Geopolitics; Global strategic views (Heartland and Rimland theories); Concept of nation; state and Nation-state; Boundaries and frontiers; Politics and world resources; Geography and Federalism.

**Social Geography :** Nature and scope of social geography; Social structure and Social processes; Elements of social geography-ethnicity, tribe; dialect; language, caste and religion; Concept of social well-being.

**Cultural Geography :** Nature and Scope of Cultural geography; Environment and culture; Concept of culture areas and cultural regions; Theories of tribal groups; Dwelling places as cultural expressions.

#### **Unit - III**

**Regional Planning :** Regional concept in Geography; its application to planning regions; Concept of planning region; Regional hierarchy, Types of regions and Methods of regional delineation; Conceptual and theoretical framework of Regional planning; Regional planning in India; Concept of development; Indicators of development; Regional imbalances.

**Geography of India :** Physiographic divisions Climate : Its regional variations; Vegetation types and vegetation regions; Major soil types; Coastal and Marine resources; water resources; Irrigation; agriculture; Agroclimatic regions Mineral and power resources; major industries and industrial regions; Population distribution and growth; Settlement patterns; Regional disparities in social and economic development.

#### **Unit - IV**

**Cartography :** Map as a tool in Geographical studies; Types of maps : Techniques for the study of spatial patterns of distribution; Single purpose and composite maps; Choropleth; Isopleth and Chorochromatic maps and pie diagrams; Mapping of location-specific data; Accessibility and flow maps.

Remote sensing and computer application in mapping; Digital mapping; Geographic Information System (GIS), Thematic maps.

**Statistical Methods** : Date sources and types of data; Statistical diagrams, study of Frequency distribution and cumulative frequency : Measures of central tendency; Selection of class intervals for mapping; Measures of dispersion (Simple index of dispersion) and concentration (Bernard's index of concentration; Standard deviation; Lorenz Curve; Methods of measuring associations among different attributes; Simple and Multiple correlation; Regression.

Measurement of spatial patterns of distribution; Nearest-neighbour analysis; Scaling techniques rank score, weighted score, Sampling techniques for geographical analysis, quantification in major fields of geography; morphometric analysis, land capability classification, Measurement of agricultural efficiency; Quantitative methods in economic regionalization.

### **Unit - V**

Meaning and Significance of research, Types and objective of research, Research process, research approaches, defining the research problems, problems of geographic research; formulation of research schemes; role and significance of research bodies and funding agencies to assist research design; hypothesis; theory and scientific law; preparing a research project; writing a research report.

### **Books Recommended**

#### **Geomorphology**

Agrawal, A. et al. : The Citizen's Fifth Report. Centre for Science and Environment, New Delhi, 1999.

Ahmed, E. : Coastal Geomorphology of India, New Delhi.

Cotton, C.A. : Geomorphology, John Wiley & Sons, New York.

Dayal, P. : A Textbook of Geomorphology, Shukla Book Depot, Patna, 1996.

Holmes, A. : Principles of Physical Geology, Nelson, 1978.

Jefferys, H. : The Earth - Its Origin, History and Physical Constitution.

Kale, V. and Gupta, A. : Element of Geomorphology, Oxford University Press, Calcutta, 2001.

King and Embleton, C.A.M. : Glacial and Pre-Glacial Geomorphology, Edward Arnold, London, 1975.

Lobeck, A.K. : Geomorphology, McGraw Hill Book Co., New York, 1939.

Monkhouse, F.J. : Principles of Physical Geography, Hodder and Stoughton, London, 1960.

Pitty, A.F. : Introduction of Geomorphology, Methuen, London, 1974.

Sharma, R.C. and Vatal M. : Oceanography for Geographers, Chetanya Publishing House, Allahabad, 1970

Singh, S. : Geomorphology, Prayag Publication, Allahabad, 1988

Singh, Savindra : Physical Geography, Prayag Pustak Bhawan, Allahabad.

Small, R.J. : The Study of Landforms, McGraw Hill, New York, 1985

Streets, J.A. : The Unstable Earth, Kalyani Publishers, New Delhi.

Strahler, A.N. : and Strahler, A.H. Modern Physical Geography, John Wiley, Revised Edition, 1992.

Strahler, A.N. : Earth Science, Harper and Row Publishers, New York.

Thornbury, W.D. : Principles of Geomorphology, John Wiley, New York, 1960

Thurman, H.B. : Introductory Oceanography, Charels Webber, E.Merril Publishing Co. 1984.

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#### **PAPER – IV**

Review of literature.