### M.Phil. – GEOGRAPHY- 2014

Paper-I - Geographical Analysis and Research Methodology.

Paper-II - Advanced Economic Geography.

Paper-III - Any one of the following -

(a) Advanced Geomorphology.

(b) Advanced Agricultural Geography.

(c) Advanced Political Geography.

(d) Advanced Geography of Environment.

Paper-IV - Dissertation.

The M.Phil. Course in Geography will be research based and will cater for the full time Regular Students in the discipline of Geography with differing emphasis on papers, training in research methodology and dissertation writing.

Every candidate will have to give at least three seminars in the full term on his advanced field on study with the guidance of a faculty member in each of the papers. The students are required to offer three written papers and one dissertation (equivalent to one paper). Each theory paper shall consist of 100 marks out of which 80 marks shall be for external assessment and 20 marks for internal assessment. The dissertation shall also consist of 100 marks. Three copies of the dissertation shall be submitted by the candidates atleast three weeks before beginning of theory examination.

The M.Phil. examination in Geography shall consist of the following –

- (a) One paper on Geographical Analysis and Research Methodology as a compulsory paper.
- (b) One paper on Advanced Economic Geography as another compulsory paper.
- (c) The third paper will consist of three papers (a), (b) & (c) and the candidate will be required to opt any one of them.
- (d) **DISSERTATION**: The dissertation of about 125 pages will be on a subject related to the candidates major field of study. It will include a bibliography and a critical review of existing literature on the subject. The dissertation may be based on primary data collected by the candidate, may be based on secondary data or on a problem for which some solution will be projected or on the application of some methodology for the purpose of testing hypothesis through secondary data. The faculty members having research degrees (Post Doctoral/Doctoral/M.Phil.) will be able to supervise candidates for dissertation. The dissertation should essentially be forwarded through Course Co-ordinator/Head of the Department.

### Ordinance 123-V relating to scheme of M. Phil Examination

- 1. The M. Phil Course should be started/continued in a department when it has got at least three teachers who possess the qualification to supervise research towards the Ph.D. Degree.
- 2. The following minimum conditions should be ensured before permitting an affiliated college to start the M. Phil course:
  - (a) The college should have fulfilled all the conditions prescribed by the University for Affiliation for the post graduate course.

- (b) The college must have been permanently affiliated with the University for running post-graduate course in the subject in which it intends to start the M. Phil course.
- (c) There should be a staff of teachers out of whom at least three possess the qualification prescribed by the University to supervise research towards the Ph. D. Degree.
- 3. The general provisions of Statutes, Ordinance etc. in respect of admission of student to the examinations of the University including enrolment, discipline, Health & Residence as also for affiliation of colleges will apply for M. Phil Course/ Examination unless otherwise specified hereunder.
- 4. The Course of study for the M. Phil., degree shall extend over a period of one academic year. There shall be a continuous internal assessment as well as an external assessment. The examination for external assessment shall be written and/or practical as may be prescribed by the Board of Management on the recommendation of the Academic Council from time to time.
- 5. Every candidate shall be required to offer three written papers and one dissertation (equivalent to one paper) within this framework, each teaching department of the University shall recommend the course of study for the M. Phil, Examination its own subject(s) which shall be placed before the concerned Board of Studies, Faculty, Academic Council and the Board of Management for approval.
- 6. The number of candidates to be admitted to an M. Phil course in any department each year shall be decided by the department itself but it shall not be less than 5 and more than 15 in Arts/ Social Sciences,10 in Commerce and 10 in Science. The actual number of students to be admitted in a session will depend on the availability of facilities in the Department concerned.
- 7. A candidate for admission to the courses of study for the degree of M. Phil, must have obtained a master's degree with atleast 55% marks in the post- graduate examination, a second division at the degree examination of the University/ or any other University/Institution recognized as equivalent there to, in to pursue the course.
- 8. In service candidates shall not be eligible for admission to the M. Phil. course. However, teachers may be allowed to join the course but only after taking leave from their employer for the duration of the course provided they fulfill the minimum eligibility conditions for the course.
- 9. The placement of every candidate under a Supervisor/guide shall be decided within two months from the date of admission.
- 10. Every candidate shall be required to attend a minimum of 66% of the lecturers, tutorial, seminars and practical (taken together) held in each paper. A certificate to this effect in respect of every candidate by the Head of the department/ Institution concerned to the Registrar so as to reach him at least 15 days before the commencement of examination.
- 11. Every candidate for admission to the examination shall submit the University an application in the prescribed form along with the prescribed examination and mark-sheet fee.
- 12. All paper-setters and examiners for the external assessment shall be external persons (i.e. those who are not working either in the university or in any of its affiliated colleges). The Board of Studies shall prepare a separate panel of examiners for M. Phil. The University Department teaching M. Phil., classes shall suggested a panel of examiners for each paper and dissertation for consideration of the Board of Studies. Appointment of paper setters and examiners shall be made by the examiner's selection committees. If there is no representative from the University teachers on the department teaching M. Phil. for consultation with regard to appointment of paper-setters examiners for the M. Phil., examination in the subject concerned.

- 13. Unless otherwise specified, candidates' will have the option to answer their question papers and write their dissertation in English or Hindi as permissible at the post-graduate examination of the University in the same subject.
- 14. The M. Phil. Examinations will normally be held in the month of may each year and the last date of submission of dissertation will normally be 21 days prior to the commencement of the theory examinations. The internal assessment marks should be sent by various departments to the University office before the commencement of the theory papers. If the internal assessment marks of any candidate or from any department are not received before the commencement of the theory examination, marks in internal assessment in each paper be awarded to each candidate in proportion to the marks obtained by him in that particular paper in the external assessment.
- 15. The answer books and the dissertation of external examination shall be evaluated independently by two examiners and where the difference between the two awards exceeds 20% of the maximum marks allotted to the paper, the answer-book shall be evaluated by a third examiner. In the former case, the average of the two awards and in the later case, the average of the two nearest awards shall be taken into account.
- 16. Each theory paper shall consist of 100 marks. The dissertation shall also consists of 100 marks, it also be assessed by two external examiners. For a pass, a candidate shall be required to obtain:
  - (a) At least 40% marks in each paper separately. (b) A minimum of 50% marks in the aggregate of all the papers prescribed for the examination. In the marks sheet successful candidates shall be classified as under.
  - (a) First division with distinction, candidates obtaining 75% or more marks in the aggregate.
  - (b) First division candidates obtaining 65% or more but less than 75% marks in the aggregate.
  - (c) Second division. All the rest.
- 17. Three periods of one hour each per week shall be provided for each theory paper and two periods for dissertation.
- 18. Omitted. The following minimum condition should be ensured before permitting an affiliated college to start M. Phil. Course:
  - (a) The college should have fulfilled all the conditions prescribed by the University for Affiliation for the post-graduate course.
  - (b) The college must have been permanently affiliated with the University for running post graduate course in the subject in which it intends to start the M. Phil. Course.
  - (c) There should be at least six-post-graduate teachers out of whom at least three should have already been recognized as Research Supervisors and possess at least ten years teaching experience of post graduate classes. The teachers should possess the minimum qualification prescribed by the University for the Post of Reader.
  - (d) There should be staff of 6 teachers out of whom at least three possess the qualification prescribed by the University to supervise research towards the Ph. D. Degree.
  - (e) The college will always maintain teaching staff for the M. Phil. Course as per University rules.
  - (f) The college should possess adequate reference books and research journals in the subject in which a college intends to start M. Phil. Course.

## Paper-I

# GEOGRAPHICAL ANALYSIS AND RESEARCH METHODOLOGY

Duration – 3 hours Max. Marks – 80

**Note:** Eight questions will be set in this paper. Candidates have to attempt four questions only. All questions carry equal marks.

- 1. Research in Geography: Need and Importance.
- 2. Procedure of Geographical Research.
- 3. Theories, Hypothesis and Models.
- 4. Sampling Need and Various Methods.
- 5. Research Design and Formulation of Research Projects
  - (a) Objective, Hypothesis;
  - (b) Review of Literature;
  - (c) Data collection and its sources;
  - (d) Preparation of Questionnaire and Schedules and Interview Techniques;
  - (e) Observation and Tabulation;
  - (f) Report Writing,
- 6. Techniques of Cartographic representation of Economic and Demographic data.
- 7. Concept of Region and Regionalization in Geography and Methods of Delimitation.
- 8. Correlation, Regression and Analysis of Variance, Nearest Neighbour Analysis, Measures of Dispersion, Network Analysis –Use of Metrics, Measurement of Connectivity and Accessibility.
- 9. Use of Remote Sensing, GIS and GPS in Geographical Research.

### Books Recommended:iii

- 1. Gregory: Statistical Methods and the Geographer, Longmans.
- 2. King T.J.: Statistical Analysis in Geography, Prentice Hall.
- 3. Haggett, P.: Locational Analysis in Human Geographical Studies, Sanjay Enterprises, New Delhi.
- 4. Mahmood, Aslam : Statistical Methods in Geographical Studies, Sanjay Enterprises, New Delhi.
- 5. John Silk: Statistical Concepts in Geography, George Allen and Unwin, London.
- 6. Growzon & Cowden : Applied General Statistics, Prentice Hall.
- 7. Johnston, R.L.: Multivariate Statistical Analysis in Geography, George Allen Unwin, London.
- 8. Cole, J.P. & King, C.A.M.: Quantitative Geography, John Willey & Sons, London
- 9. Harvey, D.: Explanation in Geography, Arnold, London, 1969.
- 10. Hartshorne, R.: Perspective on the Nature of Geography.
- 11. Bunge, W.: Theoretical Geography, 1962.
- 12. Chorley, R.J.: Directions in Geography, Methuen, 1973.
- 13. Haggett & Chorley: Models in Geography.
- 14. Yound, P.V. & Schmid, C.F.: Scientific Social Surveys and Research, Prentice Hall.
- 15. Isard, W.: Explanation in Geography, Arnold.
- 16. Thackstone, W.H.: Introduction to Analysis of Geographical Data, Heineman, 1971.

## Paper-II ADVANCED ECONOMIC GEOGRAPHY

Duration – 3 hours Max. Marks – 80

**Note:** Eight questions will be set in this paper. Candidates have to attempt four questions only. All questions carry equal marks.

Concept of economic geography, nature and pattern of economic activities on the surface of the earth on micro and macro levels: primary, secondary and tertiary activities. Recent trends in Economic Geography.

Transport geography-Development of transport-models and structure. Transport economics, transport network analysis. Concept of economic resource, resource evaluation. Economic Regions: Characteristics and their delimitation with reference to India. Resource planning and management. Spatial variations in transport and production cost.

Geography of manufacturing: Theories of Industrial Location and Localization. Industrial Regions of the World.

Geography of market centers, Development of marketing system in various parts of the world. Retail marketing, periodic markets, role of market centers in economic development. World Trade Organisation. Globalisation and its impact on World Economy.

### **Books Recommended:**

- 1. Lloyd & Dicken: Location in Space Theoretical Approach to Economic Geography.
- 2. McCart & Lindberg: A Preface to Economic Geography.
- 3. Smith, D.E.: Industrial Location An Economic Geographical Analysis.
- 4. Hodder & Lee : Economic Geography.
- 5. Berry Conkling & Ray: The Geography of Economic Systems, Prentice Hall.
- 6. Smith, J.C. & Phillip, M.O.: Industrial and Commercial Geography, Henry Halt.
- 7. Miller, E.W.: A Geography of Manufacturing.
- 8. Ghose, B.C.: Industrial Location.
- 9. Bengston, N.A. & Royen, M.V.: Fundamentals of Economic Geography, Prentice Hall, New York.
- 10. Alexander, J.W.: Economic Geography, Prentice Hall, New York.
- 11. Guha & Chatterjee: A New Approach to Economic Geography.
- 12. Renner, T.H. & Other: World Economic Geography.
- 13. Robson, H.: Economic Geography, M.Sc. Donald, London.
- 14. Thoman, R.S.: The Geography of Economic Activity, McGraw Hill, New York.
- 15. Zimmerman, E.W.: World Resources and Industries, Harper & Co., New York.
- 16. Robertson, D. (ed.): Globalisation and Environment, E. Elgan Co., U.K., 2001.
- 17. Wheeler, J.O.: Economic Geography, John Willey, New York, 1995.
- 18. Dreze, J. & Sen, A.: India Economic Development and Social Opportunity, Oxford University Press, New Delhi, 1996.
- 19. Saxena, H.M.: Transport Geography, Rawat Publication, Jaipur, 2005.
- 20. Saxena, H.M.: Marketing Geography, Rawat Publication, Jaipur, 2004.
- 21. काशीनाथ सिंह, जगदीश सिंह : आर्थिक भूगोल के मूल तत्व, वसुन्धरा, गोरखपुर।
- 22. पुरूषोत्तम जैन : आर्थिक भूगोल, रस्तोगी प्रकाशन, मेरठ।
- 23. बी.एस. नेगी : संसाधन भगोल।

## Paper-III (a) ADVANCED GEOMORPHOLOGY

Duration – 3 hours Max. Marks – 80

**Note:** Eight questions will be set in this paper. Candidates have to attempt four questions only. All questions carry equal marks.

- 1. The nature and status of Geomorphology. Development of Geomorphological thoughts.
- 2. Structural Basis of Geomorphology Major structural units of the world, India, Rajasthan.
- 3. Dynamic Geomorphology: Weathering, Mass Movement, Sub-Surface, Fluvial, Glacial, Aeolian, Marine processes: Processes and inter relationships, rates and changes.
- 4. The development of drainage systems and adjustment to structures.
- 5. The cycle concept in geomorphology The Ideal Fluvial Geomorphic Cycle and its complications; Ideas of Davis and Penck.
- 6. The Nature and Development of Slopes Ideas of Penck, Wood, King and Strahler.
- 7. Fluvial Morphometry Stream orders, Stream number, Stream length, Basin Areas, Drainage, Density and Texture, Stream Slopes.
- 8. Geomorphological Mapping: Historical background, Purpose of Geomorphological mapping, Development of Legend systems, various types of Legends, Geomorphological maps and Applied Geomorphology.

### **Books Recommended:**

- 1. Thornbury, W.D.: Principles of Geomorphology, John Willey.
- 2. Sparks, B.W.: Geomorphology, Longmans, London.
- 3. Pitty, A.F.: Introduction to Geomorphology, Methuen, London.
- 4. Strahler: Physical Geography.
- 5. Leopole, L.B., Wolman, M.G. & Miller, J.P.: Fluvial Processes in Geomorphology, Eurasia Publishing House, New Delhi.
- 6. Davis, W.M.: Geographical Essays.
- 7. Holmes, A.: Principles of Physical Geology, Nelson.
- 8. Penck, W.: Morphological Analysis of Landforms.
- 9. Wooldridge & Morgan : An Introduction to Geomorphology, Longman
- 10. Doornkamp, J.C. & King, C.A.M.: Numerical Analysis in Geomorphology.
- 11. Steers, J.A.: Unstable Earth, Methuen & Co., London.
- 12. Strahler, A.N.: Earth Sciences, Harper & Row Publishers, New York.
- 13. Dayal, P.: A Text Book of Geomorphology.
- 14. Singh, S.: Geomorphology, Prayag Publication, Allahabad.
- 15. Lobeck, A.K.: Geomorphology, McGraw Hill Book Co., New York.
- 16. Cotton, C.A.: Geomorphology, John Willey & Sons, New York.
- 17. सविन्द्र सिंह : भू-आकृति विज्ञान, वसुन्धरा प्रकाशन, गोरखपुर।
- 18. कौशिक, एस.डी. : भ्-आकृति विज्ञान, रस्तोगी प्रकाशन, मेरठ।
- 19. नेगी, एस.डी. : भू-आकृति विज्ञान, रस्तोगी प्रकाशन, मेरठ।

## Paper-III (b)

## ADVANCED AGRICULTURAL GEOGRAPHY

Duration – 3 hours Max. Marks – 80

**Note:** Eight questions will be set in this paper. Candidates have to attempt four questions only. All questions carry equal marks.

- 1. The nature and scope of Agricultural Geography.
- 2. Fundamental Concepts in Agricultural Geography
  - (i) Diffusion of Agricultural Geography,
  - (ii) Von Thunen's Model,
  - (iii) The Farm System,
  - (iv) Decision Making on Farm.
- 3. Brief Review of the Progress in Agricultural Geography.
- 4. Factors in Agricultural Geography
  - (i) Environmental,
  - (ii) Institutional,
  - (iii) Technological.
- 5. World Agricultural Systems.
- 6. Methods and Techniques for Determining
  - (i) Crop Combination Regions,
    - (ii) Crop Concentration,
    - (iii) Crop Diversification and Specialization,
    - (iv) Agricultural Efficiency.
    - (v) Degree of Commercialization.
- 7. World Agricultural Typology (with special reference to Rajasthan)
- 8. A field study be conducted for Landuse survey of a village and a question be asked from Rajasthan.

#### **Books Recommended -**

- 1. Symons, L.: Agricultural Geography, Bell & Sons.
- 2. James & Jones (Eds.): American Geography: Inventory and Prospects, Syracus University Press.
- 3. Morgan & Mounton : Agricultural Geography.
- 4. Kostrowicki, J.: World Types of Agriculture, Warsaw, Poland.
- 5. Gregar, H.F.: Geography of Agriculture: Themes in Research, Prentice Hall, London.
- 6. Whittlesey, D.: Major Agricultural Regions of the Earth (Article), Annals of Asso. of American Geographers, Vol. 26.
- 7. Shafi, M.: Land use in Eastern Uttar Pradesh, Aligarh University Press.
- 8. Noor Mohammed: New Dimensions in Agriculture, Concept, New Delhi.
- 9. Stamp, L.D.: Land of Britain: Its Use and Misuse.
- 10. Singh, J.: An Agricultural Atlas of India: A Geographical Analysis, Vishal Publications, Kurukshetra.
- 11. Singh, J.: An Agricultural Geography of Haryana, Vishal Publications, Kurukshetra.
- 12. Singh, J. & Dhillon, S.S.: Agricultural Geography, Tata McGraw Hill, New Delhi.
- 13. Kostrowicki: Agricultural Typology, Polish Academy, Warsaw, Poland.
- 14. प्रमिला कुमार : कुषि भुगोल, मध्य प्रदेश हिन्दी ग्रन्थ अकादमी।
- 15. ब्रज भूषण सिंह : कृषि भूगोल, गोरखपुर।

## Paper-III (c) ADVANCED POLITICAL GEOGRAPHY

Duration – 3 hours Max. Marks – 80

**Note:** Eight questions will be set in this paper. Candidates have to attempt four questions only. All questions carry equal marks.

- 1. Development and Concepts
  - (i) Political Geography as distinct branch,
  - (ii) Geopolitics and Political Geography,
  - (iii) Development of Political Geography,
  - (iv) World Strategic Views,
  - (v) Approaches to the study of Political Geography
    - (a) Power Analysis Approach,
    - (b) Historical Approach,
    - (c) Morphological Approach,
    - (d) Functional Approach,
    - (e) Unified Field Theory,
    - (f) System Approach,
- 2. The State
  - (i) State, Nation and Nation-state
  - (ii) Emergence of States-Modern Theories,
  - (iii) Unitary, Federal and Regional States,
  - (iv) Frontiers and Boundaries,
  - (v) Core Areas and Capitals,
- 3. Political Geography of Everyday Life
  - (i) The politics of Religion, Language and Ethnic Diversity,
  - (ii) Politics of Transportation,
  - (iii) Politics of Population, Migration & Food,
  - (iv) Politics of Ecology and Energy,
  - (v) Politics of Foreign Aid and Development,
- 4. Contemporary International Relations and Politics
  - (i) U.S.A. as world power and its role in international politics,
  - (ii) European Union and its role in world politics,
  - (iii) International Politics of the Indian Ocean States,
  - (iv) Role of China and India in International Politics.
  - (v) Role of International Organizations in Contemporary Politics,
- 5. Emergence Dimensions of Political Geography
  - (i) Electoral Geography,
  - (ii) Politics of outer space,
  - (iii) Geopolitics of Environment,
  - (iv) Supera-nationalism,
  - (v) Geography of War and Peace.

### **Books Recommended:**

- 1. Alexander, L.M.: World Political Patterns, John Murray & Co., London.
- 2. Boggs, S.W.: International Boundaries, Columbia.
- 3. Bowman, I.: The New World Problems in Political Geography, World Co. Younkers, On Hudson.
- 4. East, W.G. & Moodies, A.E.: The Changing World, George G. Harrap & Co., London.
- 5. East W.G. & Spate, O.H.K.: The Changing Map of Asia, Methuen & Co., London.
- 6. Frigreiv. J.: Geography & World Power, University of London Press, London.
- 7. Fawcer, C.B.: Frontiers: Study in Political Geography, Oxford University Press, Oxford.
- 8. Fizgiddeon, R.H.: Global Politics, University of California Press, Parkaley.
- 9. Horradin, J.F.: An outline of Political Geography, Affred A. Knob, New York.
- 10. Moodie, A.E.: Geography behind Politics, Hutchinson's University Library, London.
- 11. Pearch, C.E. et al.: World Political Geography, Thomas, Y. Crowell Co., New Delhi.
- 12. Valkenburg, S.V. & Suz. C.L.: Elements of Political Geography, Second Edition, Eastern Economy Edition, Prentice Hall and Co. Ltd., New York.
- 13. Stransz, R.H.: Geopolitics: The Struggle for Space and Power, G.P. Pitman's & Sons, New York.
- 14. Spykman, N.J.: The Geography of Place, Harcour Brace, New York.
- 15. Wegert, A.W.: Principles of Political Geography, New York.
- 16. Weigert, H.W. Stefansov, V. & Harrison, R.E.: New Compass of the World, McMillan & Co., New York.
- 17. Whittlesey, D.: The Earth and State, Henry Holt & Co., New York.
- 18. W.A. Douglass Jackson: Politics & Geography Relationship, Prentice Hall, New York.
- 19. S.B. Cohen: Geography and Politics.
- 20. Martin Ira Glassner: Political Geography, John Willey, New York.
- 21. एच.एम. सक्सेना : राजनीतिक भूगोल, रस्तोगी पब्लिकेशन्स, मेरठ।

# Paper-III (d) ADVANCED GEOGRAPHY OF ENVIRONMENT

Duration – 3 hours Max. Marks – 80

**Note:** Eight questions will be set in this paper. Candidates have to attempt four questions only. All questions carry equal marks.

- 1. Nature and scope of the Geography of environment. Importance of the Study of Environmental Geography in Contemporary context. Progress of Environmental Geography with special reference to India.
- 2. Concept of ecology and eco-system definition; elements and types, Biome: World Pattern, energy flow and productivity in eco system, Eco cycles, Degradation of Environment and ecological crisis. Human impact on environment.
- 3. Environmental Pollution Air, Water, Soil, Noise and Radio activity, its causes, impact and measures of control with reference to India.
- 4. Perception of environment and its quality, quality of life, conservation of natural resources, Population explosion and environment, Green Economy.
- 5. Global Environmental Issues- Climate change, Ozone depletion, Green House Effect and Global Warming, Desertification, acid rain, Biodiversity and its conservation.

- 6. Environmental Management: Approaches and measures of environment management. Management of forest, soil, wildlife, energy and mineral resources, Natural Hazards and their management.
- 7. Sustainable development: Basic aspects, principles and measurement, efforts towards sustainability- International and National Environmental programmes, Environmental problems and planning in India. Environmental ethics and legislation in India.
- 8. Basics of Aerial Photography, Remote Sensing and G.I.S., importance and Role of remote sensing an GIS in Environmental Studies. Environmental impact assessment, eco-auditing and standardization of environmental management system.

### **Books Recommended:**

- 1. Arwill, R.- Man and Environment, Pelican.
- 2. Chandra, R.C.- Environmental; Awareness, Kalyani Publication, New Delhi
- 3. Desh Bandhu- Environmental Management, Indian Environment Society, New Delhi
- 4. Gupta & Gurjar Sustainable Development, Rawat Pub., Jaipur
- 5. Odum, E.P. Fundamentals of Ecology, Philadelphia
- 6. Singh & Singh Geography of Environment Concept, New Delhi
- 7. Saxena H.M. Environmental Geography, Rawat Pub., Jaipur
- 8. Saxena H.M. Environmental Management, 2010, Rawat Pub., Jaipur
- 9. Singh, Savinder Geography of Environment Concept, New Delhi
- 10. Strahler, A.N. Geography and Man's Environment, John, Willeyh
- 11. Khan, M.Z.A. & S.R. Agarwal Environmentmal Geography, APH Publishing House, New Delhi
- 12. Kormondy, E.J. Concept of Ecology, Prentice Hall.
- 13. Sharma, B.L. & Puja Puar- Global Environmental Challenges, Rohini Books, Jaipur
- 14. Centre for Science and Environment The State of Indian Environment : the Citizen's Report, New Delhi
- 15. सविन्द्र सिंह प्यांवरण भूगोल, इलाहाबाद
- वी. के. श्रीवास्तव पर्यावरणीय, भूगोल एवं परिस्थितिकी विकास, वसुन्धरा, गोरखपुर
   एच.एम.सक्सेना– पर्यावरण एवं परिस्थितिकी भूगोल, राज. हिन्दी ग्रंथ अकादमी, जयपुर

## Paper-IV

Dissertation Marks- 100

The dissertation of about 125 pages will be on a subject related to the candidates major field of study. It will include a bibliography and a critical review of existing literature on the subject. The dissertation may be based on primary data collected by the candidate, may be based on secondary data or on a problem for which some solution will be projected or on the application of some methodology for the purpose of testing hypothesis through secondary data. The faculty members having research degrees (Post Doctoral/Doctoral/M.Phil.) will be able to supervise candidates for dissertation. The dissertation should essentially be forwarded through Course Co-ordinator / Head of the Department.