

**C C S University, Meerut**

**M A Geography**

**Syllabus  
(Session 2011-12 onwards)**

**Prepared by:**

**Board of Studies in Geography**

# **C C S University, Meerut**

## **Syllabus (Session 2011–12 onwards) M A Geography**

In the last decade the discipline of Geography has experienced vast expansion of knowledge, new multi –disciplinary frontiers and a technological revolution based on remote sensing and Geographic Information System (GIS). Thus to provide excellence in knowledge of the subject it becomes essential to incorporate the new knowledge in the subject by updating and reframing the syllabus. This objective led to restructuring of syllabus of MA Geography of CCS University, Meerut.

Matching the structure widely defined for all the subjects of Arts Faculty of the University, the entire content was divided into 20 papers of 100 equal marks; sixteen papers of theory, three papers of practicals and one dissertation work. There shall be equal sharing in theory papers for marks awarded by external as well as internal examiners. The University will be arranging to conduct theory examination and evaluation by external examiners for 50 marks in each theory paper. While the internal 50 marks shall be awarded by conducting 2 tests of 10 marks each, for assignment or term paper writing 10 marks and its presentation 10 marks. The balance 10 marks shall be awarded for mini exercise of field work or mapping (diagram work or as may be decided by the teacher concerned.

For each theory paper, the teacher shall be presenting two standard research articles of national or international journal and interacting with the students for its objectives, methodologies and findings.

In all the theory papers, for purpose of examination, ten questions are to be set, 2 questions from each unit. Students will be required to attempt 5 questions in all, selecting at least one question from each unit.

# C C S University, Meerut

## M A Geography

### Abstract of Syllabus

Semester	Course No.	Course Title	Marks		Duration (hrs.)
			Internal	External	
I	I	Advanced Geomorphology	50	50	50
	II	Natural Resource Management	50	50	50
	III	History of Geographical Thought	50	50	50
	IV	Advanced Geography of India (Physical & Regional)	50	50	50
Practical	V	Statistical Techniques and Cartography	---	100	50
II	VI	Climatology and Oceanography	50	50	50
	VII	Laws, Models & Theories in Geography	50	50	50
	VIII	Advanced Geography of India (Socio-economic)	50	50	50
	IX	Regional Planning and Development	50	50	50
Practical	X	Advanced Cartography	---	100	50
III	XI	Recent Issues in Geography	50	50	50
	XII	Interdisciplinary Research Methods and Techniques	50	50	50
	XIII (A)	Advanced Geography of Uttar Pradesh (or)	50	50	50
	XIII (B)	Applied Geography	50	50	50
	XIV	Ecology and Environment	50	50	50
Practical	XV	Advanced Surveying, Remote Sensing and GIS	---	100	50
	<b>Any one of the following groups:</b>				
IV	<b>Group A</b>	<b>Population &amp; Settlement</b>			
	XVI (A)	Population Geography	50	50	50
	XVII (A)	Geography of Rural Settlements	50	50	50

Contd...2...

Semester	Course No.	Course Title	Marks		Duration (hrs.)
			Internal	External	
	XVIII (A)	Urban Geography	50	50	50
	XIX (A)	Gender Geography	50	50	50
IV	<b>Group B</b>	<b>Economic Geography</b>			
	XVI (B)	Agricultural Geography	50	50	50
	XVII (B)	Geography of Manufacturing	50	50	50
	XVIII (B)	Geography of Transport	50	50	50
	XIX (B)	Geography of Tourism	50	50	50
IV	<b>Group C</b>	<b>Socio-Cultural Geography</b>			
	XVI (C)	Cultural Geography	50	50	50
	XVII (C)	Political Geography	50	50	50
	XVIII (C)	Administrative Geography	50	50	50
	XIX (C)	Geography of Health	50	50	50
IV	<b>Group D</b>	<b>Natural Geography</b>			
	XVI (D)	Biogeography	50	50	50
	XVII (D)	Geography of Water Resources	50	50	50
	XVIII (D)	Soil Geography	50	50	50
	XIX (D)	Environmental Impact Assessment	50	50	50
	XX	Dissertation	50	50	

# C C S University, Meerut

## Syllabus (2010-11 & onwards)

### M A Geography

#### Semester I

#### Course I

### Advanced Geomorphology

#### Course Contents:

- Unit- I : Nature and scope of Geomorphology, Recent observations on some Fundamental concepts –uniformitarianism, multicyclic and polygenetic evolution of landscapes.
- Unit- II : Earth movements – epeirogenic and orogenic earth movements. Forces of crustal instability, isostasy, plate tectonics, vulcanicity.
- Unit- III : Exogenic Processes: Concept of gradation, Agents and processes of gradation, causes, types and classification of weathering, massmovement, erosional, and depositional processes and resultant landforms and soil formation.
- Unit- IV : Landscape evaluation models: WM Davis, Penck, LC King, dynamics of fluvial, glacial, Aeolian, marine, and karst processes and resulting landforms complexities in geomorphological processes.
- Unit- V : Applied geomorphology – hydro-geomorphology, urban geomorphology, environmental geomorphology, geomorphic hazards and mitigation measures.

#### Suggested Readings

- Ahmed, E. (1985): Geomorphology, Kalyani Publishers, New Delhi.
- Bloom, A.L. (1998/2001): Geomorphology, 3<sup>rd</sup> Edition, Prentice Hall of India, New Delhi.
- Chorley, R.J., Schumm, S.A. and Sugden, D.E. (1984): Geomorphology, Methuen and Company Ltd., London.
- Chorley, R.J. (1972): Spatial Analysis in Geomorphology, Methuen, London.
- Dayal, P. (1996): A Text Book of Geomorphology, Shukla Book Depot, Patna.
- Dury, G.H. (1959): The Face of the Earth, Penguin Harmondsworth.
- Fairbridge, R.W. (1968): Encyclopedia of Geomorphology, Reinholdts, New York.
- Garner, H.F. (1974): The Origin of landscape- A Synthesis of Geomorphology, Oxford University Press, London.
- Singh, Savindra: Geomorphology (in Hindi).

## Course II

# Natural Resources Management

### Course Contents:

- Unit- I Introduction: Concept, models and approaches to natural resource management; problems of resource utilization; population pressure, development and resource use; natural hazards and risk management.
- Unit- II Use and misuse of Resources: Global and Indian scenario; historical background and future prospects of various resources; soil, water, minerals, forests.
- Unit- III Conservation and management of resources: Meaning, principles, philosophy and approaches to conservation; resource conservation and management methods.
- Unit- IV Resource appraisal and policy making: appraisal of Land resources, geophysical, geochemical, geobotanical; Policy models towards better management and conservation of resources.
- Unit- V Resource Development: Sustainable resource concept, methods, dimension and sustainable system; integrated resource development and its application.

### Selected Readings

- Adams, W.M.: Green Development: Environment and Sustainability in the Third World, Routledge and Chapman Hall, New York, 1990.
- Burton, I. And Kates, R.W. (1978): Readings in Resources Management and Conservation. McGraw Hill, New York.
- Clark, G.L., Feldman, M.P. and Gertler, M.S. (eds.) (2000): The Oxford Handbook of Economic Geography. Oxford University Press, Oxford and New York.
- Ehrlich, P.R., Ehrlich, R.H. and Holdren, J.P. (1998): Ecoscience: Population, Resources and Development. 2<sup>nd</sup> edition. Freeman and Company, San Francisco.
- Granfelt, T.R. (1999): Management the Globalized Environment, J. & L. Composition Ltd, New York.
- Holechek, J.L. et al (2000): Natural Resources: Ecology, Economics & Policy, Prentice Hall, New Jersey.
- Hooja, R & Joshi, R. (1994): Desert, Drought and Development, Studies and Resource Management and sustainability; Rawat Publication, Jaipur.
- Kates, R.W. & Burton, I. (eds) (1986): Geography, Resources and Environment, Vol I & II, University of Chicago Press, Chicago.

## **Course III**

# **History of Geographical Thought**

### **Course Contents:**

- Unit-I : The field of geography: Meaning, philosophy and purpose of Geography. Geography as a social science and natural science. Concepts in the philosophy of geography – distributions, relationships, interactions, areal differentiation and spatial organization.
- Unit-II : Geography in the ancient and medieval period: Contribution of Greek and Roman Geographers- Character of Geography in medieval period- the Dark Age, the Arabic period and the Renaissance period.
- Unit-III : Geography in the modern period: Contribution of German (Humboldt, Ritter & Ratzel), French (Blache and Brunhes), Russian (Gerasimov, Lomonosov), British (L.D. Stamp and Mackinder) and American (Richard Hartshorne, Semple & Huntington) Schools.
- Unit-IV : Dualisms in geography: systematic & regional geography; physical & human geography. The myth and reality about dualism. Regional geography. Concept of region, regionalization and the regional methods.
- Unit-V : History and Development of Geographical Thought in India: Contribution of Indian Scholars in Geography. Geographical contribution in British Period. Development of Indian Geography after independence. Expansion of Geography Teaching in Indian Universities and Professional Institutions.

### **Suggested Readings:**

- Abler, Ronald; Adams, Jons, S. Gould, Peter, N.J. (1971) : Spatial Organization: The Geographer's View of the World, Prentice Hall, New Jersey.
- Ali S.M. (1966) : The Geography of Puranas, Peoples Publishing House, Delhi.
- Amedeo, Douglas (1971) : An Introduction to Scientific Reasoning in Geography, John Wiley, U.S.A.
- Bansal, S.C. (2010) : History of Geographical thought (in Hindi).
- Dikshit, Shreekant (2000): Bhugoolik Chintan, Udhav ke Vikas, Varanasi.
- Dikshit, R.D. (ed.) (1994): The Art & Science of Geography Integrated Readings, Prentice Hall of India, New Delhi.
- Danieals, P., Bradshaw, M., Shaw, D. And Sidaway, J. (2000): An Introduction to Human Geography. Issues for the 21<sup>st</sup> Century. Prentice Hall, London.
- Dikshit, R.D. (2004): Geographical Thought. A Critical History of Ideas. Prentice-Hall of India, New Delhi. (in English and Hindi).
- Harvey, D. (1969): Explanation in Geography. Arnold, London.

## **Course IV**

# **Advanced Geography of India (Physical & Regional)**

### **Course Contents:**

- Unit-I : Making of India through Geological Time : Geology, Structure and Relief of India, Physical Divisions of India.
- Unit II : Drainage System and Watersheds, Hydrology and Water Balance, Climate Characteristics, Mechanism of Indian Monsoon, Climatic Regions of India.
- Unit III : Soil Resource & Conservation, Problem of Soil Erosion, Problem of deforestation, Forest Resources and their Conservation, Types of Soils and Natural Vegetation, Resource Regions of India.
- Unit IV : Different Schemes of Physiographic Regionalisation of India, their bases and Comparative Studies.
- Unit V : Detailed case Studies of Uttarakhand Himalayas and Gangetic Plain with respect to their Geology, Structure, Relief, Drainage and Physiographic Divisions.

### **Suggested Readings:**

- Centre for Science & Environment: State of India's Environment, New Delhi, 1988.
- Deshpande, C.D. (1992): India: A Regional Interpretation ICSSR & Northern Book Centre.
- Ganguly, S. and Neil, DeVotta (eds.) (2003): Understanding Contemporary India. Lynne Rienner Publishers, Boulder and London.
- Gole, P.N. (2001): Nature Conservation and Sustainable Development in India. Rawat Publications, Jaipur and New Delhi.
- Khullar, D.R. (1968): India. A Comprehensive Geography. Kalyani Publishers, New Delhi, 2006.
- Bansal, S.C. (2011) : India : An Advanced Geography of India : Meenakshi Prakashan, Meerut (in Hindi).
- Krishnan, M.S.: Geology of India and Burma, 4<sup>th</sup> Edition, Higgin Bothams Private Ltd., Madras.
- Majid, Husain (2008): Geography of India, Tata McGraw Hill Company, New Delhi.
- Nag, P. and Gupta, S.S. (1992): Geography of India, Concept Publishing Company, New Delhi.
- Singh, J. (2003): India: A Comprehensive and Systematic Geography, Gyanodaya Prakashan, Gorakhpur.
- Singh, R.L. (Ed.) (1971): India: A Regional Geography, National Geographical Society of India, Varanasi.

## **Course V (Practical)**

# **Statistical Techniques and Cartography**

### **Course Contents:**

- Unit- I : Types of profiles, Slope Analysis by different methods (Wentworth and Henry Raisz), Morpho-metric Analysis.
- Unit II : Standard Deviation, Mean, Quartiles One and Three, Ranking methods. Probability. Theory of Probability Geographical Application of statistical techniques.
- Unit III : Correlation – Spearman’s and Carl Parsons Methods, Line of Regression, Chi-square test, binomial test.
- Unit IV : Techniques of Mappings  
Drainage density, flow diagrams, population mapping.
- Unit V : Field work  
Field work and data processing techniques, sampling tests, dispersion diagrams.
- Note : For written test in all 10 questions shall be given selecting 02 questions from each unit. The students shall be attempting five questions selecting one question from each unit. Each question shall be carrying 15 marks.
- |  |          |
|--|----------|
| For Examination Break-Up of Marks- Written Test (3 Hrs.) | 75 marks |
| Viva - voce  | 10 marks |
| Record work  | 15 marks |

### **Suggested Readings:**

- David Unwin (1981): Introductory Spatial Analysis, Methuen, London.
- Gregory, S. (1978): Statistical Methods and the Geographer, Longman, London.
- Hammond, R. and P.S. McCullagh (1974): Quantitative Techniques in Geography: An Introduction, Clarendon Press, Oxford.
- John, P. Cole and Cuchlaine A.M. King (1968): Quantitative Geography, John Wiley, London
- Johnston R.J. (1973): Multivariate Statistical Analysis in Geography, Longman, London.
- Koutsoyannis, (1973): Theory of Econometrics, Mcmillan, London.
- Maurice Yeats (1974): An Indtroduction to Quantitative Analysis in Human Geography, McGraw Hill, New York.
- Peter Haggett, Andrew D. Cliff & Allan Frey (1977): Location Methods, Vol. I and II, Edward Arnold, London.
- Yadav, Hirilal (1998): Matratamak Bhaugool, Radha Publication, New Delhi.

## Semester II

### Course VI Climatology and Oceanography

#### Course Contents:

- Unit-I : Nature and scope of climatology and its relationship with meteorology. Composition and structure of the atmosphere. Insolation and Heat Budget. Green House Effect. Distribution of Temperature and Pressure. Planetary wind system. Jet Streams and Monsoon mechanism.
- Unit-II : Humidity and Precipitation. Acid Rain, Air Masses and Fronts, Origin of Cyclones, Anticyclones and Thunderstorms and their effects. Ocean atmospheric interaction: El Niño and La Niña Phenomenon.
- Unit-III : Climatic classification of Köppen and Thornthwaite, Major –climates of the world-tropical, temperate, desert and mountain climate. Climatic changes and Global warming.
- Unit-IV : Nature and scope of oceanography. Distribution of land and water. Surface configuration of the ocean floor. Submarine relief of the Pacific. Atlantic and Indian Ocean, Composition of Oceanic Water. Distribution of Temperature and Salinity.
- Unit-V : Circulation of Oceanic Water: Waves, Tides and Currents. Ocean Deposits: their sources and kinds. Corals and coral reefs: Types and theories of their origin.

#### Suggested Readings (Climatology):

- Barry, R.G. and Chorley P.J. (1998): Atmosphere, Weather and Climate. Routledge, London and New York.
- Critchfield, J.H. (1993): General Climatology, Prentice Hall, India, New Delhi.
- Das, P.K. (1987): Monsoons National Book Trust, New Delhi.
- Fein, J.S. and Stephens, P.N. (1987): Monsoons, Wiley Interscience.
- Indian Met. Deptt. (1968): Climatological Tables of Observatories in India, Govt. of India.
- Lal, D.S. (1986): Climatology, Chaitanya Publication, Allahabad.
- Lydolph, P.E. (1985): The Climate of the Earth, Rowman.
- Menon, P.A. (1989): Our Weather, P.B.T. New Delhi.
- Peterson, S. (1969): Introduction to Meteorology, Mc Graw Hill Book, London.
- Robinson, P.L. and Henderson S. (1999): Contemporary Climatology, Henlow.
- Sharma, R.C. & Meera Vatal : Oceanography for Geographers.

## **Course VII**

# **Laws, Models & Theories in Geography**

### **Course Contents:**

- Unit-I : Development of Theoretical Geography, Definition and Meaning of Model, Paradigm, Theory and Law, Systems Analysis in Human Geography.
- Unit II : Laws of Isostasy, Mountain Building, Buys Ballot's Law, Gravity Model, Centrifugal, Centripetal Forces, Coriolis Force. Koeppen's, Thornthwait's Model, Davis and Penck Cycles of Erosion.
- Unit III : Locational Theories – Von Thunen's, Alfred Weber's, Isards, Losch, Central Place Theory.
- Unit IV : Copping Intensity, Crop – Combination, Productivity Analysis.
- Unit V : Urban Primacy, Rank Size Rule, Nearest Neighbour Analysis.

### **Suggested Readings:**

- Baskin, C.W. (Translator): Central Places in Southern Germany, Prentice Hall Inc. Englewood Cliffs New Jersey, 1966. Originally written by C.W. Christaller in German with title Die Zentralen Orte Sudevtsch Land in 1933.
- Dikshit, R.D. (1996): Political Geography: A Contemporary Prespective, Tata McGraw Hill, New Delhi.
- Haggelt, P., Andrew, D. et al (eds) (1979): Locational Models, Arnold Heinemann.
- Isard, W. (1956): Methods of Regional Analysis, The Technology Press of M.I.T. & John Wiley & Sons, New York.
- King, L.J. (1986): Central Place Theory, Saga Publications, New Delhi.
- Losch, A. (1954): Economics of Location, Yale University Press, New Heaven.
- Weber, Alfred (1957): Theory of Location of Industries, Chicago University Press, Chicago.

## Course VIII

# Advanced Geography of India (Socio-economic)

### Course Contents:

- Unit- I : Agricultural system and technological problems of Indian agriculture, developments, agrarian reforms, green revolution achievements and shortcomings, need of 2<sup>nd</sup> green revolution, Agro-climatic regions of India. Regionalization of agriculture in India, crop combination regions of India, food production and population growth.
- Unit- II : Energy in India- Conventional and Non-conventional power resources, regional set-up of Hydel and Thermal Power stations, locational patterns and analysis of coal & petroleum resources, govt. policies and conservation of energy resources.
- Unit- III : Analysis of Agro-Based (Sugar), Forest Based (Paper & Pulp) and Mineral based industries (Iron & Steel), Industrial regions of India, Modes of transport, their significance and development, the pattern of foreign trade.
- Unit- IV : Socio-economic implications of explosive growth of population, distribution and density of population, population resource regions, trends of urbanization, urban regions, population problems and policies.
- Unit- V : Basis of Economic Regionalization macro, meso and micro regional division of India, economic regionalization in India, Detailed study of the meso-regions of Great-Plains- their inter-regional disparities with reference to agricultural. Human Resource development.

### Suggested Readings:

- Brahmanand, P.R. et., (1987): The Development Process of Indian Economy, Himalaya Pub. House.
- C.D. Deshpande, (1992): India A Regional Interpretation, ICSSR, New Delhi.
- Farmer, B.H. (1983): Introduction to South Asia. Methuen and Company Ltd. and Company Ltd., London.
- Ganguly, S. And Neil, DeVotta (eds.) (2003): Understanding Contemporary India. Lynne Rienner Publishers., Boulder and London.
- Gole, P.N. (2001): Nature Conservation and Sustainable Development in India. Rawat Publications, Jaipur and New Delhi.
- Johnson, B.L.C. (1983): Development in South Asia. Penguin Books, Harmonsworth.

# Course IX

## Regional Planning and Development

### Course Contents:

Unit – I : Regional concept in geography, Concept, Nature and Scope of Regional Planning., changing concept of the region from an inter-disciplinary view-point, concept of space, area and locational attributes.

Types of region: Formal and functional; uniform and nodal, single purpose and composite regions, in the context of planning; regional hierarchy.

Unit – II : Physical regions, planning regions of India, regional divisions according to variations in levels of socio-economic development; special purpose regions-river valley regions, metropolitan regions, problem regions – hilly regions, tribal regions, regions of drought and floods.

Unit – III : Approaches to Delimitation of different types of regions and their utility in planning.

**Planning process** – Sectoral, temporal and spatial dimensions; short-term and long term perspectives of planning.

Unit – IV : Regional development strategies – concentration vs. dispersal, case studies for plans of developed and developing countries, Regional plans of India.

Unit – V : Concept of Multi-level planning; decentralised planning; Panchayati Raj System, role and relationship of Panchayati Raj Institutions (Village Panchayat, Panchayat Samiti and Zila Parishad) and administrative structure (Village, Block and District). Regional development in India, problems and prospects.

### Suggested Readings:

- Bhat, L.S.(1973): Regional Planning in India, Statistical Publishing Society, Calcutta.
- Bhat, L.S. et al.(1976) : Micro-Level Planning : A Case Study of Karnal Area, Haryana, K.B. Publications, New Delhi.
- Chandna, R.C. (2000): Regional Planning: A Comprehensive Text. Kalyani Publishers., New Delhi.
- Chaudhuri, J. R. (2001): An Introduction to Development and Regional Planning with special reference to India. Orient Longman, Hyderabad.
- Friedmann, J. (1992): Empowerment: The Politics of Alternative Development. Blackwell, Cambridge MA and Oxford.

# Course X (Practical)

## Advanced Cartography

### Course Contents:

- Unit- I : Elements of Cartography:  
Definition, Scope and Development of Modern Cartography since world war II. Definition and Classification of Map. Map as a Data Model. Cartographic Designs. Tools of Map Making. Lettering and Symbolisation of Maps. Techniques of Map Reproduction. Computer Assisted Cartographic and Atlas Mapping.
- Unit- II : Graphical Presentation of Statistical Data:  
Types of Graphs and Diagrams, Construction of Climograph, Ergograph, Hythergraph, Bandgraph, Wind Rose.
- Unit-III : Compound Pyramid Diagram, Circle and Spherical Diagram, Dispersion and Scatter Diagrams.
- Unit-IV : Distribution Maps:  
Types and Methods of drawing thematic maps, choroschematic, chorochromatic, choropleth, Isopleth.
- Unit-V : Map Projections:  
Coordinate systems and map projections Properties, classification and choice of map projections. Mathematical construction of Sinusoidal, Mollweide, International and Gall's Projections.
- Note : For written test in all 10 questions shall be given selecting 02 questions from each Unit from I to V. The students shall be attempting five questions selecting one question from each unit. Each question shall be carrying 15 marks.
- |                                    |                       |          |
|------------------------------------|-----------------------|----------|
| For Examination Break-Up of Marks- | Written Test (3 Hrs.) | 75 marks |
|                                    | Record Work           | 15 marks |
|                                    | Viva-voce             | 10 marks |

### Suggested Readings:

- Cromely, Robert G. (1992): Digital Cartography Englewood Cliffs, New Jersey, Prentice-Hall, Inc.
- Dent, B. (1985): Principles of Thematic Map Design, Reading, Massachusetts, Addison – Wesley Publishing Co.
- Dorling, D. and Fairborn, D. (1997): Mapping, Ways of Representing the World, Longman, Harlow.

# Semester III

## Course XI

### Recent Issues in Geography

#### Course Contents:

- Unit- I : Recent Conceptual Development in Geography:  
Philosophical Issue – Positivism, Behaviouralism, Phenomenology, Idealsim, Existentialism and Humanistic Geography, Spatial Justice, Radicalism & Postmodernism.
- Unit- II : Recent Methodological Development in Geography:  
Quantitative Revolution and use of Statistical Techniques. Use of Hardware and Software Technologies in data analysis and mapping, use of models and paradigms in geography.
- Unit-III : Use of Technologies in Geography:  
Remote Sensing and GIS and GPS.
- Unit-IV : Scientific Methods in Geographical Research:  
Hypothesis Testing, Problem Solving approach in Geography, Project Formulation and Project Evaluation Techniques.
- Unit-V : Recent Issues in Indian Geography:  
Post Colonialism and Indian Geography, Trends of Geographical Researches in India, Prospects of Professional Opportunities in Geography, Future of Indian Geography, Problems, Perspectives and Prospects.

#### Suggested Readings:

- Adams, P., Steven, H. and Karel, T. (eds.) (2001): Texture of Place. Exploring Humanistic Geographies. University of Minnesota Press, Minneapolis.
- Anderson, K., Domosh, M., Pile, S. and Thrift, N. (eds.) (2003): Handbook of Cultural Geography. Sage Publications, London.
- Barnes, T. and Gregory, D. (eds.) (1997): Readings in Human Geography: The Poetics and Politics of Inquiry. Arnold, London.
- Bunkše, E. V. (2004): Geography and the Art of Life. John Hopkins University Press, Baltimore.
- Buttimer, A. (1971): Society and Milieu in the French Geographic Tradition. Rand McNally, Chicago.
- Daniels, P., Bradshaw, M., Shaw, D. and Sidaway, J. (2000): An Introduction to Human Geography. Issues for the 21st Century. Prentice Hall, London.

## Course XII

# Interdisciplinary Research Methods and Techniques

### Course Contents:

- Unit-I : Conceptual Foundation of Research: Meaning and types of research, objectives and motivation of research, concepts of pure and applied research, scientific approach to geographic research, Basic Components of Research, defining a research problem, construction of research design, Hypothesis formulation.
- Unit-II : Sampling Techniques and Selection of Geographic Variables: Aims of Sampling, Basic Components of Sampling Methods, Nature of Geographic Data, Continuous and discrete data. Level of measurements: various scales, data transformation; its process and methods.
- Unit-III : Data Collection: methods of field observation, role of field methods in geographic studies, Techniques for primary data collection, preparation of questionnaires. Data collection from secondary sources. Tabulation and Data Analysis.
- Unit-IV : Cartographic analysis of data. Techniques of data representation by quantitative maps. Hypothesis Testing. Basic principles and procedures of correlation, significance of statistical analysis and interpretation of data.
- Unit-V : Drafting of the research report quantitative & qualitative interpretations, writing manuals (Arranging themes, maintaining coherence, cross comparison concluding, referencing noting etc.) Proof marks & marked proof, size scale and types of report, organisation and designing of report, Evaluating a report.

### Suggested Readings:

- Ahuja, R. (2001): Research Methods, Rawat Publications, Jaipur and New Delhi.
- Bhattacharyya, D. K. (2005): Research Methodology, Excel Books, New Delhi
- Blackburn, J. and Holland, J. (eds.) (1998): Who Changes? Institutionalising Participation in Development. IT Publications, London.
- Blaxter, L., Hughes, C. and Tight, M. (1996): How to Research. Open University Press, Buckingham.
- Mishra, R.P. : Research Methodology.
- Crang, Mike (1999): Cultural Geography. Routledge, London.
- Daniels, P., Bradshaw, M., et al. (2000): Human Geography: Issues for the 21st Century. Prentice Hall, London, and Pearson Publishers., Singapore. Indian reprint, 2003.

## **Any one of following {Either XIII (A) or XIII (B)}**

### **Course XIII (A)**

## **Advanced Geography of Uttar Pradesh**

### **Course Contents:**

- Unit-I : Locational Set-up of Uttar Pradesh in India and its changing map. Relief and Physical Divisions, Structure, Drainage, Ground Water Resource, Soils and their types, Climate and Climatic regions and vegetative cover.
- Unit-II : Problems Related to Over Utilisation of Natural Resources in Uttar Pradesh: Usar and Sodic soils formation and soil erosion, Under ground water scarcity, Depletion of forest cover and wild life, Surface Water Resource Utilities, Drinking Water and Power Shortage, Flood and drought affected parts.
- Unit-III : Spatio Temporal Trends of Agricultural production, Development of Irrigational facilities including canals and dams, Agricultural Productivity and Crop-Combination regions, Power Generation and its distribution in different sectors of economy, Agro-Processing industry and their problems with special reference to sugar industry.
- Unit-IV : Human Resource Development in Uttar Pradesh: Demographic and Religious composition (Density, Rural-Urban distribution of Population, Sex-ratio, S/C/ S/T population, Literacy and trend of urbanisation), occupational Structure and Poverty Eradication programmes initiated. Accessibility and Transport infrastructural gaps.
- Unit-V : Planning for Balanced Development: Planning for sustainable development including health, education, drinking water, Emerging Political Issues and Voting Behaviour in General elections and Policy of the State Government for Balanced regional development.

### **Suggested Readings:**

- Despande C.D. (1992): India-A Regional Inter-Pre-tation ICSSR, Northern Book Centre, New Delhi.
- Singh R.L.(ed.) (1971): India-A Regional Geography, National Geographical Society, India, Varanasi.
- Tiwari, A.R. : Geography of Uttar Pradesh, N & T.
- Tirtha, R. & Gopal Krishna (1966): Emerging India, Rawat Publications, Jaipur.
- Kundu A., Raza Moonis (1982): Indian Economy: The Regional Dimension, Spectrum Publishers, New Delhi.
- Mamoria, C.B. : Advanced Geography of India.
- Bansal, S.C. : Advanced Geography of India (Hindi), Meenakshi Prakashan, Meerut.

## Course XIII (B)

# Applied Geography

### Course Contents:

- Unit-I : Nature, scope and content of applied geography; identification of problems of interdisciplinary nature (like environment, resource base, resource-use, development and disparity).
- Unit-II : Issues related to variations in physical environment. Variations in land quality affecting agricultural productivity; environmental degradation, environmental disaster and environmental management.
- Unit-III : Issues related to human resources; quality vs numbers; social and demographic issues: diversity and disparity; carrying capacity of the earth; human resource use and manpower planning.
- Unit-IV : Issues related to economy; spatial organization of economic activities (like agriculture, industry, transport, trade etc.) spatial inequalities- causes and consequences.
- Unit-V : Environment and sustainable development with a focus on man- environment relationship. Review of policies related to planning formulated for local, regional and national level with special reference to India.

### Suggested Readings:

- Dohrs, F.E. and Sommers, L.W. (eds.) (1967): Introduction to Geography, Thomas Y. Crowell Co., New York.
- Stamp, Dudley : Applied Geography.
- Hartshorne Richard (1959): Perspective on the Nature of Geography, Rand McNally & Co., Chicago.
- Singh, R.L. : Applied Geography.
- Harvey, David (1972): Explanation in Geography, Edward-Arnold, London.
- Holt-Jensen, A. (1980): Geography: Its History and Concepts, Longmans.
- Husain, Majid (1984): Evolution of Geographical Thought, Rawat Publications, Jaipur (Latest Edition Revised).
- James, P.E. (1980): All possible Worlds: A History of Geographical Ideas, Sachin Publication, Jaipur (Indian Reprint).
- Johnston, R.J. and Claval, P. (eds.) (1984): Geography Since the Second World War, ..... Helm, London/ Bernes and Noble, Totowa, N.J.
- Jones, P.A.: Fieldwork in Geography, Longmans.

## Course XIV

# Ecology and Environment

### Course Contents:

- Unit- I : Meaning and definition of Ecology and Environment, Geography as Human Ecology Conceptual background. The Environment – meaning, structure and types, Man Environment Relationship, Perception of Environment.
- Unit-II : Ecology: meaning and its relation with Geography, Ecosystems: Kinds, structure and functions, energy flow, food chains, food webs and trophic levels, nutrient cycles, Major Biomes of the World.
- Unit-III : Geographical aspects of major environmental problems: Natural hazards- floods, drought, landslides, earthquakes and cyclones, Man-induced hazards – Rapid urbanisation, transport development, Agricultural development, Big dams.
- Unit-IV : Environmental Pollution – the concept and types of pollution, ecological impact of pollution- the environmental concerns, the green house effects, ozone depletion, Environmental Policy and Legislation.
- Unit-V : Ecological basis of environmental Management – Concept, need and approaches, Indian and International efforts for environmental conservation and management since 1972. Environmental problems and programmes in India. Environmental impact and assessment of controversial River Valley Projects like Tehri Hydro and Narmada Valley (Sardar Sarovar) Projects, National Parks.

### Suggested Readings:

- Anjuneyulu, Y. (2004): Introduction to Environmental Science. B. S. Publications, Hyderabad.
- Athavale, R. N. (2003): Water Harvesting and Sustainable Supply in India. Rawat Publications., Jaipur.
- Blaikie, P., Cannon, T. and Davis, I. (eds.) (2004): At Risk: Natural Hazards, Peoples Vulnerability and Disasters. Routledge, London.
- Bodkin, E. (1982): Environmental Studies, Charles E. Merrill Pub. Co., Columbus, Ohio.
- Chandna, R.C. (1998): Environmental Awareness, Kalyani Publisher, New Delhi.
- Eyre, S.R. and Jones, G.R.J. (eds.) (1966): Geography as Human Ecology, Edward Arnold, London.
- Gautam, A. (2007): Environmental Geography, Sharda Pustak Bhawan, Allahabad.
- Khoshoo, T. N. (1981): Environmental Concerns and Strategies. Ashish Publishing House, New Delhi.
- Kormondy, E.J. (1989): Concepts of Ecology, Prentice Hall.

## **Course XV (Practical)**

# **Advanced Surveying, Remote Sensing and GIS**

### **Course Contents:**

- Unit –I Prismatic Compass Surveying (Mathematical Techniques for Closed Traversing), Interpolation of Contours by Indian Clinometer, Sextant measurement (Vertical and Horizontal), Telescopic Alidade, Dumpy Level (Simple & Differential Levelling, Rise and Fall Methods, Theodolite.
- Unit –II Air Photos and Photogrammetry : Elements of Photographic System; types, scales, Calculation and Measurement of height of aircraft and ground coverage, resolution, radiometric characteristics, film, filters, aerial cameras, film exposures, vertical photographs, relief displacement, image parallax, Numbering of Photographs Air Photo interpretation : shape, size pattern, tone, texture, shadows etc. Photo Mosaics and their comparison with topographical maps.
- Unit – III Definition, types and scope of Remote sensing, Development of Remote sensing, stages in remote sensing data acquisition, electromagnetic radiation and electromagnetic spectrum, black body radiation and radiation laws, Interaction of EMR with Earth's surface features, Role of atmosphere in remote sensing. Types and salient characteristics of orbital platforms, types and geometry sensors, sensors resolutions and application, remote sensing data products, Indenting of remote sensing data in India.
- Unit - IV Definition and development of GIS, computer environment for GIS, Spatial Data : Elements of spatial data; quality and error variations-raster and vector data structures, Database Management Systems: and spatial modeling-output format and generation., GIS Application: GIS as a Decision Support System-expert. GIS in Land Information System, Urban Management, Environmental Management and Emergency Response System. Use of GPS in data generation and mapping.

Note : A Geographical Survey Camp of not less than 10 days duration in different area other than of college premises of India will be arranged to acquaint students with the advanced surveying techniques and the spot study of aerial photographs & satellite imageries. Students are required to submit survey camp report containing not more than 10 pages and supported by 5 maps prepared during survey camp. There will be one teacher and one supporting staff on every 10 students group of guiding the students. T.A. & D.A. will be paid by the college concerned to the teaching and supporting staff members accompanying the students during survey camp.

For purpose of examination two surveying exercises from Unit-I will be given to each group of not more than 2 students. These exercises will be of 3 hours duration.

There will be a written test of 3 hours duration for rest of units-II, III & IV. Students will have to attempt 3 questions out of 6 questions (2 from each Unit).

The distribution of marks shall be follows :-

- |     |                         |          |
|-----|-------------------------|----------|
| (1) | Two surveying exercises | 30 Marks |
| (2) | Written Test            | 30 Marks |

- (3) Survey Camp Report 20 Marks  
(4) Sessional Record and Viva Voce Test 10+10 = 20 Marks  
(Students those do not attend survey camp, their evaluation in practical course should be done in 80 Marks).

### **Suggested Readings:**

- Barrett, E.C. and Curtis L.F.: Fundamentals of Remote Sensing and Air Photo Interpretation.
- Campbell, J.: Introduction to Remote Sensing.
- Luder, D.: Aerial Photography Interpretation : Principles and Application.
- Star, J. and J. Estes : Geographic Information Systems :An Introduction.
- Fraser Taylor D.R. : Geographic Information Systems.
- Burrough P.A.: Principles of Geographic Information Systems for Land Resources Assessment.
- Campbell, J. B. (2002): Introduction to Remote Sensing. 5<sup>th</sup> edition. Taylor and Francis, London.
- Cracknell, A. and Hayes, L. (1990): Remote Sensing Year Book, Taylor and Francis, London.
- Curran, P.J. (1985): Principles of Remote Sensing, Longman, London.
- Deekshatulu, B.L. and Rajan, Y.S. (ed.) (1984): Remote Sensing. Indian Academy of Science, Bangalore.
- Floyd, F. and Sabins, Jr. (1986): Remote Sensing: Principles and Interpretation, W.H. Freeman, New York.
- Guham, P. K. (2003): Remote Sensing for Beginners. Affiliated East-West Press Private Ltd., New Delhi.
- Hallert, B. (1960): Photogrammetry, McGraw Hill Book Company Inc., New York.
- Harry, C.A. (ed.) (1978): Digital Image Processing, IEEE Computer Society, California
- Hord, R.M. (1982): Digital Image Processing of Remotely Sensed Data, Academic Press, New York.
- Leuder, D.R. (1959): Aerial Photographic Interpretation: Principles and Application. McGraw Hill, New York.
- Lillesand, T.M. and Kiefer, R.W. (2000): Remote Sensing and Image Interpretation. 4<sup>th</sup> edition. John Wiley and Sons, New York.
- Nag, P. (ed.) 1992: Thematic Cartography and Remote Sensing, Concept Publishing. Company, New Delhi.

## Semester IV

Any one of the following groups:

### Group - A

#### Course XVI (A)

## Population Geography

### Course Contents:

- Unit-I : Population Geography: Scope and Objectives, development of Population Geography as a field of specialisation-Population Geography and Demography-sources of population data, their level of reliability, and problems of mapping of population data.
- Unit-II : 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-III : Population composition: age and sex, family and households, literacy and education, religion, caste and tribes, rural and urban, urbanisation, occupational structure, population composition of India.
- Unit-IV : Population dynamics: Measurements of fertility and mortality, migration, national and international patterns, India's population dynamics, Demographic Research Methods.
- Unit-V : Population and development: population-resource regions and 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, population and environment, implications for the future.

### Suggested Readings:

- Bilasborrow, Richard E and Daniel Hogan (1999): Population and Deforestation in the Humid Tropics, International Union for the Scientific Study of Population, Belgium.
- Bogue, D.J. (1969): Principles in Demography, John Wiley, New York.
- Bose, Ashish et.al. (1974): Population in India's Development (1947-2000): Vikas Publishing House, New Delhi.
- Census of India (1991): India: A State Profile.
- Chandna, R.C. (2000): Geography of Population, Concept, Determinants and Patterns, Kalyani Publishers, New Delhi.
- Clarke, John I. (1973): Population Geography, Pergamon Press, Oxford.
- Crook, Nigel (1997): Principles of Population and Development, Pergmon Press, New York.

## **Course XVII (A)**

# **Geography of Rural Settlements**

### **Course Contents:**

Unit-I : Nature, scope, significance and development of rural settlement geography. Approaches to rural settlement geography. Rural-urban continuum

Definition and characteristics of rural settlements in the fringe areas and sparsely settled areas.

Distribution of Rural settlements: size and spacing of rural settlements. Nearest Neighbour Analysis.

Unit-II : Types, forms and Patterns of rural settlements: cause and effect, Classification of rural settlements, Rural service centres, their nature, hierarchy and functions, rural-urban fringe – structure, characteristics and functions.

Unit-III : Social issues in rural settlements: poverty, housing and shelter, deprivation and inequality, empowerment of women, health care, rural-urban interaction.

Unit-IV : Environmental issues in rural settlements: access to environmental infrastructure, water supply, sanitation, drainage, health hazards.

Unit-V : Cultural landscape elements in rural settlements in different geographical environments with special reference to India; House types and field patterns, Origin, evolution, size, socio-spatial structure of Indian villages. Rural development planning in India.

### **Suggested Readings:**

- Alam, S.M. et. al. (1982): Settlement System of India, Oxford and IBH Publication Co., New Delhi.
- Brock, J.O.M. and Welb, J.W. (1978): Geography of Mankind, McGraw Hill, London.
- Chisholm, M. (1967): Rural Settlements and Land Use, John Wiley, New York.
- Clout, H.D. (1977): Rural Geography, Permagon, Oxford.
- Daniel, P. and Hopkinson, M. (1986): The Geography of Settlement, Oliver & Boyd, Edinburg.
- Grover, N. (1985): Rural Settlement – A Cultural Geographical Analysis, Inter-India Publication, Delhi.
- Hudson, F.S. (1976): A Geography of Settlement, MacDonald & Evans, New York.

## **Course XVIII (A)**

# **Urban Geography**

### **Course Contents:**

- Unit-I : Nature and scope of urban geography, different approaches and recent trends in urban geography, attributes of urban places during ancient, medieval and modern period, Bases and process of urbanization and development, Urban growth and theories. Central Place Theory of Christaller and Losch. Theories of Perroux and Boudeville.
- Unit-II : Urban economic base: Basic and non-basic functions, input-output models, concept of dualism, colonial and postcolonial structure, metropolitan city and changing urban function; role of informal sector in urban economy. Functional classification of towns. Classification of urban settlements on the basis of size and function and its methods.
- Unit-III : Organization of urban space: urban morphology and landuse structure, city core, commercial, industrial and residential area; core-country variations; city-region relations, modern urban landscape; morphology of urban settlements and its comparison with western urban settlements; urban expansion, umland and periphery, Urban Primacy, Rank Size Rule.
- Unit-IV : Contemporary urban issues: urban poverty, urban renewal, urban sprawl, slums; transportation, housing, urban infrastructure; environmental pollution; air, water, noise, solid waste, urban crime.
- Unit-V : Urban policy and planning, development of small and medium sized towns, city planning, green belts, garden cities, urban policy, contemporary issues in urban planning globalization and urban planning in the Third World. Contributions of Indian scholars to the studies of urban settlements.

### **Suggested Readings:**

- Alam, S.M. (1964): Hyderabad – Secunderabad Twin Cities Asia Publishing House, Bombay.
- Berry, B.J.L. and Horton, F.F. (1970): Geographic Perspectives on Urban Systems, Prentice Hall, Englewood Chiffs, New Jersey.
- Bansal, S.C. : Urban Geography (English & Hindi both), Meenakshi Prakashan, Meerut.
- Carter (1972): The Study of Urban Geography, Edward Arnold Publishers, London.
- Chorley, R.J.O Haggett P. (ed.) (1966): Models in Geography, Methuen, London.
- Dickinson, R.E. (1964): City and Region, Routledge, London.
- Dwyer, D.J. (ed.) (1971): The City as a Centre of Change in Asia, University of Hong Kong Press, Hongkong.
- Gibbs, J.P. (1961): Urban Research Methods, D. Van Nostrand Co. Inc. Princeton, New Jersey.
- Hall, P. (1992): Urban and Regional Planning, Routledge, London.

## **Course XIX (A)**

# **Gender Geography**

### **Course Contents:**

- Unit-I : Growth and evolution of this discipline; its connotation; traditional concept of interdependence between men and women; Regional Patterns of Sex Ratio & Determinants.
- Unit-II : Gender based demographic structure; infant mortality rates between boys and girls; maternal mortality rate; female infanticide; Gender and Longevity Gap. Regional Profile of gender based Structure.
- Unit-III : Participation ratio in Economic and Social Activities; multiple role of women in land, water and forest resource management; involvement of women in household works, agriculture, mining, construction, industry, service and informal sectors; health-care deliverer.
- Unit-IV : Regional inequality in Socio economic development. Gender Gaps in Social and Public Life: Education, wage differentials in economic activities, health care and nutrition, participation in politics and enfranchisement. Patterns of health care : a Regional Profile.
- Unit-V : Empowerment of women at various levels Village to Parliament with education, economic opportunities, access to reproductive health services, involvement in decision making processes in the arenas of development and environmental management.

### **Suggested Readings:**

- Boserup, E. (1989): *Women's Role in Economic Development*, Earthscan, London.
- Dankelman, I. & Davidson, J. (1989): *Women and Environment in the Third World*, Earthscan, London.
- Deblig, H.J. (1996): *Human Geography-Culture, Society and Space* (5<sup>th</sup> ed.), John Wiley, New York.
- Haraway, D. (1991): *Simians, Cyborgs and Women-The Reinvention of Nature*, Routledge, New York.
- Koblinsky, M. et. al. (eds.) (1993): *The Health of Women – A Global Respective*, Westview Press, Boulder.
- Lee, D. (1988): *Women in Geography-A Comprehensive Bibliography*, Boca Raton, Florida.
- Lewis, R. (1995): *Race, Feminity and Representation*, Routledge, New York.
- Momsen, J.H. & Townsend, J. (eds.) (1987): *Geography of Gender in the Third World*, Albany, New York.
- Montagu, A. (1964): *Man's Most Dangerous Myth-the Fallacy of Race*, Cleveland.

## Group - B

### Course XVI (B) Agricultural Geography

#### Course Contents:

- Unit-I : Nature, scope, significance and development of agricultural geography. Approaches to the study of agricultural geography: Sources of agricultural data.
- Unit-II : Determinants of agricultural land use-Physical, cultural. Land holding and land tenure systems. Selected agricultural concepts and their measurements; cropping pattern, crop concentration, intensity of cropping, degree of commercialization, diversification and specialization, efficiency and productivity, crop combination regions and agricultural development. Green Revolution-its impact and consequences.
- Unit-III : Theories of agricultural location based on several multi-dimensioned factors: Von Thunen's theory of agricultural location and its recent modifications; Whittlesey's classification of agricultural regions; land use and land capability.
- Unit-IV : Agriculture in India- Land use and shifting cropping pattern. Regional pattern of productivity in India. Green Revolution, White Revolution, Food deficit and food surplus regions; nutritional index. Specific problems in Indian agriculture and their management and planning. Agricultural Policy in India.
- Unit-V : Contemporary issues; Food, nutrition and hunger, food security, drought and food security, food aid programmes; environmental degradation, role of irrigation, fertilizers, insecticides and pesticides, technological know-how. Employment in the agricultural sector: landless labourers, women, children, occupational health and agricultural activities. Land reforms, land use policy and planning.

#### Suggested Readings:

- Bayliss Smith, T.P. (1987): The Ecology of Agricultural Systems. Cambridge University Press, London.
- Berry, B.J.L. et. Al. (1976): The Geography of Economic Systems. Prentice Hall, New York.
- 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.
- Gregor, H.P.(1970): Geography of Agriculture. Prentice Hall, New York.

## **Course XVII (B)**

# **Geography of Manufacturing**

### **Course Contents:**

- Unit-I : Nature, scope and recent developments, elements and factors of localization of manufacturing industries; centralization and decentralization of industrial enterprises.
- Unit-II : Theories and models of industries location: Weber, Losch, Isard and Hoover. Modern refinements to least-cost-theory; Critical review and application of industrial location theories.:
- Unit-III : Distribution and spatial pattern of manufacturing industries-Iron and Steel, energy goods and automobiles; textiles, chemicals, petro-chemical, hardware and software industries. Methods of delineating manufacturing regions; major manufacturing regions of the world.
- Unit-IV : Methods of measuring the spatial distribution of manufacturing industries: location quotient, co-efficient of geographic association, index of concentration; case studies on application of these methods.
- Unit-V : Environment degradation caused by manufacturing industries Industrial hazards and occupational health. Impact of manufacturing industries on economic development; Role of globalisation on manufacturing sector; shifting of industries and its impact on the urban fringe; changing industrial policy-need for integrated industries development.

### **Suggested Readings:**

- Alexander, J.W.(1988): Economic Geography, Prentice Hall, Englewood Cliffs.
- Alexanderson, D.(1967): Geography of Manufacturing, Prentice Hall, Bombay.
- Hoover, E.M.(1948): The Location and Space Economy, McGraw Hill, New York.
- Isard, W.(1956): Methods of Regional Analysis, The Technology Press of M.I.T. & John Wiley & Sons, New York.
- Miller, E.(1962): A Geography of Manufacturing, Prentice Hall, Englewood Cliffs, New Jersey.
- Weber, Alfred (1957): Theory of Location of Industries, Chicago University Press, Chicago.

## **Course XVIII (B)**

# **Geography of Transport**

### **Course Contents:**

- Unit-I : Nature, scope, significance and development of Transport Geography, Factors associated with the development of transport system: physical, economic, social, cultural and institutional; economic, technological and regional development and transport development.
- Unit-II : Characteristics and relative significance of different modes of transport: railways, roads, airways and waterways, pipelines etc.
- Unit-III : Structure- Accessibility and Flow models; network structure, graph theoretic measures, measurement of accessibility, models of network change. Linear programming and gravity models,. Theories related to freight rate structure, bases of spatial interaction, complementary intervening opportunity and transferability.
- Unit-IV : Pattern of movement: the type, patterns of movement and transport modes, simple model of interaction, transportation network: the functions, pattern of movement, movement geometry, transport development.
- Unit-V : Transport policy and planning transport development in developing countries, urban, transportation: growth and problems of urban transportation,. transport and environmental degradation; vehicular pollution and congestion, alternatives to transport system in mega cities of India, National Highway Development and Transport Planning in India.

### **Suggested Readings:**

- Chorley R.J. & Haggett P.(1967): Models in Geography Methuen & Co. London.
- Hurst, M.E.(ed.) (1974): Transportation Geography, McGraw-Hill.
- Hagget, F and Chorley, R.J. (1968): Network Analysis', Edward Arnold, London.
- Hay, A(1973): Transport Economy, MacMillan, London.
- Hoyle, B.S.(ed.) (1973): Transport and Development, MacMillan, London.
- Raza, M. and Agrawal Y.P.(1985): Transport Geography of India, Concept, New Delhi.
- Robinson H & Bamford C.G.(1978): Geography of Transport Macdonald & Evans. London.
- Taffe, E.J. & Gauthier (Jr.) H.L.(1973): Geography of Transportation, Prentice-Hall, Englewood Cliffs, N.J..
- Ullman E.L.(1957): American Commodity Flow University of Washington Press.
- White H.P. and Senior, M.L.(1983): Transport Geography Longman, London.

## **Course XIX (B)**

# **Geography of Tourism**

### **Course Contents:**

- Unit-I : Basics of tourism:, Definition of tourism; Factors influencing tourism: historical, natural, socio-cultural and economic; motivation factors for pilgrimages: leisure, recreation; elements of tourism, tourism as an industry.
- Unit-II : Geography of tourism:- its spatial affinity; areal and locational dimensions comprising physical, cultural, historical and economic; Tourism types: cultural, eco- ethnocoastal and adventure tourism, national and international tourism; globalization and tourism.
- Unit-III : Indian Tourism: regional dimensions of tourist attraction; evolution of tourism, promotion of tourism.
- Unit-IV : Infrastructure and support system – accommodation and supplementary accommodation; other facilities and amenities; Tourism circuits-short and longer detraction – Agencies and intermediacies – Indian hotel industry.
- Unit-V : Impacts of tourism: physical, economic and social and perceptual positive and negative impacts; Environmental laws and tourism – Current trends, spatial patterns and recent changes; Role of foreign capital & impact of globalization on tourism.  
Project report on relevant topics such as impact of eco-tourism, Cultural tourism and Historical tourism.

### **Suggested Readings:**

- Bhatia A.K. (1996) : Tourism Development: Principles and Prcices. Sterling Publishers, New Delhi.
- Inskeep. E(1991): Tourism Planning: An Integrated and Substainable Development Apporach, Van Nostrand and Reinhold, New York.
- Kaul R.K.(1985): Dynamics of Tourism & Recreation. Inter-India, New Delhi.
- Kaur J.(1985): Himalayan Pilgrimages & New Tourism Himalayan Books, New Delhi.
- Lea J.(1988): Tourism and Development I the Third World, Routledge, London.
- Milton D.(1993): Geography of World Tourism Prentice. Hall, New York.
- Peace D.G.(1987): Tourism To-day: A Geographical Analysis, Harlwo, Longman.
- Robinson, H.A(1996): A Geography of Tourism. Macdonald and Evans, London.
- Sharma J.K.(ed.)(2000): Tourism Planning and Development- A new perspective, Kanishka Publishers, New Delhi.

**Group - C**

**Course XVI (C)**

**Cultural Geography**

**Course Contents:**

- Unit- I : Nature and development of cultural geography: Philosophical bases of cultural geography, cultural geography in the realm of social sciences. Understanding and its structure and process: geographical bases of social formations: contribution of cultural geography to social theory power relations and space.
- Unit- II : Evolution of socio-cultural regions of India: bases of social region formation: role of race, caste, ethnicity; religion and languages: social transformation and change in India. Cultural diversity and regionalization in India. Concepts of social well-being, physical quality of life, human development cultural diversity.
- Unit- III : Introduction: Definition and Scope of cultural geography: Cultural element and components of culture; convergence and divergence processes; cultural changes; perception, behaviouralism and cultural relativism.
- Unit- IV : Geography of ethnic groups and tribal groups. Religion and its diffusion; diffusion of ethnic traits in world as well as India ethnic landscape and economy of the area, Diffusion in folk geography: Cultural landscape and cultural ecology in folk geography.
- Unit- V : Patterns of livelihood: various economic activities & cultural adaptations; agriculture, industrialization and modernization, technological changes and their geographic implications, pattern of different societies. Socio-cultural planning in India.

**Suggested Readings:**

- Ahmad, Aijazuddin (1999): Social Geography, Rawat Publication, New Delhi.
- Broek, J.C. and Webb, J.W. (1978): A Geography of Mankind, McGraw Hill, New York.
- Crang, Mike (1998): Cultural Geography, Routledge publications, London.
- De Blij, H.D.: Human Geography, John Wiley and Sons, New York.
- Dreze Jean, Amartya Sen (1996): Economic Development and Social opportunity, Oxford University Press, New Delhi.
- Dubey, S.C. (1991): Indian Society, National book Trust, New Delhi.
- Gregory, D. and J. Larry (eds.) (1985): Social relations and spatial structures, McMillan.
- Harmandorf, (1989): Tribes of India : The Struggle for survival, Oxford University Press, Delhi.

## **Course XVII (C)**

# **Political Geography**

### **Course Contents:**

- Unit-I : Nature, scope, subject matter and recent development in political geography; approaches to study, major schools of political thought.
- Unit-II : Geographic Elements and the State: Physical Elements; Human elements; Economic elements; Political geography and environment interface.
- Unit-III : Themes in Political Geography: State, Nation, Nation-State and Nation-building, Frontiers and boundaries, Colonialism, decolonization, Neocolonialism, Federalism and other forms of governance. The changing patterns of World Powers, Perspectives on core-periphery concept, Conflicts and cooperation.
- Unit-IV : Geopolitical significance of Indian Ocean: Political geography of any one of the following regions: SAARC Region, South-East Asia, West Asia, East Asia,
- Unit-V : Political geography of contemporary India with special reference to: The changing political map of India, centripetal & centrifugal forces; stability & instability; Interstate issues (like water disputes & riparian claims) and conflict resolutions insurgency in border states; Emergence of New States; Federal India: Unity in Diversity.

### **Suggested Readings**

- Alexander, L.M. (1963): World Political Patterns Ran McNally, Chicago.
- De Blij, H.J. and Glassner, Martin (1968): Systematic Political Geography, John Wiley, New York.
- Dikshit, R.D. Political Geography (1996): A Contemporary Perspective. Tata McGraw Hill New Delhi.
- Dikshit, R.D. Political geography (1999): A Century of progress, Sage, New Delhi.
- Sukhwai, B.L. (1968): Modern Political Geography of India Sterling Publishers, New Delhi.
- Taylor, Peter (1985): Political Geography Longman, London.
- Fisher Charles A. (1968): Essays in Political Geography, Methuen, London.
- Pounds N.J.G. (1972): Political Geography. McGraw Hill, New York.
- John R. Short (1982): An introduction to Political Geography Routledge, London.
- Moddie, A.E: Geography Behind Politics Hutchinson, London, Latest edition.
- Prescott. J.R.V.: The Geography of Frontiers and Boundaries Aldine, Chicago.
- Deshpande C.D (1992): India-A-Regional Interpretation Northern Book Centre, New Delhi.
- Pnanikkar K.M. (1959): Geographical Factors in Indian History: 2 Vols. Asia Publishing House, Bombay.

## Course XVIII (C)

# Administrative Geography

### Course Contents:

- Unit-I : Administrative Geography: definition, subject matter, and significance- Administrative Geography as the study of administrative areas and area administration; Geography and Public Administration; Administrative Geography and Modern Political Geography.
- Unit-II : Administrative Areas: evolution, change and periodic reforms, types of administrative areas - general purpose, special purpose.  
Structural attributes of administrative areas-hierarchy, size, shape and headquarters.  
  
Area Administration: Geography of Public policy – formulation, implementation and impact; Geography of public finance – revenue, expenditure and balance; Administrative system – the world pattern.
- Unit-III : Spatial Organisation of Administration and the Development Process: Measures of spatial quality of administrative areas; measures of development level; relationship between spatial quality and development level of administrative areas. Administrative Geography of select Countries: India, U.S.A. Russia and United Kingdom.
- Unit-IV : Concept of Multi-level planning in India – Top down and bottom-up approach/ Decentralised planning; Panchayati Raj role and relationship of Zila Parishad, Panchayat Samithi and Village Panchayat, Relationship with the administrative framework. Case study from selected States in India
- Unit-V : The administrative framework and the environment: Inter relationship and impact assessment.

### Suggested Readings:

- Alderfer, H.F. (1964): Local Government in Developing Countries, McGraw-Hill, New York.
- Bennett. R.J. (1980): Geography of Public Finance, Methuen, New York.
- Coppack, J.T. and J.R.D. Sewell (eds.) (1976): Spatial Dimension in Public Policy, Pergamon . Press, Oxford.
- Deshpande C.D. (1992): India-A Regional Interpretation ICSSR, Northern Book Centre, New Delhi.
- Fesler, J.W. (1949): Area and Administration, University of Alabama Press, Alabama.
- Government of India, Planning Commission, New Delhi (1984): Report of the Working Group on District Planning 2 volumes, New Delhi.
- Suryakant (1988), Administrative Geography of India, Rawat Publication, Jaipur.

## Course XIX (C)

# Geography of Health

### Course Contents:

- Unit-I : Nature, scope and significance of geography of health Development of this area of specialization; its distinction from medical science.
- Unit-II : Geographical factors affecting human health and diseases arising from them, viz
- (i) Physical factors-relief, climate, soils and vegetation.
  - (ii) Social factors-population density, literacy, social customs and poverty.
  - (iii) Economic factors-food and nutrition occupation and standard of living
  - (iv) Environmental factors- urbanization and congestion, water, air and noise pollution and solid waste.
- Unit-III : Classification of diseases: genetic, communicable and non-communicable, occupational and deficiency diseases. WHO classification of diseases, Pattern of World distribution of major diseases.
- Unit-IV : Ecology, etiology and transmission of major diseases: cholera, malaria, tuberculosis hepatitis, leprosy, cardiovascular, cancer, AIDS and STDS. Diffusion of diseases and causes for the same. Deficiency disorders and problems of mal-nutrition in India.
- (i) international level-WHO, UNICEF, Red Cross
  - (ii) National level-Government and NGOs,
- Unit-V Health Care Planning and Policies ; availability, accessibility and utilization of health care services; Primary health care; Inequalities in health care services in India; family welfare, immunization, national disease eradication, and Health for All Programmes.

### Suggested Readings:

- Banerjee, B. and Hazra J. (1980): Geo-Ecology of Cholera in West Bengal, University of Calcutta, Calcutta.
- Cliff, A. and Haggett, P. (1989): Atlas of Disease Distribution. Basil Blackwell, Oxford.
- Digby, A. and Stewart, L. (eds.) (1996): Gender, Health and Welfare. Routledge, New York.
- Hazra, J. (ed.) (1997): Health Care Planning in Developing Countries. University of Calcutta, Calcutta.
- Learmonth A.T.A. (1978): Patterns of Disease and Hunger. A Study in Medical Geography. David & Charles, Victoria.
- May, J.M. (1961): Studies in Disease Ecology, Hafner Pub., New York.
- May, J.M. (1959): Ecology of Human Disease, M.D. Pub., New York.
- May, J.M. (1970): The World Atlas of Diseases, Nat. Book Trust, New Delhi.

## **Group - D**

### **Course XVI (D)**

# **Biogeography**

#### **Course Contents:**

- Unit- I : Scope and development of Biogeography. Environment, Habitat and Plant-animal association, biome types.
- Unit- II : Elements of plant geography, distribution of forests and major communities. Plant successions in newly formed landforms. Examples from flood plains and glacial fore fields.
- Unit- III : Zoogeography and its Environmental Relationship.
- Unit- IV : Palaeobotanical and Palaeo climatological records of environmental change in India.
- Unit- V : National Forest Policy of India. Conservation of Biotic Resources.

#### **Suggested Readings:**

- Agarwal, D.P. (1992): Man and Environment in India Through Ages, Book & Books.
- Bradshaw, M.L. (1979): Earth and Living Planet, ELBS London.
- Cox, C.D. and Moore, P.D. (1993): Biogeography: An Ecological and Evolutionary Approach 5<sup>th</sup> edn. Blackwell.
- Gaur, R. (1987): Environment and Ecology of Early Man in Northern India R.B. Publication Corporation.
- Hoyt, J.B. (1992): Man and the Earth, Prentice Hall, U.S.A.
- Huggett. R.J. (1998): Fundamentals of Biogeography. Routledge, U.S.A.
- Illies, J. (1974): Introduction of Zoogeography, Mcmillan, London.
- Khoshoo, T.N. and Sharma, M. (eds.) (1991): Indian Geosphere-Biosphere Har-Anand Publication, Delhi.
- Lapedes, D.N. (ed.) (1974): Encyclopedia of Environmental Science, McGraw Hill.
- Mathur H.S. (1998): Essentials of Biogeography, Anuj Printers, Jaipur.
- Pears, N. (1985): Basic Biogeography. 2<sup>nd</sup> edn. Longman, London.
- Simmon. I.G. (1974): Biogeography, Natural and Cultrual, Longman, London.
- Tivy, J. (1992): Biogeography: A study of Plants in Ecosphere 3<sup>rd</sup> edn. Oliver an Boyd, U.S.A.

## Course XVII (D)

# Geography of Water Resources

### Course Contents:

Unit-I : Water as a focus of geographical interest, inventory and distribution of world's water resources (surface and subsurface); world hydrologic cycle: quantitative estimates; water storages. Glaciers, river channels, lakes and reservoirs; soil moisture, ground water.

The basic hydrologic cycle: precipitation: potential, evapotranspiration and interception losses; runoff

Unit-II : Water demand and use: methods of estimation – agricultural, industrial and municipal uses of water.

Agricultural use of water: estimation of crop – water requirement; soil-water-crop relationships; water balance and drought; major and minor irrigation: methods of distribution of water to farms; water harvesting techniques, soil water conservation.

Irrigation – water logging, salinity and alkalinity of soil – over exploitation of ground water, land subsidence, saline water intrusion into the coastal aquifers. Water quality parameters, water pollution-river and ground water – fluoride and arsenic

Unit-III : Industrial use of water: methods of estimation; demand for water in the industrial sector of India.

Municipal use of water: general trends in water supply to the urban and rural communities in India, Internal navigation, hydel power and recreation.

Unit-IV : Problems of water resource management xxxxxxxxxxxxxxxx/frequency, xxxxxxxxxxxxxx and non structural adjustment of flood hazards, embankments, reservoirs, channel improvement, soil conservation, afforestation, flood forecasting, evacuation floodplains; landuse regulation and insurance. Case studies of major floods.

Droughts – occurrence, major drought management.

Unit- V : Conservation and planning for the development of water resources-social and institutional considerations; integrated basin planning; conjunctive use of surface and groundwater resources; watershed management; international and inter-state river water disputes and treaties; some case studies.

### Suggested Readings:

- Agarwal, Anil and Sunita Narain (1997): Dying Wisdom: Rise, Fall and Potential of India's Traditional Water Harvesting System. Centre for Science and Environment, New Delhi.
- Economic and Social Commission for Asia and the Pacific, United Nations (1989): Guidelines for the preparation of National Master Water Plans.

## **Course XVIII (D)**

# **Soil Geography**

### **Course Contents:**

- Unit- I : Nature, scope and significance of Soil Geography; its relationship with Pedology. Soil forming factors: parent material, organic, climatic, topographic Spatio-temporal dimensions. Processes of soil formation and soil development; physical, biotic and chemical.
- Unit- II : Soil organisms, macro-animals (earthworms, sowbugs, mites, centipedes, rodents and insects), Microanimals and plants- Nematodes, Protozoa rotifers; fungi, bacteria, algae and actinomyces.
- Unit- III : Physical properties of soils: morphology, texture, structure, water, air, temperature and other properties of soil;
- Chemical properties of soil and soil reaction;
- Genetic classification of soils, Taxonomic classification of soils- zonal, azonal and intra-zonal soils, their characteristics and world patterns; methods to improve the physical qualities of soils; seventh approximation,
- Soil erosion, degradation, and conservation.
- Unit- IV : Evaluation of land and soil: Parametric and non parametric systems, Land capability classification. Soil survey, modern techniques, field study of soil profile and the characteristics.
- Unit- V : Soil reclamation and management; soil survey and landforms in environmental management; Integrated soil and water management; Sustainable development of soil resources with reference to India.

### **Suggested Readings:**

- Backman, H.O. and Brady, N.C., (1960): The Nature and Properties of Soils, Mc Millan New York.
- Bennet, Hugh H.: Soil Conservation, McGraw Hill, New York.
- Bunting, B.T. (1973): The Geography of Soils, Hutchinson, London.
- Clarke G.R. (1957): Study of the Soil in the Field, Oxford University Press, Oxford.
- Foth H.D. and Turk, L.M. (1972): Fundamentals of Soil science, John Wiley, New York.
- Govinda Rajan, S.V. and Gopala Rao, H.G. (1978): Studies on Soils of India, Vikas, New Delhi.
- Mc. Bride, M.B. (1999): Environmental Chemistry of Soils, Oxford University Press, New York.

## **Course XIX (D)**

# **Environmental Impact Assessment**

### **Course Contents:**

- Unit- I : Urban Environment: Concept, components and levels of analysis; Urban environment in context: city and region environment interaction – local and global impacts; Approaches to the study of urban environment; Models for change detection in urban environment; Urban environmental issues in developed and developing countries.
- Unit- II : Urbanization: Population growth; physical expansion of cities (urban encroachment and related issues); Urban landuse; Urban Morphology: Housing (congestion and crowding); Transport management.
- Unit- III : Unplanned landuse and shortage of open space and green areas; Industrialization: pollution (air, water, land and noise); Industrial waste management; climate of cities: local and global implications.
- Unit- IV : Basis of Urban Environment Impact Assessment; Use of remote sensing and GIS for change detection and monitoring of environment; Strategies for sustainable urban environment by various nations.
- Unit- V : Nature of urban environment problems in Indian cities; Poverty slums and deviant behaviour; Pollution (air, water and noise) and its impact on health and disease patterns; Water crisis and water harvesting with special reference to Delhi.

### **Suggested Readings:**

- Barrow, C.J., (1995): *Developing the Environmental Problems & Management*, Longman, Harlow.
- Burgess, R. : Marisa Carmono and Thed Kolstee, (1997): *The Challenge of Sustainable Cities*, Zed Books, New Jersey.
- Canter, L.W., (1996): *Environment Impact Assessment*, McGraw Hill Inc., New York.
- Cliff, A. And Haggett, P., (1989): *Atlas of Distribution*, Basil Blackwell, Oxford.
- Digby, A. and Stewart, Z. (eds.) (1996): *Gender, Health and Welfare*, Routledge, New York.
- Dutta, A and M.M. Agarwal, (1992): *The Quality of Life in Indian Cities*, Institute of Advanced Studies, Shimla.
- Gilbert and Josef Guglar, (1987): *Cities Poverty and Development- Urbanisaiton in the 3<sup>rd</sup> World*, Oxford University Press, Oxford.
- Goudie, A., (1993): *The Human Impact on Natural Environment*, Blackwell, USA.

## **Course XX**

# **Dissertation**

Note : The students under the supervision of a faculty member shall be selecting a topic from his field of specialization for the dissertation work. The dissertation shall be field work based applying the techniques learned by the student in practicals. It will contain atleast 50 pages and 10 to 15 maps and diagrams / charts prepared by the student. The dissertation report duly signed by the teacher supervisor concerned be submitted in the college before the theory examination of the university or as per instructions given by the university. There shall be internal viva voce on dissertation. The viva-voce examination will be purely internal and shall be conducted before sending the dissertation to the university. The student will present his/ her findings before the audience of department teachers and P.G. students. The questions will be asked by the faculty members and students. The supervisor will act as an internal examiner, and the internal marks will be awarded by him/ her.

The distribution of marks for dissertation course will be as follows :

- |    |             |   |                      |
|----|-------------|---|----------------------|
| 1. | Evaluation  | - | 50 Marks ((External) |
| 2. | Viva – voce | - | 50 Marks (Internal)  |