

Banaras Hindu University
Department of Geography
Course work for Ph.D. in Geography

I Semester

A. (ScP). Common Course (given at Faculty level) 3 credits

- ScP-01. Ethics, Concept and significance of research
- ScP-02. Methods of Research & Good Laboratory Practices
- ScP-03. Science Communication

B. Department Specific Course: 7 credits (4+3)

GRP-101. Theory: I. Research Strategy & Orientation in Geography..... 4 credits
(details given in the sequence)

GRP-301. Practical: I 3 credits

- i. Application and relevance of statistical and cartographic techniques;
- ii. Application of computer, remote sensing, GIS and GPS; and
- iii. Framing Pilot/ research project; use of writing manuals

II Semester

C. Research theme specific course 10 credits (3+3+4)

Each research scholar keeping in view of research topic will undergo any two of the following courses and project writing as identified by RPC under the following broad schemes:

GRP- 201 to 215. Theory: II and III (OPTIONAL) 6 credits (3 + 3)

From the Optional Papers (201 to 215), student can opt any **TWO** papers (*see details*).

GRP-302. Field Survey and Analysis 2 credits

- i. Introduction of research problems, objectives and research methodology.
- ii. Critical review of the thematic literatures.
- iii. Data collection and generation (indices, indicators); Field survey (sampling, design, representation, selection, overview); Analysis and interpretation of data and maps.

GRP-303. Practical II: Preparation of thematic appraisal of research paper and its presentation (Seminar); Preparation of **Synopsis** (Objectives; Methodology and approaches, Appraisal of the thematic and recent literature; Hypotheses/ theoretical framework; Specific Remarks about the theme: Details and sequence of the Chapters (chapterisation); and References in detail)

..... **2 credits**

GRP: Course work for Ph.D. in Geography
I Semester
Core (compulsory paper), Theory
GRP-101. Research Strategy & Orientation in Geography

CREDITS : 4
Number of Lectures : 48

UNIT I

Planning research. Data sources: collection and generation; Primary data and Secondary data; Data collection and arrangement; Collection of data: methods, sources and types; Data processing; Characteristics and component of a computer system.

UNIT II

Research design. Participatory research; Sampling: methods, techniques and procedures; Making and designing of sSurvey-questionnaire; Variable and indices: selection, identification and application.

UNIT III

Data interpretation. Production and arrangement of data; Classification and tabulation of data; Analysis of data and maps; Model making.

UNIT IV

Theoretical Construction. Appraisal of System theory; Quantitative and Qualitative interpretations; Framing pilot/ research project; Application and relevance of statistical and cartographic techniques.

Suggested Readings

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 Publ., Thousand Oaks CA.
4. Flowerdew, R. and Martin, D. (eds.) 1997. *Methods in Human Geography. A Guide for Students Doing a Research Project*. Longman, Harlow.
5. Hay, Iain (ed.) 2004. *Communicating in Geography and the Environmental Sciences*. Oxford University Press, Melbourne. 2nd Ed.
6. Hay, Iain (ed.) 2005. *Qualitative Research Methods in Human Geography*. Oxford University Press, Melbourne. 2nd Ed.
7. Kitchen, Rob and Fuller, Duncan 2005. *The Academic's Guide to Publishing*. Vistaar Pubs. (Sage), New Delhi.
8. Kitchen, Rob and Tate, Nicholas J. 2009. *Conducting Research into Human Geography: Theory, Methodology & Practice*. Prentice Hall-Pearson, Harlow U.K. 2nd Ed.
9. Knight, Peter G. and Parsons, Tony 2003. *How to do your Essays Exams & Coursework in Geography and Related Disciplines*. Nelson Thornes, Cheltenham U.K.
10. Lee, Roger Smith, David M. (eds.) 2004. *Geographies and Moralities: International Perspectives on Development, Justice and Place*. Wiley-Blackwell, Oxford.
11. Limb, Mclanie 2001. *Qualitative Methodologies for Geographers. Issue and Debates*. Arnold, London.
12. Lofland, J. and Lofland, L.H. 1995. *Analysing Social Setting. A Guide to Qualitative Observation and Analysis*. Wadsworth, Belmont, CA.

13. Lousenbury, J. F. and Aldrich, F.T. 1986. *Introduction to Geographic Field Methods and Techniques*. Charles E. Merrill Publishing. Company, Columbus.
14. Mikkelsen, B. 1995. *Methods for Development Work and Research: A Guide for Practitioners*. Sage, London.
15. Mukherjee, Neela 2002. *Participatory Learning and Action: with 100 Field Methods*. Concept Pubs. Co., New Delhi.
16. O’Leary, Zina 2004. *The Essential Guide to Doing Research*. The Vistaar Publ., New Delhi.
17. Parsons, Tony and Knight, Peter G. 2005. *How to do your Dissertation in Geography and Related Disciplines*. Routledge, London. 2nd Ed.
18. Singh, R.L. and Singh, Rana P.B. 1993. *Elements of Practical Geography*. Kalyani Publishers, Ludhiana and New Delhi. (English and Hindi editions; several editions).
19. Singh, Rana P.B. 2009. *Uprooting Geographic Thought in India: Toward Ecology and Culture in 21st Century*. Planet Earth & Cultural Understanding Series Pub. 1. Cambridge Scholars Publishing, Newcastle upon Tyne U.K.
20. Singh, Rana P.B. 2009. *Geographical Thoughts in India: Snapshots and Vision for the 21st Century*. Planet Earth & Cultural Understanding Series Pub. 2. Cambridge Scholars Publishing, Newcastle upon Tyne U.K.
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. Stoddard, Robert H. 1982. *Field Techniques and Research Methods in Geography*. Kendall/Hunt Pub. Dubuque IO.

Course work for Ph.D. in Geography
II Semester

List of Optional Theory Papers (201 to 215):
ONLY TWO to be opted by the student.

<i>Course Code</i>	<i>Name of the Optional Paper, II Semester [details given below] Each one (3 credits) of the papers is divided into Three Units</i>
GRP-201	Advances in Geomorphology
GRP-202	Applied Hydrology
GRP-203	Environmental Problems and Strategic Management
GRP-204	Remote Sensing & GIS as tools in Geographical Research
GRP-205	Population Dynamics and Family Welfare Programmes
GRP-206	Geography of Human Resource Development
GRP-207	Health, Space and Ecology
GRP-208	Rural Geography: Theory and Practice
GRP-209	Urban Studies
GRP-210	Peri-Urban Interface and its Dynamics
GRP-211	Regional Development and Globalisation
GRP-212	Geography of Tourism and Heritage
GRP-213	Industrialization and Regional Development
GRP-214	Applied Climatology
GRP-215	Agricultural Geography and Rural Development

II Semester (optional), Theory **GRP-201. Advances in 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. 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.

II Semester (optional), Theory **GRP-202. Applied Hydrology**

CREDITS : 3
Number of Lectures : 36

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.

II Semester (optional), Theory

GRP-203. Environmental Problems and Strategic Management

CREDITS : 3

Number of Lectures : 36

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

II Semester (optional), Theory

GRP-204. Remote Sensing & GIS as tools 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. Burrough, 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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II Semester (optional), Theory

GRP-205. Population Dynamics and Family Welfare Programmes

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 Lifetable); 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. Cassen, R. (ed.) 1994. *Population and Development: Old Debates, New Conclusions*. Transaction Publishers. New Brunswick and Oxford.
4. Chandra, Shanta Kohli 1987. *Family Planning Programme in India: Its Impact in Rural and Urban Areas*. Mittal Publs., New Delhi.
5. Chu, C.Y. Cyrus 1998. *Population Dynamics: A New Economic Approach*. Oxford University Press, New York.
6. Dyson, Tim (ed.) 1989. *India's Historical Demography: Studies in Famine, Disease and Society*. Curzon Press. London.
7. 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.

8. Guilmoto, Christophe and Rajan, Sebastian I. (eds.) 2005. *Fertility Transition in South India*. Sage, New Delhi and London.
9. Hummel, Diana 2008. *Population Dynamics and Supply Systems: A Transdisciplinary Approach*. Campus Verlag, Frankfurt.
10. Hunter, Lori M. 2000. *The Environmental Implications of Population Dynamics*. Rand Corporation, New York.
11. Kar, Bimal Kumar 2002. *Women Population of North East India: A Study in Gender Geography*. Regency Publications, New Delhi.
12. Macbeth, Helen M. and Collinson, Paul (eds.) 2002. *Human Population Dynamics: Cross-Disciplinary Perspectives*. Cambridge University Press, Cambridge.
13. Namboodiri, Narayanan Krishnan 1996. *A Primer of Population Dynamics*. Springer, New York.
14. Prasad, B.K. 2004. *Population and Family Life Education*. Anmol Pubs., New Delhi.
15. Ranade, Prabha Shastri 1990. *Population Dynamics in India*. APH Publishing, New Delhi.
16. Shanthi. K. 2005. *Women in India: Retrospect and Prospect*. Anmol Pubs., New Delhi.
17. Srinivasan, Venkatesh 2001. *Health and Family Welfare Programmes in Developing Countries: Study of Innovations in an Indian State*. Aalekh Publishers, New Delhi.
18. Turchin, Peter 2003. *Complex Population Dynamics: A Theoretical/Empirical Synthesis*. Princeton University Press, Princeton.
19. Unruh, Jon Darrel; Krol, Maarten S. and Kliot Nurit 2004. *Environmental Change and its Implications for Population Migration*. Springer, New York.
20. Weeks, John R. 2005. *Population: An Introduction to Concepts and Issues*. Wadsworth, Belmont, CA. 9th Ed.

II Semester (optional), Theory

GRP-206: 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.; Eggland, 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. Mahadevan, K. (ed.) 2002. *Health Education for Quality of Life*. B.R. Publishing Corporation, Delhi.
 11. Misra, R.P. 2007. *Geography of Health: A Treatise on Geography of Life and Death in India*. Concept Publishing Company, New Delhi.
 12. Nalder, L. 1994. *The Hand Book of Human Resource Development*. John Wiley and Sons, New York.
 13. Park, K. 2009. *Park's Textbook of Preventive and Social Medicine*. Banarsidas Bhanot Publishers, Jabalpur.
 14. Rowley, Chris and Benson, John (eds.) 2004. *The Management of Human Resources in the Asia Pacific Region: Convergence Reconsidered*. Frank Cass Publ., London.
 15. Sims, Ronald R. 2006. *Human Resource Development: Today and Tomorrow*. Information Age Publications, San Francisco.
 16. Singh, Sanjeev Kumar 2008. *Human Resource Development*. Atlantic Pub. Gr., New Delhi.
 17. Swanson, Richard A. and Holton, Elwood F. 2009. *Foundations of Human Resource Development*. Berrett Koehler Publ., San Francisco. 2nd Ed.
 18. T.V. Rao 2000. *Human Resource Development, Experiences, Interventions Strategies*. Sage Publication, New Delhi.
 19. U.N.O. 1967. *Development and Utilisation of Human Resources in Developing Countries*. Year Book of the UNO. Secretary General Office of the Public Information, New York.
 20. Werner, Jon M. and DeSimone, Randy L. 2008. *Human Resource Development*. South-Western (Cengage) Publ., Mason OH. 5th Ed.
 21. 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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II Semester (optional), Theory

GRP-207. Health, Space and Ecology

CREDITS : 3

Number of Lectures : 36

UNIT I

Concept of mortality, morbidity and health; Political economy of health; Colonial and Post-colonial 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 etc.

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

II Semester (optional), Theory

GRP-208. Rural Geography: Theory and Practice

CREDITS : 3

Number of Lectures : 36

UNIT I

Rural communities; Rural space, society, and rurality; Governance 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 Architecture 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, Aldershot 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 Experiences and Assessment of Published Work over Eight Decades of Intensive Studies in Villages of Uttar Pradesh*. Concept Publishing Co., New Delhi.
4. Cloke, Paul J.; Marsden, Terry and Mooney, Patrick H. (eds.) 2006. *Handbook of Rural Studies*. Sage, London.
5. Clout, Hugh D. and Munton, R. J. C. 2007. *Contemporary Rural Geographies: Land, Property, and Resources In Britain*. Routledge, London.
6. Eidt, Robert C., Singh, K.N. and Singh, Rana, P.B. (eds.) 1977. *Man, Culture and Settlement*. Kalyani Publ., Delhi.
7. Essex, Stephen 2005. *Rural Change and Sustainability: Agriculture, The Environment and Communities*. CABI International, Oxfordshire UK.
8. Gallent, Nick; Juntti, Meri and Kidd, Sue 2008. *Introduction to Rural Planning*. Routledge, London.
9. Holloway, Lewis and Kneafsey, Moya 2004. *Geographies of Rural Cultures and Societies*. Ashgate Publishing, Aldershot UK.
10. Maye, Damian; Holloway, Lewis and Kneafsey, Moya (eds.) 2007. *Alternative Food Geographies: Representation and Practice*. Emerald Group Publishing, New York.
11. Morris, Joe (ed.) 2001. *Rural Planning and Management*. Managing the Environment for Sustainable Development series. Edward Elgar Publishing, Cheltenham UK.

12. Mosley, Maclohm J. 2005. *Rural Development: Principles and Practice*. Sage, London.
 13. Pacione, Michael 1984. *Rural Geography*. Harper & Row, San Francisco.
 14. Singh, R. L., Singh, K.N. and Singh, Rana P.B. (eds.) 1975. *Readings in Rural Settlement Geography*. NGS. Varanasi.
 15. Singh, R.L. and Singh, Rana P.B. (eds.) 1979. *Place of Small Towns in India*. N.G.S.I., Varanasi.
 16. Singh, Rana P.B. 2009. *Geographical Thoughts in India: Snapshots and Vision for the 21st Century*. Cambridge Scholars Publishing, Newcastle upon Tyne UK.
 17. Singh, Rana P.B. and Singh, R.B. 1981. *Changing Frontiers of Indian Village Ecology*. National Geographical Society of India, Varanasi, Pub. 27.
 18. Wilson, Geoffrey Alan 2007. *Multifunctional Agriculture: A Transition Theory Perspective*. CABI International, Oxfordshire UK.
 19. Woods, Michael 2005. *Rural Geography: Processes, Responses and Experiences in Rural Restructuring*. Sage, London.
 20. Woods, Michael 2010. *Rural (Key Ideas in Geography)*. Routledge, London.
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II Semester (optional), Theory

GRP- 209. Urban Studies

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: Urban society: Urban Structure, Social Space and urban crime; Urban environment: water, sanitation, solid waste and slums; urban economy.s

Unit III

Urban Management and Governance: Urban planning: Governance and Managements; 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 Maharastra State Office, Mumbai.
6. Knox, Paul and Pinch, Steven 2006. *Urban Social Geography*. Pearson Prentice-Hall, Englewood Cliffs NJ. 5th Ed.
7. Kumar,B. and R.B.Singh 2003. *Urban Development and Anthropogenic Climatic Change*. Manak Publications, New Delhi.
8. Kundu,A. 2005. *Urban Development and Urban Research in India*, Khama Publishers, New Delhi.

9. Mathur, M.P. 2007. Norms and Standards of Municipal Basic Services in India, National Institute of Urban Affairs, New Delhi available on www.niua.org accessed on 1st June 2010.
10. Pacione, Michael 2005. *Urban Geography: A Global Perspective*. 2nd ed. Routledge, London.
11. Prakasa Rao, V.L.S. 1983. *Urbanisation in India: Spatial Dimensions*, Concept, New Delhi.
12. Misra, R.P. and Misra, K. (eds.) 1998. *Million Cities of India Vol.I/II Sustainable Foundation*, New Delhi.
13. Ramachandran, R. 1989. *Urbanisation and Urban System in India*, Oxford University Press, New Delhi.
14. Singh, R.L. 1955. *Banaras: A Study in Urban Geography*, Nand Kishor and Brothers, Banaras.
15. Sivaramakrishnan, K.C. et al. 2005. *A Hand Book of Urbanisation in India*, Oxford University Press, New Delhi.
16. UNCHS-UN HABITAT 2001. *Cities in a Globalising World. Global Report on Human Settlement*, Earthscan, London and Sterling, VA.
17. UN-HABITAT 2003. *Water and Sanitation in World Cities: Local Action for Global Goals*, Earthscan London.
18. 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.

II Semester (optional), Theory

GRP-210 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., Wijten 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, Véronique & 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 Eweiland 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.
 17. Shaw, A. 2005. Peri-urban interface of India cities. Growth, governance and local initiatives. *Economic and Political Weekly* 40 (2), 129–136.
 18. Shekhar Shashi et. al. 2000. Changing face of the Rural Hinterland of a fast growing town. Case study: Gurgaon and its Hinterland. *Indian Journal of Regional Science*, 32 (1): 106-117.
 19. Singh, Rana P.B. and Sen, Chandra 2001. The Structure of Peri-Urban Agricultural Environment in Varanasi Development Region. *National Geographical Journal of India*, 49 (4): 61-72.
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II Semester (optional), Theory
GRP-211 Regional Development and Globalisation

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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II Semester (optional), Theory

GRP-212. Geography of Tourism and Heritage

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,s 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*. CABI, 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.

II Semester (optional), Theory

GRP-213. 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: Globalization, Uneven Development and Place*. Prentice Hall, Inc., New York
10. Mathur, P. and Kalia, S., 2005. *Fundamentals of Industrial Geography*, Ritu Publications, Jaipur,
11. Misra, R.P (ed.) 1985. *Rural Industrialization in Third World Countries*. Sterling Publishing Co. New Delhi.
12. Riley R. C. 1973. *Industrial Geography*, Chatto and Windus Ltd. London.
13. Roy, P.K. 2005. *Economic Geography, A Study of Resources*. New Central Book Agency P. Ltd, Kolkata.
14. Sharma, V.N. 2001. *Industrial Development and Planning in India*. Radha Publications, New Delhi.
15. Sheppard, E. and Barnes, T.J. (eds.) 2002. *A Companion to Economic Geography*. Blackwell Publishers, Inc., Massachusetts.
16. Singh, M.B. 1983. *Industrial Development Patterns and Potentials in Eastern U.P.*, Lotus Publication, Varanasi.

II Semester (optional), Theory

GRP-214. 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: spatio-temporal 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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II Semester (optional), Theory
GRP-215. 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. Agro-climatic 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.

