

Banaras Hindu University
Institute of Science, Department of Geography
Ph.D. Two-Semester Course Outline, 2019-20

Semester-I

A. Common Course (Institute level)		
Paper Code	Title of the paper	Credits
ScP-01	Ethics, Concept and Significance of Research	3
ScP-02	Methods of Research and Good Laboratory Practices	
ScP-03	Science Communication	
B. Department Specific Course		
GRP-101	Theory: Orientation in Geographical Research	4
GRP-102	Practical: Research Tools and Techniques	3
Total		10

Semester-II

Compulsory Papers		
Paper Code	Title of the paper	Credits
GRP-201	Theory: Data Analysis and Synthesis	2
GRP-202	Practical: Research Proposal	2
Research Scholar will select any TWO from the following research theme specific OPTIONAL papers with consultation of RPC:		
GRP-203	Applied Geomorphology	3
GRP-204	Applied Hydrology	3
GRP-205	Environmental Planning and Management	3
GRP-206	Remote Sensing & GIS in Geographical Research	3
GRP-207	Population Dynamics and Policies	3
GRP-208	Health, Space and Ecology	3
GRP-209	Rural Planning and Development	3
GRP-210	Urban Planning and Governance	3
GRP-211	Peri-Urban Interface and its Dynamics	3
GRP-212	Globalisation and Regional Development	3
GRP-213	Heritage conservation and Tourism	3
GRP-214	Industrialization and Regional Development	3
GRP-215	Applied Climatology	3
GRP-216	Critical Cartography	3
GRP-217	Disaster Management	3
GRP-218	Gender Geography	3
GRP-219	Geography of Human Resource Development	3
GRP-220	Geo-politics	3
GRP-221	Agricultural Geography and Rural Development	3
Total		10

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Semester-I
GRP-101: Theory
Orientation in Geographical Research

Credits: 4
Number of Lectures: 48

UNIT I

Theoretical base: Importance of research; Nature and trends of geographical research; Quantitative and Qualitative Research; Case study; Identification of variables and indicators; Ethnography, Participatory field techniques; Pilot study;

UNIT II

Fieldwork techniques and tools: Field as a laboratory of geography; Fieldwork and knowledge production; Types of sampling and delineation of sample size; Techniques of data collection: Interview and Observation; Questionnaire and schedule; Procedure of question construction;

UNIT III

Data handling: Remote sensing and GPS data; Categorization and tabulation of data; Data scaling; Data measurements: central tendency, correlation and dispersion; Data interpretation;

UNIT IV

Mapping process: Components of map: Title, scale, legend, latitudes & longitudes, north direction; Designing a map: Symbol, shade, pattern, colour, figure number, inset, map layout; Level identification methods: Ranking, variation from mean, standard value, Z-score, composite value; Index distribution methods; Use of GIS in mapping;

Books Recommended

1. Ahuja, Ram 2001. *Research Methods*. Rawat Publications, Jaipur and New Delhi.
2. Bolton, T. and Newbury, P.A. 1968. *Geography through Fieldwork*. Blandford Press, London.
3. Denzin, N. K. and Lincoln, Y.S. (eds.) 2000. *Handbook of Qualitative Research*. Sage Publication, Thousand Oaks CA.
4. Hay, Iain (ed.) 2005. *Qualitative Research Methods in Human Geography*. Oxford University Press, Melbourne. 2nd Ed.
5. Henn, M., Mark W., and Nick F. (2006): *A Short Introduction to Social Research*, Vistaar Publications, New Delhi
6. Limb, McJanie 2001. *Qualitative Methodologies for Geographers. Issue and Debates*. Arnold, London.
7. Lofland, J. and Lofland, L.H. 1995. *Analysing Social Setting. A Guide to Qualitative Observation and Analysis*. Wadsworth, Belmont, CA.
8. Lousenbury, J. F. and Aldrich, F.T. 1986. *Introduction to Geographic Field Methods and Techniques*. Charles E. Merrill Publishing. Company, Columbus.
9. Mukherjee, Neela 2002. *Participatory Learning and Action: with 100 Field Methods*. Concept Publs. Co., New Delhi.
10. Nachmias, David and Nachmias Chava, *Research Methods in the Social Sciences* (2nd ed.), St. Martin's Press, New York, 1981
11. Polity Press, Dales Brewering Cambridge.
12. Sanders, William B. and Thomas K. Pinley, *The Conduct of Social Research*, Holt, Rinehart & Winston, New York, 1983
13. Sharma, P.R., Yadava, R.S. and Sharma, V.N., (2011), *Interdisciplinary Research Methods: Concepts and Studies*, R.K. Books, New Delhi.
14. Sheskin, Ira, M. (1987): *Survey Research for Geographers*, Scientific Publishers, Jodhpur.
15. Wolcott, H. (1995): *The Art of Fieldwork*. AltaMira Press, Walnut Creek, CA.
16. Wright, D.B. (1997): *Understanding Statistics. An Introduction for the Social Sciences*. Sage Publications, London.
17. Young, P. V., *Scientific Social Surveys and Research* (3rd ed.), Prentice Hall, New York, 1960.

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Semester-I
GRP-102: Practical
Research tools and Techniques

Credits: 3

UNIT I

Research tools: Preparation of data collection instruments: Interview schedule/questionnaire; GPS;

UNIT II

Research techniques: Data Processing through SPSS; Mapping technique in GIS environment: Scanning of map, geo-referencing, digitization, map creation, exporting;

Books Recommended

1. Ahuja, Ram 2001. *Research Methods*. Rawat Publications, Jaipur and New Delhi.
2. Andrienko N, Andrienko G (2006) *Exploratory analysis of spatial and temporal data, a systematic approach*. Springer-Verlag, Heidelberg, Germany
3. Andrienko G, Andrienko N, Voss H (2003) *GIS for everyone: the CommonGIS project and beyond*. in M. Peterson (ed.) *Maps and the Internet*. Elsevier Science, Oxford, UK
4. Allan A L (2004) *Maths for map makers*. 2nd ed. Whittles Publishing, Dunbeath, Scotland
5. Anselin L, Syabri I, Kho Y (2006) *GeoDa: An introduction to spatial data analysis*. *Geog. Anal.*, 38, 5-22
6. Bailey T C, Gatrell A C (1995) *Interactive spatial data analysis*. Longman, Harlow, UK
7. Bernard L, Krüger T (2000) *Integration of GIS and spatio-temporal simulation models: Interoperable components for different simulation strategies*. *Transactions in GIS*, 4(3), 197-215
8. Bernhardsen T (2002) *Geographic Information Systems — an introduction*. 3rd edition, J Wiley, Hoboken, NY, USA
9. Berry B J L, Marble D F (1968) *Spatial analysis — a reader in statistical geography*. Prentice Hall, New Jersey
10. Berry J K (1993) *Beyond Mapping: Concepts, algorithms and issues in GIS*. GIS World Books, and also available online in HTML format
11. Bolton, T. and Newbury, P.A. 1968. *Geography through Fieldwork*. Blandford Press, London.
12. Burrough P A, McDonnell R A (1998) *Principles of Geographical Information Systems*. Oxford University Press, Oxford
13. Dale P (2005) *Introduction to mathematical techniques used in GIS*. CRC Press, Boca Raton, USA
14. Dixon C, Leach B (1977) *Sampling methods for geographical research*.
15. Heywood I, Cornelius, S, Carver S (2006) *An introduction to geographical information systems (3rd Edition)*. Pearson Education, UK
16. Lousenbury, J. F. and Aldrich, F.T. 1986. *Introduction to Geographic Field Methods and Techniques*. Charles E. Merrill Publishing. Company, Colombus.
17. Sharma, P.R., Yadava, R.S. and Sharma, V.N., (2011), *Interdisciplinary Research Methods: Concepts and Studies*, R.K. Books, New Delhi.
18. Sharma, P.R., Yadava, R.S., Sharma, V.N., (ed.) 2013: *Inter Disciplinary Advances in Geography*, R.K. Books, New Delhi.
19. Young, P. V., *Scientific Social Surveys and Research* (3rd ed.), Prentice Hall, New York, 1960.

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Semester-II
GRP-201: Theory
Data Analysis and Synthesis

Credits: 2
Number of Lectures: 48

Unit-I

Conceptualizing research: Conceptualizing research problem; Criteria for selection of the study area; Purpose and procedure of literature review; Identification of research gap; Selection of topic;

Unit-II

Research design: Hypothesis: Types, characteristics, construction and testing; Significance tests: Chi square test and t-test; Formulation of research question; Framing objective; Methodology: Materials & methods of data collection, statistical measurements and data representation; Significance and further scope of research; Chapter scheme;

Unit-III

Data representation and report writing: Representation of data: Map (size, place and pattern), Diagrams, Graph, Tables and Text (font, style, size, spacing); Writing project report and research paper; Schemes of citation and referencing;

Unit-IV

Thesis writing and presentation: Components of thesis: Introductory documents; Contents; Observations & Discussion; Findings & Conclusion; References & bibliography; Supporting documents; Presentation of thesis (Pre-Ph.D Seminar): Framing slides; Inserting text, diagram, map, sound and video in slides;

Books Recommended

1. Ahuja, Ram 2001. *Research Methods*. Rawat Publications, Jaipur and New Delhi.
2. Kitchen, Rob and Tate, Nicholas J. 2009. *Conducting Research into Human Geography: Theory, Methodology & Practice*. Prentice Hall-Pearson, Harlow U.K. 2nd Ed.
3. O'Leary, Zina 2004. *The Essential Guide to Doing Research*. The Vistaar Publ., New Delhi.
4. Parsons, Tony and Knight, Peter G. 2005. *How to do your Dissertation in Geography and Related Disciplines*. Routledge, London. 2nd Ed. Cambridge Scholars Publishing, Newcastle upon Tyne U.K.
5. Stoddard, Robert H. 1982. *Field Techniques and Research Methods in Geography*. Kendall/Hunt Pub. Dubuque IO.
6. Black, James A. and Dean J. Champion, *Methodology and Issues in Social Research*, John Wiley and Sons, New York, 1976
7. Burns, Robert B., *Introduction to Research Methods*, Sage Publications, London, 2000
8. Taro, Yamane, *Statistics: An Introductory Analysis* (2nd ed.), Harper and Row, New York, 1970
9. Singleton, Royce A. and Straits Bruce, *Approaches to Social Research* (3rd ed.), Oxford University Press, New York, 1999, Oxford
10. Bhattacharyya, D. K. (2005): *Research Methodology*, Excel Books, New Delhi
11. Blaxter, L.; Hughes, C. and Tight, M. (1996): *How to Research*. Open University Press, Buckingham.
12. Flowerdew, R. and Martin, D. (eds.) (1997): *Methods in Human Geography. A Guide for Students Doing a Research Project*. Longman, Harlow.
13. Kitchen, R. and Tate, N., (2001): *Conducting Research into Human Geography. Theory, Methodology and Practice*. Prentice-Hall, London.
14. Patrick M. and Chapman S. (1990): *Research Methods* (Third Edition), Routledge, London
15. Sharma, P.R., Yadava, R.S. and Sharma, V.N., (2011), *Interdisciplinary Research Methods: Concepts and Studies*, R.K. Books, New Delhi.
16. Silverman, D. (1993): *Interpreting Qualitative Data. Methods for Analysing Talk, Text and Interaction*. Sage Publications, London.

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Semester-II
GRP-202: Practical
Research Proposal

Credits: 2
Number of Lectures: 48

Unit-I

Background aspects: Designing cover page; Statement of the research problem; Theoretical framework; Selection of the study area; Review of literature;

Unit-II

Basic aspects: Objectives; Research Questions; Hypotheses; Methodology; Expected outcomes; Significance and further scope of the study; Chapter scheme; References;

Note: With the consultation of the supervisor, a research scholar has to prepare a research proposal as per above syllabi and present before concerned RPC to evaluate it for the semester examination. This proposal will also be submitted by the research scholar to the DRC for consideration and approval for further research.

Books Recommended

1. Ahuja, Ram 2001. *Research Methods*. Rawat Publications, Jaipur and New Delhi.
2. O'Leary, Zina 2004. *The Essential Guide to Doing Research*. The Vistaar Publ., New Delhi.
3. Parsons, Tony and Knight, Peter G. 2005. *How to do your Dissertation in Geography and Related Disciplines*. Routledge, London. 2nd Ed. Cambridge Scholars Publishing, Newcastle upon Tyne U.K.
4. Burns, Robert B., *Introduction to Research Methods*, Sage Publications, London, 2000
5. Bhattacharyya, D. K. (2005): *Research Methodology*, Excel Books, New Delhi
6. Patrick M. and Chapman S. (1990): *Research Methods* (Third Edition), Routledge, London
7. Sharma, P.R., Yadava, R.S. and Sharma, V.N., (2011), *Interdisciplinary Research Methods: Concepts and Studies*, R.K. Books, New Delhi.

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Semester-II
GRP-203: Theory (optional)
Applied Geomorphology

Credits: 3
Number of Lectures: 36

Unit I

A critical analysis of fundamental concepts; Concept of Dynamic Equilibrium versus Davis' and Penck's concepts; Time, Space and Causality in Geomorphology; Recent Trends in Geomorphology;

Unit II

Climatic Geomorphology; Environmental Geomorphology; Mapping Techniques in Geomorphology; Systems in Geomorphology; Models in Geomorphology;

Unit III

Geomorphology and Economic Deposits; Geomorphology in Ground water studies; Geomorphology in Soil Studies and Mapping; Geomorphology in Engineering Construction; Alluvial Fans and Flood Plains—their morphology, materials and Processes;

Suggested Readings

1. Ahmed, E. 1985. *Geomorphology*. Kalyani Publishers, New Delhi.
2. Allison, Robert J. (ed.) 2002. *Applied Geomorphology: Theory and Practice*. John Wiley, Chichester UK.
3. Bloom, A. L. 1998/ 2001. *Geomorphology*. 3rd edition. Prentice Hall of India, New Delhi.
4. Chorley, R.J., Schumm, S. A. and Sugden, D. E. 1984. *Geomorphology*. Methuen and Company Ltd., London.
5. Fairbridge, R.W. (ed.) 1968. *Encyclopaedia of Geomorphology*. Reinhold Book Corporation., New York
6. Goudie, Andrew (ed.) 2004. *Encyclopedia of Geomorphology*. Volume 2. Routledge, London.
7. Gregory, K.J. and Walling, D.E. 1973. *Drainage Basin Form and Process*. Edward Arnold, London.
8. Jog, S. R. (ed.) 1995. *Indian Geomorphology* (2 vols.). Rawat Publications, Jaipur
9. Kale, V. and Gupta, A. 2001. *Introduction to Geomorphology*. Orient Longman, Hyderabad.
10. King, C.A.M. 1966. *Techniques in Geomorphology*. Edward Arnold, London.
11. 26.Kondolf, G. Mathias and Piégay, Hervé (eds.) 2003. *Tools in Fluvial Geomorphology*. John Wiley, Chichester UK.
12. Marchetti, Mauro and Rivas, Victoria (eds.) 2001. *Geomorphology and Environmental Impact Assessment*. Swets & Zeitlinger, the Netherlands.
13. Pethick, J. 1984. *An Introduction to Coastal Geomorphology*. Arnold, London. Indian reprint 2000.
14. Sparks, B.W. 1986. *Geomorphology*. Longmans, London.
15. Thornbury, W.D. 2005. *Principles of Geomorphology*. John Wiley, New York. Rev. Ed.
16. Wooldridge, S.W. and Morgan, R.S. 1959. *The Physical Basis of Geography: An Outline of Geomorphology*. Longman, London.

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Semester-II
GRP-204: Theory (optional)
Applied Hydrology

Credits: 3
Number of Lectures: 48

Unit I

Hydrology as emerging discipline of earth science, hydrological cycle, man's intervention in hydrological cycle, major components of hydrological cycle: precipitation, evapotranspiration, infiltration, surface and ground water runoff;

Unit II

Hydrograph: components and separation, unit hydrograph, estimation of evapotranspiration, river basin/water shed as planning unit for integrated water resource development and management, conservation of water resources;

Unit III

Water crisis in India, water resource management in India with special reference to irrigation for food security, problems associated with water: droughts and floods in India, water balance graph and its application with special reference to seasonal crop management;

Suggested Readings

1. Bedient, Philip B. and Huber, Wayne Charles 2002. *Hydrology and Floodplain Analysis*. Prentice Hall, Englewood Cliffs NJ.
2. Bilas, Ram 1988. *Rural Water Resource Utilization and Planning*. Concept Publishing Company, New Delhi.
3. Chorley, R. J. 1995. *Atmosphere, Weather and Climate*. Methuen and Company Ltd. and Company Ltd., London.
4. Chow, Ven Te (ed.) 1964. *Handbook of Applied Hydrology: A Compendium of Water Resources Technology*. McGraw Hill, New York.
5. Chow, Ven Te; Maidment, David R. and Mays, Larry W. 1988. *Applied Hydrology*. McGraw-Hill, New York.
6. Fetter, C. W. 2001. *Applied Hydrogeology*. Pearson Education, San Francisco.
7. Krešić, Neven 2008. *Groundwater Resources: Sustainability, Management, and Restoration*. McGraw Hill Professional, New York.
8. Poehls, D. J. and Smith, Gregory John 2009. *Encyclopedic Dictionary of Hydrogeology*. Academic Press, New York.
9. Rai, Vinay K. 1993. *Water Resource Planning and Development*. Deep and Deep Publication, New Delhi
10. Reddy, J. P. 1988. *A Textbook of Hydrology*. Laxmi Publication., New Delhi. 4th edition.
11. Schwartz, Franklin W. and Zhang, Hubao 2003. *Fundamentals of Ground Water*. Wiley Science, Chichester UK.
12. Singh, M. B. 1999. *Climatology and Hydrology*. Tara Book Agency, Varanasi. (In Hindi).
13. Ward, R.C. and Robinson, M. 2000. *Principles of Hydrology*. McGraw Hill, New York.

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Semester-II
GRP-205: Theory (optional)
Environmental Planning and Management

Credits: 3
Number of Lectures: 48

Unit I

Introduction: Meaning and Concept of Environment, Pollution, Types of Pollution and Environmental Degradation; Environmental Quality Indices: Air, Water, Soil, Noise and Solid Waste; Environmental Management: Meaning, Concept and Approaches;

Unit II

Environmental Problems: Environmental Problems at Global, National and Regional level: Air Pollution and Global Climatic Change, Water Pollution and its Crisis, Land Degradation and Biodiversity, Natural Hazard and Mapping; Human Response and Attitude towards Environmental Problems; Environmental Quality and Health;

Unit III

Environmental Management: Strategies for Environmental Management, Environmental Monitoring, Environmental Education and People's Participation, Environmental Laws and Role of International Bodies, EIA of Development Schemes: some case studies, National Environmental Policy;

Suggested Readings

1. Anjaneyulu, Y. 2002. Environmental Impact Assessment Methodology, B.S Publications, Hyderabad
2. Blodgett, J. 2000. Environmental Protection: New Approaches, CRS Report, National Council for Science and the Environment
3. Commoner, B. 1988. Rapid Population Growth and Environmental Stress in Developing Countries. Proceedings of the United Nations Expert Group meeting, 23-26th August 1988, United Nations, New York.
4. Copeland, C. 2006. Water Quality: Implementing the Clean Water Act, CRS Report, National Council for Science and the Environment
5. Cruz, W. and Gills, C. 1990. Resource Policy Reform in the Context of Population Pressure in D. Chapman (ed.). Arresting Renewable Resource Degradation in the Third World. World Bank Environment Working Paper No. 44. Washington, DC: the World Bank
6. Hardoy, J. E. et al. 1997. Environmental Problems in Third World Cities, Earthscan Publications limited, London
7. Inhaber, H. et al. 1976. Environmental Indices, A Wiley-Inter Science Publication
8. Jain, R.K. et al. 1977. Environmental Impact Analysis A New Dimension in Decision making, Van Nostrand Reinhold Company, New York
9. Khoshoo, T. N. 1981. Environmental Concerns and Strategies, Ashish Publishing House, New Delhi
10. Kumra, V.K. 1982. Kanpur City: A Study in Environmental Pollution, Tara Book Agency, Varanasi
11. Lohani, Bindu N. 1984. Environmental Quality Management, South Asian Publisher, New Delhi
12. Manners Ian R. and Mikesell Marvin W. 1974. Perspectives on Environment, edited by Association of American Geographers
13. Nag, P., Kumra, V.K. and Singh, J. 1997. Geography and Environment: National, Regional and Local Issues (3 Volumes), Concept Publishing Company, New Delhi
14. Singh, D.N., Singh, J., and Raju, K.N.P. ed. 2003. Water Crisis and Sustainable Management, Tara Book Agency, Varanasi.
15. Singh, M.B. et al. (ed.) 2005. Sustainable Management of Natural Resources (Land, Water and Forest), Tara Book Agency, Varanasi
16. Singh, O.; Kumra, V.K. and Singh, J. 1993. Frontiers in Environmental Geography, Concept Publishing Company, New Delhi
17. Singh, S.K. et al. 2010. Strategic Management of Energy, Environment and Disaster for Sustainable Management, Proceedings of the International Conference on Strategic Management of Energy, Environment and Disaster for Sustainable Management, Faculty of Management Studies, BHU, Varanasi, January 11-15 2010.
18. Southgate, D. 1988. The Economics of Land Degradation in the Third World. World Bank Environment Department Working Paper No. 2. Washington, DC: the World Bank.
19. Tolba, M.K. et al. 1992. The World Environment, 1972-1992: Two Decades of Challenges, Chapman and Hall, London

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Semester-II
GRP-206: Theory (optional)
Remote Sensing & GIS in Geographical Research

Credits: 3
Number of lectures: 36

Unit I

Nature of Geographical Data; Conventional methods of geographical data collection vis-à-vis remote sensing and GIS; Some aspects of geodesy of earth and their implications in GIS; Spectra of common natural objects; Mechanism of remote sensing data acquisition;

Unit II

Models of geographic data representation in GIS; Spatial Data quality and error analysis; Conceptual and Logical Data Modelling; Some important characteristics of Remote Sensing Data; Nature of image patterns and their interpretation;

Unit III

DEM and Derivatives; GIS as spatial decision support system; Information extraction procedures from remote sensing data—manual and digital; Application of remote sensing and GIS in Land use, hydro-geomorphological and integrated rural and urban development studies;

Suggested Readings

1. Burroughs, P.A. and McDonnell, R. 1998. Principles of Geographic Information Systems. Oxford University Press, Oxford.
2. Campell, J. B. 2003. Introduction to Remote Sensing. 4th ed. Taylor and Francis, London.
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. Gautam, N.C. and Raghavswamy, V. 2004. Land Use/ Land Cover and Management Practices in India. B.S. Publications., Hyderabad.
7. Girard, M. C. and Girard, C. M. 2003. Processing of Remote Sensing Data. Oxford and IBH, New Delhi.
8. Goodchild, M.F., Park, B. O. and Steyaert, L. T. (eds.) 1993. Environmental Modelling with GIS. Oxford University Press, Oxford.
9. Heywood, I. 2003. An Introduction to Geographical Information Systems. 2nd edition, Pearson Publishing Company, Singapore.
10. Jensen, J.R. 1986. Introductory Digital Image Processing: A Remote Sensing Perspective, Prentice-Hall, Englewood Cliffs, New Jersey.
11. Jensen, J.R. 2004. Remote Sensing of the Environment: An Earth Resource Perspective. Prentice-Hall, Englewood Cliffs, New Jersey. Indian reprint available.
12. Lillesand, T.M. and Kiefer, R.W. 2000. Remote Sensing and Image Interpretation. John Wiley and Sons, New York.
13. Lo, C.P. and Yeung, A. K. W. 2002. Concepts and Techniques of Geographic Information Systems. Prentice Hall of India, New Delhi.
14. Longley, P., Goodchild, M.F., Maguire, D. and Rhind, D. 1999. Geographic Information Systems. Principles, Techniques, Management, Applications. John Wiley and Sons, New York.
15. 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.
16. Martin, D. 1996. Geographic Information Systems: Socioeconomic Implications. Routledge, London.
17. Reddy, M. A. 2001. Textbook of Remote Sensing and Geographic Information Systems. B. S. Publications., Hyderabad.
18. Reeves, R.G. (ed.) 1983. Manual of Remote Sensing, Vols. 1 and 2. American Society of Photogrammetry and Remote Sensing, Falls Church, Virginia.
19. Ripple, W. J. (ed.) 1989. Fundamentals of Geographic Information Systems: A Compendium. ASPRS/ ACSM, Falls Church.
20. Siddiqui, M.A. 2005. Introduction to Geographical Information Systems, Sharda Pustak Bhawan, Allahabad.

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Semester-II
GRP-207: Theory (optional)
Population Dynamics and Policies

Credits: 3
Number of lectures: 36

Unit I

Introduction and Conceptualization: Concept and Components of Population Dynamics; Distribution of Population; Population Growth: Trends and Theories; Mortality Patterns and Trends; HIV/AIDS Pandemic, Fertility: Trend, Patterns and Determinants; Migration: Trends and Patterns; Population and Resource Relationship; World Population: Major Issues for the 21st century;

Unit II

A Case Study of India: Population Dynamics: Regional Variation and Determinants; Fertility, Mortality and Migration: Trend and Determinant, Urbanization: Challenges and Opportunities; Population Dividend for India; Comparative Analysis of Kerala and U.P.; Family Welfare Programmes in India: A Critical Appraisal; National Population Policy 2000; Comparative Study of Population Policies: India and China;

Unit III

Measures and Indices: Data Sources, Error & Adjustment; Measures of Population change (arithmetic, geometric and exponential) and distribution (density, population potential, Lorenze curve); Measures of Mortality: Adjusted and Unadjusted and Life-table); Measures of period and Cohort Fertility, Measures and Models of Migration (indirect estimation of internal migration and Ravenstein's law, Zipf's gravity, Todaro's rural-urban); Population Estimates and Projections;

Suggested Readings

1. Behura, Nab Kishore and Mohanty, Ramesh P. 2005. *Family Welfare in India: A Cross- Cultural Study*. Discovery Publs. House, New Delhi.
2. Birdsall, Nancy; Kelley, Allen C. and Sinding, Steven W. (eds.) 2001. *Population Matters: Demographic Change, Economic Growth, and Poverty in the Developing World*. Oxford University Press, Oxford.
3. Chu, C.Y. Cyrus 1998. *Population Dynamics: A New Economic Approach*. Oxford University Press, New York.
4. Dyson, Tim; Cassen, Robert and Visaria, Leela 2005. *Twenty-First Century India: Population, Economy, Human Development, and the Environment*. Oxford University Press, Oxford and New Delhi.
5. Hummel, Diana 2008. *Population Dynamics and Supply Systems: A Transdisciplinary Approach*. Campus Verlag, Frankfurt.
6. Hunter, Lori M. 2000. *The Environmental Implications of Population Dynamics*. Rand Corporation, New York.
7. Kar, Bimal Kumar 2002. *Women Population of North East India: A Study in Gender Geography*. Regency Publications, New Delhi.
8. Macbeth, Helen M. and Collinson, Paul (eds.) 2002. *Human Population Dynamics: Cross-Disciplinary Perspectives*. Cambridge University Press, Cambridge.
9. Namboodiri, Narayanan Krishnan 1996. *A Primer of Population Dynamics*. Springer, New York.
10. Prasad, B.K. 2004. *Population and Family Life Education*. Anmol Publs., New Delhi.
11. Ranade, Prabha Shastri 1990. *Population Dynamics in India*. APH Publishing, New Delhi.
12. Shanthy. K. 2005. *Women in India: Retrospect and Prospect*. Anmol Publs., New Delhi.
13. Srinivasan, Venkatesh 2001. *Health and Family Welfare Programmes in Developing Countries: Study of Innovations in an Indian State*. Aalekh Publishers, New Delhi.
14. Turchin, Peter 2003. *Complex Population Dynamics: A Theoretical/Empirical Synthesis*. Princeton University Press, Princeton.
15. Unruh, Jon Darrel; Krol, Maarten S. and Kliot Nurit 2004. *Environmental Change and its Implications for Population Migration*. Springer, New York.
16. Weeks, John R. 2005. *Population: An Introduction to Concepts and Issues*. Wadsworth, Belmont, CA. 9th Ed.

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Semester-II
GRP-208: Theory (optional)
Health, Space and Ecology

Credits: 3
Number of lectures: 36

UNIT I

Concept of mortality, morbidity and health; Political economy of health; Colonial and Postcolonial conception of health and medicine; Health as a commodity; Health and Quality of life; Social capital approach to health-care; Market, State and Social Opportunity; Linkage between health and ecology; Political ecology of disease; scope of Political Ecology of Disease;

UNIT II

Pattern of morbidity- world, and India; Geographical aspect of distribution of major diseases in India- communicable and non-communicable; Regional variation in Prevalence of diseases; sources of infection, modes of transmission and creation of Disease Network and the correlates; Spatial epidemiology; Disease Mapping; Geo-statistical methods of Health issues;

UNIT III

Structure of health care services in India; Health inequality; Problem of access and utilisation; Investment in Health; Public and Private Initiatives in health-care provisions; Health Policy in Pre-independent India; Health Policies and Programmes in independent India; Nongovernmental initiatives and case studies of these initiatives like, Khanna, Matlab;

Suggested Readings

1. Choudhary, B.K., *Tuberculosis in India: A Political Ecology Approach*, VDM Verlag, 2008
2. Clark, M., Riben, P. & Nowgesic, E., The association of housing density, isolation and tuberculosis in Canadian First Nations communities, *International journal of epidemiology*, vol. 31, no. 5, pp. 940-936. 2002
3. Cohen, M.L., Changing patterns of infectious disease, *Nature*, vol. 406, no. 6797, pp. 762-767. 2000
4. Elliott, P., Wakefield, J., Best, N., and D. Briggs, *Spatial Epidemiology: Methods and Applications*, Oxford University Press, 2000
5. Eyles, J. & Litva, A., Coming out: exposing theory in medical geography, *Health and Place*, vol. 1, pp. 5-14. 1993
6. Farmer, Paul. *Infections and Inequalities: the Modern Plagues*. Berkeley: University of California Press. 1999
7. Kalipeni, E., Craddock, S., Oppong, J.R., Ghosh, J., ed), *HIV and AIDS in Africa: Beyond Epidemiology*, Blackwell Publishing Ltd, Oxford, 2004,
8. Kearns, R. & Moon, G., From medical to health geography: novelty, place and theory after a decade of change, *Progress in Human Geography*, vol. 26, no. 5, pp. 605-625. 2002
9. Lankinen, S.K. (ed) et. al, *Health and Disease in Developing Countries*, Macmillan Education Ltd, London and Oxford, 1994
10. McMichael, A.J., Environmental and social influences on emerging infectious diseases: past, present and future, *Philosophical transactions of the Royal Society of London. Series B: Biological sciences*, vol. 359, no. 1447, pp. 1049-1058. 2004
11. Meade, M.S., Earickson, R.J, *Medical Geography, 2nd Edition*, The Guilford Press, London, UK, 2000.
12. Naidoo, J., Wills, J., *Introduction To Health Studies*, Palgrave New York, 2001
13. Phillips, D.R., Varhasset, Y. eds), *Health and Development*, Routledge, London, 1994

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Semester-II
GRP-209: Theory (optional)
Rural Planning and Development

Credits: 3
Number of lectures: 36

UNIT I

Rural communities; Rural space, society, and rurality; Governanance and globalization; Revisiting landownership and property rights; Theories and Models of rural settlement and its diffusion;

UNIT II

Theorization of culture, politics, space and poverty in rural contexts; Rise of productivist farming ways of conceptualising agricultural change; Institutional-strengthening issues; Rural future and globalisation; Food supply and food security; Challenges of sustainability;

UNIT III

Indian Scenario: Indian Village: Concept, attributes, and historical context and multiplicity; Regional morphological characteristics; Morphological interaction models: Religio-ritual, Secular-economic, Rural Housing and Architicture Rural-urban linkages: Peri-urban interface; Role of service centres; Transformation and Planning of Indian village: models and plans;

Suggested Readings

1. Akroyd, H. David 2003. *Agriculture and Rural Development Planning: A Process in Transition*. Ashgate Publishing, Aldershoot UK.
2. Brouwer, Floor C. and der Heide, Martijn van (eds.) 2009. *Multifunctional Rural Land Management: Economics and Policies*. Earthscan, London.
3. Chauhan, Brij Raj 2009. *Rural Life: Grass Roots Perspectives: Based on Field*
4. *Experiences and Assessment of Published Work over Eight Decades of Intensive Studies in Villages of Uttar Pradesh*. Concept Publishing Co., New Delhi.
5. Cloke, Paul J.; Marsden, Terry and Mooney, Patrick H. (eds.) 2006. *Handbook of Rural Studies*. Sage, London.
6. Clout, Hugh D. and Munton, R. J. C. 2007. *Contemporary Rural Geographies: Land, Property, and Resources In Britain*. Routledge, London.
8. Eidt, Robert C., Singh, K.N. and Singh, Rana, P.B. (eds.) 1977. *Man, Culture and Settlement*. Kalyani Publ., Delhi.
9. Essex, Stephen 2005. *Rural Change and Sustainability: Agriculture, The Environment and Communities*. CABI International, Oxfordshire UK.
10. Gallent, Nick; Juntti, Meri and Kidd, Sue 2008. *Introduction to Rural Planning*.
11. Routledge, London.
12. Holloway, Lewis and Kneafsey, Moya 2004. *Geographies of Rural Cultures and Societies*. Ashgate Publishing, Aldershot UK.
14. Maye, Damian; Holloway, Lewis and Kneafsey, Moya (eds.) 2007. *Alternative Food Geographies: Representation and Practice*. Emerald Group Publishing, New York.
15. Morris, Joe (ed.) 2001. *Rural Planning and Management*. Managing the Environment for Sustainable Development series. . Edward Elgar Publishing, Cheltenham UK.
16. Mosley, Maclohm J. 2005. *Rural Development: Principles and Practice*. Sage, London.
17. Pacione, Michael 1984. *Rural Geography*. Harper & Row, San Francisco.
18. Singh, R. L., Singh, K.N. and Singh, Rana P.B. (eds.) 1975. *Readings in Rural Settlement Geography*. NGS. Varanasi.
19. Singh, R.L. and Singh, Rana P.B. (eds.) 1979. *Place of Small Towns in India*. N.G.S.I., Varanasi.
20. Singh, Rana P.B. 2009. *Geographical Thoughts in India: Snapshots and Vision for the 21st Century*. Cambridge Scholars Publishing, Newcastle upon Tyne UK.
21. Singh, Rana P.B. and Singh, R.B. 1981. *Changing Frontiers of Indian Village Ecology*. National Geographical Society of India, Varanasi, Pub. 27.
22. Wilson, Geoffrey Alan 2007. *Multifunctional Agriculture: A Transition Theory*
23. *Perspective*. CABI International, Oxfordshire UK.
24. Woods, Michael 2005. *Rural Geography: Processes, Responses and Experiences in Rural Restructuring*. Sage, London.
25. Woods, Michael 2010. *Rural (Key Ideas in Geography)*. Routledge, London.

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Semester-II
GRP-210: Theory (optional)
Urban Planning and Governance

Credits: 3
Number of lectures: 36

Unit I

Conceptual Issues in Urban Studies: Urbanisation in space and time; Theories and Approaches of urban studies: locational, regional, spatio-structural, eco system and environmental perception; Dimensions of urban studies in India: geographical and non geographical; problem , policy, sand evaluation oriented;

Unit II

Urban Issues and Challenges: Contemporary issues: slums and crime; urban environment: air, water, sanitation, solid waste.

Unit III

Urban Management and Governance: Urban planning: Governance and Management; Urban development policies; Implications of 74th CAA on urban governance; Future governance structure PPP, capacity building for better service delivery.

Suggested Readings

1. Dutt, Ashok et. al. 1994. *The Asian Cities: Processes of Development, Characteristics and Planning*. GeoJournal Library, London.
2. Fyfe, Nicholas R. and Kenny, Judith T. (eds.) 2005. *The Urban Geography Reader*. Routledge, London.
3. Gallien, A.B. and S. Eisner 1963. *Urban Pattern*, New York.
4. HUDCO-HSMI. 2001. *The States of Indian Cities*, HUDCO HSMI, New Delhi.
5. Jha, R. and Nasreen Siddiqui 2000. *Towards People Friendly Cities*, UNICEF
6. Maharashtra State Office, Mumbai.
7. Knox, Paul and Pinch, Steven 2006. *Urban Social Geography*. Pearson Prentice-Hall, Englewood Cliffs NJ. 5th Ed.
8. Kumar, B. and R.B. Singh 2003. *Urban Development and Anthropogenic Climatic Change*. Manak Publications, New Delhi.
9. Kundu, A. 2005. *Urban Development and Urban Research in India*, Khama Publishers, New Delhi.
10. Mathur, M.P. 2007. *Norms and Standards of Municipal Basic Services in India*,
11. National Institute of Urban Affairs, New Delhi available on www.niua.org accessed on 1st June 2010.
12. Pacione, Michael 2005. *Urban Geography: A Global Perspective*. 2nd ed. Routledge, London.
13. Prakasa Rao, V.L.S. 1983. *Urbanisation in India: Spatial Dimensions*, Concept, New Delhi.
14. Misra, R.P. and Misra, K. (eds.) 1998. *Million Cities of India Vol.I/II* Sustainable Foundation, New Delhi.
15. Ramachandran, R. 1989. *Urbanisation and Urban System in India*, Oxford University Press, New Delhi.
16. Singh, R.L. 1955. *Banaras: A Study in Urban Geography*, Nand Kishor and Brothers, Banaras.
17. Sivaramakrishnan, K.C. et al. 2005. *A Hand Book of Urbanisation in India*, Oxford University Press, New Delhi.
18. UNCHS-UN HABITAT 2001. *Cities in a Globalising World. Global Report on*
19. *Human Settlement*, Earthscan, London and Sterling, VA.
20. UN-HABITAT 2003. *Water and Sanitation in World Cities: Local Action for Global Goals*, Earthscan London.
21. Vaidya, Chetan 2009. *Urban Issues, Reforms and Way Forward in India* working paper No. 4/2009-DEA available on www.niua.org accessed on 1st June 2010.

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Semester-II
GRP-211: Theory (optional)
Peri-Urban Interface and its Dynamics

Credits: 3
Number of lectures: 36

Unit I

Theoretical Base: Evolution of the PUIs; Basic concepts: urban, rural, urbanization, urban growth, urban sprawl, spatial hybridization, etc.; Typology and processes; PUI Studies: major trends and emerging issues; Methodologies and techniques: qualitative, quantitative, and GIS & Remote Sensing; Approaches: descriptive, explanatory, normative, critical, participatory, and predictive;

Unit II

Application: PUIs and their characteristics: developed vs. developing world; Migration, urbanization and peri-urbanization; Production systems in the PUIs; the PUI impacts land use, biodiversity, environment, agriculture, resources, livelihood, and infrastructure and conflicts; Challenges: management, planning, and sustainability;

Unit III

Indian Scenario: Metropolization and Peri-Urban growth; Metropolitan growth: regional comparison; Impacts in PUIs: Land use, environmental, resources livelihood, infrastructure; Peri-urban governance; Case studies: Delhi, Chennai, Varanasi;

Suggested Readings

1. Adu-Ampong E., Cudjoe F., Edusah A. R., Hoogsteen M., Oteng L., Vlek F., Wijtten Z., van de Water E. 2008. *Socio-Economic Transitions: Changing livelihoods in the peri-urban interface. A case study of Ahenemah Kokoben and Tikrom in the peri-urban interface of Kumasi*. TSPA-project report no.
2. Brook, R. M. and Dávila, J. D. (eds.) 2000. *The peri-urban interface: a tale of two cities*. School of Agricultural and Forest Sciences. University of Wales and Development Planning Unit, University College London.
3. Brook, R., Purushothaman, S. & Hunshal, C. (eds.) 2003. *Changing Frontiers—The Peri Urban Interface Hubli Dharwad, India*. Books for Change, Bangalore.
4. Champion T. & Hugo G. (eds.) 2004. *New Forms of Urbanization: Beyond the Urban- Rural Dichotomy*. Ashgate, Aldershot.
5. Champion T., Hugo G. & Lattes A. 2003. Towards a New Conceptualization of Settlement for Demography: Beyond the Urban/Rural Dichotomy. *Population and Development Review*, June 2003.
6. Drechsel, P. and D. Kunze (eds.) 2001. *Waste Composting for Urban and Peri-Urban Agriculture*. CABI Publishing, Oxfordshire.
7. Dupont, Veronique (ed.) 2005. *Peri-urban Dynamics: Population, Habitat and Environment on the Peripheries of Large Indian Metropolises--A Review of Concepts and General Issues*. CSH Occasional Paper No. 14. Publication of the French research institutes in India, New Delhi.
8. Dupont, Veronique & N. Sridharan (ed.) 2006. *Peri-urban dynamics: case studies in Chennai, Hyderabad and Mumbai*. CSH Occasional Paper No. 17. Publication of the French Research Institute in India, New Delhi.
9. Hoggart, Keith (ed.) 2005. *The City's Hinterland: Dynamism and Divergence in Europe's Peri-Urban Territories Perspectives on Rural Policy and Planning*. Ashgate, Aldershot.
10. Kaushik, S.P. 2006. Impact of the development of farmhouses on the land aspects: A case study of peri-urban space of National Capital Territory of Delhi. *Transactions of the Institute of Indian Geographers*, Vol. 28 (1): 67-75.
11. Kundu, A., Pradhan, B.K. & Subramanian, A. 2002. Dichotomy or Continuum: Analysis of Impact of Urban Centres on Their Periphery. *Economic and Political Weekly*, vol. 37, no. 14, pp. 5039-46.
12. Lawrence, Benjamin 2007. *Locality, Mobility, and Nation: Periurban Colonialism in Togo's Eweland 1900-1960*. Rochester. University of Rochester Press. New York.
13. McGee, T.G. 1991. The emergence of Desakota in Asia – expanding a hypothesis. In: Ginsberg, N. et al. (eds.) *The extended metropolis-Settlement transition in Asia*. University of Hawaii Press, Honolulu.
14. McGregor, D. Simon, D. and D. Thompson 2006. *Peri-Urban Interface: Approaches to Sustainable Natural and Human Resource Use*. Earthscan Publications Ltd., London, UK.
15. Oliveau, S. 2005. *Peri-urbanisation in Tamil Nadu. A quantitative approach*. CSH Occasional Paper, no. 15. Centre de Sciences Humaines, New Delhi.
16. Ramachandran, R. 1991. *Urbanization and Urban System in India*. Delhi, Oxford University Press.

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Semester-II
GRP-212: Theory (optional)
Globalisation and Regional Development

Credits: 3
Number of Lectures: 36

UNIT I

Conceptual Issues: Process of globalisation; Impact of Globalisation in different sphere of economic and political life; Changing paradigm of Planning in Post-globalised era; Changing Nature of State Intervention and Process of Regional Development; Natural, Economic and Planning Regions; Aspects of Concentration and Dispersal of economic activities Polarization and Spread. ; Multiplier Effect in Spatial terms; Regional variation in productivity of capital and labour; Diversity and Disparity;

UNIT II

Theories: Spatial aspect of development: a. Basic Theories of Spatial Economic Structure –Richardson and Smith; b. Dependency Theory – Andre Günter Frank; c. World System Approach – Wallerstien and Samir Amin; d. Linkage between World-Trade and Regional Development – Krugman;

UNIT III

Measurement of Developmental Processes and Examples: Dimensions, Variables and Indicators; Choice of indicators; Alternative approaches of compositing of different indicators: Principal Component Analysis; Gravity Model; Simulations; Input-output Model; Regionalisation – Clustering; Process of Economic Concentration and Relocation - China, Venezuela, India; Problem Regions- Eastern UP, Bundelkhand; Regional policy of Balanced development;

Suggested Readings

1. Barkin and King 1970. *Regional Economic Development*, Cambridge University Press.
2. Basu, K. 2000. *Analytical Development Economics: The Less Developed Economy Revisited*. OUP.
3. Behrman, J. and Srinivas, T. N. 1998. *Handbook of Development Economics*, Vol. III
4. Berberoglu, B. 1992. *The Political Economy of Development*, State University of New York Press.
5. Bhat, L.S. 1972. *Regional Planning in India*. Indian Statistical Institute, Calcutta.
6. Bhat, L.S. 2003. *Micro Planning: A Case Study of Karnal Area*. KB Pubs., New Delhi.
7. Crush, J. 1995. *Power of Development*. Routledge, London.
8. Datta, B. 1997. *Indian Planning at Crossroad*, OUP
9. Friedman, J. and Alonse, W. eds. 1968. *Regional Development and Planning*. M.I.T. Press, Cambridge-Massachusetts.
10. Harrish, J 2004. *Depoliticizing Development*, Left World
11. Kuklinski, A.R. ed. 1975. *Regional Development and Planning: International Perspectives*, Sijthoff-Leyder.
12. Misra, R.P. 2002. *Regional Planning, Concepts, Techniques, Policies and Case Studies*. Concept Publishing Company, New Delhi.
13. Munshi, S.K 1984. *India Resource Regions and Regional Disparity*, PPH
14. Rajalakshmi, N. 2000. *Environment and Economic Development*, Manak
15. Ray Choudhary, J 2001. *An Introduction to Development and Regional planning*, Orient Longman
16. Saunders, P. 1998. *Capitalism: A social Audit*, World View.
17. Sharma, P.R. (ed.) 1991. *Perspectives on the Third World Development*. Rishi Pubs., Varanasi.
18. Sharma, P.R. (ed.) 1994. *Regional Policies and Development in the Third World*. Rishi Publications, Varanasi.
19. Singh, B.N. 1988. *Integrated Rural Area Development and Planning*. Anupama Pubs., Delhi.
20. Sundaram, K.V. 1977. *Urban and Regional Planning in India*, Vikas Publishers. New Delhi.
21. UNO 1998. *Background to an Integrated Plan of Action on Human Resource Development*.

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Semester-II
GRP-213: Theory (optional)
Heritage conservation and Tourism

Credits: 3
Number of lectures: 36

Unit I

Development of the Geography of Tourism and Heritage; Basic concepts: Tourism Studies: Concepts and Principles; Methodologies and Approaches;

Unit II

Geography of Tourism: National, Regional and Global scenarios; Alternative tourism and Prospects: Ecotourism, Sustainable tourism, Heritage Tourism; Tourism Management, heritage issues and prospects: policy and planning - global, and national;

Unit III

INDIAN SCENARIO:- Tourism and Heritage resources, Tourism as industry and economy: national, state and local contexts; Heritage Planning and Master Plan, Varanasi: Heritage Zoning, identification and planning, Types of tourism: domestic, international, local, pilgrimages; Tourism policies, perspectives, and plans;

Suggested Readings

1. Aitchison, Cara; MacLeod, Nicola E. and Shaw, Stephen J. 2000. *Leisure and Tourism Landscape: Social and Cultural Geographies*. Routledge, London.
2. Ashworth, G.J. and Dietvorst, A.G.J. (eds.) 1995. *Tourism and Spatial Transformations: Implications for Policy and Planning*. CAB International, Warwick UK.
3. Ateljevic, Irena; Morgan, Nigel and Pritchard, Annette (eds.) 2011. *The Critical Turn in Tourism Studies: Creating an Academy of Hope*. Routledge, London.
4. Coles, Tim; Duval, David Timothy and Shaw, Gareth 2011. *Student's Guide to Writing Dissertations and Theses in Tourism Studies and Related Disciplines*. Routledge, London.
5. Collins-Kreiner, Noga 2006. *Christian Tourism to the Holy Land: Pilgrimage during Security Crises*. Ashgate Publ., Farnham U.K.
6. Girard, Luigi F. and Nijkamp, Peter (eds.) 2009. *Cultural Tourism and Sustainable Local Development*. Ashgate Publ., Farnham U.K.
7. Gössling, Stefan; Hall, C. Michael and Weaver, David (eds.) 2008. *Sustainable Tourism Futures: Perspectives on Systems, Restructuring and Innovations*. Routledge, London.
8. Hall, C. M. and Page, S.J. 2008. *The Geography of Tourism and Recreation: Environment, Place and Space*. Routledge, London. 4th Ed.
9. Henderson, Carol and Weisgrau, Maxine (eds.) 2007. *Raj Rhapsodies: Tourism, Heritage and Seduction of History*. Ashgate Publ., Farnham U.K.
10. Higham, James 2007. *Critical Issues in Ecotourism: understanding a complex tourism phenomenon*. Butterworth-Heinemann, Oxford.
11. Honey, Martha 2008. *Ecotourism and Sustainable Development*. Island Press, Seattle.
12. Jamal, Tazim and Robinson, Mike (eds.) 2009. *The SAGE Handbook of Tourism Studies*. Sage, London.
13. Pearce, Douglas and Butler, Richard W. (eds.) 1999. *Contemporary Issues in Tourism Development*. Routledge, London.
14. Raj, Razaq and Morpeth, Nigel D. (eds.) 2007. *Religious Tourism and Pilgrimage Festivals Management: An International Perspective*. CAB International, London.
15. Singh, Rana P.B. 2009. *Banaras, Making of India's Heritage City*. Cambridge Scholars Publishing, Newcastle upon Tyne UK.
16. Singh, Rana P.B. 2009. *Where the Buddha Walked. A Companion to the Buddhist Places of India*. Indica Books, Varanasi. 2nd Ed.
17. Singh, Rana P.B. and Rana, Pravin S. 2009. *Banaras Region: a Spiritual and Cultural Guide*. Indica Books, Varanasi. 2nd Ed.
18. Singh, S.N. 1986. *Geography of Tourism and Recreation with special reference to Varanasi*. Inter-India Publ., New Delhi.
19. Timothy, Dallen J. (ed.) 2007. *The International Library of Essays in Tourism, Heritage and Culture: 3-Volume Set*. Ashgate Publ., Farnham U.K.
20. Timothy, Dallen J. and Olsen, Daniel H. (eds.) 2006. *Tourism, Religion and Spiritual Journeys*. Routledge, London.

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Semester-II
GRP-214: Theory (optional)
Industrialization and Regional Development

Credits: 3
Number of lectures: 36

Unit I

Concepts and theories: Meaning of industrialization; Processes of industrialization; Structuralist view, Neo-classical view, Radical view; Theories of industrial location- Weber, Smith and Allen Pred; Industrial linkages, Role of industries in regional development;

Unit II

Techniques of spatial and structural analysis: Indicators of industrialization; Location Quotient, Localization Coefficient and Localization Curve; Regional specialization and Diversification; Level of industrialization;

Unit III

Industrialization in India: Evolution and growth of industries; Industrial regions and complexes; Factors and trend of regional diversification, Industrial policies, Rural industrialization, Industries and environmental degradation;

Suggested Readings

1. Agrawal, M.K. 1996. *Agriculture- Industry Linkages in the Economy of U.P.* Northern Book center, New Delhi
2. Behari, Bepin, 1976. *Rural Industrialization in India.* Vikas Publishing House Pvt. Ltd. New Delhi,
3. Clark, G. L., Gertler, M. S. and Feldman, M. P. (eds.) 2000. *The Oxford Handbook of Economic Geography.* Oxford University Press, USA.
4. Coe, N. 2007. *Economic Geography: A Contemporary Introduction.* Blackwell Publishers, Inc., Massachusetts.
5. Dicken, P. and Lloyd, P. 1990/1977. *Location in Space.* New York: Harper & Row.
6. Guha, J. S. and Chattoraj, P.R. 2002. : *A New Approach to Economic Geography: A Study of Resources.* The World Press Private Limited, Kolkata.
7. Hudson, R. 2005. *Economic Geographies: Circuits, Flows and Spaces.* Sage Publications, London.
8. Krugman, P. 1995. *Development, Geography, and Economic Theory.* Cambridge: MIT Press.
9. Mackinnon, D. and Cumbers, A. 2007. *Introduction to Economic Geography:*
10. *Globalization, Uneven Development and Place.* Prentice Hall, Inc., New York
11. Mathur, P. and Kalia, S., 2005. *Fundamentals of Industrial Geography,* Ritu Publications, Jaipur,
12. Misra, R.P (ed.) 1985. *Rural Industrialization in Third World Countries.* Sterling Publishing Co. New Delhi.
13. Riley R. C. 1973. *Industrial Geography,* Chatto and Windus Ltd. London.
14. Roy, P.K. 2005. *Economic Geography, A Study of Resources.* New Central Book Agency P. Ltd, Kolkata.
15. Sharma, V.N. 2001. *Industrial Development and Planning in India.* Radha Publications, New Delhi.
16. Sheppard, E. and Barnes, T.J. (eds.) 2002. *A Companion to Economic Geography.* Blackwell Publishers, Inc., Massachusetts.
17. Singh, M.B. 1983. *Industrial Development Patterns and Potentials in Eastern U.P.,* Lotus Publication, Varanasi.

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Semester-II
GRP-215: Theory (optional)
Applied Climatology

Credits: 3
Number of lectures: 36

Unit I

Meaning and Scope of Climatology, Difference between weather and climate, climatology and meteorology, elements of weather and climate, Temperature: Their distribution and controlling factors, laws of horizontal motion of air and general atmospheric circulation;

Unit II

Monsoon, jet streams and their significance with reference to India, precipitation: spatiotemporal variation and distribution in India, Tropical Cyclone: origin and associated weather, cyclone prone areas in India, climatic classification: Koppen and Thorthwaite;

Unit III

Water balance parameters and their use in climatic classification, seasonal computation of aridity, humidity and moisture indices and their application in crop and irrigation management, agro-climatic regions of India: delineation and characteristics, climatic change: evidences and theories, global warming: causes and consequences;

Suggested Readings

1. Barry, R.G. and Carleton, M. (2001): Synoptic and Dynamic Climatology, Routledge, London.
2. Chorley, R.J. (2001): Atmosphere, Weather and Climate. Methuen, London.
3. Critchfield, H.J. (2002): General Climatology. Prentice-Hall of India, New Delhi..
4. Oliver, J.E. and Hidore, J.J. (2003): Climatology: An Atmospheric Science, Pearson Education Private Ltd, Patparganj, Delhi.
5. Robinson, P. J. and Henderson, S. (1999): Contemporary Climatology, 2nd edition, Pearson Education Ltd., Harlow, UK.
6. Singh, M.B. (1998): *Jalvayu Avam Samudra Vigyan*. Tara Book Agency, Varanasi.
7. Singh, S. (2005): Climatology. Prayag Pustak Bhawan, Allahabad.

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Semester-II
GRP-216: Theory (optional)
Critical Cartography

Credit: 3
Number of lecture: 36

Unit I

Theories of Cartography: Theories of representation- Naturalism vs. Anti naturalism; Map: meaning and functions; Cartographic traditions: empirical-positivist; humanistic and poststructuralist.

Unit II

Map and Power: Visual language and power of maps; Map contents and transaction of power; Maps and representation of hierarchies; Cartographic symbolism of power; Ideology of cartographic decoration; Maps and empires; Maps, nation and nationalism; Maps and war; Maps and National Security; Access to maps.

Unit III

Mapping Spatiality of difference and exclusion: Class; Caste; Gender; Language; Religion and disabilities.

Suggested Readings

1. Banerjee-Guha, Swapna, ed., (2004): *Space, Society and Geography*. (Jaipur and New Delhi: Rawat Publications).
2. Burke, Peter (2000): *A Social History of Knowledge: From Gutenberg to Diderot*. (Cambridge: Polity Press).
3. Cartwright, W., Gartner, G. & Lehn, A. eds., (2008): *Cartography and Art*. (Berlin Heidelberg: Springer-Verlag).
4. Goswami, Manu (1985): *Producing India: From Colonial Economy to National Space*. (New Delhi: Permanent Black).
5. Gregory, D. et al., eds. (2009): *The Dictionary of Human Geography*. 5th edition. (Oxford: Wiley-Blackwell).
6. Harley, J. Brian and Laxton, Paul (2001): *The New Nature of Maps: Essays in the History of Cartography*. (Baltimore and London: The Johns Hopkins University Press).
7. Henderson, George and Waterstone, Marvin, (2009): *Geographical thought: A Geographical Perspective*. (Oxon: Routledge).
8. Raju, Saraswati, Kumar, M. Satish and Corbridge, Stuart, eds. (2006): *Colonial and Post-colonial Geographies of India*. (New Delhi: Sage).
9. Opondo, Samson and Shapiro, Michael J. eds. (2012): *The New Violent Cartography: Geo-Analysis after the Aesthetic Turn* (Oxon: Routledge)

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Semester-II
GRP-217: Theory (optional)
Disaster Management

Credits: 3
Number of lectures: 36

Unit I

Basics: Concepts: Hazard, disaster, vulnerability, adaptation, disaster prevention, mitigation, preparedness, response and recovery, disaster syndrome, disaster risk reduction; Classification of disasters; Disaster and Development;

Unit II

Geography of hazards and Disasters: Floods, River bank erosion, Urban floods, Droughts, Fires, Cyclones, Heat and cold waves, Climate change and natural hazards; Disaster and human security;

Unit III

Disaster Management: Mapping of hazards and vulnerabilities; Roles and responsibilities of Organizations: The United Nations, SAARC Disaster Management Centre; NDMA;

Suggested Readings

1. Varley, A. ed. (1994): *Disasters, Development and Environment*, John Wiley & Sons, Chichester.
2. Parker, D.J. ed. (2000): *Floods*. Routledge. London.
3. Platt, R. H. (1999): *Disasters and democracy*. Island Press, Washington, DC.
4. Wisner, B., Blaikie, P., Cannon, T. and Davis, I. (2004): *At risk: natural hazards, people's vulnerability and disasters*. Second edition, Routledge, London
5. Alexander, D. (1993): *Natural Disasters*. UCL Press Limited, London.
6. Burton, I., Kates, R. W. and White, G. F. (1993): *The Environment as Hazard*. Oxford University Press, New York.

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Ph.D. Two-Semester Course Outline, 2019-20

Semester-II
GRP-218: Theory (optional)
Gender Geography

Credits: 3
Number of lectures: 36

Unit-I

Introduction: Basic concepts: sex, gender, sexuality, power; Meaning and scope of gender geography; Feminism: First, Second and third wave feminism; Feminism in India; History of Indian women's movement.

Unit-II

Gender and Space: Socio-spatial construction of gender: class, caste, religion, age; Everyday lives: Public/private spaces, gender in the city, gender and violence; Sexual harassment at the workplace; Legislative measures: Domestic violence Act, 2005; The protection of women against sexual harassment at Work Place Act, 2013; The Criminal Law (Amendment) Act, 2013; Vishaka Guidelines and Nirbhaya case.

Unit-III

Gender and Development: Women and NRM; Gender and works, Gender and migration; Approaches to women and development: WID, WAD and GAD

Suggested Readings

1. Bedi, Tarini (2006). Feminist Theory and the Right-Wing: Shiv Sena Women Mobilize Mumbai. *Journal of International Women's Studies*, 7(4), 51-68, available at: <http://vc.bridgew.edu/jiws/vol7/iss4/4>
2. Bhatt, Archana Pathak (2008). The Sita Syndrome: Examining the Communicative
3. Aspects of Domestic Violence from a South Asian Perspective, *Journal of International Women's Studies*, 9(3), 155-173. Available at: <http://vc.bridgew.edu/jiws/vol9/iss3/9>
4. Bhattacharyya, Rituparna (2013). Criminal Law (Amendment) Act, 2013: Will it ensure women's safety in public spaces? *Space and Culture, India*, 1 (1), 13-27, (ISSN: 2052- 8396), available at:
<http://www.spaceandculture.in/index.php/spaceandculture/article/view/11/2>
6. Bianchi et al. (2000). Is Anyone Doing The Housework? Trends in the Gender Division of Household Labour, *Social Forces*, 79(1), 191-228, available at: <http://sf.oxfordjournals.org/content/79/1/191.full.pdf+html>
7. England, Kim (2003). Towards a feminist political geography? *Political Geography*, 22, 611-616, available at: <http://faculty.washington.edu/england/PolGeog03.pdf>
8. Fullford, Scott (2013). The Puzzle of Marriage Migration in India, Boston College, Department of Economics, available at: <http://fmwww.bc.edu/EC-P/wp820.pdf>
9. Gailey, Gary et al. (eds.) *Geography in America at the Dawn of the 21st Century: Geographic Perspectives on Women*, available at: http://pages.geo.wvu.edu/~oberhauser/GPOW/web_chapter.htm#_Toc32970286
10. Hall, Jennifer (2002). The Next Generation: Can There Be a Feminist Geography without Gender? *The Great Lakes Geographer*, 9 (1), 19-27, available at: http://geography.uwo.ca/research/great_lakes_geographer/GLG_volume9/Hall.pdf
11. Hanson, Susan (2005). Geography and feminism, *Worlds in Collision, Annals of the Association of American Geographers*, 82 (4).
12. Harris, Ashleigh (2003). From Suffragist to Apologist: The Loss of Feminist Politics in a Politically Correct Patriarchy. *Journal of International Women's Studies*, 4(2), 91-99, available at: <http://vc.bridgew.edu/jiws/vol4/iss2/8>
13. Haas, Hein de (2008). Migration and Development: A Theoretical Perspective, Working Paper, 09, International Migration Institute, James Martin 21st Century School.
14. Kirmani, Nida (2009). Claiming Their Space: Muslim Women-led Networks and the Women's Movement in India, *Journal of International Women's Studies*, 11(1), 72-85, available at: <http://vc.bridgew.edu/jiws/vol11/iss1/6>
15. Kofman, Eleonore and Peake, Linda (1990). Into the 1990s: A gendered agenda for Political Geography, *Political Geography Quarterly*, 9(4), 313-336, available at: http://www.elseviersciencedirect.com/pdfs/JPGQ/1990_into_the_1990s_a_gendered_agenda_for_political_geography.pdf
17. McDowell, Linda (1999). *Gender, identity and place: understanding feminist geographies*. Polity Press, Minnesota. ISBN 9780816633944
18. Mitra, Aditi; Bhatia, Manjeet; and Chatterjee, Sobha (2013). Perspectives on Women's Studies from India: Strengths, Struggles and Implications for Programs in the U.S., *Journal of International Women's Studies*, 14(3), 194-209, available at: <http://vc.bridgew.edu/jiws/vol14/iss3/14>
19. Panagariya, Arvind; Mukim, Megha (2013). A comprehensive analysis of poverty in India, available at: <http://go.worldbank.org/CCKEYNLMH0>
20. Pamela, Moss and Al-Hindi Karen Falconer An Introduction: Feminisms, Geographies, Knowledges, available at: <http://chapters.rowmanlittlefield.com/07/425/074253829Xch1.pdf>
21. Roberts, Celia and Waters, Melanie (2007). Introduction: Identity, Difference and New Feminisms, *Journal of International Women's Studies*, 8(2), 1-3, available at: <http://vc.bridgew.edu/jiws/vol8/iss2/1>
22. Rew, Martin; Gangoli, Geetanjali; and Gill, Aisha K. (2013). Violence between Female In-laws in India, *Journal of International Women's Studies*, 14(1), 147-160, available at: <http://vc.bridgew.edu/jiws/vol14/iss1/9>
24. Rose, Gillian (1993). *Feminism and Geography: The Limits of Geographical Knowledge*, Minneapolis: Polity Press, Blackwell Publishers
25. Gillian Rose. (1997). Situating Knowledges: Positionality, Reflexivities, and other Tactics. *Progress in Human Geography*, 21 (3), 305-320
26. Sarma R. B. (2009). *Feminist Political Economy*, In Kitchin R, Thrift N (eds) *International Encyclopedia of Human Geography*, Volume 4, pp. 79-86. Oxford: Elsevier
27. Sen, Samita (2000). *Toward a Feminist Politics? The Indian Women's Movement in Historical Perspective*, policy research report on gender and development, The World Bank, Working Paper Series No. 9, available at: <http://siteresources.worldbank.org/INTGENDER/Resources/wp9.pdf>
29. Seager, Joni (2009). *The Penguin Atlas of women in the World*, Fourth Edition, Brighton: Myriad Editions, Penguin Group
30. Shanti, K. (2006). *Female Labour Migration in India: Insights from NSSO data*, Working

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Ph.D. Two-Semester Course Outline, 2019-20

Semester-II
GRP-219: Theory (optional)
Geography of Human Resource Development

Credits: 3
Number of lectures: 36

Unit I

Nature, scope and significance of Human Resource Development; Definition and classification of Human Resources, Human Resource Development, Human Development and Human Resource Utilization; Human Resource Development in space and time; Dimensions and characteristics of Human Resources Development–Quantitative and Qualitative; Process of human resource development;

Unit II

Concepts and Methods in studying Human Resource Development; Human Resource Development Indicators relating to Literacy, education, health, disease, food and nutrition, etc.; Types and sources of human resource development data; Managing human resource development data and devising indices; Concept and Computation of HRD or HDI; Amenities and Planning for human resources development;

Unit III

Problems of Human Resource Development; Spatial and Societal variation in human resource development; Human Resources in India: Potential, Utilized and Un-utilized; Development and Utilization of Primary, Secondary and Tertiary Human Resources in India; Deterioration and Conservation of Human Resources; Human Resources Development, Quality of life and Social well being;

Suggested Readings

1. Budhwar, Pawan S. and Debrah, Yaw A. 2004. *Managing Human Resources in Asia-Pacific*. Roulledge, London and New Delhi.
2. Gilley, Jerry W.; Egglund, Steven A.; Maycunich, Ann and Gilley, Ann Maycunich 2003. *Principles of Human Resource Development*. Perseus, New York.
3. Harbison, F.H. 1973. *Human Resources as the Wealth of Nation*. Oxford University Press, London.
4. Harbison, F.H. and Myers, C.A. 1964. *Education, Manpower and Economic Strategies of Human Resources Development*. McGraw Hills Book Company, New York
5. Hargreaves, Pat and Jarvis, Peter 2000. *The Human Resource Development Handbook*. Kogan Page Publishers, London. Revised edition.
6. Joy-Matthews, Jennifer; Megginson, David and Surtees, Mark 2004. *Human Resource Development*. Kogan Page Publishers, London. 3rd Ed.
7. Kamble, N.D. 1980. *Structure and Determination of Manpower Resources*. Ashish Publishing House, New Delhi.
8. Kaul, Parminder 1996. *Human Resource Development for Rural Development*. Arnold Publication Ltd., New Delhi.
9. Kumar, B. and Hansra, B.S. 2000. *Extension Education for Human Resource Development*. Concept Pub. Co., New Delhi.
10. Nalder, L. 1994. *The Hand Book of Human Resource Development*. John Wiley and Sons, New York.
11. Rowley, Chris and Benson, John (eds.) 2004. *The Management of Human Resources in the Asia Pacific Region: Convergence Reconsidered*. Frank Cass Publ., London.
12. Sims, Ronald R. 2006. *Human Resource Development: Today and Tomorrow*. Information Age Publications, San Francisco.
13. Singh, Sanjeev Kumar 2008. *Human Resource Development*. Atlantic Pub. Gr., New Delhi.
14. Swanson, Richard A. and Holton, Elwood F. 2009. *Foundations of Human Resource Development*. Berrett Koehler Publ., San Francisco. 2nd Ed.
15. T.V. Rao 2000. *Human Resource Development, Experiences, Interventions Strategies*. Sage Publication, New Delhi.
16. Werner, Jon M. and DeSimone, Randy L. 2008. *Human Resource Development*. South- Western (Cengage) Publ., Mason OH. 5th Ed.
17. Zanko, Michael 2002. *The Handbook of Human Resource Management Policies and Practices in Asia-Pacific Economies*. Volume 1. Edward Elgar Publ., Cheltenham UK.

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Semester-II
GRP-220: Theory (optional)
Geopolitics

Credits: 3
Number of lectures: 36

Unit I

Basics: Meaning, scope and development of geopolitics; Relations of geopolitics with political geography and geo-economics; Basic concepts: Location and attributes, territoriality, power, identity, national interests, peace and conflicts; Geopolitical analysis: geography, culture and history, national needs and expectation,

Unit II

Thinkers and Schools: Geopolitical ideas of H.J. Mackinder, Nicholas J. Spykman, Alfred T. Mahan, Alexander deSeversky, K. Haushofer, S.B. Cohen; Colin S. Gray; School of geopolitics: French, German, British, American and Indian.

Unit III

Contemporary Issues: Geopolitics of energy, environment, water and sea routes; Reordering the world system, Geopolitics of West Asia, South China Sea, Indian Ocean

Suggested Readings

1. Agnew, John A. (2003): Geopolitics: Re-visioning World Politics. Routledge, London.
2. Brzezinski, Zbigniew, (1997): The Grand Chessboard: American Primacy and Its Geostrategic Imperatives. Basic Book, New York
3. Chapman, Bert (2011): Geopolitics: A Guide to the Issues. Santa Barbara, Praeger
4. Dolman, Everett C. (2002): Astropolitik: Classical Geopolitics in the Space Age. Portland, Frank
5. Feldman, David L. (2011): The Geopolitics of Natural Resources. Edward Elgar Publication Ltd., Cheltenham.
6. Flint, Colin (2016): Introduction to Geopolitics. 3rd edition, Routledge, London.
7. Gray, Colin S. and Sloan, Geoffrey eds. (1999): Geopolitics: Geography and Strategy. London, Frank Cass
8. Kaplan, Robert D. (2013): The Revenge of Geography, Random House, New York.
9. Ó Tuathail, Gearóid, Dalby, Simon and Routledge, Paul, eds. (2003), The Geopolitics Reader, Routledge, London and New York.
10. Parkern, Geoffrey (1998): Geopolitics: Past, Present, and Future. London, Pinter

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Ph.D. Two-Semester Course Outline, 2019-20

Semester-II
GRP-221: Theory (optional)
Agriculture Geography and Rural Development

CREDITS: 3
Number of Lectures: 36

Unit I

Concept, approach and methodology of agricultural geography; Agricultural land-use and carrying capacity; Measures of agricultural efficiency and agricultural productivity. Agroclimatic regions of India, Green revolution in India; Second generation reforms in Indian agriculture, Agricultural planning and policies in India.

Unit II

Concept and approach of rural development: Five Year Plans and rural development in India; rural development policies and programmes: Integrated area development and rural development programmes; rural development planning: problem, policy and target group oriented approach.

Unit III

Rural development and poverty amelioration in India; Five Year Plans and poverty removal strategy and planning; poverty and rural development target groups and planning in India; policy, programme and implementation at the local level planning/micro level planning; People's participation in rural development and planning; role of Panchayati Raj.

Suggested Readings

1. Bhat, L.S. (1976): Micro Level Planning in India, K.B. Pub. New Delhi.
2. Bhat, L.S. (1988): Strategy for Integrated Area Development. Case Study of North Kanara District (Karnataka). Concept Publishing. Company, New Delhi.
3. Desai, A. R. (1990): Rural Development, Popular Prakashan, Bombay.
4. Gregor, H. P. (1970): Geography of Agriculture. Prentice-Hall, New York.
5. Krishnamurthy, J. (2000): Rural Development. Problems and Prospects. Rawat Publications, Jaipur.
6. Long, C. (2001): Participation of the Poor in Development Initiatives: Taking Their Rightful Place. Earthscan, London.
7. Misra, R. P. and Achyutha, R. N. (1998): Micro-Level Rural Planning: Principles, Methods and Case Studies. Concept Publishing. Company, New Delhi.
8. Morgan, W. B. and Norton, R.J.C. (1971): Agricultural Geography. Methuen, London.
9. Sen, Sudhir (1975): Reaping the Green Revolution. Tata McGraw-Hill, New Delhi
10. Shafi, M. (2006): Agricultural Geography, Pearson Education, New Delhi.
11. Singh, B. N. (1988): Integrated Rural Area Development and Planning. Anupama Publications., Delhi.
12. Singh, B.B. (1979) : Krishi Bhugol. Tara Publications, Varanasi.
13. Singh, J. and Dhillon, S.S. (2000): Agricultural Geography. Tata McGraw Hill, New Delhi.
14. Singh, S. (1994): Agricultural Development in India: A Regional Analysis, Kaushal Publications, Shillong.
15. UNAPDI (1986): Local Level Planning and Rural Development: Alternative Strategies. (United Nations Asian and Pacific Development Institute, Bangkok). Concept Publishing Company, New Delhi.
16. Yugandhar, B. N. and Mukherjee, N. (eds.) (1991): Studies in Village India: Issues in Rural Development. Concept Publishing. Company, New Delhi.