

**DR. BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY,
CHHATRAPATI SAMBHAJINAGAR.**



Circular / Syll. Sec./ A.C. Res./ Curriculum/ 2026.

It is hereby inform to all concerned that, on the recommendation of Board of Studies; **the Academic Council at it's Meeting held on 28th July, 2026 has accepted the "Curriculum of Pre-Ph.D. Course Work as per Guidelines of University".**

This is effective from the Academic Year 2026-27 and onwards as per appended herewith.

All concerned are requested to note the contents of this circular and bring notice to the students, teachers and staff for their information and necessary action.

University campus,
Chhatrapati Sambhajanagar-431 004.
Ref. No. Syll. Sec./A.C. Res./
Curriculum/ 2026/ 221-24

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**Deputy Registrar
Syllabus Section**

Date: 31/ 07/ 2026.

Copy forwarded with necessary action to:-

- 1]- **The Head, all concerned departments,**
- 2] **The Director, University Network & Information Centre, UNIC, with a request to upload this Circular on University Website.**
- 3] **The Director, Board of Examinations & Evaluation,**
- 4] **Public Relation Officer [PRO],**

Dr. Babasaheb Ambedkar Marathwada University,
Chhatrapati Sambhajanagar.

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Dr. Babasaheb Ambedkar Marathwada University



CHHATRAPATI SAMBHAJINAGAR-431 004, Maharashtra, India

Curriculum List of Subject Wise **Pre Ph.D. Course Work** under the **Faculty of Humanities**

Sr. No.	Curriculum/ Subject's
01.	Marathi
02.	Hindi
03.	English
04.	Urdu
05.	Sanskrit
06.	Arabic
07.	Chinese
08.	Sociology
09.	Economics
10.	History
11.	Political Science
12.	Public Administration
✓ 13.	Geography
14.	Psychology
15.	Law

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**Dr Babasaheb Ambedkar Marathwada University,
Chhatrapati Sambhajinagar – 431001**



**(Minimum Standards and Procedures for
Award of Ph.D. Degree)**

Course Structure

(Revised)

(As Per NEP-2020)

Subject: Geography

Effective from

2026-2027

**Course Structure for Pre Ph.D. Course Work in Geography
(Effective from Academic Year 2026-2027)**

THE PH.D COURSEWORK
Course 1 (C-1): Research Methodology and Computer Application in
Geographical Research

Discipline	Geography
Total Credits	04
Maximum Marks	100
Total Contact Hours	60 Hours
Units	05 (12Huors each)

The Ph.D course work	
Course 1 (C-1): Research Methodology and Computer Application in Geographical Research	
Total Credit: 04	Maximum Mark:100
❖ Course Objectives: 1. Introduce students to the concept, nature, scope and significance of geographical research. 2. Develop an understanding of research design, methods, techniques and data collection in geographical studies. 3. Familiarize students with sampling techniques, statistical methods and interpretation of geographical data. 4. Develop practical knowledge of computer applications, spreadsheets, statistical software and digital tools used in geographical research. 5. Introduce students to GIS, Remote Sensing, GPS/GNSS and digital cartography as tools for geographical research. 6. Develop students' ability to analyze, visualize and present geographical information using computer-based techniques. 7. Enable students to prepare research proposals, reports, dissertations and research papers using appropriate methodology and referencing techniques	
❖ Course Outcomes: After successful completion of the course, students will be able to: CO1: Explain the concept, nature, scope and different approaches of geographical research. CO2: Formulate a research problem, research questions, objectives and hypotheses,	

and prepare a basic research proposal.

CO3: Identify appropriate primary and secondary sources of geographical data and apply suitable data-collection and sampling techniques.

CO4: Apply appropriate statistical techniques for the analysis and interpretation of geographical data.

CO5: Use MS Word, MS Excel and presentation software for data management, analysis, visualization and preparation of research reports.

CO6: Demonstrate basic skills in GIS, Remote Sensing and GPS/GNSS for geographical data collection and spatial analysis.

CO7: Prepare tables, graphs, thematic maps and other visualizations for communicating geographical research findings.

CO8: Demonstrate awareness of research ethics, plagiarism, citation, referencing and academic integrity.

CO9: Interpret and critically evaluate geographical data and research findings using appropriate methodological approaches.

CO10: Prepare and present a research report/research paper using appropriate research methodology and computer-based geographical techniques.

Module no.	Topics/ actual content	Contact hours
Unit I:	❖ Fundamentals of Geographical Research ✓ Meaning, nature and scope of geographical research ✓ Geography as a scientific and social science discipline ● Types of geographical research: ✓ Fundamental and applied research ✓ Quantitative and qualitative research ✓ Descriptive and analytical research ✓ Geographical and comparative research ● Identification and formulation of research problems ✓ Research questions and research objectives ✓ Hypothesis: meaning, characteristics and types	

	✓ Review of literature ✓ Research ethics and plagiarism ✓ Research design and research framework ✓ Preparation of a research proposal	
Unit II:	Data Collection and Research Methods ☐ Types and sources of geographical data ☐ Primary and secondary data ☐ Methods of primary data collection: - o Field observation - o Questionnaire - o Schedule - o Interview - o Focus group discussion - o Field measurement ☐ Secondary sources of geographical data ☐ Census and government publications ☐ Maps, satellite imagery and statistical reports ☐ Sampling: meaning, principles and importance ☐ Probability sampling: - o Simple random sampling - o Systematic sampling - o Stratified sampling - o Cluster sampling ☐ Non-probability sampling: - o Purposive sampling - o Convenience sampling ☐ Field survey and preparation of field schedules	
Unit III:	❖ Quantitative Methods and Statistical Analysis ❖ Contents ☐ Classification and tabulation of geographical data ☐ Frequency distribution ☐ Measures of central tendency: - o Mean - o Median - o Mode ☐ Measures of dispersion: - o Range - o Quartile deviation - o Mean deviation - o Standard deviation - o Coefficient of variation ☐ Correlation analysis ☐ Regression analysis	

	☐ Time-series analysis ☐ Index numbers ☐ Sampling error and significance testing ☐ Chi-square test ☐ Introduction to ANOVA ☐ Graphical representation of geographical data: - o Bar diagram - o Histogram - o Pie diagram - o Line graph - o Scatter diagram	
Unit IV:	❖ Computer Applications in Geographical Research ➤ Contents ☐ Introduction to computers and their applications in Geography ☐ Computer hardware and software ☐ Operating systems and file management ☐ MS Word: - o Research report preparation - o Formatting - o Tables and figures - o References and citations ☐ MS Excel: - o Data entry and management - o Formulas and functions - o Sorting and filtering - o Statistical calculations - o Tables and charts ☐ Statistical software and applications ☐ Data visualization and presentation ☐ PowerPoint presentation of research findings ☐ Internet and online research resources ☐ Digital libraries and research databases ☐ Google Scholar and institutional repositories ☐ Reference-management tools ☐ Plagiarism detection and academic integrity	
Unit V:	❖ GIS, Remote Sensing and Digital Techniques in Research ➤ Contents ☐ Introduction to GIS and its applications in geographical research ☐ Components of GIS ☐ Spatial and attribute data ☐ Raster and vector data ☐ Coordinate systems and projections ☐ GIS data input and editing ☐ Digitization and geo-referencing ☐ Attribute database creation	

	☐ Spatial analysis: ☐ Buffering ☐ Overlay analysis ☐ Query ☐ Proximity analysis ☐ Introduction to Remote Sensing ☐ Satellite imagery and image interpretation ☐ GPS/GNSS and field data collection ☐ Digital Elevation Model (DEM) ☐ Thematic mapping using GIS ☐ Introduction to QGIS/ArcGIS ☐ Integration of GIS, Remote Sensing and GPS in geographical research ☐ Preparation and presentation of research maps	

References

Research Methodology

1. Kothari, C. R., & Garg, G. (2019). Research Methodology: Methods and Techniques. New Age International Publishers, New Delhi.
2. Creswell, J. W., & Creswell, J. D. (2018). Research Design: Qualitative, Quantitative, and Mixed Methods Approaches. SAGE Publications, London.
3. Clifford, N., French, S., & Valentine, G. (Eds.). (2010). Key Methods in Geography. SAGE Publications, London.
4. Flowerdew, R., & Martin, D. (Eds.). (2005). Methods in Human Geography: A Guide for Students Doing a Research Project. Pearson Education, Harlow.
5. Montello, D. R., & Sutton, P. C. (2006). An Introduction to Scientific Research Methods in Geography. SAGE Publications, London.
6. Robinson, G. M. (1998). Methods and Techniques in Human Geography. John Wiley & Sons, Chichester.
7. Johnston, R. J. (Ed.). (1981). The Dictionary of Human Geography. Basil Blackwell, Oxford.
8. Quantitative Methods and Statistics in Geography.
9. Gregory, S. (1963). Statistical Methods and the Geographer. Longman, London.
10. Ebdon, D. (1985). Statistics in Geography: A Practical Approach. Basil Blackwell, Oxford.
11. Hammond, R., & McCullagh, P. S. (1978). Quantitative Techniques in Geography: An Introduction. Clarendon Press, Oxford.
12. Yeates, M. H. (1974). An Introduction to Quantitative Analysis in Human Geography. McGraw-Hill, New York.
13. Rogerson, P. A. (2015). Statistical Methods for Geography: A Student's Guide. SAGE Publications, London.

GIS and Computer Applications

1. Heywood, I., Cornelius, S., & Carver, S. (2011). An Introduction to Geographical Information Systems. Pearson Education, Harlow.

2. Longley, P. A., Goodchild, M. F., Maguire, D. J., & Rhind, D. W. (2015). Geographical Information Science and Systems. Wiley, Chichester.
3. Burrough, P. A., & McDonnell, R. A. (1998). Principles of Geographical Information Systems. Oxford University Press, Oxford.hrccke, P. C., Kimerling.
4. Chang, K. T. (2019). Introduction to Geographic Information Systems. McGraw-Hill Education.
5. DeMers, M. N. (2009). Fundamentals of Geographic Information Systems. Wiley.
6. Clarke, K. C. (2011). Geographic Information Systems and Science. Pearson.. Remote Sensing and GPS.
7. Lillesand, T., Kiefer, R. W., & Chipman, J. (2015). Remote Sensing and Image Interpretation. Wiley.
8. Jensen, J. R. (2015). Introductory Digital Image Processing: A Remote Sensing Perspective. Pearson.
9. Campbell, J. B., & Wynne, R. H. (2011). Introduction to Remote Sensing. Guilford Press.
10. Sabins, F. F. (1997). Remote Sensing: Principles and Interpretation. W. H. Freeman.
11. El-Rabbany, A. (2002). Introduction to GPS: The Global Positioning System. Artech House.

Digital Cartography and Geographical Techniques

1. Robinson, A. H., Morrison, J. L., Muehrcke, P. C., Kimerling, A. J., & Guphill, S. C. (1995). Elements of Cartography. John Wiley & Sons.
2. Slocum, T. A., McMaster, R. B., Kessler, F. C., & Howard, H. H. (2009). Thematic Cartography and Geovisualization. Pearson.
3. Dent, B. D., Torguson, J. S., & Hodler, T. W. (2009). Cartography: Thematic Map Design. McGraw-Hill.

The Ph.D. Course work	
Course 2(C-2)-: Research Funding, Grant Proposal Writing, Scholarly Review and Academic Presentation in Geographical Research	
Total Credits:03	Maximum Marks: 30
Course Objectives- The course aims to: 1. Develop an understanding of the nature, sources and mechanisms of research funding available for geographical and interdisciplinary research. 2. Familiarize scholars with major national and international funding agencies, research schemes and grant opportunities. 3. Develop skills for identifying suitable funding opportunities and preparing competitive research grant proposals. 4. Enable scholars to formulate clear research problems, objectives, methodology, work plans, budgets and expected outcomes for funding proposals. 5. Develop competency in preparing research concept notes, project proposals, budgets, timelines and supporting documents. 6. Introduce scholars to the principles and techniques of scholarly literature review, including systematic searching, evaluation and synthesis of academic literature. 7. Develop skills in critical review of research papers, books, reports and other scholarly sources. 8. Familiarize scholars with citation, referencing, research ethics, plagiarism and academic integrity. 9. Develop effective academic communication and presentation skills for conferences, seminars, workshops and research colloquia. 10. Enable scholars to use digital tools, presentation software and data-visualization techniques for communicating geographical research findings effectively.	

Course Outcomes

After successful completion of the course, the research scholar will be able to:

CO1: Identify and critically examine national and international sources of research funding relevant to geographical research.

CO2: Identify appropriate funding schemes, calls for proposals and grant opportunities according to the research problem and discipline.

CO3: Formulate a clear research problem, objectives, research questions and methodology for a grant proposal.

CO4: Prepare a structured research grant proposal containing background, literature review, objectives, methodology, work plan, expected outcomes and references.

CO5: Develop a realistic research budget, timeline and resource plan for a geographical research project.

CO6: Conduct an effective scholarly literature search, review and synthesis using academic journals, books, databases and digital repositories.

CO7: Critically evaluate the quality, relevance, methodology and findings of published research in Geography and allied disciplines.

CO8: Apply appropriate citation and referencing practices while maintaining research ethics, academic integrity and avoiding plagiarism.

CO9: Prepare effective academic presentations, research posters and seminar/conference presentations using appropriate digital tools.

CO10: Communicate geographical research findings clearly, scientifically and professionally to academic and research audiences

Course Title		
1	Writing of research proposal for obtaining financial assistance from national/international funding agencies in Geography.	Marks 10
2.	Writing of Review Research Article	10
3	Seminar Presentation	10
Total		30 Marks

Course .2 (C-2)	Writing a Research Proposal for Obtaining Financial Assistance from National and International Funding Agencies in Geographical Research 1. ICSSR – Indian Council of Social Science Research- social geography, human geography, rural-urban study, population, development, migration, social inequality 2. ANRF – Anusandhan National Research Foundation, GIS, Remote Sensing, Climate Change, Sustainability 3. UGC – University Grants Commission 4. MoES – Ministry of Earth Sciences 5. DST – Department of Science & Technology GIS, Remote Sensing, Climate, Environment, Geospatial Science 6. ISRO / NRSC Remote Sensing, Geospatial Technology, Land Use/Land Cover, Natural Resources Ministry of Environment, Forest & Climate Change (MoEFCC) Environment, forest, Biodiversity, climate change, ecosystem studies 7. Ministry of Rural Development - Rural settlement, livelihood, poverty, rural infrastructure 8. Ministry of Housing & Urban Affairs (MoHUA) Urban Geography, urbanisation, housing, transport, smart cities 9. Ministry of Agriculture & Farmers Welfare- cropping pattern, agricultural vulnerability, farmer livelihood 10. ICIMOD Himalayan/ mountain geography, climate change, natural resources, livelihoods	
Course .2 (C-2)	❖ Review of Research Article 1. Title – Clear, specific and research-oriented title 2. Abstract – Purpose, methodology, major findings and conclusion 3. Keywords – 4–6 important keywords 4. Introduction – Background, context and importance of the topic 5. Objectives / Research Questions – What the review intends to	

	examine 6. Review Methodology – Databases, search strategy, inclusion/exclusion criteria and period covered 7. Thematic Review of Literature – Classification and critical discussion of previous studies under major themes 8. Critical Analysis – Comparison of findings, methodologies, similarities, differences and limitations 9. Research Gaps – Identification of unexplored or inadequately studied areas 10. Future Research Directions – Emerging themes, methods and geographical areas for further research 11. Conclusion – Synthesis of major findings and overall implications 12. References – Complete references in the required citation style	
	☐ Seminar Presentation Instructions 1. Select the Topic – Choose a relevant and focused topic. 2. Prepare the Content – Include introduction, objectives, methodology, major findings and conclusion. 3. Use Reliable Sources – Refer to books, research papers, government reports and authentic data. 4. Prepare PPT – Keep slides simple, clear and visually attractive; avoid excessive text. 5. Use Maps/Graphs – For geographical topics, include relevant maps, tables, charts and diagrams. 6. Follow a Logical Sequence – Introduction → Objectives → Methodology → Analysis → Findings → Conclusion. 7. Time Management – Complete the presentation within the allotted time. 8. Communication – Speak clearly, confidently and maintain appropriate eye contact. 9. Explain, Don't Read – Use PPT as a guide rather than reading	

	the slides word-for-word.	
	10. Question–Answer Session – Listen carefully and answer questions briefly and logically.	
	11. References – Include important references on the final slide.	
	12. Final Check – Check spelling, figures, maps, animations, slide order and technical equipment before presenting.	

6. Evaluation: The seminar shall be evaluated by the Course Teacher, Departmental Committee or Research Advisory Committee. A minimum of 50% marks shall be required for successful completion, subject to the University regulations.

Evaluation Criteria-

Particulars	Marks
Selection and relevance of topic	2
Geographical content, evidence and literature	2
Conceptual clarity and organisation	2
Presentation skills and academic communication	2
Response to questions and scholarly discussion	2
Total	10

Official Funding Portals (to be verified from current notifications)

Agency / official portal	Agency / official portal
ICSSR - https://www.icssr.org	SAARTHI- https://sarathi.maharashtra.gov.in/
NFSC- https://socialjustice.gov.in/	MAHAJYOTI- https://mahajyoti.org.in
BARTI- https://www.barti.in/	MAHADBT- https://mahadbt.maharashtra.gov.in
TRTI- https://trti.maharashtra.gov.in	

References

1. Kothari, C. R., & Garg, G. (2019). *Research Methodology: Methods and Techniques*. New Age International Publishers, New Delhi.
2. Creswell, J. W., & Creswell, J. D. (2018). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. SAGE Publications, Thousand Oaks.
3. Kumar, R. (2019). *Research Methodology: A Step-by-Step Guide for Beginners*. SAGE Publications, London.
4. Montello, D. R., & Sutton, P. C. (2006). *An Introduction to Scientific Research Methods in Geography*. SAGE Publications, Thousand Oaks.
5. Clifford, N., French, S., & Valentine, G. (Eds.). (2010). *Key Methods in Geography*. SAGE Publications, London.
6. Flowerdew, R., & Martin, D. (Eds.). (2005). *Methods in Human Geography: A Guide for Students Doing a Research Project*. Pearson Education, Harlow.
7. Robinson, G. M. (1998). *Methods and Techniques in Human Geography*. John Wiley & Sons, Chichester.
8. University Grants Commission (UGC). *UGC Regulations on Minimum Standards and Procedure for Award of Ph.D. Degree*. University Grants Commission, New Delhi.
9. University Grants Commission (UGC). *Academic Integrity and Prevention of Plagiarism Regulations*. University Grants Commission, New Delhi.
10. Department of Science & Technology (DST), Government of India. *Guidelines and information relating to research funding schemes and project proposals*.
11. Anusandhan National Research Foundation (ANRF), Government of India. *Guidelines, calls for proposals and funding information for research and development projects*.
12. Indian Council of Social Science Research (ICSSR). *Research Project and Grant Guidelines*. New Delhi.
13. Indian Council of Medical Research (ICMR). *Guidelines for Research Projects and Grants*. New Delhi. (Useful for interdisciplinary geographical/environmental/health research.)
14. University Grants Commission (UGC). *Research and Development and related funding guidelines*. New Delhi.
15. European Commission. *Horizon Europe Programme: Funding and Tenders Guidelines*. European Union.
16. UNESCO. *Research and Project Proposal Development Guidelines and Resources*. UNESCO.

Websites / Online Resources

- ☐ ANRF: Official research funding schemes and calls for proposals.
- ☐ ICSSR: Research project funding and fellowship information.
- ☐ UGC: Regulations, academic integrity and research-related guidelines.
- ☐ DST, Government of India: Science and technology research funding information.
- ☐ Horizon Europe: International research funding opportunities.
- ☐ UNESCO: International research and capacity-building resources.

Recommended Core References

1. Kothari & Garg – Research Methodology: Methods and Techniques.
2. Creswell & Creswell – Research Design.
3. Kumar – Research Methodology: A Step-by-Step Guide for Beginners.
4. Montello & Sutton – An Introduction to Scientific Research Methods in Geography.
5. Clifford, French & Valentine – Key Methods in Geography.
6. Flowerdew & Martin – Methods in Human Geography.

The Pre- Ph.D Course Work	
Course- 3(C-3)-: Research Publication and Ethics in Geographical Research (Subject-Specific Advanced Level Course in Geography)	
Total credits : 03	Maximum Marks:50
☐ Course Objectives: 1. To understand the relationship between population and environment, and to comprehend demographic processes along with the application of GIS and GPS technology in spatial analysis. 2. To understand the diversity of social and cultural characteristics, the growth and evolution of rural settlements, and the process of urbanization with relevant theories and models. 3. To integrate the dynamic factors of economic development and agricultural geography, including environmental, technological and social issues in the agricultural sector with special reference to India. 4. To understand the basic concepts of climatology and geomorphology, and the influence of climatic and geomorphic processes on agricultural practices through the study of agro-climatology.	
☐ Course Outcomes After completing this course, Ph.D. scholars should be able to: 1. Analyze the types and sources of Population and Demographic data, and interpret GIS and GPS technology and their processes. 2. Interpret social and cultural issues, and investigate rural central places, urban hierarchy, and settlement patterns. 3. Investigate Economic Development in India and interpret Agricultural Regionalization and its methods. 4. Interpret climatic classifications, geomorphic processes, and agro-climatic zones influencing agricultural planning.	

Module No.	Topic / actual contents	Contact Hrs.
Chapter I- Population Estimations in GIS	Basic Concepts of Population, Population Growth, Theory and Models of Population Distribution, Population as a Resource. Introduction to GIS, Data Models and Processes of GIS; Introduction to GPS Technology, its Processes and Applications. Introduction to Demography, Demographic Transition, Sources of Demographic Data, Age-Sex Structure and Dynamics. Nature and Scope of Social and Cultural Geography, Socio-Cultural Set-up and Regions, Regional Differentiation of Social and Cultural Characteristics. Basic Concepts of Rural Geography, Types and Patterns of Rural Settlements, Rural Morphology Models, Rural Landscape and Settlements, Rural Central Places.	15 Hrs.
Chapter II: Social and Economic Geography	Urbanization - Basic Concepts, Urban Morphology, Models of Urban VI 11½ hours Classification, Rural-Urban Fringe, Central Place and Urban Hierarchy. Economic Geography - Basic Economic Processes and Resources, Industries, Trade and Transport, Economic Development in India. Agricultural Geography - Agricultural Landscape, Determinants of Agricultural Patterns, Relationship between Climate and Agriculture, Agro-Climatic Zones of India, Crop-Weather Relationships, Weather Forecasting for Agricultural Planning. Types of Agriculture, Problems and Prospects of Agriculture, Agricultural Regionalization. Climatology - Basic Concepts, Elements and Factors of Climate, Climatic Classification (Koeppen and Thornthwaite), Climatic Regions of the World, Climate Change and Variability.	15 Hrs.

	Geomorphology - Basic Concepts, Landforms and Geomorphic Processes, Weathering and Erosion, Geomorphic Cycles (Davis and Penck), Applied Geomorphology.	
	Total	30 Hrs.,

References

1. Clarke, J. I. (1972). Population Geography. Pergamon Press, Oxford.
2. Zelinsky, W. (1966). A Prologue to Population Geography. Prentice-Hall, New Jersey.
3. Trewartha, G. T. (1969). A Geography of Population: World Patterns. John Wiley & Sons, New York.
4. Haggett, P. (2001). Geography: A Global Synthesis. Pearson Education.
5. Newbold, K. B. (2017). Population Geography: Tools and Issues. Rowman & Littlefield.
6. Bhende, A. A., & Kanitkar, T. (2011). Principles of Population Studies. Himalaya Publishing House, Mumbai.
7. Chandna, R. C. (2015). A Geography of Population: Concepts, Determinants and Patterns. Kalyani Publishers, New Delhi.
8. Maurya, S. D. Population Geography. Sharda Pustak Bhavan, Allahabad.
9. Burrough, P. A., & McDonnell, R. A. (1998). Principles of Geographical Information Systems. Oxford University Press.
10. Longley, P. A., Goodchild, M. F., Maguire, D. J., & Rhind, D. W. (2015). Geographic Information Science and Systems. Wiley.
11. Heywood, I., Cornelius, S., & Carver, S. (2011). An Introduction to Geographical Information Systems. Pearson.
12. Chang, K. T. (2016). Introduction to Geographic Information Systems. McGraw-Hill Education.
13. Clarke, K. C. (2015). Getting Started with Geographic Information Systems. Pearson.
14. DeMers, M. N. (2009). Fundamentals of Geographic Information Systems. Wiley.
15. Strahler, A. N. (2013). Introducing Physical Geography. Wiley.
16. Singh, S. (2016). Physical Geography. Prayag Pustak Bhawan, Allahabad.
17. Savindra Singh. Geomorphology. Prayag Pustak Bhawan.
18. Majid Husain. Economic Geography. Anmol Publications.
19. R. C. Chandna. Economic Geography. Kalyani Publishers.
20. Carter, H. (1995). The Study of Urban Geography. Arnold.
21. Majid Husain. Human Geography. Rawat Publications.