

DEPARTMENT OF GEOGRAPHY
SREE SANKARACHARYA UNIVERSITY OF SANSKRIT,
KALADY, KERALA
Structure and Syllabus
M.A. in Geography

Structure of the PG Programme

Total Credits of the Programme 80 (minimum credits to complete the programme)

12 core courses of 48 credits

5 Elective courses within the Department of 20 credits

2 Multidisciplinary courses of 8 credits

Dissertation for 4 credits

SEMESTER I

1. Geomorphology –(PGEM 6400)
2. Geographical Thought–(PGEM 6401)
3. Practical I – Computer Applications and Statistical Techniques in Geography–(PGEM 6402)

4. Elective (from other departments)
5. Elective (from within department)

SEMESTER II

1. Climatology–(PGES 6403)
2. Contemporary Human Geography–(PGES 6404)
3. Practical II – Techniques of Map and Mapping Analysis–(PGES 6405)
4. Elective (from other departments - Sanskrit)
5. Elective (from within department)

SEMESTER III

1. Research Methods in Geography–(PGEM 6406)
2. Thematic Cartography, Remote Sensing and GIS–(PGEM 6407)
3. PRATICAL III – Introduction to Geographic Field Research–(PGEM 6408)
4. Elective (from within department)
5. Elective (from within department)

SEMESTER IV

1. Environmental Geography–(PGES 6409)
2. Geography of India with Special Reference to Kerala–(PGES 6410)
3. Urban Geography–(PGES 6411)
4. Dissertation–(PGES 6412)
5. Elective (from within department)

Elective Courses offered by the Department

1. Regional Planning and Development with Special Reference to India
2. Natural Hazards and Disaster Management
3. Agricultural Geography with Special Reference to India PGEM

4. Natural Resource Management
5. Geography of Tourism PGEM
6. Medical Geography PGES
7. Gender and Geography
8. Environment and Society
9. Social Processes and Spatial Relations
10. Population and Settlement Geography

Course 1. Geomorphology

Unit I

1. Modern theories of the origin of the earth.
2. Study of the interior of the earth and the earth's crust – Isostatic adjustments of the Earth's crust
3. Plate Tectonics and Neo-tectonics.
4. Doctrine of Uniformitarianism.

Unit II

1. Rock structure; Processes of weathering, mass-wasting and erosion and resultant
2. Land forms.
3. Slope development and slope facets; Relationship between longitudinal and transverse Slope recession; Geomorphologic processes upon slopes.
4. Concept of grade, profile of equilibrium and base level.

Unit III

1. Evolution of landforms by the process – Fluvial, Glacial & Periglacial, Aeolian, Karst and Coastal.
2. Landforms developed by the interruptions of the Fluvial Cycle.

Unit IV

1. Concept of cycle of erosion (W.M. Davis, W. Penck and L.C. King). Landforms associated with cycle of erosion.
2. Non-cyclic concept (Hack, Chorley and Schumm).
3. Applied geomorphology: Application of geomorphology in planning and development.

Reading List

- Anhert, F., (1996), 'Introduction to Geomorphology', Arnold, London,
- Bloom, A. L. (2002), 'Geomorphology : A Systematic Analysis of Late Cenozoic Landforms', Pearson Education Pvt. Ltd., Singapore.
- Christopherson, R.W. (1994), 'Geosystems : An Introduction to Physical Geography', Macmillan College publishing Company, New York.
- Engeln, O. D. Von (1944), 'Geomorphology', The Macmillan Company, New York.
- Fairbridge R. W. (1968) (ed.), 'Encyclopaedia of Geomorphology', Reinhold, New York.
- Mitchell, C. E. (1973), 'Terrain Evaluation', Longmans, London.
- Ritter, D.F., Kochel, R.C., Miller, J.R. (1995), 'Process Geomorphology', Wm. C. Brown Publishers, Chicago.
- Sparks, B.W. (1988), 'An Introduction to Geomorphology', Longman, London.
- Strahler A. (1996), 'Physical Geography : Science and System of the Human Environment', John Willey, New York.
- Thornbury, W.D. (1998), 'Principles of Geomorphology', New Age International

Press, New Delhi.

- Ahmed, E., 1985, Geomorphology, Kalyani Publishers, New Delhi.
- Ahmed, E., 1972, Coastal Geomorphology of India, Orient Longman.
- Chorley, R., Schumm, S. and Sugden, D.E. 1994. Geomorphology, Methuen, London.
- Cook and Doorncamp. 1988. Geomorphology in Environment Management, London
- Dayal, P., 1995, A Text Book of Geomorphology, Shukla Book Depot. Patna
- Faniran, A. and Jeje, L.K. 1983. Humid Tropical Geomorphology, Longman, London
- Fairbridge, R.W., 1968, The Encyclopaedia of Geomorphology, (Edge), Rainhold Book Corporation, New York
- Kale, V.S. and Gupta, A. 2001. Introduction to Geomorphology, Orient Longman Ltd., Hyderabad

Course 2. Geographical Thought

Unit: I

Geography – its place in the classification of disciplines; Basic concepts in the philosophy of geography – Darwin's influence on geography; Historical geography and the study of change

Unit: II

Kuhn's model of 'paradigms of science'; Dominant paradigms in geography; exploration, environmental determinism and possibilism, regionalism and spatial science; scientific explanation: inductive and deductive approaches.

Unit: III

A general survey of developments in geography upto World War II – Greek, Roman, Chinese and Arab contributions; Contributions of Ratzel, Richthofen, Hettener, Blache, Mckinder, Sauer

Unit: IV

Quantitative revolution in geography; Development of 'human centred theories'; behavioural and humanistic perspectives in geography; The call for social relevance in geography; Liberals and Radicals; Marxist and Feminist geography; Postmodernism and geography

Reading List

- Deckinson (1969) The Maker's of Modern Geography Routledge and Kegan Paul, London.
- Hartshorne (1939) The Nature of Geography. Association of American Geographers Lancaster Pennsylvania.
- Hartshorne (1959) Perspective on the Nature of Geography Rand McNally and company Chicago.
- Harvey, D. (1989) The condition of Post Modernity: An Enquiry into the Origins of Cultural Change, Blackwell, Oxford.
- Peet, R. (1998) Modern Geographical Thought Blackwell, Oxford.
- Binege, W. 1962 : Theoretical Geography, Glenerp, London.
- Chorley, R.J. and Hagget, P. (editors) 1965 : Frontiers in Geographical Teaching, OUP, Oxford.
- Dikshit, R.D. (editor) 1994 : The Art and Science of Geography: Selected Readings, Prentice Hall India Ltd., New Delhi.
- Dunbar, G.S. (editor) 1991: Modern Geography: An Encyclopaedic Survey, St. James Press, Chicago.
- Gregory D. and Walford, R. (editors) 1988 : Horizons in Human Geography, Macmillan, London.

- Messy, D. and Allen, J. (editors) 1984 : Geography Matters: A Reader, Cambridge University Press, Cambridge.
- Stoddart, D.R. 1986 : On Geography and its History, Basil Blackwell, Oxford.

Course 3. Computer Applications and Statistical Techniques in Geography

1. Introduction -Geography and computers- Application of Computers in Physical and Human Geography; Computer Cartography and GIS-Definitions- input – output devices, Languages, Software, Internet.
2. Operating system Windows- Introduction to Windows, icons, menus, files and folders- Functions of operating system- MS Word, MS-Excel, Paint and PowerPoint- Graphical Representation.
3. Definition of Statistics, Importance & use of statistical techniques in geography. Frequency Distribution (Histogram, Polygon, O give curve, Cumulative percentage curve)-Measures of central Tendency-Measure of dispersion: Absolute and Relative measurements-Skweness and Kurtosis.
4. Correlation Analysis: Karl Pearson's Product moment correlation coefficient- Spearman's rank order. Significance of 't' Test on correlation- coefficients. Time series: Moving average, Least square method and drawing of line of best fit.
5. Parameteric and non parameteric tests, Multiple regression, Analysis of variance-One way and Two way Annova ,Mannova.

Reading List

- Shaw g and Wheller D. (1985) : Statistical techniques in geographical analysis. John Wiley and Sons, New York.
- Sumner G. J. (1978) : Mathematics of Physical Geographers, Edward Arnold.
- Dr. S. N. Kelkar and Dr. kale mohan (2005) : Statistical Analysis of Geographical Data, Diamond Publication, Pune
- Clark W. A. V. and Hosking P. L. (1986) : Statistical methods of geographers
- Collins (1984) : Introduction to multivariate analysis, Edward Arnold
- Jonston, R. J. (1979) : Multivariate statistics in Geography, Longman, London
- Fortheringham, A.S., Brunsdon, G., Charlton, M. (2000) : Quantitative Geography, Perspectives on Spatial Data Analysis, SAGE.
- Microsoft Excel Manual and help file.
- Alvi, Z. 1995 : Statistical Geography: Methods and Applications, Rawat Pub. New Delhi:.
- Pal, S.K. 1999 : Statistics for Geoscientists, Concept publishing Company, New Delhi:
- Silk, J. 1979 : Statistical techniques in Geography, George Allen and Unwin, London:
- Walford, P.,1995: Geographical Data Analysis, John Wiley and Sons Inc., New York:

Course 4. Climatology PGES-6403

Unit 1. Introduction -Nature and scope- Development of applied climatology- Atmospheric concern and awareness-Climate impact assessment

Unit 2. Basic climatic elements- Radiation, Basic relations, Radiation laws, distribution, instruments to measure radiation – Temperature, Basic relations, distribution, soil temperature, instruments to measure temperature –Moisture, Basic relations, humidity, clouds, precipitation, rain, snow, sleet, hail, rime, dew, distribution and instruments to measure precipitation - Evaporation and evapo-transpiration, Basic relations, soil plant relationship, empirical methods to estimate evapo-transpiration, distribution and instruments- Wind, Basic relations, turbulence, gustiness, instruments.

Unit 3. Agro-climatology-Agricultural relationship of climate- weather relation of crops – rice, wheat, coffee, tea and coconut, .Climate and soil- soil management-Climate pests and diseases-Micro-meteorological changes and behaviour of pests and diseases-Climate and livestock-Climate and crops. Agro-climatic regions, droughts: definition, classification, impact of drought on agriculture.

Unit 5. Climate Change and Human behavior- Global Climate Change,Climate and health-Human bio-meteorology-Climate, clothing and human control- -Palaeo-climatology

Unit 6. Urban Climate -Urban climate and global environmental change (GEC)- Nature of global environmental change-Nature of urban climates-Impact of urban climate on GEC, Urban heat Island-Climates, past present and future, Theories of Climate Change-impacts on Society.

Reading List

- Anthes, R. 1997: Meteorology, 7th edition, Prentice-Hall Inc., Upper Saddle River: 214p.
- Barry, R.G. and Chorley, R.T. 1992: Atmosphere, Weather and Climate, 6th edition, Routledge, London: 392p.
- Brigg, G.R. 1996 : The Ocean and Climate, Cambridge University Press, Cambridge: 266p.
- Cock, N.K. 1995 : Geohazards: Natural and Human, Prentice Hall, Englewood Cliffs: 481 p.
- Critchfield, H.J. 1983: General Climatology, 4th edition, Prentice Hall India Ltd., New Delhi: 453p.
- Das, P.K. 1995 : Monsoons, 2nd edition, National Book Trust, New Delhi: 347p.
- Elsom, D.M. 1992 : Atmospheric Pollution: A Global Problem, 2nd edition, Blackwell Pub. Co., London: 422p.
- Geiger, Rudolf (1966): The Climate near the Ground, Harward University Press.
- Hobbs, John E. (1980) : Applied Climatology, Dawson West View Press.
- Lal, D.S. 1993 : Climatology, 3rd edition, Chaitanya Pub. House, New Delhi: 412p.
- Lal, M. (ed.) (1993) : Global Warming, Tata McGraw Hill, New York.
- Linacre, E. and Geerts, B. 1997 : Climates and Weather Explained, Routledge, London: 464p.
- Lutgens, F.K.. and Tarbuck, E.J. 1998 : The Atmosphere: An Introduction to Meteorology, 7th edition, Prentice-Hall Inc., Upper Saddle River: 434p.
- Mather, J.R.(1974) : Climatology : Fundamentals and Applications, McGraw Hill, New York.
- Moran, J.M. and Morgan, M.D. 1997 : Meteorology: The Atmosphere and the

Science of Weather, 5th edition, Prentice-Hall Inc., Upper Saddle River: 530p.

- Oliver, John E. (1973) : Climate and Man's Environment, John Wiley and Sons, New York.
- Oliver, John E. (1981) : Climatology, Selected Applications, V.H. Winston and Sons, London.
- Pant, G.B. and Kumar, R.K. 1997: Climates of South Asia, John Wiley and Sons Ltd., Chichester: 320p.
- Smith, K. 1996 : Environmental Hazards: Assessing Risk and Reducing Disaster, 2nd edition, Routledge, London; 389p.
- Taylor, J.A. (editor) 1974 : Climatic Resources and Economic Activity, David & Charles, London: 264p.

Course 5. Contemporary Human Geography

Unit 1. GEOGRAPHY AND THEORY

- a. Ontology, Epistemology, Ideology, Methodology
- b. The production of knowledge; Scientific and Situated knowledge
- c. Definitions of Human Geography
- d. Fundamental Concepts of Human Geography; Space, Place, Nature

Unit 2. CONTEMPORARY TRENDS IN HUMAN GEOGRAPHY

- a. Cultural Turn
- b. Critical Geographies –Geographies of domination and resistance
- c. Post modern Geographies – Speaking from the margins
- d. Post Structural Geographies

Unit 3. THE PRACTICE OF CONTEMPORARY HUMAN GEOGRAPHY - I

- a. Geographies of body: Introducing the body – movement, rest, encounter – civilising and disciplining the body – cultural capital and body projection – sexed bodies – othering the body
- b. Geographies of text: The meaning of text – Geographies of language and literature – the spaces of the screen – Theorising the landscape

Unit 4. THE PRACTICE OF CONTEMPORARY HUMAN GEOGRAPHY - II

- a. Geographies of Governance: The meaning of governance – Changing modes of governance – Regulation Theories – Citizenship, governance and social justice
- b. Geographies of Globalisation: Space, time and mobility – the geography of global economy – the global sense of place – towards a geography of flows

Reading List

- Agnew, John et. al. (ed.) (1996), Human Geography, Blackwell Publishers London.
- Dikshit, Aitken Stuart & Gill Valentine ed. (2006) Approaches to Human Geography, Sage, London.
- Bonnet, Alastair (2008) What is Geography? Sage, New Delhi.
- Cloke, Paul and Johnston, Ron (2005) Spaces of Geographical Thought, Sage, London.
- Dickinson, R.E. (1969), The Makers of Modern Geography, London.
- Dikshit, R.D. (1999), Geographical Thought - A Contextual History of Ideas, Prentice Hall of India, New Delhi.
- Hartshorne, R. (1959), Perspective on Nature of Geography, Rand Mc Nally & Co.
- Harvey, David (1969), Explanation in Geography, Edward Arnold, London.

- Harvey, David (1990) *The Condition of Postmodernity*, Blackwell, London.
- Harvey, Milton E and Brian P. Holly (1981), *Themes in Geographic Thought*, Croom Helm, London.
- Hubber, Phil et. al. (2002), *Thinking Geographically: Space Theory and Contemporary, Human Geography*, Continuum, New York.
- James P.E. and Martin J. Geoffret (1972) *All Possible Worlds*, John Wiley and Sons, New York.
- Johnston, R.J. (1988) *The Future of Geography*, Methuen, London.
- Johnston, R.J. (2004) *Geography and Geographers*, Arnold London.
- Peet, Richard (1998) *Modern Geographical Thought*, Oxford Blackwell.
- Peet, Richard (2003) *Radical Geography*, (Indian Reprint), Rawat Publication, New Delhi.
- Soja, Edward W. (1997) *Postmodern Geographies*, Indian edn. Rawat Publications, New Delhi.
- Unwin, Tim (1992) *The place of Geography*, Pearson Education Limited, Essex.

Course 6. Techniques of Map and Mapping Analysis

1. Construction and Interpretation of Profiles – serial, superimposed, projected and composite profile – River Thalweg.
2. Slope and morphometric analysis – Wentworth, Smith, Rabinson and Raize methods of slope analysis – morphometric analysis of drainage basin – numbers, order, length and area bifurcation ratio and other ratios – drainage density.
3. Climatic graphs – climograph – Foster's and Taylor's- climatograph – dispersion graph – Ergo graph
4. Analysis of Indian Daily Weather charts and rain variability maps – deviation graphs.
5. Statistical diagrams and block diagrams.
6. Appreciation of Cartographic techniques in SOI sheets, thematic maps of NATMO, and Census of India.
7. Map conventional signs and symbols.
8. Interpretation of topographical maps for relief features, settlement, vegetation and land use.
9. Aerial photo / satellite imagery interpretation – construction - interpretation keys interpretations – relief land use settlement and vegetation.
10. Sampling methods and land cover / land use estimation

Reading List

- Dickinson.G.C. 1968: *Statistical Mapping and Presentation of Statistics*. Arnold, London

- Lawrence. G.R.P,1971 : Cartographic Methods, Methuen , London
- Monkhouse. F.J and Wilkinson.H.R.1972: Maps and Diagrams. Methuen , London
- Misra. R.P.1969: Fundamentals of Cartography, Prasaranga. University of Mysore, Mysore.
- Raisz.E. 1962: Principles of Cartography, McGraw Hill, New York.
- Robinson.A.H.1978: Elements of Cartography, John Wiley, New York.
- Parsons, T. and Knight, P.1995 : How To Do .Your Dissertation in Geography and Allied Disciplines. Chapman and Hall, London.
- Robinson, A.H., Sale, R.D., Morrison, J. 1984 : Elements of Cartography, Wiley, New York.
- Roy, P. 1988 : An Analytical Study of Map Projections, Volume 1, Kolkata.
- Sarkar, A. 1997 : Practical Geography: A Systematic Approach, Orient Longman Ltd., Hyderabad.
- Shepherd, F.A. 1983 : Engineering Surveying, Edward Arnold, London.
- Singh, N. Surveying, Tata McGraw-Hill Publishing Company Ltd., New Delhi.
- Singh, R.L. and Singh, R.P.B. 1.991 : Elements of Practical Geography, Kalyani Pub. New Delhi.
- Steers, J.A. 1965 : An Introduction to Map Projections, 14th ion, University of London Press, London.

Course 7. Research Methods in Geography

1. Meaning of academic research - Dimensions of research in Geography – Traditional and scientific – Theories and laws – Politics and Ethics of research
2. Research Design – Selection of topic – Review of literature - Theoretical frame/conceptual frame – Formulation of hypothesis/research questions – Sources of data; Primary and Secondary- Research Methods
3. Geographical Data collection: Foundations of Quantitative Methods – Questionnaires and Surveys, Population and sampling - Research methods for Physical Landscapes – climate – vegetation - Human-Environment Field Studies
4. Geographical Data collection: Foundations of Qualitative Methods – Interviews, Focus groups, Ethnography, Participant Observation, Case Study, Discourse analysis – Participatory research
5. Representation and Analysis of Data: Maps and diagrams – Descriptive statistics – Explanatory Statistics – Regional analysis – Modeling – GIS - Analysing meaning of the texts.
6. Organization and writing of thesis/dissertation: Academic writing – citing of references – organization of chapters - bibliography

Reading List

- Ebdon, D. (1985) *Statistics in Geography* . Oxford: Blackwell.

- Gatrell, J. D. , Bierly , G. D. , and Jensen, R. R. (2005). *Research Design and Proposal Writing in Spatial Science* . Berlin: Springer .
- Manly , B. J. (1992) *The Design and Analysis of Research Studies* . Cambridge: Cambridge University Press .
- Patten, M. L. (2007) *Understanding Research Methods: An Overview of Essentials* (6th edn). Glendale, CA : Pyrczak Publishing
- Ripley . B. D. (2004) *Spatial Statistics* . Hoboken, NJ : Wiley .
- Webster , R. , and Oliver , M. A. (2001) *Geostatistics for Environmental Scientists* . New York : Wiley
- Shaw G and Wheller D. (1985): *Statistical techniques in geographical analysis*. John Wiley and sons, New- York
- Sumner G J (1978): *Mathematics for physical geographers*. Edward Arnolds
- Karlekar Shrikant and Kale Mohan (2005): *Statistical analysis of Geographical data*, Dimond publication
- P. A. Burrough and R.A. McDonnell, *Principle of Geographical Information System*, 2000, Oxford University Press.
- Geoge Joseph (2003): *Fundamental of Remote Sensing*, Universities Press, Hyderabad.
- Ebdon David (1989): *Statistical for Geographers*
- King, (1975): *Statistical Geography*
- Norcliffe G. B. (1977): *Inferential statistics for Geographers* (Hutchinson, London)
- Rogerson P. A. (2001): *Statistics for Geography* (SAGE pub., London, New Delhi}
- Singh & Kanauja : *Map work and Practical Geography*.
- Maslov A. V.Gordeev A. V. Batrakov Yu. G. (1984) : *Geodetic surveying*, Mir Publishers, Moscow
- Kanetkar T. P. & Kulkarni S.V. 1986. *Surveying & leveling*, Pune Vidyarthi Griha Prakshan, Pune
- V. Natarajan P., Adler Ron K.: *Advanced Surveying*, B. 1 Publ. Bombay
- Richardus P., Adler Ron K (1972) : *Map projections*, North Holland publ. Co. Amsterdam
- Maling .H. (1973) : *Co ordinates systems and map projections*, George Philip, London.
- Bennett , K. , and Shurmer - Smith , P. (2001) *Writing conversation* . In *Qualitative Methodologies for Geographers* , Limb , M. and Dwyer , C. eds. London: Arnold,
- Cloke , P. , Cook , I. , Crang , P. , Goodwin , M. , Painter , J. , and Philo , C. (2004) *Practising Human Geography* . London : Sage .
- Crang , M. A. , and Cook , I. (2007) *Doing Ethnographies* . London : Sage .

Course 8. Thematic Cartography, Remote Sensing and GIS

Unit-1: Surveying & Map Projection

The Earth: its shape and size; Datum and co-ordinate systems; Geographical co-ordinate, Projected co-ordinate and grid system; Choice and classification of map projections; Curvature of the Earth and its effect on surveying; Trigonometrical surveying; Calculation of height & distance.

Unit-2: Cartography

History and Development of Cartography; Sources of cartographic data; Scale: types & importance; Cartographic methods and techniques for preparation of maps and diagrams; General maps: types and applications; Thematic maps: types and applications.

Unit-3: Remote Sensing

Principles of Remote Sensing; Areal Remote Sensing; Satellite Remote Sensing; Image Interpretation; Remote Sensing Applications

Unit-4: Geographic Information System

Definition and scope of GIS; Components and elements of GIS; Nature of geographic data: spatial and attribute data, raster and vector data; GIS data quality: errors, policies; Concept of geo-database; Spatial analysis: raster based and vector based, advantages and disadvantages; Data interpolation methods; Topographic representation models: Digital Elevation Model (DEM) & Triangulated Irregular Network (TIN); Applications of GIS.

Unit-5: Global Positioning System

Introduction to GPS; Types of GPS; GPS satellite; data receiver and control points; Differential GPS; Sources of GPS errors; Application of GPS in surveying, mapping and navigation.

Reading List

- Campbell, J.B. 1996: Introduction to Remote Sensing, 2nd edition, Taylor & Francis, London: 622p.
- Chaisman, N. 1992: Exploring Geographical Information Systems, John Wiley and Sons Inc., New York: 198p.
- Lillesand, T.M. and Kiefer, R. W. 1994: Remote Sensing and Image Interpretation, 3rd edition, John Wiley and Sons, New York: 750p.
- Marcolongo, B. And Mantorani, F. 1997: Photogeology: Remote Sensing Application in Earth Science, Oxford and IBH Pub. Pvt. Ltd., New Delhi: 195p. ..
- Rajan, M.S. 1995 : Space Today, 2nd edition, National Book Trust, New Delhi, 344p.
- 18Rao, U .R. 1996 : Space Technology for Sustainable Development, Tata McGraw-Hill, New Delhi: 564p.
- Sabins, F.F., 1997 : Remote Sensing: Principles and Applications, 3rd edition, W.H. Freeman & Company, New York: 494p.
- Beaumont, J.R. and Williams, S.W. 1983 : Project Work in the Geography Curriculum, Croom Helm, London.
- Elfic, M.H., Fryer, J.G. Brinkner, R.C. and Wolf, P.R. 1994: Elementary Surveying, 8th edition, Harper Collins Publishers, London.
- Hussain, S.K. and Nagaraj, M.S. 1992 :Text Book of Surveying, S. Chand & Co. Ltd., New Delhi.
- Kanetkar, T.P. and Kulkatni, S. V. 1.988 : Surveying and Levelling, Part I, Pune Vidyarthi Griha Prakashan, Pune.
- Kellaway, G.P. 1979 : Map Projections, 1st Indian edition, B.I. Publication, Delhi.
- Kochher, C.L. 1993 : A Text Book of Surveying, S.K. Katariya & Sons, Delhi:
- Monkhouse F.J. and Wilkinson, H.R. 1971. : Maps and Diagrams: Their Compilation and Construction, B.I. Publications Private Limited, New Delhi.
- Parsons, T. and Knight, P.1995 : How To Do .Your Dissertation in Geography and Allied Disciplines. Chapman and Hall, London.
- Robinson, A.H., Sale, R.D., Morrison, J. 1984 : Elements of Cartography, Wiley,

New York.

- Roy, P. 1988 : An Analytical Study of Map Projections, Volume 1, Kolkata.
- Sarkar, A. 1997 : Practical Geography: A Systematic Approach, Orient Longman Ltd., Hyderabad.
- Shepherd, F.A. 1983 : Engineering Surveying, Edward Arnold, London.
- Singh, N. Surveying, Tata McGraw-Hill Publishing Company Ltd., New Delhi.
- Singh, R.L. and Singh, R.P.B. 1.991 : Elements of Practical Geography, Kalyani Pub. New Delhi.
- Steers, J.A. 1965 : An Introduction to Map Projections, 14th ion, University of London Press, London.

Course 9. Introduction to Geographic Field Research

Unit 1. Map Study

Study of S.O.I Topographical Maps (1: 50,000 and 1:25,000 Series)-Indexing and conventional signs and symbols - Grid references(4-figure grid and 6-figure grid)
-Locational and Relief aspects of the area (Latitudinal & Longitudinal extension 2. Contour interval 3. Maximum and Minimum heights)

Unit 2. Field Study

Patterns of Relief -Distribution of Spot heights, bench marks, Trigonometrical Points etc.- Types of Slopes (convex, concave, uniform etc-Major landforms from contour pattern-

Patterns of Drainage network- Types-trellis, dendritic, radial, Influence of relief on drainage

Patterns of Vegetation- Types of vegetation - Association of relief and drainage
-Reserved Forest and Protected Forest

Patterns of Settlements - Types, (amenities, facilities and communication, etc, Distribution, relative size, relative distance (dispersed, nucleated etc)

Patterns in Land Use - Agriculture, mining etc, areal distribution, impact on physical landscape.

Unit 3. Spatial Data collection

(i) Location- Location on toposheet (lat. & long), extension, grid reference if available, height above mean sea level, area, site and situation -Map showing physical features surrounding the village.-Position of the village on the cross-section line.-Location of the village shown in the map of catchment area.

(ii) Geology and climate - Information regarding geology, climate, soils and vegetation of the village-

Unit 4. Quantitative Data collection

(i) Population characteristics- Population, population structure, Socio-economic information regarding households-based on appropriate sample survey.

(ii)Site morphology -Plan prepared by pace survey- Description of the plan.

Unit 5. Qualitative Data Collection

(i) Study of a social / environmental character of the area using ethnography/in-depth interview/focus group/participatory methods

(Each student should individually prepare and submit a report to the department after this course. Each report should contain necessary maps, statistical tables, photographs, videos and other relevant documents with a write-up. As the course focuses on field oriented practical learning, there will be no end semester examination for this course. All four credits of the course will be evaluated internally on the basis of each student's engagement with the field

and the end report submitted to the department. 2 credits for field engagements, 1 credit for the report and 1 credit for the presentation in the class).

Reading List

- Tamaskar B.G. and Deshmukh V.M. (1974), Geographical Interpretation of Indian Topographical Maps. Orient Longman Limited Bombay
- Ramamurthy, K. (1982): Map interpretation, Madras
- Petrie N. (1992), Analysis and Interpretation of Topographical Maps. Orient Longman Limited Calcutta.
- Dury G.H. (1960), Map Interpretation. Sir Isaac Pitman and Sons Limited, Pitman House, Bath.
- Meux A. H. (1960), Reading Topographical Maps. University of London Press Limited
- Jones P. A. (1968), Field work in Geography. Longmans, Green and Company Limited
- Archer J. E and Dalton T. H. (1968), Field work in Geography B.T. Batsford Limited London
- Wheeler K.S. Ed (1970), Geography in the field. Blond Educational, London.
- Gupta, K. K. and Tyagi, V. C. (1992): Working with maps, Survey of India Publication, Dehradun
- Vaidyanadhan. R. (1968). Index to a set of 60 topographical maps, CSIR, New Delhi

Course 10. Environmental Geography

1. Nature and scope of environmental geography, fundamental concepts of environmental geography; Approaches and methods in Environmental Geography; Relationship with other branches of knowledge.
2. Environment and Ecology: Meaning, structure and type of Environment, Ecology - meaning, scope and concepts. Sub divisions of ecology.
3. Environmental Degradation – Nature, process, types and causes of environmental degradation, Types of environmental pollution, Sources and effects of environmental pollution: air, water and land,
4. Ecological Issues and Movements – Issues; Global warming , Climate change, Biodiversity loss, food insecurity, Desertification, Major environmental movements in India and Kerala
5. Environmental Protection Acts with special reference to Legislation in India.

Reading List

- Anderson J.M. (1981): Ecology for Environmental Science : Biosphere, Ecosystemsand Man, Arnold, London.
- Goudie, Andrew (1984) : The Nature of the Environment, Oxford Katerpring Co. Ltd.
- Nobel and Wright (1996) : Environmental Science, Prentice Hall, New York.
- Odum, E.P. (1971) : Fundamental of Ecology, W.B. Sanders, Philadelphia.
- Singh, R.B. (ed.) (1989) : Environmental Geography, Heritage, New Delhi.
- Strahler, A.N. and Strahler, A.H. (1973) : Environmental Geosciences : Interaction between natural systems and Man, John Wiley and Sons, New York.
- Strahler, A.H. and Strahler A.N. (1977) : Geography and Mans Environment, John Wiley, New York.

• William, M.M. and John, G. (1996) : Environmental Geography - Science, Landuse and Earth System, John Wiley and Sons, New York.

Course 11. Geography of India with special reference to Kerala

1. Physical aspects and Resources: Geographical and relative location of India-Economic position of India in Relation to World, Making of India/Kerala through geological times, structure and relief, physiographic divisions, drainage systems and watersheds, climate characteristics, mechanism of the Indian monsoon, soil-water resources, forest types, distribution and utilization.
2. Agriculture: Salient features of agriculture, agricultural regions, major crops, problems and prospects, green revolution and its impact, white, blue and yellow revolutions, Problems of food security in India/Kerala.
3. Industries: Salient features of Indian industry, industrial complexes and regions, major industries, industrial policies, problems and prospects, transport development: Rail, Road, and Ports, Tourism in India/Kerala.
4. Population structure and composition – size, distribution and density; biological, economic and socio-cultural characteristics, recent trends in dynamics of population – Migration and urbanization, population policy.
5. Dynamic, prospective and problem regions of India, Regional disparities in the levels of economic development, Five year plans- Energy crisis in India: Nuclear, Solar and wind power.

Reading List

1. Agrawal A. N. - Indian economy, Problems of Development and Planning.
2. Chopra S. N. - India, An Area Study.
3. Dubey and Negi - Economic Geography of India.
4. Gopal Singh - India.
5. Memoria I.B. - Geography of India.
6. R. L. Singh - Regional Geography of India.
7. Sharma and Continuo - Economic and Commercial Geography of India.
1. Deshpande C.D.: Indian-A Regional Interpretation, Northern Book Centre, New Delhi. 1992.
2. Farmer, B.H.: An Introduction to South Asia, Methuen, London, 1983.
3. Govt. of India: India-Reference Annual, 2001 Pub. Div., New Delhi.
4. Govt. of India: National Atlas of India NATMO Publication, Calcutta.
5. Govt. of India: The Gazetteer of India. Vol. I & III Publication Division.
6. Learmonth A.T.A et.al (ed) Man and land of South Asia, Concept;
7. Mitra, A: Levels of Regional Development of India, Census of India, Vol. I, Part I-A (i) and (ii) New Delhi, 1967.
8. Routray, J.K.: Geography of Regional Disparity, Asian Institute of Technology, Bangkok, 1993.
9. Shafi, M: Geography of South Asia, McMillan & Co., Calcutta, 2000.
10. Singh, R.L. (ed). : India A Regional Geography, National Geographical Society. India, Varanasi, 1971.
11. Spate, O.H.K. and Learmonth, A.T.A. India and Pakistan – Land, People and Economy Methuen & Co., London. 1967.
12. Valdiya, K.S. : Dynamic Himalaya, University Press, Hyderabad, 1998.
13. Singh, Gopal, 1988. Geography of India, Atma Ram, Delhi.

14. Tirth Ram, 1996. Geography of India, Rawat, Jaipur.
15. Gopal Krishnan, R., 1996. Geography of India, Jawahar Pub. & Dist., New Delhi.

Course 12. Urban Geography

UNIT - I - Nature, scope and significance of Urban Geography; different approaches to the study of urban geography – recent trends – definition of urban centres – origin and growth of urban centres – process of urbanization – factors associated with the growth of cities

UNIT – II- Classification of urban centres on the basis of a) size b) function, rank size rule, Harris and Nelson’s scheme of classification – classification of Indian cities by Asok Misra

UNIT – III- Urban centres – their spatial and functional relationships, Central Place theory, theories of Perroux and Bourdeville. Economic bases of urban settlement – basic and non basic concepts

UNIT – IV- Urban morphology; land use models – theories of Burgess, Harris and Hoyt’s Central Business district and its characteristics; morphology of Indian cities, Urban housing – Urban slums – urban housing policies and programmes – Urban fringe – its characteristics and development

UNIT – V- Salient features of the process of urbanization in India and Kerala– Quality of urban life - Issues of urban environment: poverty, crime, infrastructure, sprawl, renewal, pollution & health.

Reading List

1. Bhattacharya: Urban development in India, Shree publication.
2. Bird, James 1977: Centrality And Cities, Routledge, London
3. Brian.R.K. (1996) : Landscape of Settlement Prehistory to the present, Routledge, London
4. Carter (1972) : The Study of Urban Geography, Edward Arnold,.London.
5. Carter, H. 1981: Urban Geography, 3rd edition Arnold-Heinemann, New Delhi: 434p.
6. Dickinson, R.E. 1968: City and Region: A Geographical Interpretation, Routledge and Kegan Paul Ltd. London.
7. Diddee, Jaymala 1997: Indian Medium Towns, Rawat Publications, Jaipur.
8. Flint C and Flint.D(1999):Urbanisation Changing Environments, Collins, London
9. Ghosh, S. 1998: Introduction to Settlement Geography, Orient Longman Ltd., Calcutta: 158p.
10. Gibbs.J(1961) : Urban Research Methods.East-West Press Pvt Ltd. ,New Delhi
11. Hall P. (1992) Urban and Regional Planning, Routledge, London
12. Hardy, J. E., Mittin, D. & Satterthwaite, D. 1992 : Environmental Problems in the World Cities, Earthscan Pub. Ltd. London.
13. Herbert, David and Thomas, Colin, 1982: Urban Geography A First Approach,Jhon Wiley & Sons, New Delhi
14. Hudson, F.S. 1970: Geography of Settlements, Macdonald and Evans Ltd., Plymouth: 3-12,61-70, 79-101,
15. Johnson : Urban Geography
16. Johnston .R.J (2000): The Dictionary of Human Geography,Blackwell. UK
17. K. Siddharth and S. Mukherji : Cities,. Urbanizations and Urban Systems.
18. Kaplan.D and Wheeler.J (2008):Urban Geography,John Wiley
19. Knox, P. 1982: Urban Social Geography, Longman Scientific and Technical, Harlow.
20. Kundu, A. (1992) : Urban Development and Urban Research in India, Khanna Publication.

21. Law.N,Smith.D,(1991),Decision Making Geography, Stanley Thornes Pub. Ltd, Leckhampton
22. Mandal, R.B. 2000: Urban Geography: A Textbook, Concept Pub. Co., New Delhi.
23. Mayer and Kohn : Readings in Urban Geography
24. Misra. H. N. (ed) 1987: Contributions to Indian Geography, Volume 9: Rural Geography, Heritage Pub., New Delhi.
25. Mohan Sudha 2005: Urban Development and New Localism, Rawat Publications, Jaipur.
26. Northam : Urban Geography
27. Pacione, Micheal, 2001: Urban Geography, Routledge, London
28. Racine, J. (ed): Calcutta 1981, Concept Pub. Co., New Delhi.
29. Raj Bala : Urbanization in India.
30. Ramachandran R. 1989: Urbanisation arid Urban Systems in India, Oxford University Press, New Delhi.
31. Rao, R. Rammohan and S. Simhadri 1999: Indian Cities: Towards Next Millenium, Rawat Publications, Jaipur.
32. Roy Turner: Indian's Urban Future.
33. Shah Manzoor Alam : Urbanization in Developing Countries
34. Sharma, R.N. and K. Sita 2001: Issues in Urban Development, Rawat Publications, Jaipur.
35. Short ,John, 1984: An introduction to Urban Geography, Routledge , London
36. Singh, R. Y. 1994: Geography of Settlements, Rawat Pub. Co., New Delhi: 335p.
37. Singh, R.L. et. al. (ed) 1976: Geographic Dimensions of Rural Settlements, National Geographical Society of India, Varanasi.

Dissertation

The department envisions MA dissertations (a minimum of 50 pages or 15,000 words) at the fourth semester of the programme (4 Credits) to demonstrate a student's ability to formulate a geographic research problem, collect and analyze relevant data or appropriate literature, arrive at logical conclusions, and to present the entire exercise at a seminar in the department. MA dissertations are more often learning experiences than substantive contributions to the field. Each student have to carried out the dissertation work under the supervision of a faculty member and should submit three copies of the work done to the department 10 days before the commencement of the fourth end semester examinations.

Electives

1. Regional Planning and Development with Special Reference to India

Unit I Conceptual and Theoretical Framework: Regional concept in Geography and its application to planning; types of regions and methods of regional delineation; Concept of Development, Indicators of Development, Regional Development; Planning Process: Types of Planning , Regional Planning and its rationale, principles and objectives; Approaches of Regional Planning; National vs Regional Planning.

Unit II Regional Growth Theories: Economic Base Theory; Input and Output Model; Regional Multiplier; Friedman's Core-Periphery Theory; Polarisation and Trickle-down Theory of Hirschman; Spread and Back Wash Theory of Myrdal; Growth Pole Theory of Perroux.

Unit III Planning Region: Need for Planning Region; Characteristics of Planning Regions; City- Region Concept; Hilly Region; Tribal Region; Multi-level and Micro level planning.

Unit IV Regional Planning in India: Regional Imbalances/Disparities – Causes and consequences; Measurements of Regional Disparities; Planning Policies for Regional Development; National Capital Region

Reading List

- Agarwal,A.N.(1995):Indian Economy ,Problems of Development and Planning,Vishwa Prakasan ,New Delhi
- Boudeville,J.R.(1966): Problems of Regional Economic Planning,Edinburgh University Press, Edinburgh
- Chand.M,Puri. V.K, (1983):Regional Planning in India,Allied Publishers,New Delhi
- Chandra,Bipin(1992): “The Colonial Legacy”, in The Indian Economy Problems and Prospects,Ed:Bimal,J,Penguin Books,New Delhi
- Chandrasekhara,C.S.and Sundaram.K.V(1968):Planning Regions in India,Town and Country Planning Organisation
- Chandrasekhara,C.S.and Sundaram.K.V(1968):Metropolitan Centres and Regions in India,21 st International Geographical Congress, Metropolitan Growth and Planning
- Dickinson.R.E,(1964):City and Region: A geographical interpretation,Routledge and Kegan Paul Ltd., London
- Dickinson.R.E,(1964): City , Region and Regionalism,A geographical Contribution to Human ecology Kegan Paul Ltd., London
- Dreze.J and Sen A.(1996):Economic Development and Social Oppurtunity,Oxford University Press,New Delhi
- Dutta,R. & K.P.M,Sundaram,(1997): Indian Economy,S.Chand and Cc.Ltd, New Delhi
- De Blij, H.J. and Muller, P.O. 1997: Geography: Realms Regions and Concepts, 8th edition, John Wiley and Sons Ltd., New York
- Misra,R.P(1969): Regional Planning:Concepts,Techniques,Policies and Case Studies,Concept, New Delhi
- Misra.R.P,Sundaram.K.V& VLS Prakash Rao((1974):Regional Development Planning In India,A New Strategy,Vikas Publishing House Pvt.Ltd., New Delhi
- Misra,S.K,and Puri,V.K.(1997): Indian Economy,Himalaya Publishing House, Mumbai
- Mitra,A(1965):Levels of Regional Development in India,Government of India
- Gill,R.(1975):Economic Development :Past and Present, Prentice-Hall of India,New Delhi
- Glasson,J.(1975): An Introduction to Regional Planning, Hutchinson and Co.,London
- Walter,Issard(1975):Introduction to Regional Science ,Prentice-Hall,NewYork
- Ray Chaudhuri,Jayasri(2001): An Introduction to Development and Regional Planning, Orient Longman,Kolkata

2. Natural Hazards and Disaster Management

Unit-i Concept of Hazards, Risk, Vulnerability and Disaster, Types of Hazards : Natural(Climatic, Geological and Geo-morphic), man-made(Physical, chemical and

biological).

Unit-ii Natural Disasters: Storm, Floods, drought and desertification, earthquakes and tsunamis, landslides, avalanches, cyclones, forest fires and Land instability.

Unit-iii Regional Dimension of Hazard: Occurrence and trends with special reference to northwest India, Case Studies: Geographic background of various disasters; Disaster Losses and Impact-Displacements, Livelihood .Economy and Infrastructure, and Health.

Unit-iv Disaster Management and measures: Concepts relating to the Pre-disaster phase, emergency phase, post-disaster Phase, Disaster Management in India: Agencies, Plans and Policies- use of GIS and GPS

Reading List

- Abbott, Patrick L. *Natural disasters*. 7th ed. Dubuque, IA, McGraw-Hill, c2009
- Bolt, Bruce A. *Earthquakes*. 5th ed. New York, W. H. Freeman, c2006.
- Brumbaugh, David S. *Earthquakes: science and society*. 2nd ed. New York, Prentice Hall,
- Bryant, Edward. *Tsunami: the underrated hazard*. Berlin, New York, Springer; Chichester, England
- Davis, Lee. *Natural disasters*. New ed. New York, Facts on File, Inc., c2008.
- Erickson, Jon. *Quakes, eruptions, and other geologic cataclysms: revealing the earth's hazards*.
- *Global warming, natural hazards, and emergency management*. Editors, George Haddow, Jane A. Bullock, and Kim Haddow. Boca Raton, FL, CRC Press, c2009.
- Hough, Susan Elizabeth. *Earthshaking science: what we know (and don't know) about earthquakes*. Princeton, N.J., Princeton University Press, c2002.
- Kovach, Robert L. *Firefly guide to global hazards*. Buffalo, NY, Firefly Books, 2004.
- *Notable Natural disasters*. Edited by Marlene Bradford and Robert S. Carmichael. Rev. ed. Pasadena, CA, Salem Press, c2007.
- Robinson, A.G. *Earthshock: hurricanes, volcanoes, earthquakes, tornadoes, and other forces of nature*. Rev. ed. New York, Thames & Hudson, 2002.
- Smith, Keith. *Environmental hazards: assessing risk and reducing disaster*. 5th ed. Milton Park, Abingdon, Oxon ; New York, NY : Routledge, c2009. 383 p.

3. Agricultural Geography with special reference to India –PGEM-6413

Unit-1 The nature, subject matter and progress in Agricultural Geography. –

Aprochess, recent trends in agricultural geography and sources of agricultural data

Unit-2 Factors affecting agriculture – Physical, institutional, technological , Classification of Agricultural types and its distribuion , Agricultural concepts, methods and their measurement - (a) intensity of cropping, (b) degree of commercialization, (c) diversification and specialization, (d) efficiency and productivity- ,

Unit-3 A critical evaluation of the classification of world agriculture with special reference to Whittlesey - Land-use survey and classification (Indian), Agriculture regions in India— problems and prospects of Indian agriculture, Agricultural polices of India.

Unit-4 Land use Classification, Land Use Pattern in India and Land Capability, Models – Von Thunen - (Normative, Decision making, Location, Diffusion and Combinational) - New perspectives in Agriculture: Urban Agriculture, Agri-business and Food Security, Agricultural Typology with special reference to Kerala.

Unit-5 – Sustainable Development of Agriculture- Green, White And Blue Revolutions and their components. Agriculture Management in India and Kerala

Reading List

- Grigg, David (1995): An introduction to agricultural geography (second edition), Routledge, London and New York.
- Singh Jasbir and Dhillon, S.S. (1994): Agricultural Geography, Tata McGraw Hill Publishing Co., Ltd., New Delhi.
- Symons, Leslie (1970): Agricultural Geography, G. Bell and Sons Ltd., London.
- Berry, B.J.L. 1976. The Geography of Economic Systems, Prentice Hall; New York.
- Chauhan, D. 2010. Agricultural Geography, Ritu Publications
- Brown, L.R. 1990 The Changing World Food Prospects- The Nineties and Beyond, World Watch Institute, Washington D.C.
- Dyson, T. 1996. Population and Food – Global Trends and Future Prospects, Routledge, London.
- Gobind, N. 1986. Regional Perspectives on Agricultural Development ; Concept Publications; New Delhi
- Gregory, H.F. 1970. Geography of Agriculture; Prentice Hall Englewood Cliff; New Jersey.
- Grigg F.D.B. 1974. The Agricultural Systems of the World, Cambridge University Press; New York
- Hussain, M. 1979. Agricultural Geography; Inter India Publishers; New Delhi.
- Hussain, M. 1979. Systematic Agricultural Geography; Rawat Publishers; New Delhi.
- Jasbir, S. and Dhillon, S.S. 1984. Agricultural Geography, McGraw Hill; New Delhi.
- Mannion, A.M. 1995. Agriculture and Environment Change; John Wiley; London.
- Shafi, M. 2006. Agricultural Geography, Pearsons Publications, New Delhi.
- Shafi, M. 1984. Agricultural Productivity and Regional Imbalances: A Study of Uttar Pradesh, Concept Publication Company, New Delhi.

4. Natural Resource Management

1. Concept, models and approaches to natural resource management.
2. Utilization, Conservation and Management of Resources, Problems of Resource Utilization
3. Resource Appraisal: Ground, remote sensing and G.I.S.
4. Sustainable Resource Development: Concept, method and dimensions, creating sustainable systems.
5. Integrated Resource Development: Ecological, economic and social aspects; problems of river basin development.
6. Institutions and Policy Making: Institutional arrangements; policy models; policy making and resource management.
7. Utilization, management problems and policies of natural resources in India.

Reading List

- Adams, W.M (1990): Green Development: Environment and Sustainability in the Third World, Rutledge & Chapman Hall, New York.
- Granfelt .T.R (1999) Managing the Globalized Environment J&L Composition Ltd., New York.
- Holechek, J.L. et al (2000): Natural Resources: Eulogy Economics & Policy, Prentice

Hall, New Jersey.

- Hooja. R & Joshi R. (1994): Desert, Drought and Development, Studies in Resource Management and Sustainability; Rawat Publication Jaipur
- Howard. M.C. (ed), (1993): Asia's Environmental Crisis, Westview Press, Prouldar,
- Kates R.W. & Burton I.(eds)(1986): Geography, Resources and Environment, Vol. I & II University of Chicago Press, Chicago
- Mc Laren, D.J. and Skinnnet, B.J. (eds)(1986): Resources and World Development, John Wiley & Sons, New York
- Newson, M.D. (1991) : Land, water and Development River Basin systems and Management Routledge Lodon.
- Owen, S. and Owens, P.L. (1991): Environment Resources and Conservation Cambridge University Press, New York.
- Peckford, John et. At (ed) : (1994) Water, Sanitation, Environment and Development, IT Publication, London
- Rees, J. (1988): Natural Resources: Allocation, Economics and Policy, Methuen, London
- Redielift, M (1987): Sustainable Development: Exploring the Contradiction: Methuen, London.
- Simmons I.G. (1991): Earth, Aoir and Water Resources and Environment in Kate 20th Century Edward Arnold, New York.
- Thoman Alan et.at (2001): Environmental Policies and NGO Influence, Routledge London.
- A. Ramesh (1984); Contributions to Indian Geography, Heritage Publishers, New Delhi (India)

5. Geography of Tourism - PGEM-6414

Unit-1 Tourism – Concept, nature, scope, definition and importance; Components of tourism – approaches to the study of tourism - Types of Tourism - Socio-economicpolitical significance of tourism; Role of Geography in tourism

Unit-2 Tourism Attractions and infrastructure -Natural and cultural attractions-Accommodation –Transport and other Factors influencing the growth of tourism – – Role of travel agency in tourism promotion.

Unit-3 Planning and Development of Tourism – Economic significance, socio-cultural and environmental impact, Multiplier effect on the economy - Tourism planning - Tourist Paradigms : Eco-tourism, coastal Tourism , Green tourism, Heritage tourism, Back water Tourism, Soft and hard tourism and adventure tourism in India.

Unnit-4 Tourism in Kerala – Major natural and cultural tourist attractions, Eco-tourism, Rural tourism, Monsoon tourism and medical tourism in Kerala – Tourism as an emerging industry in Kerala –Need of proper executions, problems and prospects of Kerala Tourism.

Unit-5 Environment and Tourism; Impact of tourism on Environment: Physical, Economical and Social cultural impacts; Concept of Ecotourism and sustainable tourism; New trends in Tourism; Globalisation and tourism.

Reading List

- Bhatia A.K. - Tourism Development: Principles and Practices, Setrling Publishers, New Delhi, 1996.
- Carter, E and G. Lowman, - Ecotoursim, John Wiley and Sons, New York, 1994.
- Robinson, H.A. - Geography of Tourism, Macdonald and Evans, London, 1996.

- Williams Stephen - Tourism Geography, Routledge, contemporary Human Geography, London, 1998.
- Kamra K.K. and Mohinder Chand - Basics of Tourism: Theory, Operation and Practice, Kanishka publishers New Delhi, 2007.
- Altinay L & Paraskevas A (2008) Planning research in hospitality and tourism (Butterworth-Heinemann)
- Brotherton, B. (2008) Researching Hospitality and Tourism: A Student Guide (Sage Publications),
- Jennings, G. (2006) Tourism Research (John Wiley & Sons,Australia),.
- Veal, A. J, (2006) Research Methods for Leisure and Tourism: A Practical Guide, 3rd ed (Prentice Hall),
- Smith, S. (2010) Practical Tourism Research (CABI).
- Buhalis, D., 2003, eTourism: Information Technology for strategic tourism management, Pearson.
- Buhalis, D., A.M. Tjoa and J. Jafari 1998, Information and Communication Technologies in tourism, ENTER'98 Conference Proceedings, Istanbul, Springer-Verlag, Wien-New York.
- Buhalis, D., and Schertler, W., 1999, Information and Communication Technologies in tourism, ENTER'99, Springer-Verlag, Wien-New York,
- Fesenmaier D., Klein, S., and Buhalis, D., 2000, Information & Communication Technologies in tourism, ENTER'2000, Springer-Verlag, Wien-New York,
- Fesenmaier, D., Werthner, H., Wober, K, 2006, Destination Recommendation Systems: Behavioural Foundations and Applications HB 0851990231, CABI, London.
- Frew A., O'Connor P, Hitz M.(Eds), 2003, Information and Communication Technologies in Tourism, Springer-Verlag Vienna
- Frew A., (Editor) 2004, Information and Communication Technologies in Tourism 2004, Springer-Verlag Vienna
- Frew A., (Editor) 2005, Information and Communication Technologies in Tourism: Proceedings of the International Conference in Innsbruck, Austria, Springer-Verlag Vienna
- Gary Inkpen 1998, Information Technology for Travel and Tourism, Longman,
- Mills, M. and Rob Law (Editors), 2005, Handbook of Consumer Behaviour, Tourism and the Internet Haworth Press Inc.,U.S.

6. Medical Geography PGES -6415

Unit-1

Geo-Environmental influence on health; Relationship between socio – cultural factors & health—Contemporary Need of Medical Geography: Nature, Scope and Significance

Unit-2

Human health in India; Indicators of health: changes in birth, death rates & infant mortality rates, life Expectancy, changes in sex ratio, literacy and population growth, population control; Food security and Nutrition: mal & under nutrition – causes & consequences

Unit-3

Disease classification & distribution: T.B., Cancer, Leprosy, Pneumonia, Aids, Cholera; Cholera- Disease diffusion model - Growth of weather diseases and climate change in India.

Unit-4

Development of health care system in India with special reference to Kerala; Spatial distribution of present health care systems: Deficiencies & problems; Health care problems of marginal populations in Kerala: Major health problems of Urban & rural coastal belts of Kerala.

Reading List

- Akhtar Rais (1990), Environmental population and health problems, Ashish Publishers Home, New Delhi.
- Ansari, S.H. (2005), "Spatial Organization of health care facilities in Haryana" NGJI, Vol 51, PP 3-4, 2005, P 51- 61.
- Chakrabarti, N., (1954), "Some factors influencing the mortality of cholera. Calcutta," Medical Journal, Vol. 51.
- Misra, R.P., (2007), Geography of Health, Concept Publishing Company, New Delhi, 2007.
- Shafi, M. (1967), "Food Production, efficiency and Nutrition in India." The Geographer, Vol. pp. 23-27.
- Siddiqui, M.F. (1971), "Concentration of Deficiency Diseases in Uttar Pradesh." The Geographer, Vol. 18 pp 90-98.
- Singhai, G.C. (2006), Medical Geography, Vasundhra Publication, Gorakhpur, 2006.
- Ansari, S.H., "Pattern of Vehicular traffic in Rohtak City, Haryana, India; The Geographer, Vol. 53, No. 1, 2006 pp- 55-72.
- J. Nasir, E.F. Khanam, "Traffic Noise Pollution in National Capital region : A case study : The Geographer, Vol. 53, No. 1, 2006, pp. 73-79
- K. Chaubey, "Epidemic of HIV/AIDS in India : A Study in Medical Geography." Annal of NAGD, Vol. XXV No.1 , 2005 pp 28-33.
- Aikat, B.K. (1985) Tropical diseases in India, Arnold Meinemann, Delhi, 1st Edn.
- Learmonth, A.T.A. (1985) Diseases in India, Concept Pub. Company, New Delhi, 1st Edn.
- Egles, J. and Woods, K.J. (1983) The Social Geography of Medicine and Health, Groom Helm London, 1st Edn.

7. Gender and Geography

1. Remaking geography: A Critique of the discipline

The limits of geographical knowledge

Colonial – post colonial geographies

2. Women's Movements, Feminist Thought

First wave; International women's suffrage movement, political rights – Second wave; anti-Vietnam war and civil rights movements, *The second sex* (Simon de Beauvoir), *The Feminine Mystique* (Betty Friedan) – Third wave feminisms; Politics of location and sexuality, Chandra Mohanty

The four fundamental conceptions of women's liberation; Liberal Feminism – Marxist feminism – Radical feminism – Socialist feminism

Science, Subjectivity and Space - Science question in feminism, situated knowledge.

3. Gender critique of methodologies

Power and the production of knowledge -epistemology, methodology and methods -

reflexivity and positionality - insiders and outsiders in the fieldwork - Qualitative methodologies.

4. Gender and Space

Space, place and gender, politics of space and time, women and city, gender and mobility, queer spaces

5. Gender and development

Women in development – Easter Bouserup, women and development, gender and development - Feminist political ecology

Reading List

- Monk, J. and Hanson, J. (1982) On Not Excluding Half of the Human in Human Geography *The Professional Geographer*, Vol. 34: 11- 23.
- Rose, G. (1993) *Feminism and Geography: An Introduction* Feminism and Geography: The Limits of Geographical Knowledge Blackwell Publishers pp. 1-16
- Domosh, M. (2000) Unintentional Transgressions and Other Reflections on the Job Search Process *The Professional Geographer*, Vol. 52(4): 703-708
- Longhurst, R. (2002). Geography and gender: a “critical” time? *Progress in Human Geography* Vol. 26(4), 544-552
- Harding, S. (1986) From the Woman Question in Science to the Science Question in Feminism in *The Science Question in Feminism* Cornell University Press pp. 15-29
- Haraway, D. (1988) Situated Knowledges: The Science Question in Feminism and the Privilege of the Partial Perspective *Feminist Studies* Vol. 14(3): 575-599
- McDowell, L. (1993) Space, place and gender relations: Part 1 Feminist Empiricism and the Geography of Social Relations *Progress in Human Geography* 17(2): 157-179
- Hodge, D. (1995) Should Women Count? The Role of Quantitative Methodology in Feminist Geographic Research *The Professional Geographer* Vol. 47(4): 426
- Kwan, MP. (2002) Is GIS for women: Reflections on the critical discourse in the 1990s. *Gender, Place and Culture: : A Journal of Feminist Geography* , 9(3):271-279.
- England, K. (1994) Getting Personal: Reflexivity, Positionality and Feminist Research *The Professional Geographer* 46 (1): 80-89
- Kobayashi, A. (2001) Negotiating the Personal and Political in Critical Qualitative Research in Limb, M. and C. Dwyer (eds) *Qualitative Methodologies for Geographers: Issues and Debates* pp. 55-70
- Mohammad, R. (2001) ‘Insiders’ and/or ‘Outsiders’: Positionality, Theory and Praxis in Limb, M. and C. Dwyer (eds) *Qualitative Methodologies for Geographers: Issues and Debates* Oxford University Press pp. 101-117
- Hyndman, J. (2001) The Field as Here and Now, Not There and Then *Geographical Review*, Vol. 91(1-2): 262-272.
- Davies, G. and Dwyer, C. (2007) Qualitative methods: are you enchanted or are you alienated? *Progress in Human Geography*, Vol. 31(2): 257-266.
- Valentine, G. (1989) The Geography of Women’s Fear Area Vol. 21(4): 385-390
- Massey, D. (1994) *Space, Place, Gender: Introduction in Space, Place and Gender* Minneapolis: University of Minnesota Press pp. 185 – 190
- Longhurst, R. (1997) (Dis)embodied geographies *Progress in Human Geography*, Vol. 21(4): 486-501.
- Domosh, M. (1998) Geography and gender: home, again? *Progress in Human Geography*, Vol. 22(2): 276-282.
- Pratt, G. (2004) ‘Spatializing the subject of feminism’ in *Working Feminism* Temple

University Press. pp 12-37

- Pearson, D. and Elson, R. (1981) Nimble Fingers make cheap workers: An analysis of women's employment in Third World Export Manufacturing *Feminist Review* Vol. 7: 87-107
- Rose, G. (1993) *Spatial Divisions and Other Spaces: Production, Reproduction and Beyond in Feminism and Geography: The Limits of Geographical Knowledge* Blackwell Publishers pp. 113-136
- Massey, D. (1994) *A Woman's Place in Space, Place and Gender* Minneapolis: University of Minnesota Press pp. 191 – 211
- Gibson-Graham, JK. (2006) *Excerpts from The end of capitalism (as we knew it): a feminist critique of political economy* University of Minnesota Press
- Lawson, V. (1998) Hierarchical households and gendered migration in Latin America: feminist extensions to migration research *Progress in Human Geography*, Vol. 22(1): 39-53.
- Kabeer, N. (1994) 'The Emergence of Women as a Constituency of Development', *The Theoretical Underpinnings of WID*, 'Structuralist Perspectives' and 'Development from a Gender Perspective' in *Reversed Realities: Gender Hierarchies in Development Thought* Verso: London, New York pp. 1-95
- Schroeder, R. (1997) Re-claiming land in the Gambia: Gendered property rights and environmental intervention *Annals of the Association of American Geographers* 87(3): 487
- Radcliffe, S. (2006) Development and Geography: Gendered Subjects in Development Processes and Interventions *Progress in Human Geography*, Vol. 30(4): 524-532.
- Rocheleu, D., Thomas-Slayter, B. and Wangari, E. (1996) 'Gender and environment: A feminist political ecology perspective' in *Feminist Political Ecology: Global Issues and Local Experiences* London and New York: Routledge pp. 3-26
- Seager, J. (2003). Pepperoni or broccoli? On the cutting wedge of feminist environmentalism *Gender Place and Culture: A Journal of Feminist Geography*, 10(2): 167-174
- Nightingale, A. (2006) The Nature of Gender: work, gender and environment, *Environment and Planning D: Society and Space* 24(2): 165-185
- Mollett, S. (2010) [Está listo \(Are you ready\)? Gender, race and land registration in the Río Plátano Biosphere Reserve](#) *Gender, Place and Culture: A Journal of Feminist Geography* Vol. 17(3): 357-375

8. Environment and Society

Module One – Nature, Environment and Social Theory

Introduction to social theory, historical origins, mainstream and critical social theory - Environment Introduction, the concept of environment, nature and the nonhuman - Social theorising and the environment, techno centrism, social constructionism,

Module Two – Enlightenment and Environment

Non-Western views of the environment, religious and traditional views - Enlightenment and Environment – Dualism, separation and connection - The industrial revolution - The democratic revolution

Module Three – Environmental Thought

Early environmental thinking – John Locke; Reason, Labour and property – Jean-Jacques Rousseau; Natural man and the origins of inequality – The romantics; Nature, self and sentiment – The 19th century; science, industry and evolution - Darwin; History, transformation and diversity in nature – Darwin, Malthus and natural selection – Alfred Russel Wallace

Anarchism; Bookchin's social ecology - Libertarianism and Environmentalism; Antiauthoritarian

thought and the search for self organising sustainable societies

Module Four – Environmental Thought - II

Deep Ecology; The philosophy of Arne Naess, Criticisms and responses - Eco-feminism; Dualism: the logic of domination - Transcendence, Immanence and the exploitation of women's work, Eco-feminism, development and globalisation - Marxist Ecology; From romantics to Marx – Science and technology: The development of forces of production, capitalism and consumption

Reading List

- Kemp, D.D. *Exploring environmental issues: an integrated approach*. (London: Routledge, 2004)
- Jackson, R.W. and J.M. Jackson *Environmental science: the natural environment and human impact*. (Harlow: Longman, 2000)
- Pickering, K.T. and L.A. Owen *An Introduction to Global Environmental Issues*. (London: Routledge, 1997) second edition
- Bush, M.B. *Ecology of a changing planet*. (New Jersey: Prentice Hall, 1997)
- Chiras, D.D. *Environmental science*. (Sudbury: Jones and Bartlett, 2006) seventh edition
- Miller, G.T. *Living in the environment: principles, connections and solutions*. (Belmont: London: Brooks/Cole 2006)
- Nebel, B.J. and R.T. Wright *Environmental science*. (New Jersey: Prentice Hall, 1998) sixth edition
- Park, C.C. *The environment: principles and applications*. (London: Routledge, 2001)
- Kemp, D.D. *The environment dictionary*. (London: Routledge, 1998)
- McGraw-Hill. *McGraw-Hill dictionary of environmental science*. (New York: McGraw-Hill Publishing, 2003)
- Adams, W.M. *Green development: environment and sustainability in the Third World*. (London: Routledge, 1990)
- Alexander, D. *Natural disasters*. (London: UCL Press, 1993)
- Alloway, B. and D.C. Ayers *Chemical principles of environmental pollution*. (Glasgow: Blackie Academic and Professional, 1993)
- Attfield, R. *Environmental ethics*. (Cambridge: Polity, 2003)
- Barry, R.G., T. Chase and R.J. Chorley *Atmosphere, weather and climate*. (London: Routledge, 2003)
- Beder, S. *Environmental principles and policies: an interdisciplinary introduction*. (London: Earthscan, 2006)
- Bell, M. and M.J.C. Walker *Late Quaternary environmental change: physical and human perspectives*. (Harlow: Prentice Hall, 2005)
- Blaikie, P., L. Davis, T. Cannon and B. Wisner *At risk: natural hazards, people's vulnerability and disasters*. (London: Routledge, 2003)
- Bolt, B.A. *Earthquakes*. (New York: W.H. Freeman, 2003)
- Boserup, E. *Population and technology*. (Oxford: Blackwell, 1981)
- Bowers, J. *Sustainability and environmental economics*. (Harlow: Addison Wesley Longman, 1997)
- Bradley, R.S. and P.D. Jones *Climate since AD 1500*. (London: Routledge, 1995)
- Briggs, D.J. and F.M. Courtney *Agriculture and environment*. (Harlow: Longman, 1989)

- Brown, L.R., C. Flavin and H. Kane *Vital signs*. (London: Earthscan, 1998)
- Bruce, J.P., H. Lee and E.F. Haites (IPCC) *Climate change 1995: economic and social dimensions of climate change*. (Cambridge: Cambridge University Press, 1996)
- Bryant, E. *Natural hazards*. (Cambridge: Cambridge University Press, 2005)
- Bush, M.B. *Ecology of a changing planet*. (Harlow: Prentice Hall, 1997)
- Chester, D. *Volcanoes and society*. (London: Edward Arnold, 1993)
- Clark, R.B. *Marine Pollution*. (Oxford: Clarendon Press, 1997)
- Cooke, R.U and J.C. Doornkamp *Geomorphology in environmental management: a new introduction*. (Oxford: Clarendon Press, 1990)
- Cunningham, W.P. and B.W. Saigo *Environmental science: a global concern*. (Dubuque, IA: Wm. C. Brown Publishers, 1997)
- Cutter, S. *Living with risk – the geography of technological hazards*. (London: Edward Arnold, 1993)
- Dunlap, R.E. (ed.) *Sociological theory and the environment: classical foundations, contemporary insights*. (Lanham: Rowman & Littlefield, 2002)
- Ekins, P. *A new world order: grassroots movements for global change*. (London: Routledge, 1992)
- Elsom, D.M. *Atmospheric pollution: a global problem*. (Oxford: Blackwell, 1992)
- Elsom, D.M. *Smog alert: managing urban air quality*. (London: Earthscan, 1996)

9. Social Processes and Spatial Relations

1. Social processes and spatial relations: the post 1980 trends.

- a. Radicalizing process in Geography- neo-Marxist interpretations and extensions- Radical theory- Radical practice.
- b. Space- spatiality and spatial structures- Socio-spatial dialectic- - Human agency and social structure- various models- Post structuralism
- c. Production of social space- from Fordism to flexible accumulation- on ceptualising Time and space compression- Spatial fixity
- d. Critical perspective and contemporary human geography- relevance of political economy approach.

2. Geography and difference: marginalization and exclusion

- a. Place and space as difference-placement- displacement and the production of cultural space and differences.
- b. Imagining culture- Imagebility and production of spatio-social identities- implications of race, religion, language and ethnicity- Contestation, conflicts and negotiations.
- c. Imagining local, regional and national identities- multicultural spaces – cultural pluralism and identity politics in India.
- d. Urban and rural places and their local and global context-- Poverty and Living in Ghettos and slums in globalizing cities- Gentrification, displacement and right to city – SEZ s in India- Issues of right to livelihood.

3. Spatial Dynamics of Political Processes

- a. Concepts and images of territoriality and nation- state- colonialism and post-colonial context Relevance of World Systems approach- Core-periphery structure.
- b. Boundary and Frontier concepts- Terrestrial and maritime context- Processes of boundary formation- cultural and ethnic identities.
- c. Dynamics of electoral politics- Indian context.

d. Globalisation and contemporary geopolitics- Identity and citizenship- Environmental politics

Reading List

- Peet, R. (1998), *Modern Geographical Thought*, Blackwell
- Peet, R. and Thrift, N. (eds.) (2002), *New Models in Geography*, Unwin Hyman.
- Barnes Trevor and Gregory Derek, (eds.) (1997): *Reading Human Geography- The Poetic and Politics of Inquiry*, Arnold, London.
- Daniels Stephen and Lee Roger, (eds.) (1996): *Exploring Human Geography- A Reader*, Arnold, London.
- Cloke, P. and Johnston, R., (eds.), (2005), *Spaces of Geographical Thought, Deconstructing Human Geography's Binaries*, Sage.
- Aitken, S and Valentine, G. (2006), *Approaches to Human geography*, Sage.
- Soja E., (1997), *Postmodern Geographies- The Reassertion in Critical Theory*, Rawat, New Delhi.
- Johnston, R.J., Gregory D. Pratt G. and Watts M., (2005, 5th ed.), *the Dictionary of Human Geography*, Blackwell.
- Kitchin R., Thrift, N, (eds.) (2009), *The International Encyclopedia of Human Geography*, Elsevier.
- Dear J. Michael and Flusty Steven, (eds.) (2002): *The Spaces of Post Modernity*, Blackwell, Massachusetts.
- Benko Georges and Strohmayer Ulf, (eds.) (2004): *Human Geography- A History for the 21st Century*, Arnold, London.
- Atkinson, D., Jackson, P., Sibley, D. and Washbourne, N. (eds.) (2005), *Cultural Geography, A Critical Geography of Key Concepts*, Tauris, I.B.
- Cloke, P., Crang, P., Goodwin, M.,(2004), *Envisioning Human Geographies*, Arnold.
- Cloke Paul, Crang Philip and Goodwin Mark, (eds.) (1999): *Introducing Human Geographies*, Arnold, London.
- Banerjee-Guha, S. (2004), *Space, Society and Geography*, Rawat, New Delhi.
- Banerjee- Guha Swapna: *Space, Spatiality, Human Geography and Social Science: Politics of the production of Space*, Published in *Transaction Institute of Indian Geographers*, Vol.33, No.1, Winter 2011, pp 3-22, Pune.
- Cloke Paul, Cook Ian, Crang Philp, Goodwin Mark, Painter Joe and Philo Chris, (2004): *Practising Human Geography*, Sage, London.
- Glassner, M L, De Blij, H, J, Yacher, L. (1980): *Systematic Political Geography*, John Wiley.
- Hanson, J and Pratt, G. (1995) *Gender, Work and Space*, Routledge, New York.
- Massey, D., Allen, J., Sarre, P. (eds.), (1999), *Human Geography Today*, Polity Press.
- Massey, D (1994): *Space Place and Gender*, University of Minnesota Press, Minneapolis.
- Moss, P., (2002), *Feminist Geography in Practice: Research and Methods*, Blackwell.

10 Population and Settlement Geography

Unit I

1. Population Geography as distinct from demography; scope and contents.
2. Sources of population data, their nature and quality.
3. Population characteristics and composition: age, sex, education, religion, castes, rural and urban, occupation, language (with spl. Ref. to India).

4. Theory of population dynamics – fertility, mortality, migration.
5. Factors determining population growth, distribution and density with spl. Ref. to India.
6. Migration : Types, patterns and streams of migration and controlling factors.

Unit II

1. Theories of population growth – classical and modern theories.
2. Demographic transition and the problems of developed and developing countries.
3. Nutrition, fertility, morbidity and mortality with special reference to India.

Unit III

1. India's population policies.
2. Problems of displaced population.
3. Human development index and its components: the Indian scenario.

Unit IV

1. Theories of evolution of human settlement
2. Size and distributions with theoretical models
3. Settlement hierarchy: theories of Christaller and Losch; hierarchy of settlements in India, primacy of cities.

Unit V

1. Evolution and growth of rural settlements
2. Service centres and the nature of hierarchy.
3. Spatial distribution and dispersion.
4. House forms and types.

Unit VI

1. Morphological structures of cities.
2. Functional classification of urban centres.
3. Social area analysis of urban centres.
4. Conurbation, urban agglomeration and rural-urban fringe

Reading List

- Hudson, F.S. 1970: Geography of Settlements, Macdonald and Evans Ltd., Plymouth:
- Johnson : Urban Geography
- Johnston .R.J (2000): The Dictionary of Human Geography,Blackwell. UK
- K. Siddharth and S. Mukherji : Cities,. Urbanizations and Urban Systems.
- Kaplan.D and Wheeler.J (2008):Urban Geography,John Wiley
- Knox, P. 1982: Urban Social Geography, Longman Scientific and Technical, Harlow.
- Kundu, A. (1992) : Urban Development and Urban Research in India, Khanna Publication.
- Law.N,Smith.D,(1991),Decision Making Geography, Stanley Thornes Pub. Ltd, Leckhampton
- Mandal, R.B. 2000: Urban Geography: A Textbook, Concept Pub. Co., New Delhi.
- Mayer and Kohn : Readings in Urban Geography
- Misra. H. N. (ed) 1987: Contributions to Indian Geography, Volume 9: Rural Geography, Heritage Pub., New Delhi.
- Mohan Sudha 2005: Urban Development and New Localism, Rawat Publications, Jaipur.
- Northam : Urban Geography
- Pacione, Micheal, 2001: Urban Geography, Routledge, London
- Racine, J. (ed): Calcutta 1981, Concept Pub. Co., New Delhi.

- Raj Bala : Urbanization in India.
- Ramachandran R. 1989: Urbanisation and Urban Systems in India, Oxford University Press, New Delhi.
- Rao, R. Rammohan and S. Simhadri 1999: Indian Cities: Towards Next Millennium, Rawat Publications, Jaipur.
- Roy Turner: Indian's Urban Future.
- Shah Manzoor Alam : Urbanization in Developing Countries
- Sharma, R.N. and K. Sita 2001: Issues in Urban Development, Rawat Publications, Jaipur.
- Short, John, 1984: An introduction to Urban Geography, Routledge, London
- Singh, R. Y. 1994: Geography of Settlements, Rawat Pub. Co., New Delhi: 335p.
- Singh, R.L. et. al. (ed) 1976: Geographic Dimensions of Rural Settlements, National Geographical Society of India, Varanasi.
- Singh, Ravinder Sandhu (ed) 2003: Urbanisation in India, Sage Publications, New Delhi.
- Singh. K. and Steinberg. F.(eds) (1998) : Urban India in Crisis. New Age Interns,
- Taylor, Griffith 1949: Urban Geography, Methuen and Co. Ltd., London.