

COURSES OF STUDIES

FOR Ph.D PROGRAM IN GEOGRAPHY
(SEMESTER SYSTEM)

2026-27



GANGADHAR MEHER UNIVERSITY
SAMBALPUR, ODISHA

**FORMAT OF COURSE WORK SYLLABUS
OF Ph.D PROGRAM
2025**

Semester – I

Paper No	Title of Paper	Maximum Marks	Credits assigned
711	Recent Trends in Geography	80+20=100	4 Credits
712	Research and Publication Ethics (Common Syllabus)	80+20=100	4 Credits
713	Research Methodology	80+20=100	4 Credits
714	Dissertation Or Review Writing/Presentation/Viva-voce)	150+25+25=200	8 Credits
		500	20 Credits

**School of Geography Gangadhar Meher University,
Sambalpur**

PAPER – 711 :RECENT TRENDS IN GEOGRAPHY			
		Lectures	Credits
A	Advance Geomorphology	10	1
	Mapping Techniques in Geomorphology, Slope classification maps, morphological maps, geomorphological mapping and land system mapping, 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		
B	Advance Human Geography	10	1
	Population Indices and Projection, Age sex Pyramid, Child Women Ratio, Dependency Ratio, Infant Mortality, Age Specific Mortality, Population growth rate, Population Projection. Process of Urban growth and structural models with special reference to India, Quantitative Analysis- of agricultural Characteristics: Indices of crop, concentration, Crop diversification and crop combination.		
C	Applied Geography	10	1
	Natural Disaster Management: Hazards and Disasters, Components of comprehensive disaster preparedness plans, Risk assessment and vulnerability Analysis. Regional and rural development planning: Concept of Centralized and Decentralized planning, Rural development and poverty alleviation policy. Integrated watershed development and management: concept and framework, Steps in watershed management – basic information, development component		
D	Advance GIS & Remote Sensing	10	1
	Remote Sensing and Image interpretation, Visual Image Interpretation and Digital Image Processing, Geographical Information system, Integration of Raster and Vector data, Feature Based Topological functions, Interactive Data Exploration, Vector Data Query, Attribute data query. Global Positioning System, GPS Segments, GPS Positioning Types Absolute, Differential, Geo-positioning, GNSS: NAVSTAR, GLONASS, GALILEO.		

Suggested Reading:

1. Allison, Robert J. (ed.) 2002. Applied Geomorphology: Theory and Practice, John Wiley, Chichester UK.
2. Bloom, A. L. 1998/ 2001. Geomorphology. 3rd edition. Prentice Hall of India, New Delhi.
3. Chorley, R.J., Schumm, S. A. and Sugden, D. E. 1984. Geomorphology. Methuen and Company Ltd., London.
4. Fairbridge, R.W. (ed.) 1968. Encyclopaedia of Geomorphology. Reinhold Book Corporation., New York.
5. Goudie, Andrew (ed.) 2004. Encyclopedia of Geomorphology. Volume 2. Routledge, London.
6. Gregory, K.J. and Walling, D.E. 1973. Drainage Basin Form and Process. Edward Arnold, London.
7. Jensen, J.R., (2006) "Remote Sensing of the Environment – An Earth Resources Perspective", Pearson Education, Inc. (Singapore) Pte. Ltd., Indian edition, Delhi.
8. George Joseph, (2004) "Fundamentals of remote sensing", Universities press (India) P Ltd.
9. Lo and Albert K.W. Yeung (2006) "Concepts and Techniques of Geographic Information Systems" Prentice Hall of India, New Delhi.
10. Burrough, Peter A. and Rachael McDonnell,(1998), „ Principles of Geographical Information Systems" Oxford University Press, New York.
11. Leica. A., (2003), GPS Satellite Surveying, John Wiley & Sons, use. New York
12. Terry-Karen Steede, (2002).
13. Burrough, P.A. and McDonnell, R. 1998. Principles of Geographic Information Systems. Oxford University Press, Oxford.
14. David Ebdon: Statistics in Geography, Blackwell Publishers, 1991.
15. Pal, Saroj: Statistics for Geoscientists: Techniques and Applications, New Delhi: Concept, 1998.
16. Yule, G. U. & Kendal, M.G.: An introduction to the Theory of Statistics, 14th Ed, CharlesGriffin, London.
17. Bhalla, G.S. and Tyagi, D.S. (1989): Patterns of Agricultural Development in India, ISIO, New Delhi.
18. Gregor, H.F. (1970): Geography of Agriculture: Themes in Research, Prentice Hall, New Jersey.
19. Morgan, W.B. and Munton, R.J.C. (1971): Agricultural Geography, Methuen, London.
20. Singh, Jasbir and Dhillon, S.S. (1984) Agricultural Geography. Tata McGrawHill, New Delhi.
21. Symons, L.J. (1966): Agricultural Geography. Bell, London.

PAPER-712 : Research and Publication Ethics (Common Syllabus)			
		Lectures	Credits
A	RPE 01: PHILOSOPHY AND ETHICS	3	1.0
	1. Introduction to philosophy: definition, nature and scope, concept, branches		
	2. Ethics: definition, moral philosophy		
	3. nature of moral judgements and reactions		
	RPE 02: SCIENTIFIC CONDUCT	7	
B	1. Ethics with respect to science and research		1.0
	2. Intellectual honesty and research integrity		
	3. Scientific misconducts: Falsification, Fabrication, and Plagiarism (FFP)		
	4. Redundant publications: duplicate and overlapping publications, salami slicing		
	5. Selective reporting and misrepresentation of data		
C	RPE 03: PUBLICATION ETHICS	10	1.0
	1. Publication ethics: definition, introduction and importance		
	2. Best practices / standards setting initiatives and guidelines: COPE, WAME, etc.		
	3. Conflicts of interest		
	4. Publication misconduct: definition, concept, problems that lead to unethical behavior and vice versa, types		
D	5. Violation of publication ethics, authorship and contributorship		1.0
	6. Identification of publication misconduct, complaints and appeals		
	7. Predatory publishers and journals		
	RPE 04: OPEN ACCESS PUBLICATION	5	
	1. Open access publications and initiatives		
E	2. SHERPA/RoMEO online resource to check publisher copyright & self-archiving policies		1.0
	3. Software tool to identify predatory publications developed by SPPU		
	4. Journal finder / journal suggestion tools viz. JANE, Elsevier Journal Finder, Springer Journal Suggester, etc.		
	RPE 05: PUBLICATION MISCONDUCT	5	
	I. Group Discussions		
F	1. Subject specific ethical issues, FFP, authorship		1.0
	2. Conflicts of interest		
	3. Complaints and appeals: examples and fraud from India and abroad		
	II. Software tools (2 hrs.)		
	1. Use of plagiarism software like Turnitin, Urkund and other open source software tools		
G	RPE 06: DATABASES AND RESEARCH METRICS	10	1.0
	I. Databases		
	1. Indexing databases		
	2. Citation databases: Web of Science, Scopus, etc.		
	II. Research Metrics (3 hrs.)		
H	1. Impact Factor of journal as per Journal Citation Report, SNIP, SJR, IPP, Cite Score		1.0
	2. Metrics: h-index, g index, i10 index, altmetrics		
	REFERENCES		
	1. Bird, A. (2006). Philosophy of Science. Routledge.		
	2. MacIntyre, Alasdair (1967) A Short History of Ethics. London.		
I	3. P. Chaudhali, (2018) *Ethics in Competitive Research: Do not get scooped; do not get plagiarized, ISBN:978-987480865.		1.0
	4. National Academy of Sciences, National Academy of Engineering and Institute of Medicine. (2009). On Being a Scientist: A Guide to Responsible Conduct in Research: Third Edition. National Academies Press.		
	5. Resnik, D. B. (2011). What is ethics in research & why is it important. National Institute of Environmental Health Sciences, 1-10. Retrieved from https://www.niehs.nih.gov/research/resources/bioethics/whatis/index.cfm		
	6. Beall, J. (2012). Predatory publishers are corrupting open access. Nature, 489(7415), 179-179. https://doi.org/10.1038/489179a		
	7. Indian National Science Academy (INSA), Ethics in Science Education, Research and Governance (2019), ISBN:978-81-939482-1-7. http://www.insaindia.res.in/pdf/EthicsBook.pdf		

PAPER-713: Research Methodology			
		Lectures	Credits
A	Foundations of Geographical Research	10	1
	1. Introduction to Research: Meaning and characteristics of research; 2. Types of research (descriptive, analytical, applied, fundamental); 3. The research process. 4. Philosophical Foundations: Epistemology and ontology in geography; Positivism, Post-positivism, Humanism 5. Critical Theory, and other key paradigms in geographical thought. 6. Research Problem Formulation: Identifying and selecting a research problem 7. Review of literature (sources, purpose, and methods) 8. Formulating research questions, objectives, and hypotheses.		
B	Data Collection and Qualitative Analysis Methods	10	1
	I. Data and data collection 1. Types of data (primary, secondary) 2. Sampling techniques 3. Data collection tools (surveys, questionnaires, interviews, focus groups, observation) II. Qualitative Methods 1. Approaches to qualitative research (ethnography, case studies, narrative analysis, documentary evidences) 2. Approaches to qualitative research (Conversation and Discourse analysis Visual research, Participant observation) 3. Grounded theory and content analysis		
C	Quantitative Analysis Methods		1
	1. Statistical analysis (descriptive and inferential statistics). 2. Normal and Binomial distribution and their property 3. Correlation and Regression 4. Hypothesis testing- Student <i>t</i>-test, <i>F</i>-test, <i>Chi-square</i> test 5. ANOVA – One-way and Two-way, Multiple-range test		
D	Computer in Geographical data Analysis	10	1
	I. Basic software application 1. Introduction to MS-Office software: MS-Word (Track change) 2. MS-Excel, MS-Access 3. MS-Power Point 4. Statistical data analysis using software – SPSS II. Geospatial Techniques 1. Application of GIS for spatial analysis 2. Principles of Remote Sensing (RS) and its use in data acquisition 3. Use of GPS and other field technologies. 4. Types of maps, Composite maps, Choropleth, Isopleth, chorochromatic maps and its preparation using GIS		
	References 1. Misra, R.P. and H.N. Misra. Research Methodology in Geography. Rawat Publications, 2002. 2. Singh, R.B. (ed.). Indian Geography in the 21st Century: The Young Geographers Agenda. Cambridge Scholars Publishing, 2009.		

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| <ol style="list-style-type: none">3. Karlekar, Shrikant and Mohan Kale. Statistical Analysis of Geographical Data. Diamond Publications.4. Sil, Ajit Kumar. Statistical Methods in Geography. The Himalayan Books.5. Patil, Sardar Ananda. "Use of Computer Technologies in Geographical Research: An Integrated Focus on Google Services, SPSS and Microsoft Word." In Application of Research Methods and Techniques in Geography. Universal Publishing House.6. Panigrahi, Narayan. Computing in Geographic Information Systems. Routledge, 2014.7. Das, Chandan, Surabhi and Debojyoti Mallik. Geospatial Techniques And Research In Geography. Enova Publication, 2022. |
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