

PH.D COURSE WORK

Department of Geography

Raiganj University

The Ph.D Programme in Geography aims to develop the candidate's qualifications for employment that requires an advanced degree of scientific expertise. This will give an advanced exposure to the student about the research and development. The most important element of the programme is independent research at an advanced scientific level to develop acquaintance with intensive techniques and skills of Geographical Research Process. The required course work component should complement work with the Ph.D thesis, and make the candidate achieve the necessary academic requirements. The Programme is to provide the basis for independent, creative and critical reflection of one's own and others' research, as well as providing skills in communicating research results in academic and other forums.

Structure of the course

- Duration of Course Work : **One Semester** (6 Months)
- Total Marks : 200 (16 credit)
- Duration of Examination: **3.00 Hrs.** for each theoretical paper
- Examination will be held at the end of the **Semester**

- **Paper I (101): Research Methodology, Quantitative Techniques and Computer Applications :100 Marks (8 Credits)**
 - Group A: Written: 75 Marks
 - Group B: Continuous Evaluation (Internal assessment): 25 Marks

- **Paper II (102): Methodology in Geographical Research: 100 Marks (8 Credits)**
 - Group A: Written: 75 Marks
 - Group B: (Internal assessment): Continuous Evaluation: 25 Marks

Structure of Ph.D Course Work

Paper No.	Nomenclature of the paper	Group	Continuous Evaluation	Theory Written	Total Marks
Paper I (101)	Research Methodology, Quantitative Techniques and Computer Applications	A	-	75	100
		B	25	-	
Paper II (102)	Methodology in Geographical Research	A		75	100
		B	25	-	

Paper – I (101)
(100 marks)
Research Methodology, Quantitative Techniques and Computer Applications

Group-A (75 Marks)

Unit - I

1. Introduction to research methodology: Meaning, objectives, significance and types.
2. Research problems: Definition, nature, types, significance and identification of research problems.

Unit – II

1. Data Inventory: Sources of Data; Types of Data; Methods of data collection; Tools and Techniques of Data analysis; Sampling techniques: Design, types and procedures.
2. Report writing: Types of Reports, **Research Design/Plan**, Literature Survey, Referencing, Bibliography, Appendices.

Unit – III

3. Statistical techniques: Measures of central tendencies; Measures of dispersion: Coefficient of Variation, Lorenz curve and Gini's concentration of Coefficient; Correlation analysis and test of significance; regression analysis
4. Hypothesis: Definition, types, sources, characteristics, contents, testing and procedures

Unit – IV

5. Computer Applications and Statistical data handling: fundamentals of Computer Applications – Ms Word, Ms Excel, Ms Power point: Data Processing and Analysis using computers - Bivariate and multivariate Statistics.
6. Remote Sensing: fundamentals and applications in research. GIS – fundamentals, mapping, data storage and analysis.

Group - B

(Internal assessment)
25 Marks (Continuous Evaluation)

1. Book Review (10 marks)
2. Literature Review (15 marks)

Books Recommended:

Paper – II (102)

Methodology in Geographical Research - 100 marks

Group-A 75 Marks

Unit – I

1. Concepts and Approaches to the Study of Environmental Geography; 2. Research methods in Environmental Geography; 3. Application of GIS and Remote Sensing in Environmental Studies

Unit – II

1. Concepts and Approaches to the Study of Fluvial Geomorphology 2. Research methods related to Basin Morphometry 3. Application of GIS and RS in Geomorphological Studies.

Unit – III

1. Concepts and Approaches to the Study of Settlement Geography; 2. Research methods in rural and urban studies 3. Application of GIS and Remote Sensing in rural and Urban planning.

Unit – IV

1. Concepts and Approaches to the Study of Population Geography 2. Research methods in Population Geography 3. Application of GIS and Remote Sensing in Population Studies.

Group - B

(Internal assessment)

25 Marks (Continuous Evaluation)

1. Tutorial (10 marks)
2. Seminar (15 marks)

Books Recommended:

1. C.R.Kothari: Research Methodology', Wilcy Eastern Limited, New Delhi, 1988
2. H.N.Misra and Vijay P. Singh: Research Methodology in Geography, Rawat Publications, Jaipur. 1998
3. Peter Haggett and others: Locational Analysis in Human Geography. Arnold, London, 1977
4. R.P.Misra: Research Methodology, Concept Publishing Company, New Delhi, 1989
5. David Harvey: Explanations in Geography, Arnold, London, 1969
Ralph Berry: The Research Project: How to Write it, Roulledge, London, 1990
Thomas, S. Kuhn: The Structure of Scientific Revolutions. University of Chicago Press. Chicago, 1970
6. Montello, Danial R. and Paul C. Sutton : An Introduction to Scientific Research Methods in Geography, Sage Publications, London, 2006.

M.PHIL SYLLABUS

**Department of Geography
Raiganj University**

Structure of the course

- Consists Four Semesters
- Duration of Course: 2 Years (Divided into 4 Semesters)
- Total Marks : 400 (32 credits)
- Duration of Examination: 3.00 hrs. for each theoretical paper
- Examination will be held at the end of the Semester

Semester I

- **Paper I (101): Research Methodology, Quantitative Techniques and Computer Applications :100 Marks (8 Credits)**
 - Group A: Written: 75 Marks
 - Group B: Continuous Evaluation (Internal assessment): 25 Marks
- **Paper II (102): Methodology in Geographical Research: 100 Marks (8 Credits)**
 - Group A: Written: 75 Marks
 - Group B: Continuous Evaluation (Internal assessment): 25 Marks

Semester II

- **Paper III (201): Recent trends and advances in Geography: 100 Marks**
 - Group A: Written: 75 Marks
 - Group B: Continuous Evaluation (Internal assessment): 25 Marks

Semester III (301) & IV

- **Paper IV: Dissertation: To be completed in 2 Semesters : 100 Marks**

Semester I

**Paper – I (101)
(100 marks)**

Research Methodology, Quantitative Techniques and Computer Applications

**Group-A
(75 Marks)**

Unit - I

1. Introduction to research methodology: Meaning, objectives, significance and types.
2. Research problems: Definition, nature, types, significance and identification of research problems.

Unit – II

3. Data Inventory: Sources of Data; Types of Data; Methods of data collection; Tools and Techniques of Data analysis; Sampling techniques: Design, types and procedures.
4. Report writing: Types of Reports, **Research** Design/Plan, Literature Survey, Referencing, Bibliography, Appendices.

Unit – III

5. Statistical techniques: Measures of central tendencies; Measures of dispersion: Coefficient of Variation, Lorenz curve and Gini's concentration of Coefficient; Correlation analysis and test of significance; regression analysis
6. Hypothesis: Definition, types, sources, characteristics, contents, testing and procedures

Unit – IV

7. Computer Applications and Statistical data handling: fundamentals of Computer Applications – Ms Word, Ms Excel, Ms Power point: Data Processing and Analysis using computers - Bivariate and multivariate Statistics.
8. Remote Sensing: fundamentals and applications in research. GIS – fundamentals, mapping, data storage and analysis.

Group - B

(Internal assessment)

25 Marks (Continuous Evaluation)

3. Book Review (10 marks)
4. Literature Review (15 marks)

Books Recommended:

1. C.R.Kothari: Research Methodology', Wilcy Eastern Limited, New Delhi, 1988
2. H.N.Misra and Vijay P. Singh: Research Methodology in Geography, Rawat Publications, Jaipur. 1998
3. Peter Haggett and others: Locational Analysis in Human Geography. Arnold, London, 1977
4. R.P.Misra: Research Methodology, Concept Publishing Company, New Delhi, 1989
5. David Harvey: Explanations in Geography, Arnold, London, 1969
Ralph Berry: The Research Project: How to Write it, Roulledge, London, 1990
Thomas, S. Kuhn: The Structure of Scientific Revolutions. University of Chicago Press. Chicago, 1970
6. Montello, Danial R. and Paul C. Sutton : An Introduction to Scientific Research Methods in Geography, Sage Publications, London, 2006.

Paper – II (102)

Methodology in Geographical Research - 100 marks

Group-A

75 Marks

Unit – I

1. Concepts and Approaches to the Study of Environmental Geography; 2. Research methods in Environmental Geography; 3. Application of GIS and Remote Sensing in Environmental Studies

Unit – II

1. Concepts and Approaches to the Study of Fluvial Geomorphology 2. Research methods related to Basin Morphometry 3. Application of GIS and RS in Geomorphological Studies.

Unit – III

1. Concepts and Approaches to the Study of Settlement Geography; 2. Research methods in rural and urban studies 3. Application of GIS and Remote Sensing in rural and Urban planning.

Unit – IV

1. Concepts and Approaches to the Study of Population Geography 2. Research methods in Population Geography 3. Application of GIS and Remote Sensing in Population Studies.

Group - B

25 Marks (Continuous Evaluation)

3. Tutorial (10 marks)
4. Seminar (15 marks)

Semester II

Paper III (201) Optional : Recent Trends and Advances in Geography

(Optional – Any **three** / four of the following field is to be offered. (Shall be structured unit-wise)

Group A – 75 Marks

1. Recent trends and advances in Geomorphology
2. Recent trends and advances in Climatology
3. Recent trends and advances in Environmental Geography
4. Recent trends and advances in Population Geography
5. Recent trends and advances in Settlement Geography
6. Recent trends and advances in Agricultural Geography
7. Recent trends and advances in Industrial Geography

8. Recent trends and advances in Transport Geography
9. Recent trends and advances in Marketing Geography
10. Recent trends and advances in Geography of Tourism
11. Recent trends and advances in Regional Development and Planning
12. Recent trends and advances in Social and Cultural Geography

Paper – 201: M Phil Optional Papers

1. Recent Trends in Geomorphology

Unit I:

Methods of Geomorphological investigation: Scientific methods within geomorphology; main branches of geomorphological inquiry; role of Technique in data collection; Application of geomorphological models.

Unit II:

Mapping Techniques in Geomorphology: Slope classification maps; morphological maps; geomorphological mapping and land system mapping.

Unit III.

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.

Unit IV.

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.

Morphological Units: Delimitation of moropho-units; attributes of morpho-units (slope, attitude, relief, and texture)

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.

- 4.
- 5.
- 6.

2. Recent Trends in Environmental Geography

UNIT I

Environmental Geography: Meaning and scope of Environmental Geography; Relations of Environmental Geography with other sciences; meaning, component and types of environment, approaches to the study of man-environment relationships.

UNIT II

Ecosystems: meaning, types and components of ecosystem; function of ecosystem, trophic levels, food chain and food webs; Ecological pyramid and flow of energy; Bio-geo-chemical Cycles, Nitrogen cycle, Carbon cycle and Hydrological cycle.

Unit-III

Climatic and Biotic Hazards

Concept of hazards and disaster. Natural and man-made hazards; Seasonal Climatic hazards: Flood, and drought- mechanism, environmental impact and management; Occasional climatic hazards: Hailstones and tornadoes- mechanism, environmental impact and management ; Biotic hazards: Deforestation and loss of bio-diversity-impact and conservation of biotic resources ; Geomorphic and water related hazards: Landslide, River bank erosion and Coastal erosion—mechanism, impact and management;

Unit- IV Human Development in the Third World

Basic indicators of human and gender development ; Social inequality as constraint of development: caste and religious fundamentalism; gender bias Demographic constraint; Population growth; Malnutrition. Food security and Hunger. Morbidity and Mortality ; Sustainable development ; Figures in the parentheses indicate number classes required ; Environment-development debate: Environmental movements: Chipko, Silent valley & Narmada Bachao Andolan ; Environmental ethics; Concept of Sustainable Development.

Suggested Readings:

- 1.
- 2.

3. Recent Trends in Settlement Geography

Unit I

Definition and scope ; Approaches to study the settlement geography with special reference to the recent trends; Characteristics of rural settlements ; Distribution of rural settlements with reference to size and spacing ;Types and patterns of rural settlements and their cause and effect relationships.

Unit II

Regularity in land use around settlements – Von Thunen Model ;Theories explaining the internal structure of cities- The concentric ring theory, The multiple nuclei theory ;Functional classification of urban centres – Harris and Nelson ;Rural service centres ;Theory of Christaller and its application ; Theory of Losch and its application ; Settlement planning.

Unit III City – Surrounding Relations:- The urban economic base – terminology, concepts, geographic qualities of the basic, non – basic concepts; the city's spheres of influence (Umland) – methods of its determination; rural – urban fringe – conceptual explanation, internal structure, characteristic features.

Unit IV Settlement Theories and Concepts:- The study of Walter Christaller's Central Place Theory and August's Losh settlement theory in the following heads - **Initial formulation of the model and later developments; Salient features of the model and its applicability; Losch's Theory of settlement – generalization and development of Central Place Model by August Losch; Rank-Size Rule and Law of Primate City.**

BOOKS RECOMMENDED:

1. Ambrose, Petir, Concepts in Geography, Vol., I, Settlement Pattern, Longman, 1970.
2. Baskin, C., (Translator), Central Places in Southern Germany, Prentice Hall Inc. Englewood Cliffs, New Jersey, 1966. Originally written by C.W. Christaller in German with title Die Zentralen Orte Suddeutsch Land in 1933.
3. Hagget, Peter, Andrew D. Cliff and Allen Frey (edited), Location Models , Arnold Heinemann, 1979.
4. King, Leslie, J., Central Place Theory, Sage Pub., New Delhi, 1986.
5. Mayer, M. Harold and Clyde F. Kohn (editors), Reading in Urban Geography, Central Book Depot, Allahabad, 1967.
6. Mitra, Ashok, Mukherjee, S and Bose R., Indian Cities, Abhinav Pub., New Delhi.
7. Ramachandran, R., Urbanization and Urban Systems in India, Oxford University Press, New Delhi, 1992.

8. Singh, R.L. and Kashi Nath Singh (editors), Readings in Rural Settlement Geography, National Geographical Society of India, Varanasi, 1975.

Alam, S.M., Hyderabad-secundarabad Twin Cities, Asia Publishing House, Bombay.

2. Barry, B.J.L and Horton, F.F., Geographic perspectives on Urban Systems, Prentice Hall, Englewood Cliff, New Jersey, 1970.

3. Beaujeu Garnier, J., Chabot, G., Urban Geography, London, 1969.

4. Carter, Harold, The Study of Urban Geography, Edward Arnold Publishers, London.

5. Dickinson, R.E., 1964., City and Region, Routledge, London.

6. Gibbs, J.P., Urban Research Methods, New Jersey, 1961

7. Hall, T., Urban Geography, London, 1988.

4. Recent Trends in Population Geography

UNIT I

(i) Approaches to the study of Population Geography with a special reference to recent trends

UNIT II

(ii) Demographic Bases of Population: crude birth rate. fertility ratio and reproduction or degree of replacement; crude death rate. age and sex specific mortality rates, infant mortality rates/and maternal mortality rate, survival rate; longevity of life; primary, secondary and tertiary sex ratio.

UNIT III

(iii) Demographic Transition: concept, space-time diffusion, and spatial dimension of the demographic transition in India

(iv) Theories of migration: Ravenstein, W.J. Reilly, George K. Zipf. S.A. Stouffer, Hagerstrand, J. Wolpert, A.K. Mabogunje and Lee

UNIT IV

(v) A detailed study of population geography of India with reference to growth of population, urbanization, migration, economic composition, age-sex composition.

(vi) Population growth and regional development

Books Recommended:

Essential Readings:

1. Chandna, R.C: Regional Planning and Development, Kalyani Publisher, New Delhi; 2008.

2. Chandna,R.C: A Geography of Population, 8th edition, Kalyani Publishers, New Delhi; 2009
3. Chandna, R.C: Jansankhya Bhoogal, 7th edition, Kalyani Publishers, New Delhi, 2010.
4. Clarke,J.L: Population Geography, Pergamon Press Oxford, 1972 (2nd edition).
5. Dcmko,GJ. & et. al: *Population Geography: A Reader*, McGraw Hill Co., New York. 1970.
6. Hauscr,P.M. & Duncan.O.D.: *The Study of Population*. University Press Chicago, 1959.
7. Hornby,F.William and Jones,M.: *An Introduction to Population Geography*, Cambridge University,Press, Cambridge. 1987.
8. Jones,U.K.: *A Population Geography*, Harper & Row Publishers, London, 1981.
9. Kayastha,S.L.: *Geography of Population: Selected Essays*, Rawat Publications, 1998.
10. Weeks, John, R.: *Population: An Introduction to Concepts and issues*, Wadsworth/ Thomson Learning Belmont, LA, USA, 2002
11. Zelinsky,W and et. al: *Geography and a Crowding World*, University Press, Oxford, 1970.

Further Readings:

1. Barclay,G.W.: Techniques of Population Analysis, John Wiley & Sons, New York, 1958.
2. Berelson,B. (ed.): Population Policy in Developed Countries, McGraw Hill Book Co., 1974.
3. Bose,Ashish: Population Profile and Religion in India, B.R.Publications, Delhi. 1997.
4. Crook. Nigel (ed.): Principles of Population and Development, Oxford University Press, 1997.
5. Ford.T.R. and Delong.F.F: *Social Demography*. Prentice Hall, Inc., London. 1970.
6. Knowled, R.& Wareing,J: Economic and Social Geography: Made simple Books, Rupa & Co, New Delhi, 2007
7. Pohlman,E.: *Population: A Clash of Prophets*, New American Library, New York, 1973.
8. Premi,Mahendra K: India's Changing Population Profile National Book Trust India, New Delhi, 2009.
9. Robinson.W,C.: *Population and Development Planning*, The Population Council, New York, 1976.
10. Sundaram.K.V. and Nangia, Sudesh (cds.): *Population Geography*, Heritage Publishers. New Delhi,1985.
11. Woods, Robert: *Theoretical Population Geography*, Longman Inc., New York, 1982.

Group B – 25 Marks (Continuous Evaluation)

Seminar: 15 Marks

Tutorial: 10 Marks

Semester III & IV

Paper IV (301): Dissertation Report: To be completed in 2 Semesters: 100 Marks

On the successful completion of M. Phil 1st and 2nd Semester, candidates shall be required to write a dissertation of 100-150 pages. On successful completion of 2nd Semester examination a student may be allowed to proceed to M. Phil. Semester III and IV, dissertation work. Such a student shall be permitted to submit his/her dissertation only when he has passed the examination in all the courses prescribed under 2nd semester.

The dissertation is to be written on a topic duly approved by the Ph.D /M. Phil Committee. The candidate shall prepare a research proposal in consultation with his/her supervisor and submit 3copies of the same to the Departmental Committee for approval. The candidates shall have to defend their research proposal and shall make necessary changes in the proposal on the basis of the comments and re-submit the same for approval by the Departmental Committee. The dissertation will be submitted only when the supervisor is fully satisfied about the quality of the work for the award of M.Phil. degree of the Raiganj University.

Raiganj University
Department of Geography
M Phil Syllabus
Structure of M Phil Course

Semester	Paper No.	Nomenclature of the paper	Group	Continuous Evaluation	Theory Written 65 +Internal 10	Total Marks
I	Paper I (101)	Research Methodology, Quantitative Techniques and Computer Applications	A	-	75	100
			B	25	-	
	Paper II (102)	Methodology in Geographical Research	A		75	100
			B	25	-	
II	Paper III (201)	Recent Trends and Advances in Geography	A	-	75	100
			B	25	-	
III	Paper IV (301)	Dissertation Report: Field Survey				100
IV		Dissertation Report Writing and				

		Submission				
Total						400