

# Ph.D. (Geography)

## Course of Syllabus



**SABARMATI UNIVERSITY**

## **Research Methodology in Geography**

### **Section-A**

#### **Issues in Geographical Research:**

1. Defining Research Problems and Purpose.
2. Literature Review: Types of Literature Materials, Format and Organization of Literature Review.
3. Sampling Design: Census and sample survey, Types of samples, steps and criterion of sampling procedure.
4. Methods of Data Collection: Primary and secondary. Survey and Questionnaire Methods.
5. Research Proposal format and Report writing.

### **Section-B**

#### **Processing and Analysis of Data:**

6. Measure of Inequality: Lorenz curve, Gini's Coefficient.
7. Hypothesis Testing and Chi-square test.
8. Multi-variate Analysis: Multiple correlation and Regression.
9. Composite Indices and Basics of Principal Component Analysis.
10. Time-Series Analysis.

#### **Suggested Readings:**

1. Har Prasad (1992): Research Methods and Techniques in Geography, Rawat Publishers, Jaipur.
2. Mishra, H.N. and Singh V.P. (ed.) (1998), Research Methodology: Social, Spatial and Policy Dimensions, Rawat Publishers, Jaipur.
3. Goode and Hat, Research Methodology in Social Sciences, Oxford University Press, New Delhi.
4. Johnson, R.J. (1978): Multivariate statistics in Geography, Longman, London.
5. Black James A and D.J. champion (1976): Methods and Issues in social Research, New York, John Wiley and Sons, Inc.

## **Urban Geography**

### **Section-A**

1. Spatial processes of urban development and metropolitisation.
2. Processes of urban growth and structural models with special reference to India
3. Urban morphology as field of urban ecology: traditional versus contemporary A case of Indian metropolitan cities.

### **Section-B**

4. Central Business District (CBD): Historical evolution, characteristics, demarcation and redevelopment of CBD with special reference to Indian Cities.
5. Impact of globalization on urbanization and development with special reference to India.
6. Urban policies in India.

### **Suggested Readings:**

1. Bose Ashish (1972): Studies in Indian Urbanization, 1970-71, Tate Mc Graw-Hill, Bombay.
2. Bose Ashish (1978): Urbanization in India. Academic Books Ltd., Bombay.
3. Berry, B.J.L. and Kasarda, J.D. (1977): Contemporary Urban Ecology. Macmillan, New York.
4. Carter, H. (1972): The study of Urban Geography. Edward Arnold, London.
5. Dickinson, R.E. (1974): City and Region. Routledge and Kegan Paul Ltd. London.
6. Mishra, R.P. and others (1974): Regional Development Planning in India, Vikas Publishing, Delhi.
7. Ramachandran, R. (1989): Urbanization and Urban Systems in India. Oxford University Press, New Delhi.
8. Prakasa Rao, V.K.S. (1993): Urbanization in India: Spatial Dimension. Concept, New Delhi.
9. Rimsa, A. (1976): Town Planning in Hot Climate. Mir Publishers, Moscow.
10. Sinha, S.P. (1984): Processes and Pattern of Urban Development in India: A case Study.
11. Tiwari, V.K. and others (ed.) (1986): Indian Cities: Ecological Perspectives. Concept, New Delhi.

## **Political Geography**

### **Section-A**

1. Approaches to the study of political geography
2. The state, Nation and nation state. Modern theories on state; Territory of states in acquisition, size and shape
3. Unitary, Federal and Regional State.

### **Section-B**

4. Studies of Boundary in Political Geography
  - i) Boundaries and Frontiers
  - ii) Boundary formation/making
  - iii) Classification of international boundaries.
5. Core areas and capital
6. Contemporary international relations
  - i) International law, international trade.
  - ii) Economic integration
  - iii) Land locked state with special reference to Nepal; problems of enclaves and exclaves
  - iv) The developing laws of the sea, zone of national jurisdiction in the sea and related aspects.

### **Suggested Readings:**

1. Alexander, L.M. (1963): World Political Patterns, Ren Monally, Chicago.
2. Cohon, S.B. (1968): Geography and Politics in divided world, Methuen, London.
3. De Bliz H.J. (1989): Systematic Political Geography: John Wiley, New York.
4. Dikshit, R.D. (1982): Political Geography – A Contemporary Perspective. Tata Mc Graw-Hill, New Delhi.
5. Muir, R. (1975): Modern Political Geography – A Contemporary Perspective. Tata McGraw-Hill, New Delhi.
6. Tylor, Peter (1985): Political Geography, Longman, London.

## **Geomorphology (Advanced Course)**

### **Section-A**

1. Methods of geomorphological investigation: Scientific methods within geomorphology; main branches of geomorphological inquiry; role of Technique in data collection; application of geomorphological models.
2. Mapping Techniques in Geomorphology: Slope classification maps; morphological maps; geomorphological mapping and land system mapping.

### **Section-B**

3. Slope processes and slope profile development: environment's process on hill slopes; Model of hill slopes development; Techniques for the investigation of slow and rapid forms of mass movement.
4. Climatic change and geochronological methods – documentary evidence artifacts, major horizons, dendrochronology, pollen, thermoluminescence,

### **Suggested Readings:**

1. Goudie, A. (ed.) (1981): Geomorphological Techniques. George Allen and Unwin, London.
2. Kind, C.A.M. (1967): Techniques in Geomorphology. Edward Arnold, London.
3. Thorn, C.E. (1982): Space and Time in Geomorphology. George Allen & Unwin, London.

## **Strategies and theories in Regional Development and Planning**

### **Section-A Regional Development Theories:**

1. Theory of Spatial Organization and Integration.
2. Theories of Polarized Development.
3. Theories of Spatial underdevelopment.
4. Theories of Development from below.
5. Ecological Theories.

### **Section-B Strategies in Regional Planning**

6. The State, Regional Policy formation and Regional Development Strategies in India, a detailed review of the 5-year plan.
7. The Evolution of Planning Practice.
8. Regional Social Movements in India and their linkages with regional development strategies.
9. The New Economic Policy and its impact on the regional structure and Regional Problems in India.

### **Suggested Readings:**

1. Friedmann, J. Alansow. (1971): Regional Development and Planning – A Reader, MIT Press
2. Mishra, R.P. (ed). (1992): Regional Planning, concepts, Techniques, Policies and case studies, Concept Publishes, New Delhi.
3. Bhat, L.S. (1973): Regional Planning in India, Statistical Publishing Society, Kolkata.
4. Dube K.N. (ed) (1990): Planning and Development in India, Asia Publishing House, New Delhi.
5. Potter, R.B. Binns Tonny, Eliot J.A. and Smith Davis (1999): Geographies of Development, Longman, England.
6. Frger, D.W. (1999): World Economic Development, McGraw, Bark Hill
7. Hodder, R. (2000), Development Geography, Routledge: Contemporary Human Geography series, London.

## **Agricultural Geography**

### **Section-A**

1. Techniques of agricultural regionalization and typology of agriculture: Criteria of delineation of regions and typologies.
2. Concepts and measurement of regional imbalances in agricultural productivity.
3. Quantitative analysis of agricultural characteristics: Indices of crop-concentration, crop diversification, and crop combination.

### **Section-B**

4. Agricultural landuse and cropping pattern and influencing factors with reference to India
5. Technological changes in Indian agriculture: Introduction of package of technology, Green-Revolution, and diffusion of agricultural innovations.
6. Regional pattern of agricultural productivity in India and factors influencing it.

### **Suggested Readings:**

1. Bhalla, G.S. and Tyagi, D.S. (1989): Patterns of Agricultural Development in India, ISIO, New Delhi.
2. Gregor, H.F. (1970): Geography of Agriculture: Themes in Research, Prentice Hall, New Jersey.
3. Morgan, W.B. and Munton, R.J.C. (1971): Agricultural Geography, Methuen, London.
4. Singh, Jasbir and Dhillon, S.S. (1984) Agricultural Geography. Tata McGraw-Hill, New Delhi.
5. Symons, L.J. (1966): Agricultural Geography. Bell, London.
6. Sharma, B.L. (1991): Applied Agricultural Geography. Rawat Publications, Jaipur.
7. Tarrant, J.R. (1974): Agricultural Geography, David and Charles, Newton, Abbos.

## **Population Geography**

### **Section-A**

1. Methodological Problems in population geography.
2. Approaches to the study of population geography (systematic, behavioural, and systems approach).
3. Sources of data for population geography: National Sample Survey, Indian Census, Civil Registration System, Sample Registration System.
4. Problems of handling population data and mapping of population.

### **Section-B**

5. Population – resource relationship: Over population, under population, optimum population; Population-resource regions; Population and Development; Concept of Sustainable development.
6. Population and Environment: Impact of growing population pressure on environment.
7. Population policies: Comparative analysis of population policies of less developed countries and more developed countries; Population policies of India, China, Japan and USA.

### **Suggested Readings:**

1. Clarke, J.I. (1973): Population Geography, Pergaman Press, Oxford.
2. Chandana, R.C. (1998): A Geography of Population, Kalyani Publishers, New Delhi.
3. Chandana, R.C. (1998): Environmental Awareness, Kalyani Publishers, New Delhi.
4. Chandana, R.C. (1998): Population Geography, Kalyani Publishers, New Delhi
5. Demko, G.J. Et. Al. (1970): Population Geography: A Reader, Mc Graw-Hill, New York.
6. Enrlich, T.R. and A.H. Enrlich (1970): Population Resources Environment, W.H. Freeman and Co., San Francisco.
7. Premi, M.K. at. al. (1983): An introduction to social geography. Vikas Publication House, New Delhi.
8. Premi, M.K. (1991): India's Population Heading towards a million D.K. Publishers and distributors, Delhi.
9. Zelinsky, W et. al. (1970): Geography and a Crowding World, University Press, Oxford.

## **Analysis of Physical Environment**

### **Section-A**

1. Environment: Definition, component, system, scope of environmental conservation; maintenance and management of resources.
2. Drainage basin as an integrated unit of physical environment: Structure of drainage basin; integration in terms of slope; surface runoff.

### **Section-B**

3. Analysis of Drainage Basin: Drainage orders: Horton's Laws; techniques of analyzing point, line and area variables of drainage basin; functional classification of a drainage basin, watershed development and management.
4. Morphological Units: Delimitation of morpho-units; attributes of morpho-units (slope, attitude, relief, and texture)

### **Suggested Readings:**

1. Gragory, K.S. and Wallings, D.e. (1973): Drainage Basin. Form and Processes, Edward Arnold.
2. Chorley, R.J. (ed.) (1969): Introduction to Fluvial Processes, Methuen, London.
3. Cooke, R.U. and Doarnkemp, J.C. (1974): Geomorphology in Environmental Management: An Introduction, Clarendon Press, Oxford.

## **Applied Climatology**

### **Section-A**

1. Introduction, scales of climate, climate and weather as resources and hazards.
2. Solar energy, earth surface heating, temperature variability, radiation and temperature applications.
3. Water cycle, floods and droughts, water budget, and wind energy.
4. Synoptic climatology, weather pattern and long-range forecasting.

### **Section-B**

5. Bioclimatology, physiological and psychological effects of weather, climate and health.
6. Effects of climate on agriculture, industry and transportation.
7. Urban climates, urbanization and microclimates, climate and urban planning and architecture, air pollution.
8. Climatic variability, change and cycles, global warning and its impacts on earth's systems.

### **Suggested Readings:**

1. Oliver, John E. (1973): Climate and Man's Environment: An Introduction to Applied Climatology, John Wiley and Sons, New York, London.
2. Mather, J.R. (1974): Climatology: Fundamentals and Applications, McGraw-Hill, New York.
3. Thompson, Russell, D. (1997): Applied Climatology – Principles and Practice.
4. Ramasastry, A.A. Weather and Weather Forecasting Publication, Division, New Delhi.
5. Barry R.G. and Charley, R.J. Atmosphere, Weather and Climate, Marthren, 1968.