

**DEPARTMENT OF GEOGRAPHY
KURUKSHETRA UNIVERSITY KURUKSHETRA**

Scheme of Examinations for Ph.D Course Work Geography w.e.f. July 2020

Paper No.	Title	Max. Marks	End Semester Marks	Time
GEO-601	Research Methods in Geography	100	100	3 Hours
GEO-602	Research Designs and Advance Quantitative Methods in Geography	100	100	3 Hours
GEO-603 (A)	Research and Publication Ethics	50	50	2 Hours
GEO-603 (B)	Seminar in Thrust Area of Research	50	50	-

GEO-601
RESEARCH METHODS IN GEOGRAPHY

Maximum Marks:100
Time: 3 Hours

Note: **There will be six questions in all with three questions from each unit. The candidate has to answer four questions in all selecting at least two questions from each unit. All questions carry equal marks.**

UNIT-I

1. Types and techniques of data collections, their verification, main branches of physical geography enquiry
2. Measurement of sediment and dissolved load, measurements of soil erosion, moisture, permeability and soil water content.
3. Determination of missing hydrologic data and adjustment of records.
4. Measurement techniques of weather elements and processing of weather data, comfort indices, weather forecasting. Climatic data management.

UNIT-II

5. Methodological issues in population geography; Population data sources their scope applications and mapping; Techniques in measurement of fertility and mortality; Parameters of human development, Human Development Index, Gender Development Index and their applications.
6. Techniques in demarcation of CBD, rural urban fringe and unland; Urban development: urban infrastructure and household amenities; Smart city: concept and methods of evaluation of smart cities in India.
7. Methods of concentration, dispersal and spacing of rural settlements; Measurement of shape of rural settlements; type of settlements based on dispersion index.
8. Structural analysis of transportation network: Connectivity: (i)Road network connectivity; cyclomatic number, alpha index, beta index, gama index (ii)Centrality within network based on Koning number;(iii) The spread of network; the Kansky formula of Eta(n) index and (iv) the Detour index and aggregate transport score; Accessibility: Associated number and Shimmel index.

Suggested Readings:

1. Bradford, M.G. and Kent, W.A. (1984) Human Geography: Theories and their Applications, Oxford.

2. Bridges EM. 1986. Principles and Applications of Soil Geomorphology. Halsted Press, New York.
3. Brikeland, PW. 1984. Soils and Geomorphology. Oxford University Press, London.
4. Bunting, BT. 1976. The Geography of Soils. Hutchinson, London.
5. Cassen, Robert and Bates, Lisa M. (1994) Population Policy: A New Consensus, Overseas Development Council, Washington, D.C.
6. Cater, Herald (1972) The study of Urban Geography, Edward Arnold, London.
7. Chandna, R.C. (1998) A Geography of Population: Concepts, Determinants and Patterns, Publishers, New Delhi.
8. Chorley, R.J. and Hagget, P. (1970) Socio Economic Models in Geography, Methuen, London.
9. Clout, H.D. (1972) Rural Geography: An Introductory Survey, Pergmon, N.York.
10. Dackombe, RV and Gardiner V. 1983. Geomorphological Field Manual. George Allen and Urwin, London.
11. Demko, G. J. and others (Eds.) (1971) Population Geography, Reader, McGraw-Hill Books Co., New York
12. Ghosh, RK. 1999. Practical Hydrology. Bidhan Chandra Krishi Viswavidyalaya, Mohanpur, Nadia, West Bengal.
13. Gibbs, J.P. (1966) Research Methods, Von Nostrand company, Inc. New York.
14. Goudie, A (ed.). 1981. Geomorphological Techniques. George Allen and Urwin, London.
15. Gregory, KJ and Walling, DE. 1973. Drainage Basin form and Process-A Geomorphological Approach. Edward Arnold, London.
16. Grover, Neelam (1954) Rural settlement: a cultural Geographical Analysis, Inter India Publication, N. Delhi.
17. Hagget, P. (1971) Locational Analysis in Human Geography, Martin's Press, N.York.
18. Hassan, I. (2010) Population Geography.
19. Johnson, James (Eds.) (1974) Suburban Growth, John Wiley and sons, London.
20. Kale, VS and Gupta, A. 2001. Introduction to Geomorphology. Orient Longman, Calcutta.
21. King, C.A.M. 1967. Techniques in Geomorphology. Edward Arnold, London.
22. Kitchen, R. and Tae, N.J. (2000) Conducting Research into Human Geography: Theory, Methodology and Prectice, Prentice Hall, London.
23. Laboritz, S. and Hagedorn, R. (1971) Introduction to Social Research, McGraw Hills, USA.
24. Lowe, JJ and Walker, MJC. 1984. Reconstructing Quaternary Environments. John Wiley and Sons, New York.
25. Mahajan, N (2014) Population Geography, R.K. publishers, Delhi
26. Mandal, R.B. (1979) Introduction to Rural Settlements, Concept, New Delhi.
27. Mayer H.M. and Kohn, C.F. (1968) Readings in Urt. The University of Chicago Press, Chicago.
28. Michanel Pacione (2004) Urban Geography: A Global Perspective, Routledge, USA.
29. Mutreja, KN. 1990. Applied Hydrology. Tata MC-Graw Hill Publishing Company, New Delhi.

30. Newbold, K Bruce (2016) Population geography: Tools and Issues,
31. Northem, R.M. (1980) Urban Geography, Croom Helm, London.
32. Oliver, John E. 1981. Climatology-Selected Applications. Winston and Sons, London.
33. Petrov, V. (1985) India: Spotlight of Population, Progress Publishers, Moscow.
34. Pitty, AF. 1978. Geography of Soil Properties. University Press, London.
35. Qazi, S.A. (2010) Population Geography, APH publishers.
36. Ramachandra, R. (1992) Urbanization and Urban System in India, Oxford, London.
37. Raymond and Murphy (1960) American cities: An Urban Geography, McGraw Hills, New York.
38. Saxena, H.M. (2005) Transport Geography, Rawat, Delhi.
39. Singh R.L. and Singh, K.N. (1975) Reading in Rural Settlement Geography, NGS, Research publication no. 14, National Geographical Society of India, Varanasi.
40. Singh R.L. and Singh, R.P.B (1978) Transformation of Rural Habitat in Indian Perspective, A Geographical Dimension.
41. Singh R.L. and Singh, R.P.B. (1980) Rural Habitat Transformation in World Frontiers, 24 IGC publication, Tokyo.
42. Sinha, S.P. (1984) Processes and Pattern of Urban Development in India: A study of Haryana, The associated Publishers, Ambala Cantt.
43. Thornthwaite, CW and Mather JR. 1987. Instructions and Tables for Computing Potential Evapotranspiration and Water Balance. Laboratory of Climatology, Drexel Institute of Technology, Centerton.
44. World Meteorological Organization. 1966. Climatic Change. Technical Note No.79, World Meteorological Organization, Geneva.
45. World Meteorological Organization. 1966. Some Methods of Climatological Analysis. Technical Note No.81, World Meteorological Organization, Geneva.
46. World Meteorological Organization. 1983. Guide to Meteorological Instruments and Methods of Observations. Technical Bulletin No. 8, World Meteorological Organization, Geneva.

GEO-602
RESEARCH DESIGNS AND ADVANCE QUANTITATIVE METHODS IN
GEOGRAPHY

Maximum Marks: 100
Time: 3 Hours

Note: **There will be Six questions in all, three from each unit. The candidate has to answer FOUR questions in all selecting two questions from each units. All questions carry equal marks**

Unit-I

1. Defining Research problems and objectives of research, Types of research – Descriptive vs. Analytical, Applied vs. Fundamental, Quantitative vs. Qualitative, and Conceptual vs. Empirical; Selection of research problem,
2. Research design and methods, Research proposal and features of good research design.
3. Literature review – Its objectives and importance, Sources and types of geographical literature, Procedure of critical literature review and ideal literature review, Identifying gap areas from literature review, Citation and acknowledgement.
4. Report and thesis writing – Structure and components of scientific report and theses, Analysis of data, illustrations and tables, Bibliography, referencing and footnotes - Oral presentation

Unit II

5. Theory of distribution, Inferential Statistics and Measures of Inequality.
6. Bi -Variate Analysis: Significance and techniques such as- Correlation Karl Pearsons Product Moment Correlation Coefficient, Spearman's Rank correlation (rho), Non-parametric Tests : Chi-square test.
7. Causal Relationship and Estimation: simple Linear Regression and Residual
8. Multivariate Analysis: Partial and Multiple Correlation, Multiple and step-wise regression, Composite Index, and PCA.

Suggested Readings:

1. A. Reza Hoshmand (second edition): Statistical Methods for Environmental and Agricultural Sciences, CRC Press, New York, 1998.
2. A. Stewart Fotheringham, Chris Brunsdon, M. Charlton: Quantitative Geography: Perspective on Spatial Data Analysis, Sage Publishers, 2000.
3. Allan Bryman (2016) Social Research Methods, OUP.
4. Aslam Mahmood: Statistical Methods in Geographical Studies, Rajesh Publications, New Delhi, 1993.
5. Black James and Champion D.J. (1976) Methods and Issues in social Research, New York, John Wiley and Sons.
6. Derek Gregory and Rex Walford (1989) Horizons in Human Geography.

7. G.S. Monga, Statistical Methods
8. Goode and Hat: Research Methodology in Social Sciences, Oxford University Press, New Delhi.
9. Har Prasad (1992) Research Methods and Techniques in Geography, Rawat Publication, Jaipur.
10. Jack Levin and J.A. Fox: Elementary Statistics in Social Research, 10th edition, Pearson Education, New Delhi, 2006.
11. Johnston R.J. (1991) A Question of Place: Exploring the Practices of Human Geography, Blackwell.
12. Keith Hoggard (2002) Researching Human Geography, OUP.
13. M.H. Qureshi, Paradigms in Geographical Research, Concept, New Delhi.
14. Mishra H.N. and Singh V.P. (ed.) (1998) Research Methodology: Social, Spatial and Policy Dimensions, Rawat Publishers, Jaipur.
15. P.A. Rogerson: Statistical Methods for Geography, (A Student's Guide), 3rd Edition, Sage Publication, New Delhi, 2010.
16. Paul Fyrabend, Against Methods, Vera.
17. R. J. Johnston: Multivariate Statistical Analysis in Geography, Longman Scientific and Technical, John Wiley & Sons, 1989 (4th edition).
18. Robert Hamund and Patric McCullagh: Quantitative Techniques in Geography: An Introduction Clarendon Press, 1974.
19. S. Gregory : Statistical Methods and the Geographers, Longman, London, 1964.
20. Saroj K. Paul : Statistics for Geoscientists: Techniques and Applications, Concept Publishing Company, New Delhi, 1998
21. Suzanne, Davies W: Quantitative Methods in Human Geography, Oxford University Press, 2013.
22. Young P.V. (1986) An Introduction to Research Methodology.

GEO-603 (A)

RESEARCH AND PUBLICATION ETHICS

Maximum Marks: 50

Time: 2 Hours

Note: There will be FOUR questions in all, three from each unit. The candidate has to answer TWO questions in all selecting one question from each units. All questions carry equal marks

Unit-I

1. Research Ethics: definition and philosophy
2. Plagiarism issues in research and publication
3. Copy rights and intellectual property rights

Unit II

4. Selective reporting and misrepresentation of data/evidences
5. Identification of publication misconduct, complaints and penalty
6. Predatory publications and journals

Reading List

October, 1989). "Statement on Plagiarism." *Academe*, 75, 5, 47-48.

Bloch J. (2012). Plagiarism, intellectual property and the teaching of L2 writing. Bristol, UK: Multilingual Matters.

Bruton, S. V. (2014). Self-plagiarism and textual recycling: legitimate forms of research misconduct. *Accountability in Research*, 21, 176-197.

Clark, J. & Smith, R. (2015). Firm action needed on predatory journals. *British Medical Journal*, 350, <https://nursingeditors.files.wordpress.com/2014/11/bmj-h210-full-1.pdf>.

Dante, E. (2010). The Shadow Scholar. *The Chronicle of Higher Education*, Available at <http://chronicle.com/article/The-Shadow-Scholar/125329/>

Ferguson, C. (2015). More evidence scientists continue to cite retracted papers, <http://retractionwatch.com/2015/02/18/evidence-scientists-continue-cite-retractedpapers/>. Accessed July 28th, 2015.

Goode and Hat: *Research Methodology in Social Sciences*, Oxford University Press, New Delhi.

Fine, M. A. and Kurdek, L. A. (1993). Reflections on determining authorship credit and authorship order on faculty-student collaborations. *American Psychologist*, 48, 1141-1147.

Hexham, I. (1999). The plague of plagiarism. Department of Religious Studies. The University of Calgary. Retrieved March 15, 2003 from <http://c.faculty.umkc.edu/cowande/plague.htm#self>.

IEEE Publications, Identifying Plagiarism(2012) [Online]. Available: <https://www.ieee.org/publications/rights/plagiarism/id-plagiarism.html>

- Khaled, K. (2015). The disaster of the impact factor. *Science and Engineering Ethics* 21 (1), 139–142.
- Martin, B. (1997). Credit where credit is due. *Campus Review*, 7, 11. Retrieved February 3rd, 2003 from <http://www.uow.edu.au/arts/sts/bmartin/pubs/plagiarismfraud.html>.
- Pennycook, A. (1996). Borrowing others' words: text, ownership, memory, and plagiarism. *TESOL Quarterly* 30(2), 201-230.
- Swazey, J.P., Anderson, M.S., & Lewis, K.S. (1993). Ethical problems in academic research. *American Scientist*, 81, 542-553.
- Volz, R A, "The scoop on plagiarism," *Robot. Autom. Mag.*, vol. 14, no. 3, pp. 4–5, 2007.
- Witherspoon, A. (1995). This Pen for Hire. *Harper's Magazine*, 290, 1741, 49-57.
- Zigmond, M. J. and Fischer, B. A. (2002). Beyond fabrication and plagiarism: The little murders of everyday science. Commentary on "Six Domains of Research Ethics". *Science and Engineering Ethics*, 8, 229-234.