

## **Revised syllabi for the MSc Geography**

### **SEMESTER I**

1. Geomorphology
2. Geographical Thought
3. Practical I – Advanced Techniques in Cartography and Geographic Information Systems
4. Elective
5. Elective

### **SEMESTER II**

1. Climatology
2. Contemporary Human Geography
3. Practical II – Remote Sensing Techniques
4. Elective
5. Elective

### **SEMESTER III**

1. Fluvial and Coastal Geomorphology
2. Research Methods in Geography
3. PRATICAL III – Introduction to Geographic Field Research
4. Elective
5. Elective

### **SEMESTER IV**

1. Environmental Geography
2. Geography of Kerala
3. Urban Geography
4. Dissertation
5. Elective

(A combined record of practical works of the courses has to be submitted by every student at the end of the semester. The record of the practical works of each semester will be evaluated both internally and externally. There will be end semester exam for all practical courses. Lab practical exams will be conducted by the Department and evaluate internally before the submission of internal marks. One credit will be evaluated externally for the record of the practical works submitted for the four credit courses with practical contents)

## **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
4. Natural Resource Management
5. Geography of Tourism
6. Medical Geography
7. Gender and Geography
8. Environment and Society
9. Social Processes and Spatial Relations
10. Population and Settlement Geography
11. Geo-statistics
12. Soil Geography
13. Global environmental change and society
14. Geography of world economy

## **Core Courses (Changes from 2016 onwards)**

### **Course: Geomorphology**

**Unit 1:** Basic concepts in geomorphology. Endogenic processes: diastrophism, fold, fault, Earthquakes, Volcanism. Exogenic processes: Weathering, Mass movement, Soils, Fluvial processes, Glacial processes, Arid and semi-arid processes, Karst processes and Coastal processes.

**Unit 2:** Theoretical geomorphology: Isostasy, Continental drift theory, Sea floor spreading, and Plate tectonics. The concept of cycle of erosion: Davis, Penk and King. The non-cyclic concept: Hack, Chorley and Schumm. Concept of slope development: ideas of Wood, W M Davis, Penk, L C King, Concept and theories of ice age.

**Unit 3:** Tropical geomorphology: geomorphic processes in the tropics. Concept of morphogenetic regions. Structural landforms of tropics: Types and processes, Formation of domes, tors, scarps, Deccan Trap landforms – evolution and processes.

**Unit 4:** Fluvial processes in the tropics: Characteristics and rates, Valley forms in humid and arid areas of the tropics, Tropical deltas and estuaries, Fluvial landform characteristics of India. Coastal processes in the tropics: Erosional landforms, Depositional landforms, Coastal landform characteristics of India

### **Practical works**

Slope analysis- Wentworth, Smith, Rabinson and Raize methods

Use of Rotameter

Planimeter

Drainage basin demarcation

Stream order, by Horton, Strahler and Shreve

Stream length Total and average

Stream frequency

Stream density total and by order

Bifurcation Ratio

Length ratio

Relative relief

### **Reading List:**

1. Birot, P. (1968): Cycle of Erosion in Different Climates, B.T. Batsford, London.
2. Chorley, R. J., Schumm, S. A. and Sugden, D. E. (1984): Geomorphology, Methuen, London.
3. Dikshit, K.R., Kale, V.S. and Kaul, M.N.(1994): India – Geomorphological Diversity, Rawat, Jaipur.
4. Douglas, J. and Spencer, I.(1985): Environmental Change and Tropical Geomorphology, George Allen & Unwin, London.
5. Fairbridge, R. W. (1968): Encyclopedia of Geomorphology, Reinholdts, New York
6. Faniran, A. and Jeje, L.K. (1983): Humid Tropical Geomorphology, Longman, London.

7. Garner, H.F.(1974): Origin of Landscapes - A synthesis in Geomorphology, Oxford University Press, New York.
8. Holmes: PhysicalGeology
9. Huggett, R. (2007): Fundamentals of Geomorphology, Routledge, London
10. Jog, S.R.(ed)(1995): Indian Geomorphology, Vols. I & II, Rawat, Jaipur.
11. Kale, V. S. and Gupta, A. (Rep.2011): Introduction to Geomorphology, Orient Longman,Calcutta.
12. Mcfarlane, M.J.(1976): Laterite and Landscape, Academic Press, London.
13. Ollier, C. D. (1981) Tectonics and Landforms, Longman ,London
14. Sharma, A. (1993): Ecology of Landslide Damages, Pointer, Jaipur.
15. Sharma, H.S. (1986): Tropical Geomorphology, Concept, New Delhi.
16. Sharma, H.S. (ed)(1991): Indian Geomorphology, Concept, New Delhi.
17. Slaymaker, O. et al (2009): Geomorphology and Global Environmental Change, Cambridge University Press, UK
18. Spark B. W. (1972): Geomorphology, Longman, NewYork
19. Steers, A. (1958). The Unstable Earth, Methuen,London
20. Strahler A. H and Strahler, A. N. (1992) : Modern Physical Geography, John Wiley, NewYork
21. Thomas, M.F.(1974): Tropical Geomorphology: A Study of Weathering and Landform Development in Warm Climates, Macmillan, London.
22. Thornbury, W. D. (Rep.2011): Principlesof Geomorphology, John Wiley and Sons, NewYork.
23. Twidale, C.R. (1971): Structural Landforms, The MIT, Cambridge.
24. Wooldridge and Morgan:Geomorphology

## **Course: Practical I – Advanced Techniques in Cartography and Geographic Information Systems**

### **UNIT-1 Cartography**

- History and Development of Cartography: History and sequence of development, - Shape of the Earth and Coordinate Systems: Basic Geodesy-Data for Mapping, Compilation and Generalization- elements of generalisation, accuracy and reliability - Map Design and Symbolization: Map content, design and implementation, colour

theory and pattern creation; feature attributes, point, line, areas and volumes;  
Qualitative and Quantitative symbols, Thematic Maps-Layout and Map Production  
and Visualization: Map elements- typography and lettering. **Practicals unit 1-  
TOPOSHEET INTERPRETATION)**

## **Unit-2 GIS**

- .Basic concepts of Spatial science and GIS: Geographic spaces, Spatial data and information, Reference systems and datums, GIS definition, Approaches and Components; History and Development of GIS
- Data Models and Management: Spatial Data Models – Vector and Raster data models; Data Models – DBMS and GIS- data qualities
- Data Capture and Geo processing: Sources of geographic data, capturing methods, topology, geometric Transformation Files; Standard Data Formats, Compression Techniques,, scales in GIS, precision and accuracy
- Manipulation and Analysis: Basic spatial operations-vector and raster based point, line and area analysis; Digital Elevation Models
- Spatial Analysis and Modelling – Proximity Analysis, Overlay Analysis, Buffer Analysis, Network Analysis, DTM/DEM. (PRACTICALS QGIS AND ARCGIS)

## **UNIT-3 Software – Standard Packages like Arc GIS and QGIS**

- Digitization of Points and Lines
- Editing Map Elements Attribute Data Entry and Manipulation Cleaning, Building and Transformation
- Data Analysis – Overlay, Buffer Map Generation with Patterns and Legends, Buffer Analysis, Network Analysis and DEM, DTM

## **Reading List**

1. Albert, Donald P., William M. Gesler, and Barbara Levergood, eds. Spatial Analysis, GIS, and Remote Sensing Applications in the Health Sciences, Chelsea, MI: Ann Arbor Press, 2000.
2. Amdahl, Gary. Disaster Response: GIS for Public Safety, Redlands, CA: ESRI Press, 2001. - Burke, Robert. Getting to Know Arc Objects: Programming ArcGIS with VBA, Redlands, CA: ESRI Press, 2003.

3. Clark, Isobel and William V. Harper. Practical Geostatistics 2000, Columbus, Ohio: Ecosse North America, LLC, 2000.
4. Clarke, Keith C., Bradley O. Parks, and Michael P. Crane. Geographic Information Systems and Environmental Modeling, Upper Saddle River, NJ: Prentice Hall, 2002.
5. Collett, David. Modeling Binary Data (Second Ed.), Boca Raton, FL: Chapman & Hall, 2003.
6. Cromley, Ellen K. and Sara L. McLafferty. GIS and Public Health, New York: The Guilford Press, 2002.
7. Delwiche, Lora D. and Susan J. Slaughter. The Little SAS Book: A Primer (Second Ed.), Cary, NC: SAS Publishing, 1998.
8. Dilorio, Frank C. and Kenneth A. Hardy. Quick Start to Data Analysis with SAS, Belmont, NY: Duxbury Press, 1996.
9. ESRI Map Book: Volume 20, Redlands, CA: ESRI Press, 2005.
10. Forta, Ben. SQL in 10 Minutes, Indianapolis, IN: SAMS, 2004.
11. Gatrell, Anthony and Markku Loytonen, eds. GIS and Health, Philadelphia: Taylor and Francis, Inc., 1998.
12. GIS in State Government: Volume 1, Redlands, CA: ESRI Press, 2005
13. Greene, R.W. Confronting Catastrophe: A GIS Handbook, Redlands, CA: ESRI Press, 2002.
14. Griffith, Daniel A. and Larry J. Layne. A Casebook For Spatial Statistical Data Analysis: A Compilation of Analyses of Different Thematic Data Sets, New York: Oxford Press, 1999. Harder, Christian. Serving Maps on the Internet: Geographic Information on the World Wide Web, Redlands, CA: ESRI Press, 1998.
15. Hay, S.I., S.E. Randolph, and D.J. Rogers, eds. Remote Sensing and Geographical Information Systems in Epidemiology, San Diego: Academic Press, 2000
16. Huxhold, William E., Eric M. Fowler, and Brian Parr. ArcGIS and the Digital City: A Hands-on Approach for Local Governments, Redlands, CA: ESRI Press, 2004.
17. Kennedy, Heather, ed. Dictionary of GIS Terminology, Redlands, CA: ESRI Press, 2001.
18. Koch, Tom. Cartographies of Disease: Maps, Mapping, and Medicine, Redlands, CA: ESRI Press, 2005.
19. Lang, Laura. GIS for Health Organizations, Redlands, CA: ESRI Press, 2000.
20. Lee, Jay and David W.S. Wong. Statistical Analysis with ArcView GIS, New York: John Wiley & Sons, Inc., 2001.

21. Longley, Paul A. and Michael Batty, eds. *Advanced Spatial Analysis: The CASA Book of GIS*, Redlands, CA: ESRI Press, 2003.
22. Lunetta, Ross S. and Christopher D. Elvidge. *Remote Sensing Change Detection: Environmental Monitoring Methods and Applications*, Chelsea, MI: Ann Arbor Press, 1998.
23. Maquire, David J., Michael Batty, and Michael F. Goodchild, eds. *GIS, Spatial Analysis, and Modeling*, Redlands, CA: ESRI Press, 2005.
24. Melnick, Alan L. *Introduction to Geographic Information Systems in Public Health*, Gaithersburg, MD: Aspen Publishers, Inc. 2002.
25. Mitchell, Andy. *The ESRI Guide to GIS Analysis: Volume 1: Geographic Patterns and Relationships*, Redlands, CA: ESRI Press, 1999.
26. Mitchell, Andy. *The ESRI Guide to GIS Analysis: Volume 2: Spatial Measurements and Statistics*, Redlands, CA: ESRI Press, 2005.
27. Peters, Alan and Heather MacDonald. *Unlocking the Census with GIS*, Redlands, CA: ESRI Press, 2004.
28. Ralston, Bruce A. *Developing GIS Solutions with Map Objects and Visual Basic*, Canada: Onward Press, 2002.
29. Rubin, Donald B. *Multiple Imputation for Nonresponse in Surveys*, New York: John Wiley & Sons, Inc., 1987.
30. Waller, Lance A. and Carol A. Gotway. *Applied Spatial Statistics for Public Health Data*, Hoboken, NJ: John Wiley & Sons, Inc., 2004.
31. Zeiler, Michael. *Modeling Our World: The ESRI Guide to Geodatabase Design*, Redlands, CA: ESRI Press, 1999.

## **Course: Climatology**

**Unit 1:** weather and climate, climatic elements and climatic factors. Composition and structure of the atmosphere. Insolation and heat Budget.

**Unit 2:** Radiation -Basic relations, Radiation laws. Temperature –horizontal and vertical distributions, Inversion of temperature. Atmospheric pressure, factors influencing air motion and winds. Moisture - humidity, clouds, precipitation, water balance. Evaporation and evapo-transpiration, empirical methods to estimate evapo-transpiration,

**Unit 3:** Energy balance and temperature distribution in tropical areas. Atmospheric Pressure and circulation in tropical areas-Hadley Cell, Walker Circulation, ENSO.

**Unit 4:** Monsoons-Theories of origin and distributional characteristics, Variability and predictability of monsoon.

**Unit 5:** Tropical air-masses and fronts: Their characteristics, Air masses over south Asia, Seasonal variations; Tropical disturbances: Cyclones, thunderstorms, tornadoes – their origin and characteristics, Frequencies and paths of disturbances, Cyclones in Bay of Bengal and Arabian Sea

**Unit 6:** Tropical Climates-Classification and characteristics. Impact of Global Warming on Tropical Climates.

**Unit 7:** Mechanisms of climatic change, Reconstruction of past climate, Theories of climatic change.

### **Practical works**

Estimation of temperature at different altitude

Compare wet, dry environmental lapse rates

Humidity estimation

Rainfall intensity

Identifying drought

Mixing height

Ventilation coefficient

Degree days

Identification of comfort level

Heat wave identification

Identify the climate type

Tephigram

Climograph

Isotherms, Isohyets



Taking readings using thermometers (wet and dry), Hygrometer, Anemometer, barometer and their analysis

**Reading List:**

1. Barry, R.G. & Perry, A.H.(1973): Synoptic Climatology Methods and Applications, Methuen & Co.Ltd. U.K.
2. Barry, RF and RJ Chorley (1998) Atmosphere, Weather and Climate, Routledge, London.
3. Chritchfield, HJ, General Climatology.
4. Das PK (1987) The Monsoons, NBT Publications, New Delhi.
5. Datye, V.S. et.al (ed) (1987): Explorations in the Tropics, Prof. K. R.Dikshit Fel.Vol.,Pune.
6. Fein JS and PM Stephens (1987) Monsoons, Wiley Intersciences.
7. Garbell, M.A.(1947): Tropical and Equatorial Meteorology, Sir Isaac Pitman and Sons Ltd., U.S.
8. Lockwood, J.G.(1974): World Climatology, an Environmental Approach, Edward – Arnold, U.K.
9. McGregor, GR and Simon Nierswold (1998) Tropical Climatology: An introduction to the Climates of the Low Latitudes, Wiley Interscience.
10. Nieuwolt, S. (1977): Tropical Climatology, John Wiley & Sons Ltd., U.S.A.
11. Oliver, J.E. and Hidore, J.J. (2003): Climatology, An Atmospheric Science, Pearson Education, Inc.
12. Pant, G.B. and Kumar K. R. (1997): Climates of South Asia, John Wiley and Sons, New York.
13. Ramage, C.S.(1971): Monsoon Meteorology, Academic Press, U.K.
14. Riehl, H. (1954): Tropical Meteorology, Mcgraw Hill Co., U.K.
15. Robinson PJ and S Henderson (1999) Contemporary Climatology, Henow.
16. Subrahmanyam, V.P. (1983): Contributions to Indian Geography, Part III - General Climatology Heritage Publ., New Delhi.
17. Thompson, RD and A Perry (Ed.) (1997): Applied Climatology, Principles and Practices, Routledge, London.
18. Thornthwaite, C.W. (1948): An approach towards a Rational Classification of Climate, Geographical Review, 38, 55-94.
19. Trewartha, G.T.(1962): The Earth's Problem Climates, Methun & Co. Ltd., London.

20. Trewartha, GT. An Introduction to Climate. McGraw Hill Company, New York, 1980
21. Yoshino, M.M. (ed) (1971): Water Balance of Monsoon Asia, University of Hawaii Press.

## **Course: Practical II – Remote Sensing Techniques**

**Unit 1 :** Introduction – Sensors and Platforms, Sources of Energy, Active and Passive Radiation, Electromagnetic Radiation - Reflectance, Transmission, Absorption- Interaction with Atmosphere, Atmospheric windows, and Spectral reflectance of Earth's surface features.

**Unit 2:** Data Acquisition and Platforms: Types and their orbital characteristics; Different types of aircraft- characteristics of different types of platforms Sensors types: active and passive; Sensors systems: whiskbroom and push broom; spatial, spectral, radiometric and temporal resolution.

**Unit 3:** Digital Image Processing: Types of imagery, techniques of visual interpretation, ground verification, transfer of interpreted thematic information to base maps-digital processing: rectification and restoration, noise, removal, spectral, radiometric and geometric corrections image enhancement - contrast manipulation, density slicing, contrast manipulation, classification: supervised and unsupervised, post-classification analysis- band rationing, - feature extraction.

**Unit 4 :** Basic Principles of Visual Interpretation- satellite image interpretation, Recognition elements: Tone, Colour, Texture, Pattern, Shape, Size and associated features

**Unit 5 :** Global Positioning System: Components of GPS – space segment, control segment and user segment, GPS errors. Applications of GPS: Surveying and mapping, remote sensing, GIS.

### **PRATICALS**

1. Study of different types of satellite data products
2. Visual interpretation of satellite images of different resolutions.
3. Extraction of thematic information from satellite images

4. Mapping of Land use and land cover
5. Drainage pattern and surface water bodies
6. Urban growth and transportation network
7. Loading, Creating Image and Display
8. Manipulation Image Enhancement
9. Mosaicking
10. Band Rationing
11. NDVI Images
12. Multi Image Manipulations
13. Generation of Training Sets Supervised and Unsupervised Classification.

### **Reading List:**

1. Jensen, John R. (2006) Remote Sensing of the Environment: an Earth Resources Perspective, Hall and Prentice, New Jersey, 2nd ed.
2. Jones, H. and Vaughan, R. (2010, paperback) Remote Sensing of Vegetation: Principles, Techniques, and Applications, OUP, Oxford.
3. Lillesand, T., Kiefer, R. and Chipman, J. (2004) Remote Sensing and Image Interpretation. John Wiley and Sons, NY, 5th ed..
4. Monteith, J. L and Unsworth, M. H. (1990) Principles of Environmental Physics, Edward Arnold: Routledge, Chapman and Hall, NY, 2nd ed.
5. Rees, W. G. (2001, 2nd ed.). Physical Principles of Remote Sensing, Cambridge Univ. Press.
6. Warner, T. A., Nellis, M. D. and Foody, G. M. eds. (2009) The SAGE Handbook of Remote Sensing (Hardcover).
7. Campbell, J.B. (2002). Introduction to remote sensing. (3rd edition). Taylor and Francis (or Guildford), London. 622pp.
8. Robinson I S (2005) Measuring Oceans from Space, Praxis.
9. Mather, P.M. (2004). Computer processing of remotely-sensed images: an introduction. Third Edition. Wiley and Sons, Chichester. 292pp.
10. Jensen, J.R. (2005). Introductory digital image processing: A remote sensing approach. Third Edition. Prentice-Hall.
11. Liu J G and Mason P J, Essential image processing and GIS for remote sensing, Wiley- Blackwell, 2009, isbn: 978-0-470-510131-5

## **Course: Fluvial and Coastal Geomorphology**

**Unit 1:** Drainage basin and stream network, channel morphology, channel patterns, channel types, concept of grade. Fluvial erosion- types and processes of erosion, erosional features. Fluvial deposition- fluvial landforms, river terraces.

**Unit 2:** Floodplain morphology: processes of formation, geomorphic units, flood frequency and magnitude, catastrophic and paleo floods. Managing river channels: channelization and flow regulation; impacts of water management on the physical, chemical and ecological condition of channels and floodplains, river restoration. Remote sensing and GIS applications in mapping, monitoring and management of fluvial environments.

**Unit 3:** Drainage network-stream ordering, Horton and Strahler methods. Basin relief analysis-Relief analysis (for a 3 to 5 order drainage basin; based on grid method) Absolute relief map, Relative relief map, Slope, Aspect map(degrees), Dissection index map, Hypsometric integral, Basin cross profiles, Block Diagram

**Unit 4:** Evolution and classification of coasts. Coastal processes- waves, currents and tides. Equilibrium theory of tides, tides and coastal landforms. Mechanism of sea level changes.

**Unit 5:** Coastal Environments- Fluvial dominated, wave dominated, tide dominated, biotic environments. Marine cycle of erosion. Current coastal issues- Sea level changes, Storm hazard management, Coastal erosion, Wetlands, Khar lands, Estuarine reclamation, Salt intrusion and subsidence of coastal aquifers. Coastal development and management in India.

### **Practical works**

#### **Fluvial:**

Basin shape

Form factor

Circularity ratio

Length area

Hydraulic radius

Time of concentration

Dissection Index

Hypsometric integral

Thalweg

Braided index

Relief ratio

Relative Relief

Relative Basin height

Relative Basin area

Ruggedness number

Hypsometric curve

Use of pocket/mirror stereoscope for demarcation of fluvial features from aerial photo

Mapping of geomorphic features from satellite imageries

### **Coastal:**

Identification of coastal geomorphic features using topographical maps/ satellite images

Beach profile: planimetric and cross profiles

Monitoring of wave parameters in surf zone and tide levels. Wave and tide level data analysis

Textural analysis of coastal sediments

### **Reading List:**

1. Ahmed, E. (1972): Coastal Geomorphology of India', Orient Longmans, Delhi.
2. Bird, E. (2000): Coastal Geomorphology. An Introduction, John Wiley and Sons, Chichester.
3. Bird, E. C. F. (1984): Coasts – An Introduction to Coastal Geomorphology, Australian National University Press, Canberra.
4. Bird, E.C.F. (1985), 'Coastline Changes: A Review, John Wiley, Chichester.

5. Charlton, R. 2008. *Fundamentals of Fluvial Geomorphology*, Routledge, London
6. Chorley R.J. (ed) 'Introduction of Fluvial Processes Methuen & Co. London, 1973.
7. Coates D.R. And Vitek J.I. *Thresholds in Geomorphology*. George Allen Unwin,
8. Davies, J.L. (1972): *Geographical Variation in Coastal Development*, Oliver & Boyd, Edinburgh.
9. Davis J L (1980): *Geographical variation in coastal development*, Longman, New York
10. Dikshit, K.R. (1983): *Contributions to Indian Geography – Geomorphology*, Heritage, New Delhi.
11. Embelton and Thornes (1979): *Process in geomorphology*, Arnold, London
12. Fairbridge R (1968): *Encyclopedia of Geomorphology*.
13. Fisher, J. S. and Dolan, R.(1977): *Beach Processes and Coastal Hydrodynamics*, Dowden, Hutchinson & Ross Inc., Stroudsburg, Pennsylvania.
14. Geogory K.J. and Walling, D.E.: *Drainage Basin: Forms and Process-A*
15. *Geomorphological Approach*. John Wiley & Sons, New York, 1985.London 1980.
16. Gleick, P.H. (ed): *Water in Crisis* Oxford University Press, New York 1993.
17. Gregory K.J. 'River Channel Changes' John Wiley & Sons, New York, 1977.
18. Guilcher, A. (1958): *Coastal and Submarine Morphology*, Methuen and Company Limited, London.
19. Guilcher, A. (1988): *Coral Reef Geomorphology*, John Wiley, Chichester.
20. Hails J and Carr A (1975): *Nearshore sediment dynamics and sedimentation*, Wiley, London
21. Johnson, D.W. (1965): *Shore Processes and Shoreline Development*, Hanfer, New York.
22. Kale, V.S. and Gupta, A. (2001): *Introduction to Geomorphology*, Orient Longman, Calcutta.
23. Karlekar Shrikant (1993): *Coastal geomorphology of Konkan*, Aparna Publication, Pune
24. King, C.A.M. (1972): *Beaches and Coasts*, Edward Arnold, London.
25. Kingston D. *Fluvial Forms and Processes* Edward Arnold, London, 1984.
26. Leopold C.B et.al.: *Fluvial Processes in Geomorphology*; Freeman, London 1964.
27. Masselink G, Hughes M G (2003): *Introduction to coastal processes and geomorphology*, Arnold, London
28. Morisawa (ed) *Fluvial Geomorphology*. George Allen & Unwin, 1981.

29. Morisawa M: 'Streams – Their Dynamics and Morphology' McGraw Hill, New York, 1968.
30. Pethick John (1984): An Introduction to coastal geomorphology, Arnold Heinemann, London
31. Pethik (1984): An introduction to coastal geomorphology, Edward Arnold Publishers, Baltimore.
32. Snead, R.E. (1982): Coastal Landforms and Surface Features, Hutchinson Ross, Stroudsburg, Pennsylvania.
33. Steers, J. (1971): Introduction to Coastline Development' Macmillan, London.
34. Steers, J. A. (1971): Applied Coastal Geomorphology, MacMillan, London.
35. Steers, J.A. (1969): The Sea Coast: Oliver Boyd, London.
36. Tooley M M and Shennan I (1987): Sea level changes, Basil Blackwell, Oxford, U K

## **Course: Environmental Geography**

### **MODULE 1:**

Concept of Environment, Major elements of Environment, Functioning of Environmental systems, Role of Biotic and Abiotic elements.- Ecosystem: Structure, Function, Process and Energy flow.- Bio Geo Chemical cycle ( Nitrogen, Carbon, Phosphorus )- Trophic levels ( Food web and Food chain )-Ecosystem stability.

### **MODULE 2:**

Different Approaches to Environmental Geography-Earth Science System-Land Science System-Ecological Approaches (Natural , Political and Urban)-Environment History-Landscape studies (Culture and Regional Studies)

### **MODULE 3:**

Linking People and Ecosystem, Variety of earth's Ecosystems, Causes and types of Ecosystem degradation, Managing Ecosystem health - Vulnerability, Risk and Resilience to Environmental Change- Biodiversity, Biodiversity uses, Threats to Biodiversity, Biodiversity conservation.

### **MODULE 5:**

Global Environmental issues, Environmental programmes and policies – Global, National and Local levels, Environmental Laws in India- Environmental Impact assessment (EIA) - Environmental Management Planning (EMP) - Environmental Performance Assessment (EPA) -

### **Reading List**

- Anderson J.M. (1981): Ecology for Environmental Science : Biosphere, Ecosystems and 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, JohnWiley, New York.
- William, M.M. and John, G. (1996) : Environmental Geography - Science, Landuse and Earth System, John Wiley and Sons, New York.

## **Course: Geography of Kerala**

### Section I

- Location and Physical Settings
- Brief History of Kerala – (William Logan, Bourdillon TF, Sreedhara Menon, Rajan Gurukkal, J Devika)
- Social Settings – Population statistics, Human development indicators,
- Economic Settings – Economic Development, Agricultural and Industrial sector, Gulf migration and its effects
- Major debates – Kerala Model Development (K P Kannan, Joseph Tharamangalam, M P Parameswaran, John Kurien), Environment and Development (Western Ghats Ecological Panel Report and debates) , Gender and Development (Human development vs Gender development), Dalits/Adivasis and Development (The land question, Social and cultural equity)

### Section II

- Bio-Physical divisions of Kerala – A detailed Study
- 1. The Mountain Ecosystems – Bio-physical settings, Major regions, Agriculture and economic activities, Livelihood pattern and issues, Urbanisation, Cultural and Ecological heritages/ assets, Major ecological issues, debates
- 2. The Hill Ecosystems - Bio-physical settings, Major regions, Agriculture and economic activities, Livelihood pattern and issues, Urbanisation, Cultural and Ecological heritages/ assets, Major ecological issues, debates



3. The Palakkad Gap Ecosystems – Bio-physical settings, Major regions, Agriculture and economic activities, Livelihood pattern and issues, Urbanisation, Cultural and Ecological heritages/ assets, Major ecological issues, debates
4. The Lateritic Ecosystems – Bio-physical settings, Major regions, Agriculture and economic activities, Livelihood pattern and issues, Urbanisation, Cultural and Ecological heritages/ assets, Major ecological issues, debates
5. The Alluvial valleys and flood plain Ecosystems – Bio-physical settings, Major regions, Agriculture and economic activities, Livelihood pattern and issues, Urbanisation, Cultural and Ecological heritages/ assets, Major ecological issues, debates
6. The Coastal Ecosystems – Bio-physical settings, Major regions, Agriculture and economic activities, Livelihood pattern and issues, Urbanisation, Cultural and Ecological heritages/ assets, Major ecological issues, debates
7. The Wetland Ecosystems – Bio-physical settings, Major regions, Agriculture and economic activities, Livelihood pattern and issues, Urbanisation, Cultural and Ecological heritages/ assets, Major ecological issues, debates

### **Reading List**

- Centre for Earth Science Studies, 1997. Report of the workshop of Research Agenda, Environment Development Interface in Kerala. Trivandrum.
- Chattopadhyay,S, Velayutham,S and Salim,M B, 1986. Trends of deforestation in Kerala. In India's Environment: Problems and Perspectives, eds. B P Radhakrishna and K K Ramachandran.
- Geological Society of India, Bangalore. PP 289 – 298 Chattopadhyay,S and Carpenter, R A, 1991. Sustainable development: Scientific jargon or a practical management alternative? Annals, National Association of Geographers,India, Vol.XI, No 2, pp 112
- Chattopadhyay,S and Chattopadhyay, M.,1995. Terrain Analysis of Kerala: Concept, Method and Application ( Technical Monograph No.1/95, State Committee on Science, Technology and Environment, Government of Kerala, Thiruvananthapuram )

- Chattopadhyay,S, 1996. Rubber cultivation in Kerala: Some issues in environmental perspectives. Paper presented in International seminar organised by the Association of Natural Rubber Producing Countries, held at Trivandrum, 1996.
- Franke R,1993. Life Is A Little Better: Redistribution as a development strategy in Nadur village,Kerala. Westview Press, Colorado
- Geological Society of India, 1976. Geology and Mineral Resources of the States of India, Part IX, Kerala, Misc. Pub. 30
- Kerala State Landuse Board, 1995. Land Resources of Kerala, Government of Kerala, Trivandrum
- Munasinghe,M and McNeely,J, 1995. Key concept and terminology of sustainable development. In Defining and Measuring Sustainability - The Biogeophysical Foundations, edited by Mohan
- Munshinge and Walter Shearer (The United Nations university and the World Bank ), pp 19- 56. O'Neill,R.V.,Hunsaker,C.T.,Jones,D.,Klopek,J.M.,Dale,V.H.,Turner, M.G.,Gardner,R.H.,and Graham,G.,1995. Sustainability at landscape and regional scale. In Defining and Measuring Sustainability - The Biogeophysical Foundations, edited by Mohan Munshinge and Walter Shearer (The United Nations university and the World Bank ), pp 137- 143.
- Nair, K. M., 1995. Geological history and natural resources of lowlands of Kerala. In Science and Technology for Development (State Committee on Science, Technology and Environment, Government of Kerala, Thiruvananthapuram)
- Sen, A and Dreze,J, 1996. Indian Development: Selected Regional Perspective. Oxford University Press, Oxford and New Delhi

## **Course: Urban Geography**

**UNIT - I** –Introduction, Urban and rural, urban geography ; different approaches to the study of urban geography ,Early , Modern Approaches and Post structural Approaches – Recent trends –urban centres and Cities, Invisible city – origin and growth of urban centres – factors associated with the growth of cities-New Urban Geographies.

**UNIT – II**- Urban models

1. Classification of urban centres on the basis of a) size b) function, Rank size rule,
2. Harris and Nelson's scheme of classification
3. Classification of Indian cities by Ashok Misra,

4. Central Place theory,
5. Theories of Perroux and Bourdeville.
6. Economic bases of urban settlement – basic and non-basic concepts-
7. Urban land use models – theories of Burgess, Harris and Hoyt's

**UNIT – III** Urban morphology of Indian cities , Urban slums – urban housing policies and programmes – Urban fringe – its characteristics and development- Urban problems – Gentrification-New urban ecology.

**UNIT – IV** 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. Hardoy, 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,John 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.

## **Elective Courses (form 2006 admission onwards)**

### **Course: Geo-Statistics**

1. Introduction - The role of statistics in Geography-Statistical problem solving in Geography-Basic Terms and Concepts in Geography-Geographic Data-Dimensions of Geographic Data- Levels of Measurement-Measurement Concepts-Basic Classification Methods-Graphic Procedures- Introduction to SPSS
2. Measure of Central tendency-Dispersion and Variability-Shape and Relative position- Spatial data and Descriptive Statistics-Spatial Measure of Central Tendency- Spatial Measures OF Dispersion-Locational Issues and Descriptive Spatial Statistics.
3. Probability and Sampling-Deterministic and Probabilistic processes- Basic concepts probability and sampling terms and – Binomial, Poisson and Normal distributions-

Probability Mapping- Types of Probability Sampling- Spatial Sampling- Estimation in Sampling- Confidence intervals and estimation-Sample size selection

4. Inferential problem solving in Geography-Classical hypothesis Testing- Prob (p)value- One Sample Difference of Means test: Small Sample- One Sample Difference of Proportions Test-Issues in Inferential Testing and Test selection- Two sample and matched pairs (dependent sample ) difference test (means test and proportion test)-Three or more sample difference test (Anova and Kruskal Wallis test)- Goodness of fit-Contingency Analysis-Inferential Spatial Statistics-Point pattern and Area pattern Analysis-Problems of Inferential Testing and test selection
5. Correlation and Regression-Nature of co relation- Association of Interval/Ratio variables- Association of Ordinal variables- Use of correlation Indices in Map comparison- Issues regarding co relation- Forms of relationship in Bivariate regression-Strength of relationship in Bivariate regression-Residual or Error Analysis in Bivariate Regression- Inferential use of regression- Basic concepts of Multivariate Regression.

### Reading List

1. Field, A. (2009) *Discovering Statistics Using SPSS*. 3rd Edition. London: SAGE.
2. Harris, R. and Jarvis, C.(2011) *Statistics for Geography and Environmental Science*. Harlow:Pearson Education Ltd.
3. Krygier, J. and Wood D. (2011) *Making maps: A visual guide to map design for GIS*. New York: The Guildford Press.
4. Huff, D. (1993). *How to Lie with Statistics*
5. o Graham, A. (2008). *Teach yourself Statistics*
6. o Rowntree, D. (2003). *Statistics without tears: A primer for the non-mathematician*
7. Moore,D.S. and McCabe,G.P. 2002. *Introduction to the practice of statistics*. 4th edition
8. Arney, William R. *Understanding Statistics in the Social Sciences* New York, NY: W.H. Freeman, 1990.Devore, Jay L. and Peck, Roxy. *Statistics: The Exploration and Analysis of Data* St.~Paul, MN: West, 1986.
9. Freedman, David, et al. *Statistics*, New York, NY: W.W. Norton, 1978, 1991. Second Edition.
10. Groenveld, Richard A. *Introductory Statistical Methods* Boston, MA: PWS-Kent, 1988.
11. Kachigan, Sam K. *Statistical Analysis: An Interdisciplinary Introduction to Univariate and Multivariate Methods* New York, NY: Radius Press, 1986.

12. Koopmans, Lambert H. Introduction to Contemporary Statistical Methods, Boston, MA: PWS-Kent, 1987. Second Edition.
13. Mallios, William S. Statistical Modeling: Applications in Contemporary Issues Ames, IA: Iowa State University Press, 1989.
14. McClave, James T. and Dietrich, Frank H. Statistics, San Francisco, CA: Dellen, 1982, 1991. Fifth Edition.
15. Moore, David S. Statistics: Concepts and Controversies, New York, NY: W.H. Freeman, 1979, 1991. Third Edition.
16. Moore, David S. and McCabe, George P. Introduction to the Practice of Statistics New York, NY: W.H. Freeman, 1989.
17. Noether, Gottfried. Introduction to Statistics: A Fresh Approach New York, NY: Springer-Verlag, 1991.
18. Peters, William S. Counting for Something: Statistical Principles and Personalities New York, NY: Springer-Verlag, 1986.
19. Siegel, Andrew F. Statistics and Data Analysis: An Introduction New York, NY: John Wiley, 1988.

## **Course: Global Environmental Change and Society**

**Unit 1:** Introduction to Global Environmental Change -Population, Consumption, and Resource Use

**Unit 2:** An Introduction to Systems: Global Energy Balance: The Greenhouse Effect - Atmosphere-Ocean-Ice Interaction-Global Warming -Climate Change and Global Warming - Climate Change Impacts

**Unit 3:** Biogeochemical Cycling, Carbon cycle - Interconnections of Biogeochemistry, climate, and biodiversity -Biogeochemical Cycling, Nitrogen cycle -Focus on the Biota: Metabolism, Ecosystems, and Biodiversity - Reverberations of Change: Human Threats to Biodiversity - Determining Sensitive Areas around the World

**Unit 4:** Nature Conservancy- Determining Sensitive Areas in the India -Reverberations of Change: Air Pollution: Acid Rain and Tropospheric Ozone -Reverberations of Change: Stratospheric Ozone Depletion-Reverberations of Change: International Agreements on the

Environment Clean Air Act and Montreal and Kyoto Protocols - Reverberations of Change:  
Land Use Change and Ecosystems - Reverberations of Change: Energy, Bio fuels, and GEC

**Unit 5:** Ecological Footprint and Sustainability - Global Sustainability Part I - UNEP,  
Funding sources for global issues - Global Sustainability, Part II - Successes and Hopes  
for Sustainability

### Reading List

1. Adger, W. Neil, Tor A. Benjaminsen, Katrina Brown, and Hanne Svarstad. 2001. Advancing a Political Ecology of Global Environmental Discourses. *Development and Change* 32: 681-715.
2. Balmford, Andrew, et al. 2002. Economic Reasons for Conserving Wild Nature. *Science* 297: 950-953.
3. Barnett, Jon. 2003. Security and Climate Change, *Global Environmental Change* 13: 7-17.
4. Berkhout, Frans, Leach, Melissa, and Ian Scoones. 2001. Shifting perspectives in environmental social science. Pages 1-31 in Berkhout, leach and Scoones (eds), *Negotiating Environmental Change: New Perspectives from Social Science*. Edgar Elgar, London.
5. Braun, Bruce. 2006. Towards a New Earth and a New Humanity: Nature, Ontology, Politics. Pages 191-222 in N. Castree and D. Gregory (eds), *David Harvey: A Critical Reader*. Blackwell Publishing, Oxford.
6. Brown, Donald. 2003. The Importance of Expressly Examining Global Warming Policy Issues through an Ethical Prism." *Global Environmental Change*, 13: 229-234. (7 pages)
7. Bryant, Raymond L. 2001. Political Ecology: A Critical Agenda for Change? Pages 151-169 in N. Castree and B. Braun (eds), *Social Nature: Theory, Practice, and Politics*, Blackwell Publishers, Oxford.
8. Cline, William R. 2004. Climate Change. Pages 13-43 in B. Lomborg (ed), *Global Crises, Global Solutions*. Cambridge: Cambridge University Press.
9. Conca, K. 2002. Consumption and Environment in a Globalizing Economy. Pages 133-154 in Princen et al. (eds). *Confronting Consumption*.
10. Costanza, Robert, et al. 1997. The Value of the World's Ecosystem Services and Natural Capital. *Nature* 387: 253-260.
11. Demeritt, David. 2001. The Construction of Global Warming and the Politics of Science. *Annals of the Association of American Geographers* 91 (2): 307-337
12. Forsyth, Tim. 2003. *Critical Political Ecology: The Politics of Environmental Science*. Routledge, London.

13. Gasper, Des. 2005. Securing Humanity: Situating 'Human Security as Concept and Discourse' *Journal of Human Development* 7(2):221-245
14. Gupta, Joyeeta. 2000. North-South Aspects of the Climate Change Issue: Towards a Negotiating Theory and Strategy for Developing Countries, *International Journal of Sustainable Development*, Vol. 3, No. 2, 115-135.
15. Hassan, Rashid, Scholes, Robert, and Neville Ash (eds). 2005. *Ecosystems and Human Well-Being: Current State and Trends*. Findings of the Conditions and Trends Working Group of the Millenium Ecosystem Assessment. Island Press, Washington.
16. Chapter 1: Summary: Ecosystems and their Services around the Year 2000 (pages 2-23)
17. Jaques, Peter. 2006. *The Rearguard of Modernity: Environmental Skepticism as a Struggle of Citizenship*. Global Environmental Politics
18. Kemp, René and Saeed Parto. 2005. Governance for Sustainable Development: Moving from Theory to Practice. *International Journal of Sustainable Development* 8:12-30.
19. Lomborg, Bjørn. 2001. *The Skeptical Environmentalist: Measuring the Real State of the World*. Cambridge: Cambridge University Press.
20. McCarthy et al. 2001. *Climate Change 2001: Impacts, Adaptation, and Vulnerability*. Cambridge University Press, Cambridge.
21. Newell, Barry, et al. 2005. A conceptual template for integrative human–environment research. *Global Environmental Change* 15: 299-307.
22. Newell, Peter. 2005. Race, Class and the Global Politics of Environmental Inequality. *Global Environmental Politics* 5: 70-94
23. O'Brien, Karen L., and Robin M. Leichenko. 2000. Double Exposure: Assessing the Impacts of Climate Change within the Context of Economic Globalization. *Global Environmental Change* 10: 221-232.
24. O'Brien, Karen. L., and Robin. M. Leichenko. 2003. Winners and Losers in the Context of Global Change. *Annals of the Association of American Geographers* 93: 89-103.
25. O'Brien, Karen L. 2006. Are we Missing the Point? Global Environmental Change as an Issue of Human Security. *Global Environmental Change* 6:1-3
26. Ravetz, Jerry. 2005. The Post-Normal Science of Safety. Pages 43-53 in M. Leach, Ian Scoones, and Brian Wynne (eds.), *Science and Citizens*. Zed Books, London.
27. Rayner, Steve. 2006. What Drives Environmental Policy? *Global Environmental Change* 6: 4-6.



28. Robinson, John. 2004. Squaring the circle? Some thoughts on the idea of sustainable development. *Ecological Economics*. 48: 369-384
29. Schipper, Lisa and Mark Pelling. 2006. Disaster Risk, Climate Change and International Development: Scope for, and Challenges to, Integration. *Disasters* 30:19-38. (20 pages)
30. Steffen, W. et al. 2004. *Global Change and the Earth System*. Springer-Verlag, Berlin.
31. Chapter 3: The Anthropocene Era: How Humans are Changing the Earth System (pages 81-141)
32. Turner, Billie L. II, et al. 2003. A Framework for Vulnerability Analysis in Sustainability Science. *Proceedings of the National Academy of Science (PNAS)* 100 (14): 8074-8079.

## **Course: Geography of World Economy**

**Unit 1:** Historical Evolution and Geographical Dynamics : Economic organization of the pre-colonial world , Rise of the Core Economies , Pre Industrial Foundations , Evolution of the Industrial Core Regions

**Unit 2:** Globalisation of Production Systems: Crisis of capital- flexibilisation of production, Evolution of Transnational Corporations , Patterns and Processes of Globalisation, Spatial organization of Finance, Global office and Informational Economy

**Unit 3:** Spatial Transformation of Core and Periphery: Spatial reorganization of core economies , Transformation of the Periphery , Forms of Agricultural Reorganisation in the periphery- Agribusiness and agro marketing , New Industrial Regions- EPZs and SEZs- South east and East Asian economies, Globalisation of Service Industry- Placement of Indian economy

**Unit 4:** International and supranational Institutional integration- Geopolitics and spatial outcomes: Logic of integrations- Types and levels, Significance of regional integration as a strategy for the periphery, GATT rounds and Role of WTO, Spatial outcomes of economic integration, Regions and localities in the world economy

## **Reading List:**

1. Knox Paul, Agnew John and McCarthy Linda, (2008): *The Geography of the World Economy*, Hodder Education, UK.
2. Bryson John, Henry Nick, Keeble David and Martin Ron, (eds.) (1999): *The Economic Geography Reader- Producing and Consuming Global Capitalism*, John Wiley and Sons Ltd., New York.
3. Sheppard Eric and Barnes Trevor J., (eds.) (2000): *A Companion to Economic Geography*, Blackwell, Massachusetts.
4. Wood Andrew and Roberts Susan, (2011): *Economic Geography- Places, network and flows*, Routledge, London and New York.
5. Lee Roger and Wills Jane, (eds.) (1997): *Geographies of Economies*, Arnold, New York.
6. Scott J. Allen, (2006): *Geography and Economy- The Clarendon Lecture in Geography and Environmental Studies*, Clarendon Press, Oxford, New York.
7. Castree Noel, Coe M. Neil, Ward Kevin and Samers Michael, (2004): *Spaces of Work: Global Capitalism and the Geographies of Labour*, Sage, London.
8. Liemt van Gijsbert, (eds.) (1992): *Industry on the move- Causes and consequences of International Relocation in the Manufacturing Industry*, International Labour Office, Geneva.
9. Banerjee- Guha Swapna , (eds.) (2004): *Space, Society and Geography*, Rawat Publication, Jaipur and New Delhi.
10. Brakman Steven, Garretsen Harry and Marrewijk van Charles, (2009): *The New Introduction to Geographical Economics*, Cambridge University Press, UK. 24
11. Desai Vandana and Potter B. Robert, (eds.) (2011): *The Companion to Development Studies*, A Hodder – Viva Edition, London.
12. Schulz Michael, Soderbaum Fredrik and Ojendal Joakim, (eds.) (2001): *Regionalization in a Globalizing World*, Zed Books, London and New York.
13. Benko,G. and Strohmayer, U. (2004), *Human Geography, a History for the 21st Century*, Arnold, 14. Harvey D., (2001), *Spaces of Capital, Towards a Critical Geography*, Edinburgh University Press. 15. Johnston R.J., Taylor, P.J. and Watts, M.J. (2002), *Geographies of Change, Remapping the World*, Blackwell.
16. Hagget, P. (1983), *Geography a modern Synthesis*, Harper and Row.
17. Power Marcus, (2003) , *Rethinking Development geographies*, Routledge, London
18. Banerjee- Guha, Swapna, (1997), *Spatial Dynamics of International Capital*, Orient Longman

19. Banerjee- Guha, Swapna, (2010), Accumulation by Dispossession- Tranformative Cities in the New Global Order, Sage, New Delhi.
20. Banerjee-Guha, S. (2004), Space, Society and Geography, Rawat, New Delhi.
21. Harvey D., (2001), Spaces of Capital, Towards a Critical Geography, Edinburgh University Press.
22. Cloke, P., Cook, I, Crang, P., Goodwin, M., painter, J., Philo, C., (2004), Practising Human Geography, Sage.
23. Kitchin R., Thrift, N, (eds.) (2009), The International Encyclopedia of Human Geography, Elsevier.
24. Cloke, Paul, Crang Philip, Goodwin Mark, (1999): Introducing Human Geographies, Arnold
25. Raju Saraswati, Satishkumar M., Corbridge Stuart, (2006), colonial and Post-colonial Geographies of India, Sage, New Delhi

## **Course: Soil Geography**

**Unit 1:** Factors of soil formation: climate, biotic, topography, parent material and time.

**Unit 2:** Properties of soil: physical- Soil Texture, Soil Structure, Soil Colour, Bulk Density, Porosity , Pore Space, Soil Temperature, Permeability, Soil Water, Soil Moisture. Chemical- Acidity and Alkalinity, Soil pH, Soil Colloids, Redox Potential, Cation, Anion exchange. Swelling and shrinking properties of Soil, Biochemical cycles in Soil — Nitrogen and carbon cycles; Organic matter-floral and faunal, Humus content (process of humus formation), Soil biomass. Field capacity of soils, wilting point

**Unit 3:** Development of soil profile, soil profile of tropical soils. Genetic structure of soils, Morphological features of soil horizon. Weathering processes. Classification of soils, Major soil types in India Land capability classification, Land suitability classification. Problems related to soil degradation and erosion and conservation.

**Unit 4:** Soil Fertility, essential elements in plant nutrition, nutrient cycles in soil, Fertility status of major soil groups of India. Pollution- types, causes, methods of measurement, standards and management. Heavy metal toxicity and soil pollution; Chemical and bio-remediation of contaminated soils; Soil factors in emission of greenhouse gases; role of soil in mitigating greenhouse effect; Radio-active contamination of soil

### **Reading List**

1. Bridges,E.M. (1970): World Soils, Cambridge University Press, U.K.
2. Daji, J.A.(1970): A Text Book of Soil Science, Asia Publication House, Mumbai.

3. Datye, V.S. et. al. (ed.)(1987): Explorations in the Tropics, Prof. K. R. Dikshit Fel. Vol., Pune.
4. De, N.K. and Sarkar, H.K.(1993): Soil Geography, Sribhumi Publishing Company, Calcutta.
5. Dohahue, E.L., et. al., (1987): Soils: An Introduction to Soil and Plant Growth, Prentice, Hall of India, New Delhi.
6. Foth, H.D. & Schafer, F.W.(1980): Soil Geography and Landuse, John Wiley & Sons Inc., Canada.
7. Foth, H.D. & Turk, L.M.(1972): Fundamentals of Soil Science, John Wiley & Sons, Inc., Canada.
9. Paton, T. R., Humphreys, G.S., Mitchell, P. B. (1995): Soils: A New Global View, U.C.L. Press, London.
10. Pitty, A.F. (1978): Geography and Soil Properties, Methuen and Co. Ltd., London.
11. Raychaudhari, S.P. (1958): Soils of India, ICAR, New Delhi.
12. U.S. Department of Agriculture (1957): Soil, The Year Book of Agriculture, New York

## **Course: Population and Settlement Geography**

**Unit 1:** Population Geography: development of population geography as a field of specialization- population geography and demography, sources of population data, problems of mapping of population data

**Unit 2:** Population distribution: density and growth, theoretical issues, classical and modern theories in population distribution and growth, world patterns and their determinants, India-population distribution, density and growth profile, concepts of under population and over population

**Unit 3:** Population composition: Age and sex, family and households, literacy and education, religion, caste and tribes, rural and urban, urbanization, occupational structure, gender issues, population composition of india

**Unit 4:** Population dynamics: measurements of fertility and mortality, migration-national and international patterns, India's population dynamics

**Unit 5:** Population and development: population-resource regions, levels of population and socio-economic development, population policies in developed and less developed countries, Human Development Index and its components, India's population policies

**Unit 6:** Origin of settlements- Theoretical Approaches- Basic Concepts (Site, Situation, Distribution and Pattern, Culture and Region- Spatial Interdependence and Diffusion),-Folk and popular Culture (Housing and Environment)- Uniform Landscapes - Religion (House forms and types) .

**Unit 7:** Theories of Human settlements- Rural and Urban Settlements, Conurbation, Rural-Urban Fringe-Rural Settlements: Types and Patterns, Determinants.

**Unit 8.** Theories: Central Place Theory, Rank-Size Rule, Primate City, Growth Pole Theory.

### **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 arid Urban Systems in India, Oxford University Press, New Delhi.
- Rao, R. Rammohan and S. Simhadri 1999: Indian Cities: Towards Next Millenium, 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.

## **Revised syllabi for the MPhil Geography Coursework 2015-2016 admission onwards**

### **Research Methodology in Geography**

Module -1 Research : Meaning, Definition - Types and Methods- Fundamental, theoretical research – Empirical, Diagnostic and action oriented research. Need for Scientific Research ; Approaches to Geographical Research -Inter-disciplinary, trans – disciplinary and multi- disciplinary

Module - 2 Concepts in Research : Identification and selection of Research problem - Hypothesis - Types, Characteristics and functions, Formulation and testing of Hypothesis - Research

Module – 3 Data acquisition and analysis - Sources of data - Collection of Data - Techniques of primary and secondary data collection – Interview, Questionnaire Schedules , Need of pilot study - Selection of case studies,

Module- 4 Quantitative methods- Quantitative revolution – Development of Quantitative revolution in Geography - Foundations of quantitative Methods -Physical Landscapes- terrain , slopes -Soil, drainage,– climate – vegetation - Human-Environment Field Studies - Geographical Data collection: Applications of Quantitative Methods – Sampling – types; Qualitative methods - Foundations of Qualitative Methods Interviews, Focus groups, Ethnography, Participant Observation, Case Study, Discourse analysis– Participatory research- Analyzing meaning of the texts.

Module - 5 Data processing and Analysis : Use of suitable statistical and cartographic techniques , Preparation of Thematic maps and diagrams , Modern tools, Digital data analysis, Remote sensing GIS and GPS - Preparation of Research report- chapetrisation – Preparation of bibliography, Glossary , Appendix etc.

## READING LIST

1. Research Methodology - Methods and Techniques, Revised Edited by C.R. Kothari (2004), New Age International Publishers, New Delhi.
2. Social Research Methods by David Dooley (1995), Prentice Hall, London.
3. A Survey Research in Geography- ICSSR, New Delhi (1972), Popular Prakasan, Bombay.
4. A Survey Research in Geography -1969-1972 , Edited by Moonis Raza (1979), Allied publishers private limited, Bombay.
5. Doing Development Research by Vandana Desai and Robert B Potter (2006), Sage Publications , New Delhi.
6. Basic Guide to Evaluation for Development by Francis Robin (2009) , Oxfarm Publication.
7. New Methods in Social Science Research by Allen, T. Harrell (1978), Praeger Publishers , New York.
8. The Design of Social Research by Ackoff Russell (1961), Chicago University Press.
9. The Principles of Scientific Research by Freedman, P ( 1960), Pergamon Press, New York.
10. Research Methodology in Social Science in India ,edited by L.P Vidyarthi and A.K .Helder(1985),today and tomorrow printers and publishers.
11. Quantitative Social Research Methods by Kultar Singh (2007), Sage Publication.
12. Social Survey Methods by Paul Nicholas ( 2009), Oxfarm Publishers Delhi.
13. Methodology of Geography, Majid Hussain (1994), Anmol Pubication,New Delhi.
- 14 Geographical Research , K.L.Narasimha Murthy(1999) Concept Publishing company.
- 15 Fourth Survey of Research inGeography, G.S.Gosal (1999),Manak publication.
- 16 Contributions in Indian Geography R.P.Misra (1983),,Hilky publishers, NewDelhi.
- 17 An Introduction to Scientific Geographical Research Hanagi.l.L(1973),,Brown co

## **Urban Geography of South East Asia**

**Unit 1:** Exploring theoretical approaches to urban geography- (Space-Place and Nature)- what is city-defining city/studying city- Invisible city- New approaches-Urban donought.



**Unit 2:** Uneven development- Brief history of South east Asian cities -The industrial Epochs and cities-Early Fordism and cities-Mid 20's sub urbanization and Urban Sprawl-Planning for mid 20's century cities-Late Fordism to Post Fordism-

**Unit 3:** CONCURRENT CHANGE-Segregation-Gentrification-Right to the city-Social Justice- urban renewal- inclusion/exclusion- and public/private spaces- race and class in equality-Alternative development strategies.

**Unit 3:** Spatial disparities-Global cities-Environment Justice- Urban Environment Management and politics- Economic crises and urban development, ecology part and network and communication part

**Unit 4:** CASE STUDIES IN SOUTH EAST ASIA

### **Reading List**

- Alexander, M. (2012). *The new Jim Crow: Mass incarceration in the age of colorblindness*. The New Press.
- Domosh, M., & Seager, J. (2001). *Putting women in place: Feminist geographers make sense of the world*. Guilford press.
- Engels, F. (1996). *The great towns*. *The city reader*, 46-55.
- Guthman, J. (2011). *Weighing in: obesity, food justice, and the limits of capitalism* (Vol. 32). Univ of California Press.
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- John Wiley & Sons. Kozol, J. (2012). *Savage inequalities: Children in America's schools*.
- Broadway Books. Lipman, P. (2004). *High stakes education: Inequality, globalization, and urban school reform*. Psychology Press.
- Massey, D. S., & Denton, N. A. (1993). *American apartheid: Segregation and the making of the underclass*. Harvard University Press.
- Moore, S. (2006). *Forgotten roots of the green city: Subsistence gardening in Columbus, Ohio, 1900-1940*. *Urban Geography*, 27(2), 174-192.

- Moore, S. A., Apicella, M., Marston, S. A., & Thompson, M. (2012). Designing nature for learning: School gardens for youth and child education. *Children Youth and Environments*, 22(1), 250-259.
- Mumford, L. (1938). *The culture of cities*. Natter, W., & Jones, J. P. (1993).
- PETS OR MEAT: CLASS, IDEOLOGY, AND SPACE IN ROGER & ME\*. *Antipode*, 25(2), 140-158.
- Secor, A. (2013).
- 2012 Urban Geography Plenary Lecture Topological City. *Urban Geography*, 34(4), 430-444.
- White, M. M. (2011). Sisters of the soil: Urban gardening as resistance in Detroit. *Race/ethnicity: Multidisciplinary global contexts*, 5(1), 13-28.

## **Advances in Environmental Geography**

### **Unit 1: Concepts**

Nature: The matter of Nature, Beyond Dualism? Marxist Geography and the Production of Nature

Sustainability: Sustainability in Global Environmental Politics, Sustainability as a Bridging Concept: Promises and Pitfalls

Biodiversity: Perspectives on biodiversity, Biodiversity concepts and concerns: overview

Scale: The Many Meanings of Scale, Scale as size, level and relation

### **Unit 2: Approaches**

Earth system science: The Evolution of Earth-System Science

Ecology – Natural and Political: Political Ecology's Engagement with Ecological Relations, Environmental politics: conflicts over natural resources, Political Ecology's Engagement with the Scientific Practice of Ecology

Environmental History: Agency, Method and Multidisciplinarity in Environmental History, Changing Directions in Environmental History

### **Unit 3: Practices**

Remote Sensing and Earth Observation: Physical Principles of Remote Sensing, Environmental Applications

Modelling and Simulation: Approaches and Issues

Ethnography: Ethnography's Transformations, Ethnography's Potentials

Analysing Environmental Discourses and Representations: Reservations about the Natural Environment, Environmental Discourses and the Spatiality of Power Systems, Geographies of Environmental Discourse

#### **Unit 4: Topics**

Environment and Development: Roots of the Environment-Development Tradition in Geography, Conservation, Livelihood and Sustainability

Ecosystem Prediction and Management: The Development of the Ecosystem Concept, Towards Whole Ecosystem Management for Resources and Ecosystem Services, Understanding Ecosystem Interactions and Variability

Commons: The Historical Significance of the Commons, Analysing the Commons, The Contemporary Politics of the Commons

Food and Agriculture in a Globalising World: Situating Agriculture and Food, Globalising Agriculture and Food, The Cultural and Moral Economy of Food

#### **Unit 5: Movements**

Environment and Development: Roots of the Environment-Development Tradition in Geography, Conservation, Livelihood and Sustainability

Environmental movements; Global and Indian and its consequences- review few Indian environmental movements – its background and consequences – alternative discourses

National environmental policy of India : a critical review

#### **Reading List**

Agnew, J., Mitchell, K. and Toal, G. (eds) (2001) *A Companion to Political Geography*. Oxford: Blackwell.

Ashman, K. and Baringer, P. (eds) (2001) *After the Science Wars*. New York: Routledge.

Dant, T. (1991) *Knowledge, Ideology and Discourse*. London: Routledge.

Fuller, S. (2000) *The Governance of Science*. Buckingham: Open University Press.

Fuller, S. (2002) *Knowledge Management Foundations*. Woburn: Butterworth-Heinemann.

Fuller, S. (2003) *Popper vs Kuhn*. Cambridge: Icon Books.

Gibbons, M. (1994) *The New Production of Knowledge*. London: Sage.

Gregory, D. (1995) *Geographical Imaginations*. Oxford: Blackwell.

- Harvey, D. (1996) *Justice, Nature and the Geography of Difference*. Oxford: Blackwell.
- Harrison, S., Massey, D., Richards, K., Magilligan, F. J., Thrift, N. and Bender, B. (2004) Thinking across the divide: perspectives on the conversations between physical and human geography. *Area*, 36, 435–42.
- Livingstone, D. (1992) *The Geographical Tradition*. Oxford: Blackwell.
- Mackinder, H. (1887) On the scope and methods of geography. *Proceedings of the Royal Geographical Society*, 9, 141–60.
- Marston, R. (2006) *Geography: the original integrated environmental Science*. Presidential Plenary address to the Association of American Geographers, 8 March, Chicago, IL.
- Matthews, J. and Herbert, D. (eds) (2004) *Unifying Geography*. London: Routledge.
- Pelling, M. (ed.) (2003) *Natural Disasters and Development in a Globalizing World*. London: Routledge
- Lee, K. N. (1993) Greed, scale mismatch, and learning. *Ecological Applications*, 3, 560–64.
- Leitner, H. (2004) The Politics of scale and networks of spatial connectivity: transnational interurban networks and the rescaling of political governance in Europe. In E. Sheppard and R.B. McMaster (eds). *Scale and Geographic Inquiry: Nature, Society, and Method*. Malden, MA: Blackwell Publishing, pp. 236–55).
- Leitner, H. and Miller, B. (2007) Scale and the limitations of ontological debate: a commentary on Marston, Jones and Woodward. *Transactions of the Institute of British Geographers*, 32, 116–25.
- Levin, S. A. (1992) The Problem of pattern and scale in ecology. *Ecology*, 73, 1943–1967.
- Marston, S. A. (2000) The social construction of scale. *Progress in Human Geography*, 24, 219–42.
- Marston, S. A. and Smith, N. (2001) States, scales and households: limits to scale thinking? A response to Brenner. *Progress in Human Geography*, 25, 615–19.
- Marston, S. A., Jones, J. P. III and Woodward, K. (2005) Human geography without scale. *Transactions of the Institute of British Geographers*, 30, 416–32.

May, R. (1977) Thresholds and breakpoints in ecosystems with a multiplicity of stable states. *Nature*, 269, 471–77.

## **POLITICAL GEOGRAPHY**

**1. Development and Concepts** –Political Geography as distinct branch, Geopolitics and Political Geography, Development of Political Geography, Realism VS Idealism, World Strategic Views,

**2. Approaches to the study of Political Geography**– Introduction to World System Theory- Power Analysis Approach , Historical Approach, Morphological Approach, Functional Approach, Unified Field Theory, System Approach,

**2. The State** – State, Nation and Nation-state Emergence of States-Modern Theories, Unitary, Federal and Regional States, Frontiers and Boundaries, Core Areas and Capitals, state as a political territorial phenomena, core-periphery concept

**3. Geostrategy and prominent thinkers- Straffor**, Makinder, Spykman, Houssofer, A.T Mahan, O. Tuathali, Thomas Friedmann, Agnew etc

**4. Contemporary International Relations and Politics** –U.S.A. as world power and its role in international politics, European Union and its role in world politics, International Politics of the Indian Ocean States, Role of China and India in International Politics, Role of International Organizations in Contemporary Politics, SAARC.

**5. Emergence Dimensions of Political Geography** –Electoral Geography, Politics of outer space , Geopolitics of Environment, Urban Politics Reconsidered- Identity Politics- Supranationalism, Geography of War and Peace, federalism, critical geopolitics

### READING LIST

1. Agnew, J. Mitchell, K. and O’Tuathail, G. A Companion to Political Geography. Oxford: Blackwell, 2003.
2. Edkins, J & Zehfuss, M. Global Politics: A New Introduction, London, New York: Routledge, 2008.
3. Jones, M., Jones, R. and Woods, M. An Introduction to Political Geography: Space, Place and Politics London: Routledge, 2004.
4. O’Tuathail, G., Dalby, S. and Routledge, P. The Geopolitics Reader. London: Routledge, 2006.
5. Painter, J. and Jeffrey, A. Political Geography: An Introduction to Space and Power. London: Sage, 2009.

6. Agnew et. al. *A Companion to Political Geography*, Introduction
7. Jones, et. al., *An Introduction to Political Geography*, Ch. 1.
8. Painter, J. and Jeffrey, A. *Political Geography*, Introduction and Ch. 1
9. John Allen, "Power", in Agnew et. al. *A Companion to Political Geography* Steven Lukes *Power: A Radical View*, London, Macmillan, 1974.
10. Joe Painter, "Geographies of Space and Power", in Cox, KR, Low, M and Robinson, J (eds) *The SAGE Handbook of Political Geography*, London: Sage, 2008, pp 5
11. Bob Jessop, Neil Brenner, Martin Jones & Gordon Macleod (ed.) *State/space*, Oxford: Blackwell,
12. Mark Blacksell, "Redrawing the Political Map", in David Pinder (ed.), *The New Europe: Economy, Society and Environment*, Chicester: John Wiley,
13. J. Camilleri & J. Falk, *The end of sovereignty? The politics of a shrinking and fragmenting world*, London, 1992.
14. David Campbell, *Writing Security: United States Foreign Policy and the Politics of Identity*, Manchester University Press, 2nd edition, 1998.
15. David Campbell, *National Deconstruction: Violence, Identity and Justice in Bosnia*, Minneapolis: University of Minnesota Press, 1998.
16. Cheah & B. Robbins (eds.), *Cosmopolitics: Thinking and Feeling Beyond the Nation*, University of Minnesota Press, 1998.
17. Michael Dillon, *The Politics of Security: Towards a Political Philosophy of Continental Thought*, Routledge, 1996.
18. Michael Dillon and Andrew W. Neal (eds.) *Foucault on politics, security and war*, Palgrave,
19. Norbert Elias, "Violence and Civilisation: The State Monopoly of Physical Violence and its Infringement", in John Keane (ed.), *Civil society and the state: new European perspectives*, London: Verso, Anderson Conclusion; Jönsson et. al. Chapters 5 and 10;
20. Benedict Anderson, *Imagined Communities: Reflections on the Origin and Spread of Nationalism*, London: Verso, 1991.
21. John Breuilly, *Nationalism and the State*, Manchester: Manchester University Press, 1993.
22. Chamberlain, *The Scramble for Africa*, Longman: London,
23. Sebastian Conrad, *Globalisation and the nation in Imperial Germany*, Cambridge University Press,

24. Klaus Dodds and David Atkinson (eds.) *Geopolitical Traditions: A century of geopolitical thought*. London: Routledge, 2000.
25. Doty, *Imperial Encounters: The Politics of Representation in North-South Relations*, Minneapolis: University of Minneapolis,

## **Studies in Post-Colonial Urbanisation**

### **Unit – 1: Theory and The City**

Modernity and urbanization, The Chicago school, The radical theories, Post structural and postmodern theories of Urban studies

### **Unit – 2: New City Forms**

Urban restructuring, internationalization, neoliberal city, City ecology and land use, Uneven development

### **Unit – 3: City and The Margins**

Imagined city, representations, everyday city class, gender and caste in the post-colonial city

### **Unit – 4: Kochi – A Multi-Cultural Post-Colonial City in Practice**

Growth to a metro city, the process and spatial patterns of city in Kochi, The politics of spatiality – class, caste and gender in Kochi

### **Reading List:**

Abu-Lughod, J. (1965). Tale of two cities; the origins of modern Cairo. *Comparative Studies in Society and History* 7, 429--457.

Bishop, R., Phillips, J. and Yeo, W. W. (eds.) (2003). *Postcolonial Urbanism: Southeast Asian Cities and Global Processes*. London: Routledge.

Chattopadhyay, S. (2005). *Representing Calcutta: Modernity, Nationalism and the Colonial Uncanny*. London: Routledge.

Horvath, R. V. (1969). In search of a theory of urbanization: Notes on the colonial city. *East Lakes Geographer* 5, 69--82.

Hosagrahar, J. (2005). *Indigenous Modernities: Negotiating Urban Form*. London: Routledge.

Jacobs, J. (1996). *Edge of Empire: Postcolonialism and the City*. London: Routledge.

Hansen, Thomas Blom (1996) *Recuperating Masculinity: Hindu nationalism, violence and the exorcism of the Muslim 'Other'*, *Critique of Anthropology* 16: 137-172.

Kaplan, Caren (2009) *The Biopolitics of Technoculture in the Mumbai Attacks* *Theory Culture Society* 26; 301-313.

Mehta, Deepak (2006) Collective Violence, Public Spaces, and the Unmaking of Men, Men and Masculinities 9; 204-225.

Hansen, Thomas Blom (2000) Predicaments of Secularism: Muslim Identities and Politics in Mumbai, *The Journal of the Royal Anthropological Institute*, Vol. 6, No. 2, pp. 255-272.

Belur, Jyoti (2010) Why Do the police use Deadly Violence? Explaining Police Encounters in Mumbai, *British Journal of Criminology* 50, 320–341.

Amin, Ash and Thrift, Nigel (2002) *Cities: Reimagining the Urban*. Cambridge: Polity

Blowers, Andrew and Pain, Kathy, “The Unsustainable City?” *Unruly Cities?* Ed. Steve Pile et al. London & New York: Routledge, pp.247-298.

Bridge, Gary. (2005) *Reason in the City of Difference: Pragmatism, Communicative Action and Contemporary Urbanism*. London and New York: Routledge.

Clarke, David B. (2003) *The Consumer Society and the Postmodern City*. London & New York: Routledge.

Dear, Michael & Flusty, Steven (1999) *Spaces of Culture: City, Nation, World*. Ed. Mike Featherstone and Scott Lash. London: Sage, pp.64-85.



## **Syllabi for the PhD Geography Coursework 2015-2016 admission onwards**

### **Research Methodology in Geography**

Module -1 Research : Meaning, Definition - Types and Methods- Fundamental, theoretical research – Empirical, Diagnostic and action oriented research. Need for Scientific Research ; Approaches to Geographical Research -Inter-disciplinary, trans – disciplinary and multi- disciplinary

Module - 2 Concepts in Research : Identification and selection of Research problem - Hypothesis - Types, Characteristics and functions, Formulation and testing of Hypothesis - Research

Module – 3 Data acquisition and analysis - Sources of data - Collection of Data - Techniques of primary and secondary data collection – Interview, Questionnaire Schedules , Need of pilot study - Selection of case studies,

Module- 4 Quantitative methods- Quantitative revolution – Development of Quantitative revolution in Geography - Foundations of quantitative Methods -Physical Landscapes- terrain , slopes -Soil, drainage,– climate – vegetation - Human-Environment Field Studies - Geographical Data collection: Applications of Quantitative Methods – Sampling – types; Qualitative methods - Foundations of Qualitative Methods Interviews, Focus groups, Ethnography, Participant Observation, Case Study, Discourse analysis– Participatory research- Analyzing meaning of the texts.

Module - 5 Data processing and Analysis : Use of suitable statistical and cartographic techniques , Preparation of Thematic maps and diagrams, , Modern tools, Digital data analysis, Remote sensing GIS and GPS - Preparation of Research report- chapetrization – Preparation of bibliography, Glossary , Appendix etc..

## READING LIST

1. Research Methodology - Methods and Techniques, Revised Edited by C.R. Kothari (2004), New Age International Publishers, New Delhi.
2. Social Research Methods by David Dooley (1995), Prentice Hall, London.
3. A Survey Research in Geography- ICSSR, New Delhi (1972), Popular Prakasan, Bombay.
4. A Survey Research in Geography -1969-1972 , Edited by Moonis Raza (1979), Allied publishers private limited, Bombay.
5. Doing Development Research by Vandana Desai and Robert B Potter (2006), Sage Publications , New Delhi.
6. Basic Guide to Evaluation for Development by Francis Robin (2009) , Oxfarm Publication.
7. New Methods in Social Science Research by Allen, T. Harrell (1978), Praeger Publishers , New York.
8. The Design of Social Research by Ackoff Russell (1961), Chicago University Press.
9. The Principles of Scientific Research by Freedman, P ( 1960), Pergamon Press, New York.
10. Research Methodology in Social Science in India ,edited by L.P Vidyarthi and A.K .Helder(1985),today and tomorrow printers and publishers.
11. Quantitative Social Research Methods by Kultar Singh (2007), Sage Publication.
12. Social Survey Methods by Paul Nicholas ( 2009), Oxfarm Publishers Delhi.
13. Methodology of Geography, Majid Hussain (1994), Anmol Pubication,New Delhi.
- 14 Geographical Research , K.L.Narasimha Murthy(1999) Concept Publishing company.
- 15 Fourth Survey of Research inGeography, G.S.Gosal (1999),Manak publication.
- 16 Contributions in Indian Geography R.P.Misra (1983),,Hilky publishers, NewDelhi.
- 17 An Introduction to Scientific Geographical Research Hanagi.l.L(1973),,Brown co

## **Theoretical Basis of Geography**

### **Unit – I - Paradigms in Geography**

Exploration, environmental determinism, spatial science, structuralism, post-structuralism

## **Unit – II - Geographical Knowledge after World War II**

Humanistic Geography – Place and Space

Marxist Geography – Social Relevance, Geography and Imperialism

Henri Lefebvre - The Production of Space

## **Unit II - Postcolonial Geographies**

Political Ecology

Spatial Relations

Socio-Spatial Dialectics

The Urban Question, Spatial Structures, Fordism

Structure and Agency in Human Geography

Locality Studies – Spatial Divisions of Labour

## **Unit IV - Critical Geographies**

Foucault – Knowledge, Power

Derrida – Deconstruction

The Postmodern Condition - Harvey

Jameson – The Cultural Logic of Late Capitalism

Thirdspace – Soja

Landscape as Text, Development as Discourse

Feminist Geography

## **Reading List:**

1. Richard Peet. 1998. *Modern Geographical Thought* (Blackwell).
2. Phil Hubbard, Rob Kitchin, & Gill Valentine (Eds.). 2004. *Key Thinkers on Space and Place* (Sage).
3. John Agnew, David Livingstone, & Alisdair Rogers (Eds.). 1996. *Human Geography: An Essential Anthology* (Blackwell).
4. Gillian Rose. 1993. *Feminism and Geography: The Limits of Geographical Knowledge* (Minnesota/Polity).
5. John Pickles. 2003. *A History of Spaces* (Routledge).
6. Doreen Massey. 2005. *For Space* (Sage).
7. Johnston, R. *et.al.* (2000) *The Dictionary of Human Geography*, (Blackwell).

8. Livingston, D. N. (1992) "The Geographical Experiment: Evolution and Founding of a Discipline" in Livingston, D. N. *The Geographical Tradition*. Cambridge, MA: Blackwell.

## **Medical Geography**

### **Unit-1 –Geographical research on global health issues**

Contemporary Need of Medical Geography: geography and medicine , geographic aspects of health and healthcare-Geo-Environmental influence on health; Relationship between socio – cultural factors and health-primarily facility location,-accessibility and utilization- Significance geographies of disease and ill health, involving - Quantifying disease frequencies and distributions, and analytic with relation to epidemiology , Effects of locale and climate up on health condition-Space, place and environment influence on Medical Geography

### **Unit-2 GEOMEDICAL RESEARCH IN INDIA (Geographical Aspects of Health and Disease in India)**

Human health in India; Indicators of health--: Health Hazards of different environments-- changes in birth, death rates & infant mortality rates, life Expectancy, changes in sex ratio, literacy and population growth, population control- Pattern of Diets and Nutrition in various geographical units in India --Food security and Nutrition: mal & under nutrition – causes & consequences - Food Production, efficiency and Nutrition in India- Concentration of Deficiency Diseases- regional studies – case studies of marginalized communities. –Disease Incidence mapping –distribution , Associate factors in different regions of India—Disease diffusion.

### **Unit-3 -A comparison of past and present day ecology of diseases Ecological Association of Diseases**

Factors affecting the health of populations and individuals. . Disease Ecology- Theories of Koch-Pettenkofer- John Snow -Disease classification , growth and distribution of T.B., Cancer, Leprosy, Pneumonia, Aids, Cholera etc.. - Disease diffusion model - Growth of

Water borne and weather diseases and climate change and increasing epidemics in India and Kerala.

#### **Unit-4 Contemporary health issues and geographic aspects of health and health care system planning India**

Significance of health geographics -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. Spatial analysis- Location and Allocation

#### **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 Grographer, 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, Ist Edn.
- Learmonth, A.T.A. (1985) Diseases in India, Concept Pub. Company, New Delhi.