



## Department of Geography

### Postgraduate-2<sup>nd</sup> (Semester 3 and 4) Year Course Structure and Syllabus Session : 2022-23

SEMESTER – III						
Paper Code	Paper	Title	Credit			Marks
GRM 301	CC (T) 12	Emerging Geographical Thought	4	70	30	100
GRM 302	CC (T) 13	GIS and Its Application	4	70	30	100
One paper of the special group to be selected from the following:						
GRM 303A GRM 303B GRM 303C	CC (T) 14	Geography of Rural Settlements Regional Planning Aerial Photo Interpretation.	4	70	30	100
GRM 304A GRM 304B	CC(P)15	Remote Sensing and GIS; Soil, Water and Air Analysis	4	70	30	100
The corresponding practical of special group to be selected from the following:						
GRM 305A GRM 305B GRM 305C	CC(P)16	Geography of Rural Settlements Regional Planning Aerial Photo Interpretation and GIS	4	70	30	100
GRM 306	CC(P)17	Field Study and Geographical Excursion/Internship	4	70	30	100
<b>TOTAL</b>			<b>24</b>			<b>600</b>
SEMESTER – IV						
Paper Code	Paper	Title	Credit			Marks
GRM 401	CC (T) 18	Research Methods and Techniques	4	70	30	100
One paper of the special group to be selected from the following:						
GRM 402A GRM 402B GRM402C	CC (T) 19	Urban Geography Rural & Urban Planning Satellite Image Interpretation	4	70	30	100
GRM 403	CC (T) 20	Political Geography	4	70	30	100
GRM 404	CC (T) 21	Natural Hazards and Disaster Management	4	70	30	100
GRM 405	CC(P) 22	Dissertation and Viva Voce	8	140	60	200
<b>TOTAL</b>			<b>24</b>			<b>600</b>



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Programme/Class: M.A./M.Sc.	Year: II	Semester: III
<b>Subject- Geography</b>		
Course Code: <b>GRM 301</b>	Course Title: <b>Emerging Geographical Thought</b>	
Course outcomes: <ul style="list-style-type: none"><li>• Gain knowledge about development of geographical thought.</li><li>• Develop an idea about evolution of geographical thinking and disciplinary trends in Germany, France, Britain, and United States of America.</li><li>• Build an idea about between environmental determinism and possibilism, systematic and regional.</li><li>• Know about the trends of geographical thoughts.</li></ul>		
Credit:4	Course Type - Core Course	
Max. Marks: 100(30+70)	Total No. of Lectures-60	
Unit	Topics	No. of Lectures (Hours) per week=04
I	<b>Origin and development of philosophy of Geography:</b> Scientific Character of Geography in the Classical Greek Period. Contributions of Thales, Anaximander, Hecataeus, Herodotus, Eratosthenes, Strabo and Ptolemy, Contribution of Arabs: Al Khwarizmi, Al Masudi, Al Biruni and Ibn Khaldun	
II	<b>Man-environment interaction:</b> New environmentalism; Development of Dualism in Geography, geography as chorological science, as science of relationship and science of distribution.	
III	<b>Philosophy and geography:</b> Contributions of German, French, Arab and American Schools of thought; Humanistic and phenomenological geography: contributions of Yi-Fu Tuan	
IV	<b>Quantitative and Qualitative paradigms;</b> Quantitative revolution and challenges Behavioural approach in Geography: perception and cognition, mental maps; Marxism; Postmodernism and feminist Geography	
V	<b>Concepts:</b> space, place, environment, time, and spatial organisation; Region and regional typology; Culture and cultural landscape.	



**Suggested Readings:**

1. Adams, P., Steven, H. and Karel, T. (eds.) (2001): Texture of Place. Exploring Humanistic Geographies. University of Minnesota Press, Minneapolis.
2. Anderson, K., Domosh, M., Pile, S. and Thrift, N. (eds.) (2003): Handbook of Cultural Geography. Sage Publications, London.
3. Barnes, T. and Gregory, D. (eds.) (1997): Readings in Human Geography: The Poetics and Politics of Inquiry. Arnold, London.
4. Bunk-e, E. V. (2004): Geography and the Art of Life. John Hopkins University Press, Baltimore.
5. Buttmer, A. (1971): Society and Milieu in the French Geographic Tradition. Rand McNally, Chicago.
6. Daniels, P., Bradshaw, M., Shaw, D. and Sidaway, J. (2000): An Introduction to Human Geography. Issues for the 21st Century. Prentice Hall, London.
7. Dear, M. J. and Flusty, S. (2002): The Spaces of Postmodernity: Readings in Human Geography. Blackwell Publishers, Oxford.
8. Dikshit, R. D. (2004): Geographical Thought. A Critical History of Ideas. Prentice-Hall of India, New Delhi. (in English and Hindi).
9. Doel, M. (1999): Poststructuralist Geographies. The Diabolical Art of Spatial Science. Edinburgh University Press, Edinburgh
10. Gaile, G. and Wilmott, C. (eds.) (2003): Geography in America at the Dawn of the 21st Century. Oxford University Press, Oxford and New York.
11. Harvey, D. (1969): Explanation in Geography. Arnold, London.
12. Harvey, M. E. and Holly, P.B. (2002): Themes in Geographic Thought. Rawat Publications., Jaipur and New Delhi.
13. Hubbard, P., Kitchin, R., Bartley, B. and Fuller, D. (2002): Thinking Geographically: Space, Theory and Contemporary Human Geography. Continuum, London.
14. Hussain, M. (1999) Human geography, Second Edition, Rawat Publication, Jaipur
15. Johnston, R, Gregory D, Pratt G, Watts M. and Whatmore S. (2003): The Dictionary of Human Geography. Blackwell Publishers, Oxford. 5th edition.
16. Johnston, R.J. (1985): The Future of Geography, Methuen and Company Ltd., New York. (2003 edition published).
17. Johnston, R.J. and Sidaway, J.D. (2004): Geography and Geographers. 6<sup>th</sup> edition, Edward Arnold, London.
18. Kapur, A. (ed.) (2001): Indian Geography ó Voice of Concern. Concept Publishing, Company, New Delhi.
19. Martin, G. (2005): All Possible Worlds. A History of Geographical Ideas. 4<sup>th</sup> edition, Oxford University Press, New York.
20. Mathews, J. A. and Herbert, D. T. (eds.) (2004): Unifying Geography. Common Heritage, Shared Future. Routledge, London.
21. Peet, R. (1998): Modern Geographical Thought. Blackwell Publishers Inc, Massachusetts.
22. Sack, R. D. (ed.) (2002): Progress. Geographical Essays. John Hopkins University Press, Baltimore.
23. Sauer, C. O. (1963): Land and Life. University of California Press, Berkeley.
24. Soja, E. (1989): Post-modern Geographies. Verso Press, London. Reprinted 1997: Rawat Publications, Jaipur and New Delhi.
25. Taylor, G. (ed.) (1953): Geography in the Twentieth Century. Methuen and Company Ltd. and Company, London.
26. Tuan, Yi-Fu (1977): Space and Place. The Perspective of Experience. Edward Arnold, London.
27. Singh, Ravi S (ed.) 2009. Indian Geography: Perspectives, Concerns and Issues. Jaipur/New Delhi: Rawat Publications
32. Singh, Ravi S (ed.) 2009. Indian Geography in the 21<sup>st</sup> Century: The Young Geographers



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Agenda. New Castle upon Tyyne, UK: Cambridge Scholars Publishing

**Suggested Continuous Evaluation Methods:**

- Test with multiple choice questions/short and long answer questions.

Programme/Class: M.A./M.Sc.	Year: II	Semester: III
<b>Subject- Geography</b>		
Course Code: <b>GRM 302</b>	Course Title: <b>GIS and Its Application</b>	
Course outcomes: <ul style="list-style-type: none"><li>• They can know about concept and components of Geographical Information System.</li><li>• They understand the Global Positioning System.</li><li>• They understand the GIS Data Structures.</li><li>• Develop an idea about GIS Data Analysis.</li><li>• Know about application of GIS.</li></ul>		
Credit:4	Course Type - Core Course	
Max. Marks: 100(30+70)	Total No. of Lectures-60	
Unit	Topics	No. of Lectures (Hours) per week=04
I	<b>Definition and Evolution of GIS</b> ; Components of GIS; Issues in GIS: user, technology, data and application; Recent trends in GIS; Mobile GIS	
II	<b>Geographical data</b> : types and characteristics; Spherical and plane coordinate systems in GIS; Implications of earth's shape and datum in geo-referencing.	
III	<b>Digital representation of geographic data</b> : Data structure, spatial data model, raster and vector models;	
IV	<b>Integration of Remote sensing and GIS</b> ; GIS project design and planning methodologies; GIS data base management systems; GIS information products; Applications of GIS.	
V	<b>GIS data standards</b> : concepts and components; Digital Elevation Model (DEM): characteristics and applications.	



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**Suggested Readings:**

1. Bonham, Carter G.F. (1995): Information Systems for Geoscientists ó Modelling with GIS. Pergamon, Oxford.
2. Burrough, P.A. and McDonnell, R. (1998): Principles of Geographic Information Systems. Oxford University Press, Oxford.
3. Chang, K.T. (2003): Introduction to Geographic Information Systems. Tata McGraw Hill Publications Company, New Delhi.
4. Chauniyal, D. D. (2004): Remote Sensing and Geographic Information Systems. (in Hindi). Sharda Pustak Bhawan, Allahabad.
5. Demers, M. N. (2000): Fundamentals of Geographic Information Systems. John Wiley and Sons, Singapore.
6. ESRI (1993): Understanding GIS. Redlands, USA
7. Fraser Taylor, D.R. (1991): Geographic Information Systems. Pergamon Press, Oxford.
8. George, J. (2003): Fundamentals of Remote Sensing. Universities Press Private Ltd, Hyderabad.
9. Girard, M. C. and Girard, C. M. (2003): Processing of Remote Sensing Data. Oxford and IBH, New Delhi.
10. Glen, E. M. and Harold, C. S. (1993): GIS Data Conversion Handbook. Fort Collins, Colorado, GIS Word Inc.
11. Goodchild, M.F.; Park, B. O. and Steyaert, L. T. (eds.) (1993): Environmental Modelling with GIS. Oxford University Press, Oxford.
12. Guptill, S.C., and Morrison, J.L. (1995): Elements of Spatial Data Quality. Elsevier/Pergamon, Oxford.
13. Heywood, I. (2003): An Introduction to Geographical Information Systems. 2<sup>nd</sup> edition, Pearson Publishing Company, Singapore.
14. Korte, G. M. (2002): The GIS Book. On Word Press: Thomson Learning, New York and Singapore.
15. Lo, C.P. and Yeung, A. K. W. (2002): Concepts and Techniques of Geographic Information Systems. Prentice Hall of India, New Delhi.
16. Longley, P. and Batty, M. (eds.) (1996): Spatial Analysis: Modelling in a GIS Environment. GeoInformation International, Cambridge.
17. Longley, P., Goodchild, M.F., Maguire, D. and Rhind, D. (1999): Geographic Information Systems. Principles, Techniques, Management, Applications. John Wiley and Sons, New York.
18. Maguirre, D. J.; Michael F. G. and David W. R. (1999): Geographical Information Systems: Principles and Application. Geo Information International, Vol.2, Longman Publication., New York.
19. Martin, D. (1996): Geographic Information Systems: Socioeconomic Implications. Routledge, London.
20. Michael F. G. and Karan K. K. (ed.) (1990): Introduction to GIS. NCGIA, Santa Barbara, California.
21. Ralston, B. A. (2002): Developing GIS Solutions with Map Objects and Visual Basic. OnWord Press: Thompson Learning, New York and Singapore.

**Suggested Continuous Evaluation Methods:**

- Test with multiple choice questions/short and long answer questions.

Programme/Class: M.A./M.Sc.	Year: II	Semester: III
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Subject- Geography		
Course Code: GRM 303A	Course Title: Geography of Rural Settlements	
Course outcomes: <ul style="list-style-type: none"><li>• They can know about concept, basic elements, and measures of level of rural</li><li>• Settlement development.</li><li>• They understand the paradigms of rural development.</li><li>• They understand the area based approach to rural development.</li><li>• Develop an idea about target group approach to rural development.</li><li>• Gain knowledge about rural governance.</li></ul>		
Credit:4	Course Type - Core Course	
Max. Marks: 100(30+70)	Total No. of Lectures-60	
Unit	Topics	No. of Lectures (Hours) per week=04
I	<b>Bases, Evolution and Models.</b> Nature, scope, definition and significance of Rural Settlement Geography; Human settlement as a system; Concepts and characteristics of rural settlements; Theories and models of settlement diffusion: Eric Bylund (Sweden), Gunnar Olsson (Sweden), David Grossman (Nigeria), John Hudson (USA), Contributions of Banaras School.	
II	<b>Spatiality and Histogenesis.</b> Evolution and growth of rural settlements and their causes: Old and New Worlds; Siting and location of rural settlements; Distribution, spacing, and nature of dispersion; Types and patterns; Morphology of village: examples from Germany, Japan, Israel, African countries; Rural-service centres: nature, hierarchy, service area, and interaction.	
III	<b>Rural Dwellings.</b> Traditional and folk rural house types: origin, evolution and characteristics; Typology based on building materials, plans, uses and architectural style; House types and their characteristics in different geographical environments: Monsoon Asia and Arid zone.	
IV	<b>Indian Village.</b> Evolution and multiplicity; Regional morphological characteristics; Morphological interaction models: religio-ritual, secular-economic, and sacred-economic interlocking system;	
V	<b>Transformation and planning of Indian village:</b> models and plans.	
<b>Suggested Readings:</b> <ol style="list-style-type: none"><li>1. Daniel, P. (2002): Geography of Settlement. Rawat Publications., Jaipur and New Delhi.</li><li>2. Eidt, R. C., Singh, K. N. and Singh, Rana, P.B., (eds.) (1977): Man, Culture and Settlement. Kalyani Publishers., New Delhi.</li></ol>		



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- Ghosh, S. (1999): A Geography of Settlements. Orient Longman, Kolkata.
- Hudson, F. S. (1976): A Geography of Settlements. MacDonald and Evans, New York.
- Mitra, A. (1960): Report on House Types and Village Settlement Patterns in India. Publication Division, Govt. of India, New Delhi.
- Mosley, M.J. (2005): Rural Development: Principles and Practice. Sage Publication, London.
- Oliver, P. (1987): Dwellings. The House across the World. University of Texas Press, Austin.
- Rapoport, A. (1969): House, Form and Culture. Prentice-Hall, Inc., Englewood Cliffs, NJ.
- Rykwert, J. (ed.) (2004): Settlements. University of Pennsylvania Press, University Park, USA.
- Singh, R.L. (eds.) (1973): Rural Settlements in Monsoon Asia, National Geographical Society of India, Varanasi.
- Singh, R.Y. (2005): Geography of Settlements. Rawat Publications, Jaipur and New Delhi.
- Singh, S.B. (1977): Rural Settlement Geography. U.B.B.P., Publications, Gorakhpur.
- Tiwari, R. C. (2000): Settlement Geography; in Hindi. PrayagPustak Bhawan Allahabad.
- Wanmali, S. (1983): Service Centres in Rural India. B.R. Publications Corporation, New Delhi.
- Wood, M. (2005): Rural Geography: Processes, Responses and Experiences of Rural Restructuring. Sage Publication, London.

**Suggested Continuous Evaluation Methods:**

- Test with multiple choice questions/short and long answer questions.

Programme/Class: M.A./M.Sc.	Year: II	Semester: III
<b>Subject- Geography</b>		
Course Code: <b>GRM303 B</b>	Course Title: <b>Regional Planning</b>	
<b>Course outcomes:</b> <ul style="list-style-type: none"><li>Gain knowledge about definition of region, evolution and types of regional planning.</li><li>Develop an idea about choice of a region for planning.</li><li>Build an idea about theories and models for regional planning.</li><li>Know about measuring development indicators.</li></ul>		
Credit:4	Course Type - Core Course	
Max. Marks: 100(30+70)	Total No. of Lectures-60	
<b>Unit</b>	<b>Topics</b>	<b>No. of Lectures (Hours) per week=04</b>
<b>I</b>	<b>Fundamental concept:</b> Concept, nature and scope of Regional Planning; Different approaches to regional planning; Planning regions: concept and types; Planning regions of India; Regional policies in India, Regional disparities in India.	
<b>II</b>	<b>Approaches.</b> Regional planning and national development, Approaches to integrated regional planning at different levels: local, regional and national; Multi-level planning in India: State, District and Block level planning; Planning for tribal, agricultural, industrial and urban (metropolitan) regions.	



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III	<b>Theories and Models:</b> Theories and Models of Regional Development: Hirschman's model, Perroux's Growth Pole, Rostow's Model, Gunnar Myrdal Model.
IV	<b>Planning and Region:</b> Five Years Plan: Command area development, planning for backward area, desert drought prone, hill and tribal area development.
V	<b>Decentralized Planning,</b> Watershed management, regional economic complexes, regional economic imbalances and inequalities in India, SEZs in Regional Development.

**Suggested Readings:**

1. Chandna, R. C. (2000): Regional Planning: A Comprehensive Text. Kalyani Publishers., New Delhi.
2. Chaudhuri, J. R. (2001): An Introduction to Development and Regional Planning with special reference to India. Orient Longman, Hyderabad.
3. Cowen, M.P. and Shenton, R.W. (1996): Doctrines of Development. Routledge, London.
4. Doyle, T. and McEachern, D. (1998): Environment and Politics. Routledge, London.
5. Friedmann, J. (1992): Empowerment: The Politics of Alternative Development. Blackwell, Cambridge MA and Oxford.
6. Friedmann, J. and Alonso, W. (ed.) (1973): Regional Development and Planning. The MIT Press, Mass.
7. Hettne, B.; Inotai, A. and Sunkel, O. (eds.) (1999 ó 2000): Studies in the New Regionalism. Vol. I-V. Macmillan Press, London.
8. Isard, W. (1960): Methods of Regional Analysis. MIT Press, Cambridge, MA.
9. Kuklinski, A. R. (1972): Growth Poles and Growth Centres in Regional Planning. Mouton and Co., Paris.
10. Kuklinski, A.R. (ed.) (1975): Regional Development and Planning: International Perspective, Sijthoff-Leydor.
11. Leys, C. (1996): The Rise and Fall of Development Theory. Indian University Press, Bloomington, and James Curry, Oxford.
12. Mahapatra, A.C. and Pathak, C. R. (eds.) (2003): Economic liberalisation and Regional Disparities in India. Special Focus on the North Eastern Region. Star Publishing House, Shillong.
13. Kane, M. and William M.K.T.(2007): Concept Mapping for Planning and Evaluation, Sage Publications, London.
14. Misra, R. P. (ed.) (1992): Regional Planning: Concepts, Techniques, Policies and Case Studies. 2<sup>nd</sup> edition. Concept Publishing Company., New Delhi.
15. Misra, R.P. and Natraj, V.K. (1978): Regional Planning and National Development. Vikas, New Delhi.
16. Misra, R.P., Sundaram, K. V. Pradasa Rao, V. L. S. (1976): Regional Development Planning in India. Vikas Publishers, New Delhi.
17. Moseley, M.J., (1974): Growth Centres in Spatial Planning. Pergamon Press, Oxford.
18. Närman, A. and Karunanayake, K. (eds.) (2002): Towards a New Regional and Local Development Research Agenda. Dept. of Geography, Göteborg University (Sweden), series B, No100 and Centre for Development Studies, University of Kelaniya (Sri Lanka), No. 1.
19. Norgaard, R. B. (1994): Development Betrayed. The End of Progress and a Coevolutionary Revisioning of the Future. Routledge, London.
20. Pathak, C. R. (2003): Spatial Structure and Processes of Development in India. Regional Science Association., Kolkata.
21. Sanyal, B. M. (2001): Decentralised Planning: Themes and Issues. Concept Publishing. Company, New Delhi.
22. Sharma, P. V., Rao, V. L., and Pathak, C. R. (eds.) (2000): Sustainable Regional Development (with special reference to Andhra Pradesh). Regional Science. Association,





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- Kolkata and School of Economics, Andhra University, Vishakapatnam.
23. Sen, A. (1999): Development as Freedom. Oxford University Press, Oxford.
  24. Sen, A. and Dreze, J. (eds.) (1996): Indian Development: Selected Regional Perspectives. Oxford University Press, Oxford.
  25. Smith, D. and Nārman, A. (eds.) (1999): Development Theory and Practice: Current Perspectives on Development and Development Co-operation. Longman, London.
  26. Stöhr, W. B. and Taylor, D.F.R. (eds.) (1981): Development from Above and Below? The Dialectics of Regional Planning in Developing Countries. John Wiley and Sons, Chichester.
  27. Sundaram, K. V. (1997): Decentralized Multilevel Planning: Principles and Practice (Asian and African Experiences). Concept Publishing Company, New Delhi.
  28. Sundaram, K. V. (2004): The Trodden Path: Essays on Regional and Micro Level Planning. Anaunya Publications., New Delhi.
  29. Toyne, J. (1987): Dilemmas of Development. Reflections on the Counterrevolution in Development Theory and Policy. Basil Blackwell, Oxford.
  30. Verhelst, T. (1990): No Life Without Roots ó Culture and Development. Zed Books, London.
  31. World Bank (2000): Attacking Poverty. World Development Report 2000-01. The World Bank and Oxford University Press, New York; see website: [www.worldbank.org/poverty/wdrpoverty/](http://www.worldbank.org/poverty/wdrpoverty/)

**Suggested Continuous Evaluation Methods:**

- Test with multiple choice questions/short and long answer questions.

Programme/Class: M.A./M.Sc.	Year: II	Semester: III
<b>Subject- Geography</b>		
Course Code: <b>GRM303C</b>	Course Title: <b>Aerial Photo Interpretation</b>	
Course outcomes: <ul style="list-style-type: none"> <li>• To develop understanding about basic concepts of Aerial Photo geometry and measurement of aerial photograph.</li> <li>• To get acquainted with image interpretation and information extraction</li> <li>• Introduce students to the principles, equipment, and techniques used for Aerial Photo Interpretation</li> <li>• interpret aerial photographs and digital imagery</li> <li>• obtain reliable measurements and maps from aerial photographs and digital imagery,</li> <li>• practically implement aerial photointerpretation in various disciplines.</li> </ul>		
Credit:4	Course Type - Core Course	
Max. Marks: 100(30+70)	Total No. of Lectures-60	
<b>Unit</b>	<b>Topics</b>	<b>No. of Lectures (Hours) per week=04</b>
<b>I</b>	<b>Relief displacement;</b> Stereoscopic parallax; Parallax equation and its approximation; Digital photogrammetry and orthophotos.	
<b>II</b>	<b>Qualitative information,</b> philosophy and sequence in air photo interpretation; Elements of air photo pattern : landforms, drainage, erosion details, gray-tones, vegetation; Elements of image interpretation.	



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III	Interpretation keys and their types; Aerial mosaics; Multi-spectral aerial photographs; Ground control for mapping from aerial photos; Rectification methods in aerial photos.	
IV	Aerial photo interpretation in general resource evaluation; Geomorphic studies and mapping.	
V	Land use/Land cover mapping; Hydro-geomorphic mapping; Environmental monitoring and mapping.	
<b>Suggested Readings:</b> <ol style="list-style-type: none"><li>1. Cracknell, A. and Ladson, H (1990): Remote Sensing Year Book. Taylor and Francis, London.</li><li>2. Curran, P.J. (1988): Principles of Remote Sensing. ELBS Longman, Essex, U.K.</li><li>3. Deekshatulu, B.L. and Rajan, Y.S. (ed.) (1984): Remote Sensing. Indian Academy of Science, Bangalore.</li><li>4. Floyd, F. S. Jr. (1997): Remote Sensing: Principles and Interpretation. W.H. Freeman, New York.</li><li>5. Hallert, B. (1960): Photogrammetry. McGraw Hill Book Company. Inc. New York</li><li>6. Leuder, D.R. (1959): Aerial Photographic Interpretation: Principles and Application, McGraw Hill, New York.</li><li>7. Lillesand, T.M. and Kiefer, R.W. (2000): Remote Sensing and Image Interpretation. 4<sup>th</sup> ed. John Wiley and Sons, New York.</li><li>8. Rampal, K.K. (1999): Handbook of Aerial Photography and Interpretation. Concept Publishing. Company, New Delhi.</li><li>9. Reeves, R.G. (ed.) (1983): Manual of Remote Sensing. Vols. 1 and 2, American Society of Photogrammetry and Remote Sensing, Falls Church, Virginia.</li><li>10. Siegel, B.S. and Gillespie, R. (1985): Remote Sensing in Geology. John Wiley and Sons, New York.</li><li>11. Spurr, R. (1960): Photogrammetry and Photo Interpretation. The Roland Press Company, London.</li><li>12. Survey of India, (1973): Photogrammetry. Survey of India, Dehradun.</li><li>13. Swain, P.H. and Davis, S.M. (ed.) (1978): Remote Sensing: The Quantitative Approach. McGraw- Hill, New York.</li><li>14. Wolf P.R. and Dewitt, B. A. (2000): Elements of Photogrammetry with Applications in GIS. McGraw-Hill, New York.</li></ol>		
<b>Suggested Continuous Evaluation Methods:</b> <ul style="list-style-type: none"><li>• Test with multiple choice questions/short and long answer questions.</li></ul>		
Programme/Class: M.A./M.Sc.	Year: II	Semester: III
<b>Subject- Geography</b>		
Course Code: GRM 304 A	Course Title: <b>Practical</b> <b>Remote Sensing and GIS; Soil, Water and Air Analysis</b>	



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Course outcomes:

- To develop an understanding of remote sensing and GIS technologies and their potential applications
- Students will demonstrate their knowledge of physical geography and the methods and techniques for observing, measuring, recording and reporting on geographic phenomena.
- Students will demonstrate their competence to work individually and as a team to develop and present a client-driven GIS solution.
- Student will be familiar with modern techniques in Geography.
- Students will be prepared to apply their skills in professional careers.

Credit:4

Course Type - Core Course

Max. Marks: 100(30+70)

Total No. of Lectures-60

Unit	Topics	No. of Lectures (Hours) per week=04
I	<b>Stereoscopic test;</b> Interpretation of stereograms and stereopairs; Mapping for land use/ land cover; Determination of photoscale; Border information on Landsat/ IRS Images.	
II	<b>Soil analysis:</b> texture and structure;	
III	<b>Water analysis:</b> physical and chemical characteristics;	
IV	<b>Air analysis:</b> estimation of SPM.	
V	<b>Visual interpretation of satellite images (Landsat/ IRS);</b> Scanning, digitisation and editing; Base map preparation.	

**Suggested Readings:**

1. Cracknell, A. and Ladson, H (1990): Remote Sensing Year Book. Taylor and Francis, London.
2. Curran, P.J. (1988): Principles of Remote Sensing. ELBS Longman, Essex, U.K.
3. Deekshatulu, B.L. and Rajan, Y.S. (ed.) (1984): Remote Sensing. Indian Academy of Science, Bangalore.
4. Floyd, F. S. Jr. (1997): Remote Sensing: Principles and Interpretation. W.H. Freeman, New York.
5. Hallert, B. (1960): Photogrammetry. McGraw Hill Book Company. Inc. New York
6. Leuder, D.R. (1959): Aerial Photographic Interpretation: Principles and Application, McGraw Hill, New York.
7. Lillesand, T.M. and Kiefer, R.W. (2000): Remote Sensing and Image Interpretation. 4<sup>th</sup> ed. John Wiley and Sons, New York.
8. Rampal, K.K. (1999): Handbook of Aerial Photography and Interpretation. Concept Publishing. Company, New Delhi.
9. Reeves, R.G. (ed.) (1983): Manual of Remote Sensing. Vols. 1 and 2, American Society of Photogrammetry and Remote Sensing, Falls Church, Virginia.
10. Siegel, B.S. and Gillespie, R. (1985): Remote Sensing in Geology. John Wiley and Sons, New York.
11. Spurr, R. (1960): Photogrammetry and Photo Interpretation. The Roland Press Company, London.
12. Survey of India, (1973): Photogrammetry. Survey of India, Dehradun.
13. Swain, P.H. and Davis, S.M. (ed.) (1978): Remote Sensing: The Quantitative Approach. McGraw- Hill, New York.
14. Wolf P.R. and Dewitt, B. A. (2000): Elements of Photogrammetry with Applications in GIS. McGraw-Hill, New York.



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**Suggested Continuous Evaluation Methods:**

- Test with multiple choice questions/short and long answer questions.

Programme/Class: M.A./M.Sc.	Year: II	Semester: III
<b>Subject- Geography</b>		
Course Code: <b>GRM 305</b>	Course Title: <b>Practical: Geography of Rural Settlement</b>	
Course outcomes: <ul style="list-style-type: none"><li>• The students will get the basic ideas about the rural settlements, historical development during ancient, medieval and modern times, morphology of rural settlements, functions and rural settlement planning in India.</li><li>• The knowledge of students about the historical development, patterns, types and functional systems of rural settlements.</li></ul>		
Credit:4	Course Type - Core Course	
Max. Marks: 100(30+70)	Total No. of Lectures-60	
Unit	Topics	No. of Lectures (Hours) per week=04
I	<b>1. Spatial Systems.</b> Size classification of rural settlements by scatter diagrams; Rural settlement distribution and types in India; Density function and pattern analysis of distribution of settlements: randomness and spacing indices, Testing Christaller's theory; Theoretical models of rural settlements and testing of different models.	
II	<b>2. Studies from India.</b> Typological classification of rural settlements from maps; Rural service centres: indices, hierarchy, classification and ordering; Mapping the morphology of Indian villages; Planning of Indian villages: models, plans and case studies.	
<b>Suggested Readings:</b> <ul style="list-style-type: none"><li>16. Daniel, P. (2002): Geography of Settlement. Rawat Publications., Jaipur and New Delhi.</li><li>17. Eidt, R. C., Singh, K. N. and Singh, Rana, P.B., (eds.) (1977): Man, Culture and Settlement. Kalyani Publishers., New Delhi.</li><li>18. Ghosh, S. (1999): A Geography of Settlements. Orient Longman, Kolkata.</li><li>19. Hudson, F. S. (1976): A Geography of Settlements. MacDonald and Evans, New York.</li><li>20. Mitra, A. (1960): Report on House Types and Village Settlement Patterns in India. Publication Division, Govt. of India, New Delhi.</li></ul>		



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21. Mosley, M.J. (2005): Rural Development: Principles and Practice. Sage Publication, London.
22. Oliver, P. (1987): Dwellings. The House across the World. University of Texas Press, Austin.
23. Rapoport, A. (1969): House, Form and Culture. Prentice-Hall, Inc., Englewood Cliffs, NJ.
24. Rykwert, J. (ed.) (2004): Settlements. University of Pennsylvania Press, University Park, USA.
25. Singh, R.L. (eds.) (1973): Rural Settlements in Monsoon Asia, National Geographical Society of India, Varanasi.
26. Singh, R.Y. (2005): Geography of Settlements. Rawat Publications, Jaipur and New Delhi.
27. Singh, S.B. (1977): Rural Settlement Geography. U.B.B.P., Publications, Gorakhpur.
28. Tiwari, R. C. (2000): Settlement Geography; in Hindi. PrayagPustak Bhawan Allahabad.
29. Wanmali, S. (1983): Service Centres in Rural India. B.R. Publications Corporation, New Delhi.
30. Wood, M. (2005): Rural Geography: Processes, Responses and Experiences of Rural Restructuring. Sage Publication, London.

**Suggested Continuous Evaluation Methods:**

- Test with multiple choice questions/short and long answer questions.

Programme/Class: M.A./M.Sc.	Year: II	Semester: III
<b>Subject- Geography</b>		
Course Code: <b>GRM 305</b>	Course Title: <b>Practical: Regional Planning</b>	
Course outcomes: <ul style="list-style-type: none"><li>• Understand the concepts of Regional planning.</li><li>• Understand the regional development of India.</li><li>• To know the problem and prospects of planning and policies of India.</li></ul>		
Credit:4	Course Type - Core Course	
Max. Marks: 100(30+70)	Total No. of Lectures-60	
Unit	Topics	No. of Lectures (Hours) per week=04
I	Regional planning of a given area: District planning;	
II	Service centre planning: Micro level planning;	
III	Central place hierarchy and growth centre in regional development;	
IV	Delineation of city region/ Umland: a case study.	
V	Identification and demarcation of axial growth: a case study.	



**Suggested Readings:**

1. Chandna, R. C. (2000): Regional Planning: A Comprehensive Text. Kalyani Publishers., New Delhi.
2. Chaudhuri, J. R. (2001): An Introduction to Development and Regional Planning with special reference to India. Orient Longman, Hyderabad.
3. Cowen, M.P. and Shenton, R.W. (1996): Doctrines of Development. Routledge, London.
4. Doyle, T. and McEachern, D. (1998): Environment and Politics. Routledge, London.
5. Friedmann, J. (1992): Empowerment: The Politics of Alternative Development. Blackwell, Cambridge MA and Oxford.
6. Friedmann, J. and Alonso, W. (ed.) (1973): Regional Development and Planning. The MIT Press, Mass.
7. Hettne, B.; Inotai, A. and Sunkel, O. (eds.) (1999 ó 2000): Studies in the New Regionalism. Vol. I-V. Macmillan Press, London.
8. Isard, W. (1960): Methods of Regional Analysis. MIT Press, Cambridge, MA.
9. Kuklinski, A. R. (1972): Growth Poles and Growth Centres in Regional Planning. Mouton and Co., Paris.
10. Kuklinski, A.R. (ed.) (1975): Regional Development and Planning: International Perspective, Sijthoff-Leydor.
11. Leys, C. (1996): The Rise and Fall of Development Theory. Indian University Press, Bloomington, and James Curry, Oxford.
12. Mahapatra, A.C. and Pathak, C. R. (eds.) (2003): Economic liberalisation and Regional Disparities in India. Special Focus on the North Eastern Region. Star Publishing House, Shillong.
13. Kane, M. and William M.K.T.(2007): Concept Mapping for Planning and Evaluation, Sage Publications, London.
14. Misra, R. P. (ed.) (1992): Regional Planning: Concepts, Techniques, Policies and Case Studies. 2<sup>nd</sup> edition. Concept Publishing Company., New Delhi.
15. Misra, R.P. and Natraj, V.K. (1978): Regional Planning and National Development. Vikas, New Delhi.
16. Misra, R.P., Sundaram, K. V. Pradasa Rao, V. L. S. (1976): Regional Development Planning in India. Vikas Publishers, New Delhi.
17. Moseley, M.J., (1974): Growth Centres in Spatial Planning. Pergamon Press, Oxford.
18. Närman, A. and Karunanayake, K. (eds.) (2002): Towards a New Regional and Local Development Research Agenda. Dept. of Geography, Göteborg University (Sweden), series B, No100 and Centre for Development Studies, University of Kelaniya (Sri Lanka), No. 1.
19. Norgaard, R. B. (1994): Development Betrayed. The End of Progress and a Coevolutionary Revisioning of the Future. Routledge, London.
20. Pathak, C. R. (2003): Spatial Structure and Processes of Development in India. Regional Science Association., Kolkata.
21. Sanyal, B. M. (2001): Decentralised Planning: Themes and Issues. Concept Publishing. Company, New Delhi.
22. Sharma, P. V., Rao, V. L., and Pathak, C. R. (eds.) (2000): Sustainable Regional Development (with special reference to Andhra Pradesh). Regional Science. Association, Kolkata and School of Economics, Andhra University, Vishakapatnam.
23. Sen, A. (1999): Development as Freedom. Oxford University Press, Oxford.
24. Sen, A. and Dreze, J. (eds.) (1996): Indian Development: Selected Regional Perspectives. Oxford University Press, Oxford.
25. Smith, D. and Närman, A. (eds.) (1999): Development Theory and Practice: Current Perspectives on Development and Development Co-operation. Longman, London.
26. Stöhr, W. B. and Taylor, D.F.R. (eds.) (1981): Development from Above and Below? The Dialectics of Regional Planning in Developing Countries. John Wiley and Sons, Chichester.
27. Sundaram, K. V. (1997): Decentralized Multilevel Planning: Principles and Practice (Asian



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- and African Experiences). Concept Publishing Company, New Delhi.
28. Sundaram, K. V. (2004): The Trodden Path: Essays on Regional and Micro Level Planning. Anaanya Publications., New Delhi.
  29. Toye, J. (1987): Dilemmas of Development. Reflections on the Counterrevolution in Development Theory and Policy. Basil Blackwell, Oxford.
  30. Verhelst, T. (1990): No Life Without Roots ó Culture and Development. Zed Books, London.
  31. World Bank (2000): Attacking Poverty. World Development Report 2000-01. The World Bank and Oxford University Press, New York; see website: [www.worldbank.org/poverty/wdrpoverty/](http://www.worldbank.org/poverty/wdrpoverty/)

**Suggested Continuous Evaluation Methods:**

- Test with multiple choice questions/short and long answer questions.

Programme/Class: M.A./M.Sc.	Year: II	Semester: III
<b>Subject- Geography</b>		
Course Code: GRM 305C	Course Title: Practical:Aerial Photo Interpretation and GIS	
Course outcomes: <ul style="list-style-type: none"><li>• Getting to know superficially about remote sensing and aerial photo interpretation with the help of pocket stereoscope and lens stereoscope</li><li>• Identifying of objects and features on single photographs</li><li>• The students will be to Determine height of objects from single photograph</li><li>• The students will be able to know the GIS software</li><li>• Students will demonstrate knowledge of the foundations and theories of geographic information systems (GIS) and use the tools and methods of GIS.</li></ul>		
Credit:4	Course Type - Core Course	
Max. Marks: 100(30+70)	Total No. of Lectures-60	
<b>Unit</b>	<b>Topics</b>	<b>No. of Lectures (Hours) per week=04</b>
<b>I</b>	Identification of objects and features;	
<b>II</b>	Determination of height of objects from single photographs;	
<b>III</b>	Preparation of thematic maps on lithology and structure, Land use/ Land cover, Forest types, soil and soil erosion, Hydrogeomorphic mapping.	
<b>IV</b>	GIS: Geo-referencing; creation of PGDB, creation of shape files.	
<b>V</b>	On-screen digitization of polygons, points and lines and adding attributes.	



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**Suggested Readings:**

15. Cracknell, A. and Ladson, H (1990): Remote Sensing Year Book. Taylor and Francis, London.
16. Curran, P.J. (1988): Principles of Remote Sensing. ELBS Longman, Essex, U.K.
17. Deekshatulu, B.L. and Rajan, Y.S. (ed.) (1984): Remote Sensing. Indian Academy of Science, Bangalore.
18. Floyd, F. S. Jr. (1997): Remote Sensing: Principles and Interpretation. W.H. Freeman, New York.
19. Hallert, B. (1960): Photogrammetry. McGraw Hill Book Company. Inc. New York
20. Leuder, D.R. (1959): Aerial Photographic Interpretation: Principles and Application, McGraw Hill, New York.
21. Lillesand, T.M. and Kiefer, R.W. (2000): Remote Sensing and Image Interpretation. 4<sup>th</sup> ed. John Wiley and Sons, New York.
22. Rampal, K.K. (1999): Handbook of Aerial Photography and Interpretation. Concept Publishing. Company, New Delhi.
23. Reeves, R.G. (ed.) (1983): Manual of Remote Sensing. Vols. 1 and 2, American Society of Photogrammetry and Remote Sensing, Falls Church, Virginia.
24. Siegel, B.S. and Gillespie, R. (1985): Remote Sensing in Geology. John Wiley and Sons, New York.
25. Spurr, R. (1960): Photogrammetry and Photo Interpretation. The Roland Press Company, London.
26. Survey of India, (1973): Photogrammetry. Survey of India, Dehradun.
27. Swain, P.H. and Davis, S.M. (ed.) (1978): Remote Sensing: The Quantitative Approach. McGraw- Hill, New York.
28. Wolf P.R. and Dewitt, B. A. (2000): Elements of Photogrammetry with Applications in GIS. McGraw-Hill, New York.

**Suggested Continuous Evaluation Methods:**

- Testwithmultiplechoicequestions/shortandlonganswerquestions.

Programme/Class: M.A./M.Sc.	Year: II	Semester: III
<b>Subject- Geography</b>		
Course Code: <b>GRM 306</b>	Course Title: <b>PracticalField Study and Geographical Excursion</b>	
Course outcomes: <ul style="list-style-type: none"><li>• Learn the significance of field work in geographical studies.</li><li>• Understand the meaning of field and identifying the case study.</li><li>• Know about different types of field techniques.</li><li>• Develop an idea about research problems.</li></ul>		
Credit:4	Course Type 6Practical(Field Study)	





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Max. Marks: 100(30+70)		Total No. of Lectures-60
Unit	Topics	No. of Lectures (Hours) per week=04
I	Fieldwork: Meaning, types and objectives of fieldwork; Field Work In Geographical Studies ó Role, Value, Data and Ethics of Field-Work	
II	Defining the Field and Identifying the Case Studyó Rural/Urban/Physical/Human/Environmental.	
III	Use of Field ToolsóCollection of Material for Physical and Socio-Economic Surveys.	
IV	Designing the Field Report ó Aims and Objectives, Methodology, Analysis, Interpretation and Writing the Report.	
V	Fieldwork methods and techniques; Importance of fieldwork in Geography.	
<b>Suggested Readings:</b> 1. Creswell J., 1994: Research Design: Qualitative and Quantitative Approaches Sage Publications. 2. Dikshit, R. D. 2003. The Art and Science of Geography: Integrated Readings. Prentice-Hall of India, New Delhi. 4. Mukherjee, Neela 1993. Participatory Rural Appraisal: Methodology and Application. Concept Pubs. Co., New Delhi. 5. Mukherjee, Neela 2002. Participatory Learning and Action: with 100 Field Methods. Concept Pubs. Co., New Delhi 6. Robinson A., 1998: "Thinking Straight and Writing That Way", in Writing Empirical Research Reports: A Basic Guide for Students of the Social and Behavioural Sciences, eds. by F. Pryczak and R. Bruce Pryczak, Publishing: Los Angeles. 7. Special Issue on "Doing Fieldwork" The Geographical Review 91:1-2 (2001). 8. Stoddard R. H., 1982: Field Techniques and Research Methods in Geography, Kendall/Hunt. 10. Wolcott, H. 1995. The Art of Fieldwork. Alta Mira Press, Walnut Creek, CA.		
<b>Suggested Continuous Evaluation Methods:</b> • Test with multiple choice questions/short and long answer questions.		
Programme/Class: M.A./M.Sc.	Year: II	Semester: III
<b>Subject- Geography</b>		
Course Code: GRM 308	Course Title: Digital Cartography (AECC)	



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Course outcomes:

- To enable students to use GIS as a decision support system for different geographical applications
- Students will learn about Modern science and technology that have made tremendous progress in all possible fields.
- Geospatial technology has been emerged a new spatial information technology.
- Digital Cartography is a newly emerged field in Geospatial Technology.
- Students will get adequate professional knowledge and computer skills so as to enable the students to take up career in the field of Geospatial Technology.
- The students will be able to understand and prepare thematic maps using digital platform.

Credit:4

Course Type - Core Course

Max. Marks: 100(30+70)

Total No. of Lectures-60

Unit	Topics	No. of Lectures (Hours) per week=04
I	<b>Digital Cartography:</b> History and Development of Digital Cartography, Cartographic and GIS Software, Digital Cartography, Web Cartography, Computer Aided Design (CAD), Spatial registration; spatial and spatial data entry.	
II	<b>Digital Mapping:</b> Land use mapping (choropleth mapping), Terrai mapping (isoline).	
III	<b>Digital Map Analysis:</b> Overlay Analysis; Buffer analysis; Network analysis; near neighbour analysis; 3 D Modeling.	
IV	<b>Map Designing:</b> Map Designing and layout creation.	
V	<b>Urban land use mapping</b> (Choropleth); Dot Mapping.	

**Suggested Readings:**

1. Cromley, R.G 1992 Digital Cartography, Englewood cliff, New Jersey, Prentice Hall
2. Monmonier, M. 1982 Computer Assisted Cartography: Principles and Prospects, Englewood Cliffs, New Jersey, Prentice Hall
3. LO and YEUNG 2009 Concept and techniques of Geographic Information Systems, 2<sup>nd</sup> Ed. PHL Learning, Pvt Ltd, New Delhi
4. Robinson (2003) Elements of Cartography, Wiley India Pvt. Ltd New Delhi
5. Monkhouse, F.J and Wilkinson H.R. (1999) Maps and Diagrams. Methuen, London
6. Raize, E. 1962 Principles of Cartography, Mc Graw Hill, New York

**Suggested Continuous Evaluation Methods:**

- Test with multiple choice questions/short and long answer questions.

Programme/Class: M.A./M.Sc.	Year: II	Semester: III
<b>Subject- Geography</b>		



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Course Code: <b>GRM 306</b>	Course Title: <b>Practical: Field Study and Geographical Excursion/Internship</b>
Course outcomes: <ul style="list-style-type: none"><li>• The students will be able to understand basic concepts of field research methods and research design in geography.</li><li>• The students will be able to do field work through practical experience and get skills of data collection methods and processing and analysis of obtained data.</li><li>• The students will be able to write dissertation based on field work on given topic.</li></ul>	
Credit:4	Course Type ó Practical Core Course/Internship



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Programme/Class: M.A./M.Sc.	Year: II	Semester: IV
<b>Subject- Geography</b>		
Course Code: <b>GRM 401</b>	Course Title: <b>Research Methods and Techniques</b>	
Course outcomes: <ul style="list-style-type: none"><li>• The students will be able to understand basic concepts of field research methods and research design in geography.</li><li>• Learn the significance of field work in geographical studies.</li><li>• Understand the meaning of field and identifying the case study.</li><li>• Know about different types of field techniques.</li><li>• Develop an idea about research problems.</li><li>• The students will be able to do field work through practical experience and get skills of data collection methods and processing and analysis of obtained data.</li><li>• The students will be able to write dissertation based on field work on given topic.</li></ul>		
Credit:4	Course Type - Core Course	
Max. Marks: 100(30+70)	Total No. of Lectures-60	
Unit	Topics	No. of Lectures (Hours) per week=04
I	<b>Introduction to research in Geography:</b> Concept and significance of research in geography; Philosophy and methods; Naturalism and anti-naturalism; realism and idealism.	
II	<b>Scientific Research; Inductive and deductive approaches;</b> Research design; Formulation of research problem; Development and testing of hypothesis; Techniques of data collection; Sampling and field survey.	
III	<b>Qualitative research:</b> Qualitative research design; Case study; Ethnography; Phenomenology and participatory research.	
IV	<b>Data Analysis, interpretation and report writing:</b> Data classification and tabulation.	
V	<b>Data analysis and interpretation;</b> Writing thesis, project report and research paper.	
<b>Suggested Readings:</b> <ol style="list-style-type: none"><li>1. Ahuja, R. (2001): Research Methods, Rawat Publications, Jaipur and New Delhi.</li><li>2. Bhattacharyya, D. K. (2005): Research Methodology, Excel Books, New Delhi</li><li>3. Blackburn, J. and Holland, J. (eds.) (1998): Who Changes? Institutionalising Participation in Development. IT Publications, London.</li><li>4. Blaxter, L.; Hughes, C. and Tight, M. (1996): How to Research. Open University Press, Buckingham.</li><li>5. Crang, Mike 1999. Cultural Geography. Routledge, London.</li><li>6. Daniels, P., Bradshaw, M., et al. (2000): Human Geography: Issues for the 21st Century.</li></ol>		



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- Prentice Hall, London, and Pearson Publishers., Singapore. Indian reprint, 2003.
7. Denzin, N. K. and Lincoln, Y.S., (eds.) (2000): Handbook of Qualitative Research. Thousand Oaks CA. Sage Publications.
  8. Dikshit, R. D. (2003): The Art and Science of Geography: Integrated Readings. Prentice-Hall of India, New Delhi.
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  16. Limb, M. (2001): Qualitative Methodologies for Geographers. Issue and Debates. Edward Arnold, London.
  17. Lofland, J. and Lofland, L.H. (1995): Analysing Social Setting. A Guide to Qualitative Observation and Analysis. Wadsworth, Belmont, CA.
  18. Longley, P., Goodchild, M.F., Maguire, D. and Rhind, D. (1999): Geographic Information Systems. Principles, Techniques, Management, Applications. John Wiley and Sons, New York.
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  20. Mikkelsen, B. (2005): Methods for Development Work and Research: A New Guide for Practitioners. Sage Publications, London.
  21. Mukherjee, N. (1993): Participatory Rural Appraisal: Methodology and Application. Concept Publishing Company, New Delhi.
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  25. Parsons, T. and Knight, P. G., (1995): How to Do Your Dissertation in Geography and Related Disciplines. Chapman and Hall, London.
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  27. Peet, R. and Thrift, N. (ed.) (1989/ 2002): New Models in Geography (2 vols.). Rawat Publishers., Jaipur and New Delhi.
  28. Rachel, P. et al. (2001): Introducing Social Geographies. Arnold Hodder Group, London, and Oxford University Press, Oxford.
  29. Robson, C. (1993): Real World Research. A Resource for Social Scientists and Practitioners-Researchers. Blackwell Publishers, Oxford.
  30. Rogers, A. and Viles, H. A. (2003): The Student's Companion to Geography. Blackwell Publishers, Oxford. Indian reprint available.
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33. Singh, R. L. and Singh, Rana P.B. (1993): Elements of Practical Geography. Kalyani Publishers, Ludhiana and New Delhi. (English and Hindi editions).
34. Singh, Rana P.B. and Singh, R. B. (1981): Changing Frontiers of Indian Village Ecology. National Geographical Society of India, BHU, Varanasi, Publication number 27.
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39. Sharma, P.R., Yadava, R.S. and Sharma, V.N., (2011), Interdisciplinary Research Methods: Concepts and Studies, R.K. Books Publishers, New Delhi.

**Suggested Continuous Evaluation Methods:**

- Test with multiple choice questions/short and long answer questions.

Programme/Class: M.A./M.Sc.	Year: II	Semester: IV
<b>Subject- Geography</b>		
Course Code: <b>GRM 402</b>	Course Title: <b>Urban Geography</b>	
Course outcomes: <ul style="list-style-type: none"><li>• Students can explain the town and cities in India and World perspective.</li><li>• Gain knowledge about the history of urbanization in the developed and developing countries.</li><li>• They can understand the functional differences between rural and urban settlements.</li><li>• Students can define the problems of urban area. And try to solve them.</li><li>• They will know the characteristics of urban settlement.</li><li>• To be able to identify the urban environmental problem and how to solve those problem.</li></ul>		
Credit:4	Course Type - Core Course	
Max. Marks: 100(30+70)	Total No. of Lectures-60	
Unit	Topics	No. of Lectures (Hours) per week=04
I	<b>Bases.</b> Meaning, scope and recent trends in Urban Geography; Different Approaches, Development and recent trends in Urban Geography: Methodology in urban studies.	
II	<b>Characteristics.</b> Evolution of towns during Ancient, Medieval and Modern periods, Functions and functional classification of towns; Urban transportation; Contributions of Banaras School.	
III	<b>Spatiality and Models.</b> Size and spacing of cities: Rank-size rule; Law of the primate city; Urban hierarchies; Central Place Theory (Christaller and Lössch); Urban land use and functional morphology: functional areas and peri-urban areas; Theories of urban structure (Burgess, Hoyt, Harris and Ullman, Mann,	



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	White).	
IV	<b>Issues and Planning.</b> Urban problems: environmental, poverty, slums, transportation, housing, crime; Planned cities: Chandigarh and Jaipur.	
V	<b>National Urban Policy and Urban land use planning,</b> Master Plans: A case study of Lucknow city.	
<p><b>Suggested Readings:</b></p> <ol style="list-style-type: none"> <li>1. Bridge, B. and Watson, S. (eds.) (2000): A Companion to the City. Blackwell, Oxford.</li> <li>2. Carter, H. (1995): The Study of Urban Geography. 4<sup>th</sup> ed. Reprinted in 2002 by Rawat Publications, Jaipur and New Delhi.</li> <li>3. Dubey, K.K. (1976): Use and Misuse of Land in KAVAL Towns. National Geographical Society of India, Varanasi.</li> <li>4. Dubey, K.K. and Singh, A.K. (1983): Urban Environment in India. Deep and Deep, New Delhi.</li> <li>5. Dutt, A. Allen, K, Noble, G., Venugopal G. and Subbiah S. (eds.) (2003): Challenges to Asian Urbanisation in the 21<sup>st</sup> Century. Kluwer Academic Publishers, Dordrecht and London.</li> <li>6. Hall, P. (1992): Urban and Regional Planning. Routledge, London.</li> <li>7. Hall, T. (2001): Urban Geography. 2<sup>nd</sup> edition. Routledge, London.</li> <li>8. Haughton, G and Hunter, C. (1994): Sustainable Cities. Jessica Kingsley, London.</li> <li>9. Jacquemin, A. (1999): Urban Development and New Towns in the Third World ó A Lesson from the New Bombay Experience. Ashgate, Aldershot, UK.</li> <li>10. Johnson, J.H. (1981): Urban Geography, Pergaman Press, Oxford.</li> <li>11. Mayer, H. and Cohn, C. F. (1959): Readings in Urban Geography, University. of Chicago Press, Chicago.</li> <li>12. Paddison, R. (ed.) (2001): Handbook of Urban Studies. Sage, London.</li> <li>13. Pacione, M. (2005): Urban Geography: A Global Perspective, Routledge, London and New York.</li> <li>14. Ramachandran, R., (1991): Urbanisation and Urban Systems in India. Oxford University Press, Delhi.</li> <li>15. Singh, K. and Stainberg, F. (eds.) (1998): Urban India in Crisis. New Age International, New Delhi.</li> <li>16. Singh, R.L. (1955): Banaras. A Study in Urban Geography. Nand Kishore and Brothers, Banaras.</li> <li>17. Singh, Rana P.B. and Rana, P.S. (2002): Banaras Region. Indica Books , Varanasi.</li> <li>18. Singh, S. B. (ed.) (1996): New Perspectives in Urban Geography. M.D. Publications, New Delhi</li> <li>19. Stanley, B., Jack, W. and Donald, Z. (eds.) (2003): Cities of the World. Rowman and Littlefield, New York and Oxford.</li> </ol>		
<p><b>Suggested Continuous Evaluation Methods:</b></p> <ul style="list-style-type: none"> <li>• Test with multiple choice questions/short and long answer questions.</li> </ul>		

Programme/Class: M.A./M.Sc.	Year: II	Semester: IV
<b>Subject- Geography</b>		
Course Code: <b>GRM 403</b>	Course Title: <b>Political Geography</b>	
<p>Course outcomes:</p> <ul style="list-style-type: none"> <li>• Students become familiar with key concepts in contemporary political geography, including the state, the nation, territory, boundaries, power, and scale;</li> <li>• Use geographic concepts to critically analyze how human agency interacts with the physical environment to shape and reshape political geographic outcomes;</li> </ul>		



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- Advance your understanding of the political geography literature;
- Engage quality information about political issues contemporary political issues and explore your role within them;
- Use the ideas of political geography to develop a position on a contemporary issue and take a public stance on that issue.

Credit:4

Course Type - Core Course

Max. Marks: 100(30+70)

Total No. of Lectures-60

Unit	Topics	No. of Lectures (Hours) per week=04
I	<b>Introduction:</b> Nature and Scope of Political Geography; Recent development in Political Geography; Approaches to study of Political Geography; 1. Whittlesey's Law Landscape Approach, 2. Hartshorn's Functional Approach 3. Jones's Unified Field Theory: Idea- area Chain. 4. Political Systems Model,	
II	<b>Geographic Elements and State:</b> State, Nation, Nation-State and Nation-Building; Physical, Human, and Economic Elements; State and Environment Inter- face.	
III	<b>Themes in Political Geography:</b> Frontiers and Boundaries; Colonialism, Decolonization, Neo-colonialism, Federalism; Perspectives on core periphery concepts, Aggression, conflicts and cooperation	
IV	<b>Regional Political Issues:</b> Geopolitical Significance of Indian Ocean.	
V	<b>Political geography</b> of any one of the following regions; SAARC region, South East Asia, West Asia, East Asia. Political Geography of contemporary India.	

**Suggested Readings:**

1. Adhikari, S. (2010): Political Geography, Rawat Publication, New Delhi
2. Cohen, Samuel (1964): Geography and Politics in Divided World. Random House, New York.
3. De Blij, H. J. and Glassner, M. (1968): Systematic Political Geography. John Wiley and Sons, New York.
4. Dikshit, R.D. (1987): Political Geography and Geopolitics. Tata McGraw Hill, New Delhi.
5. Dikshit, R.D. (2000): Political Geography: A Contemporary Perspective. Prentice-Hall, New Delhi.
6. Siddiq, M. (1997): Indian in the Indian Ocean: A Geopolitical Study, Rawat Publications, Jaipur
7. Moddie, A.E. (1961): Geography Behind Politics. Hutchinson, London.
8. Pannikar, K.M. (1959): Geographical Factors in Indian History. 2 vols. Asia Publishing House, Bombay.
9. Percy, G. E. and Fifield, R. (1948): World Political Geography, Thomas Y Crowell, New York
10. Pounds, N.J.G. (1972): Political Geography. McGraw Hill Publication., New York.
11. Short, John R. (1982): An Introduction to Political Geography. Routledge, London
- Sukhwil. B.L. (1987): Modern Political Geography of India. Sterling Publication, New Delhi





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**Suggested Continuous Evaluation Methods:**

- Test with multiple choice questions/short and long answer questions.

Programme/Class: M.A./M.Sc.	Year: II	Semester: IV
<b>Subject- Geography</b>		
Course Code: <b>GRM404</b>	Course Title: <b>Natural Hazards and Disaster Management</b>	
Course outcomes: <ul style="list-style-type: none"><li>• Understand the definition, classification of hazards and disasters</li><li>• Gain knowledge about approaches to hazard study.</li><li>• Develop an idea about factors, consequences and management of earthquake, landslide, flood and riverbank erosion.</li><li>• Acquire knowledge about human induced disaster.</li><li>• Develop an idea about Mitigation and Management about human induced and natural disasters</li></ul>		
Credit:4	Course Type - Core Course	
Max. Marks: 100(30+70)	Total No. of Lectures-60	
Unit	Topics	No. of Lectures (Hours) per week=04
I	<b>Concepts and definitions of hazard</b> , disaster, vulnerability and risk, disaster risk reduction, Various disaster in India, Natural & human induced hazards & disasters.	
II	<b>Regional Dimension of Hazard:</b> Occurrence and trends, Methods of identifying hazard prone regions, Geological hazard: Earthquakes, landslides & tsunami Hydro metrological : Floods, cyclone, drought, avalanches extreme event of rains & heat, Forest fire, Biological hazards, Technological hazard,	
III	<b>Sendai framework for disaster risk reduction 2015-2030</b> , Disaster management Act , 2005, National policy on disaster management, 2009,	
IV	<b>Mitigation and Management:</b> Plans and Policies, Geo-informatics in Disaster Management (RS & GIS, GPS), Emergency communication system (early warning and its communication)	
V	<b>National institutional framework</b> (NDRF, NDMA &	



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NIDM), Role of NGOs at local, state and national level.
<p><b>Suggested Readings:</b></p> <ol style="list-style-type: none"> <li>1. An overview on natural &amp; man-made disasters and their reduction, R K Bhandani, CSIR, New Delhi</li> <li>2. Coppola D P, 2007. Introduction to International Disaster Management, Elsevier Science (B/H), London.</li> <li>3. Disasters in India Studies of grim reality, Anu Kapur &amp; others, 2005, 283 pages, Rawat Publishers, Jaipur</li> <li>4. Disaster Mitigation in Asia &amp; Pacific, Asian Development Bank</li> <li>5. Disaster Management and education in India (<a href="http://www.chillibreeze.com/articles/variou/disaster%20management.asp">http://www.chillibreeze.com/articles various/disaster management .asp</a>)</li> <li>6. Encyclopedia of disaster management, Vol I, II and III Disaster management policy and administration, S L Goyal, Deep &amp; Deep, New Delhi, 2006</li> <li>7. Encyclopedia of Disasters ó Environmental Catastrophes and Human Tragedies, Vol. 1 &amp; 2, Angus M. Gunn, Greenwood Press, 2008</li> <li>8. Manual on natural disaster management in India, M C Gupta, NIDM, New Delhi</li> <li>9. Management of Natural Disasters in developing countries, H.N. Srivastava &amp; G.D. Gupta, Daya Publishers, Delhi, 2006, 201 pages</li> <li>10. National Disaster Management Plan (NDMP), and National Disaster Management Authority (NDMA) Govt. of India , NDMA Bhawan, New Delhi</li> </ol>
<p><b>Suggested Continuous Evaluation Methods:</b></p> <ul style="list-style-type: none"> <li>• Test with multiple choice questions/short and long answer questions.</li> </ul>

Programme/Class: M.A./M.Sc.	Year: II	Semester: IV
<b>Subject- Geography</b>		
Course Code: GRM405	Course Title: <b>Dissertation and Viva Voce</b>	
<p>Course outcomes:</p> <ul style="list-style-type: none"> <li>• The students will be able to understand basic concepts of field research methods and research design in geography.</li> <li>• The students will be able to do field work through practical experience and get skills of data collection methods and processing and analysis of obtained data.</li> <li>• The students will be able to write dissertation based on field work on given topic.</li> </ul>		
Credit:8	Course Type - Core Course	
Max. Marks: 200(60+140)	Total No. of Lectures-120	
<b>Unit</b>	<b>Topics</b>	<b>No. of Lectures (Hours) per week=04</b>
<b>I</b>	<b>Socio-Economic Survey:</b> Concept and utility, Hypothesis and research question, sampling techniques	



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II	Developing research design and questionnaire, Conducting village and household survey and report writing.	
<p><b>Suggested Readings:</b></p> <ol style="list-style-type: none"><li>1. Ahuja, R. (2001): Research Methods, Rawat Publications, Jaipur and New Delhi.</li><li>2. Bhattacharyya, D. K. (2005): Research Methodology, Excel Books, New Delhi</li><li>3. Blackburn, J. and Holland, J. (eds.) (1998): Who Changes? Institutionalising Participation in Development. IT Publications, London.</li><li>4. Blaxter, L.; Hughes, C. and Tight, M. (1996): How to Research. Open University Press, Buckingham.</li><li>5. Crang, Mike 1999. Cultural Geography. Routledge, London.</li><li>6. Daniels, P., Bradshaw, M., et al. (2000): Human Geography: Issues for the 21st Century. Prentice Hall, London, and Pearson Publishers., Singapore. Indian reprint, 2003.</li><li>7. Denzin, N. K. and Lincoln, Y.S., (eds.) (2000): Handbook of Qualitative Research. Thousand Oaks CA. Sage Publications.</li><li>8. Dikshit, R. D. (2003): The Art and Science of Geography: Integrated Readings. Prentice-Hall of India, New Delhi.</li><li>9. Dorling, D. and Simpson, L. (eds.) (1999): Statistics in Society. Edward Arnold, London.</li><li>10. Fisher, P. and Unwin, D., (eds.) (2002): Virtual Reality in Geography. Taylor and Francis, London.</li><li>11. Flowerdew, R. and Martin, D. (eds.) (1997): Methods in Human Geography. A Guide for Students Doing a Research Project. Longman, Harlow.</li><li>12. Hay, I. (ed.) (2000): Qualitative Research Methods in Human Geography. Oxford University Press, New York.</li><li>13. Henn, M., Mark W., and Nick F. (2006): A Short Introduction to Social Research, Vistaar Publications, New Delhi</li><li>14. Eyles J. and Smith D. M. (1988): Qualitative Methods in Human Geography, Polity Press, Dales Brewer Cambridge.</li><li>15. Kitchin, R. and Tate, N., (2001): Conducting Research into Human Geography. Theory, Methodology and Practice. Prentice-Hall, London.</li><li>16. Limb, M. (2001): Qualitative Methodologies for Geographers. Issue and Debates. Edward Arnold, London.</li><li>17. Lofland, J. and Lofland, L.H. (1995): Analysing Social Setting. A Guide to Qualitative Observation and Analysis. Wadsworth, Belmont, CA.</li><li>18. Longley, P., Goodchild, M.F., Maguire, D. and Rhind, D. (1999): Geographic Information Systems. Principles, Techniques, Management, Applications. John Wiley and Sons, New York.</li><li>19. Maso, I., Atkinson, P.A. Delamont, S. and Verhoeven, J.C. (eds.) (1995): Openness in Research. The Tension between Self and Other. Van Gorcum, Assen, Netherlands.</li><li>20. Mikkelsen, B. (2005): Methods for Development Work and Research: A New Guide for Practitioners. Sage Publications, London.</li><li>21. Mukherjee, N. (1993): Participatory Rural Appraisal: Methodology and Application. Concept Publishing Company, New Delhi.</li><li>22. Mukherjee, N. (2002): Participatory Learning and Action: with 100 Field Methods. Concept Publishing Company, New Delhi.</li><li>23. O'Leary, Z. (2005): The Essential Guide in Doing Research, Vistaar Publications, New Delhi</li><li>24. Pacione, M., (ed.) (1999): Applied Geography: Principle and Practice. Routledge, London.</li><li>25. Parsons, T. and Knight, P. G., (1995): How to Do Your Dissertation in Geography and Related Disciplines. Chapman and Hall, London.</li><li>26. Patrick M. and Chapman S. (1990): Research Methods(Third Edition), Routledge,</li></ol>		



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27. Peet, R. and Thrift, N. (ed.) (1989/ 2002): New Models in Geography (2 vols.). Rawat Publishers., Jaipur and New Delhi.
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