

I SEMESTER

Gr – 101. GEOMORPHOLOGY

- Unit – I Fundamental concepts in Geomorphology. The concepts of erosional cycle-Davis And penck, Peneplain concept. Applied aspects of geomorphology.
- Unit – II Isostasy – Theories of continental drift – Interior of the earth – Mountain building Activity – Plate tectonics.
- Unit – III Earth movements: Tectonic movements – Folds, Faults and Volcanicity and their Associated topographic forms.
- Unit – IV Landforms and earth materials. Processes of weathering, mass wasting and erosion.
- Unit – V Landforms made by (a) streams (b) wind (c) underground water (d) Waves (e) Glaciers

References :

1. W.D. Thornbury. Principles of Geomorphology, John Wiley & Sons, 1958.
2. A.N. Strahler. Physical Geography, Wiley Eastern Pvt. Ltd., New Delhi, 1969.
3. A.K. Lobeck. Geomorphology, McGraw Hill Book Co. 1930.
4. A.F. Fitty. Introduction to Geomorphology, Methuen & Co., London, 1971.
5. Wooldridge, S.W. & Morgan, R.S. An outline of Geomorphology, London, 1969.
6. J.A. Steers. The Unstable Earth, Lyell Book Dept, Ludhiana, 1961.
7. A.N. Strahler & A.R. Strahler. Modern Physical Geography, John Wiley, 1978.
8. Dayal, P. A text book of Geomorphology, Shukla Book Dept, Patna, 1976.
9. Kale V. and Gupta, A. Elements of Geomorphology. Oxford University Press, Calcutta. 2001
10. R.J. Chorley and B.A. Kennedy, physical Geography, Prentice Hall, 1971.

Gr – 102. ECONOMIC GEOGRAPHY
(Revised w.e.f.2014-15)

- Unit – I Scope and content in economic geography; relation of economic Geography with other branches of social sciences; Location of Economic activities and spatial organization of economics (primary, secondary and tertiary).
- Unit – II Factors of location of economic activities: Physical social, economic and cultural; Concept of techniques of delimitation of agricultural regions; Von Thunen's model and its validity in the modern world
- Unit – III Classification of industries; Theories of Industrial location-Weber, Losch; Case studies of selected industries Iron, Steel and Textile etc.
- Unit – IV Transportation and transport cost, accessibility and connectivity; Typology of Markets, market networks/ systems in rural and urban areas.
- Unit – V Economic development of India, Regional disparities, Impact of green revolution on Indian Economy, Globalization and Indian economy and its impact on environment.

References :

1. Berry, J.L. Geography of Market Centers and Retail Distribution. Prentice Hall, New York, 1967
2. Chatterjee, S.P. Economic Geography of Asia. Allied Book Agency, Calcutta, 1984.
3. Chorley, R.J. and Haggett, P. (ed). Network Analysis in Geography, Arnold, 1969.
4. Dreze, J. and Sen, A. India-Economic Development and social opportunity. Oxford University Press, New Delhi, 1996.
5. Eckarsley, R. (ed). Markets, the state and the Environment t. McMillan, London, 1995.
6. Garnier, D.J. and Delobez. A Geography of Marketing. Longman, London, 1979.
7. Hamilton, F.E.I. Spatial perspectives on industrial organization and decision making. John Wiley, New Yord, 1974.
8. Hamilton, I. (ed) Resources and Industry. Oxford University press, New York, 199.
9. Hurst, E. Transport Geography – Comments and Reading, McGraw Hill, New York, 1974.
10. Morgan, W.B. and Muntion, R.J.C. Agricultural Geography, Methuen, London, 1977.
11. Pachuri, R.K .Energy and Economic Development in India. Praeger, New York, 1977.
12. Robertson, D. (ed). Globalization and Environment. E. Elgar, Co., U.K., 2001.
13. Rostow, W.W. The stages of Economic Growth. Cambridge University press, London, 1960.
14. Sing, J. and Dillon, S.S. Agricultural Geography, McGraw Hill India, New Delhi, 1984.
15. Symons, L. Agricultural Geography, Bell and Sons, London, 1972.
16. Wheeler, J.O.et al. Economic Geography. John Wiley, New York, 1995.

Gr – 103. GEOGRAPHY OF INDIA AND ANDHRA PRADESH

- Unit - I Location – Major physiographic divisions – Major river systems – drainage pattern – climate and climatic regions of India.
- Unit - II Soils – Natural vegetation – Need for conservation of soils and forests. Agricultural types and regions – irrigation and power – distribution of food and commercial crops.
- Unit - III Power resources – Hydel – Thermal – Atomic – Mineral sources – Major industries, iron and steel, ship building, Cement, Cotton, Sugar and Jute.
- Unit - IV Population – Distribution and density - growth – trends - problems – urbanization. Transport and communication. India's foreign trade – problems and prospects.
- Unit - V Andhra Pradesh – Relief, climate, soils, vegetation, agriculture, irrigation and power, mineral Wealth and industrial development, population and urbanization.

References:

1. R.L. Singh. The Regional Geography of India, NGS IX, Banaras, 1968.
2. O.H.K. Spate and Learmonth. India and Pakistan, Methuen, London.
3. C.B. Mammoria. Economic and commercial geography of India, 1984.
4. C.B. Mammoria. Geography of India. Sivalal Agarwala & Co., Agra, 1975.
5. Shrama and Cautinho. Economic and Commercial geography of India.
6. Shrama, T.C. Technological change in Indian Agriculture, Rawat publication, Jaipur.
7. Negi, B.S. Geography of India, Kedar Nath Ram Nath, New Delhi.
8. Alam, S.M. Planning Atlas of Andhra Pradesh.

Gr – 104. PRINCIPLES OF CARTOGRAPHY

- Unit – I Introduction to Cartography. Scope and Nature. Basic principles of cartography- scales, projections.
- Unit – II Cartography as graphic means of Communication. Theory of Visual perception- Visual variables. Graphic elements- Clarity and legibility contrast, Figure- ground, Balance. Colour and pattern in Cartography.
- Unit – III Topography and lettering. Generalization. Compilation process and procedure. Map design and layout – Constraints and restrictions in Map design.
- Unit – IV Types of maps and their uses. Symbolization. Cartographic techniques for different Purposes – Socio economic data, Weather and Climatic data, Physiographic.
- Unit – V Computer Assisted Cartography. Cartography and GIS – Data processing, Types of output Output products.

References:

1. Burrough, P.A. Principles of geographic information systems for Land Resource Assessment, Oxford University Press, New York, 1986.
2. Fraser Taylor D.R. Geographic information systems for Land Resource . Pergaman Press, Oxford, 1991
3. Misra, R.P. and Ramesh, A. Fundamentals of Cartography, McMillan Co., New Delhi.
4. Monk House, E.J., Wilkinson, H.R. Maps and Diagrams, Methuen, London.
5. Khan , Z.A. Text book of practical geography, Concept, New Delhi, 1998.
6. Robinson, A.H. and Sales, K.D. Elements of cartography, John Wiley & Sons Inc.
7. Singh, R.L and Dutt, P.K. Elements of Practical Geography, Kalyani Publishers, New Delhi.
8. Steers, J.A. Map Projections, University of London Press, London.

I SEMESTER – PRACTICALS

Gr – 105. MAP ANALYSIS

1. Introduction to types of maps and scales.
2. Map series, numbering methods, scales of the map series (Old & New), Latitudinal and Longitudinal extents of International maps and topographical maps
3. Interpretation of topographical maps – Indian and foreign.
4. Representation of relief features by contours
5. Profile drawing – Simple, superimposed and composites
6. Weather maps.

References:

1. R.L. Singh. Elements of Practical Geography, Kalyani Publishers, New Delhi
2. R.Singh & Kanujia. Map work and practical geography, Central Book Depot, Allahabad

Gr - 106. CARTOGRAPHY

1. Scales: Methods of Representation, Conversions
2. Map projections: Zenithal, Conical, Cylindrical, Conventional Map Projections
3. Thematic mapping:
 - Bar graphs – simple, compound, wind roses
 - Line graphs – simple and polygraph
 - Dot method
 - Choropleth Technique
 - Isopleth technique
 - Proportional circles
 - Sector Diagrams

References:

1. Misra, R.P. and Ramesh, A. Fundamentals of cartography, Concept, New Delhi
2. E.Raisz. Principles of cartography
3. Singh, R.L. Map work and practical geography. Central Book Depot, Allahabad, 1972
4. Steers, J.A. Map projections, University of London Press, London

II SEMESTER

Gr - 201. CLIMATOLOGY AND OCEANOGRAPHY

- UNIT – I Scope, and content of Climatology; Earth, its origin and its planetary Relation to the sun; time and its measurement.
- UNIT – II Structure and composition of the atmosphere; Solar and Terrestrial Radiation – Heat budget; Distribution and patterns of weather elements – Temperature, Precipitation and wind; General circulation of the atmosphere, Monsoon mechanism.
- UNIT – III synoptic Climatology – Air masses and Fronts; Cyclogenesis satellite studies Climatology; Elements of Climatic classification – Koppen and Thornthwaite.
- UNIT – IV Physical properties of sea water. Distribution of temperature and salinity of Oceans. Submarine relief of Atlantic, Pacific & Indian Oceans.
- UNIT – V Movements of ocean water (a) waves (b) Tides (c) Currents.

References:

1. H.J Critchfield. General Climatology, Prentice Hall of India, New Delhi, 1975.
2. G.T. Trewartha. An Introduction to climate, McGraw Hill Book Co., New York, 1954.
3. B. Haurwitz and H.M. Austin, Climatology, McGraw Hill Book Co., New York, 1944.
4. Jerome Spar. Earth, Sea , Air. Addison Wesley, 1962.
5. R.C.Barry & R.J. Chorley. Atmosphere, Weather & Climate
6. D.S.Lal. Climatology, Chaitanya Publishing House, Allahabad, 1989.
7. Sverdrup, Johnson & Fleming. The Oceans. Prentice Hall Inc., New York, 1966.
8. C.A.M. King Oceanography for Geographers. Edward Arnold Ltd., London, 1962.
9. C.A.M. King. An Introduction to Oceanography. McGraw Hill Book Co., New York, 1946.
10. Sharma and Vatal. Oceanography for Geographers, Chaitanya Publishing House, Allahabad.

Gr – 202. GEOGRAPHICAL THOUGHT

(Revised w.e.f. 2014-15)

- UNIT – I The field of geography; its place in the classification of sciences; geography as a social science; selected concepts in the philosophy of geography, distributions; relationships, interactions; aerial differentiation and spatial organization.
- UNIT – II Dualisms in geography; systematic & regional geography; physical & human geography. Systematic geography & its relation with systematic sciences and with regional geography. The myth and reality about dualisms. Regional geography: Concept of region, regionalization and the regional method.
- UNIT – III Scientific explanations: routes to scientific explanations (Inductive/Deductive); types of explanations; cognitive description; cause & effect; temporal; functional/ecological systems
- UNIT – IV Laws, theories & models, the quantitative revolution, response to positivism, behaviorism, postmodernism
- UNIT – V Historical Development Contributions of different scholars during ancient medieval and modern period. Geography in the 20th Century; conceptual and methodological developments and changing paradigms, status of Indian Geography. Future of geography, task ahead relating to development of geographic thought with special reference to changing views on man-environment relationship.

References:

1. Abler, Ronald, Adams, John S. Gould, Peter. Spatial Organization: The Geographer's View of the World. Prentice Hall, N.J., 1971.
2. Ali, S.M. The Geography of Puranas. Peoples Publishing House, Delhi, 1966.
3. Amedeo, Douglas. An introduction to scientific reasoning in Geography. John Wiley. U.S.A., 1971
4. Dikshit, R.D.(ed) The Art & Science of Geography – Integrated Readings. Prentice Hall of India, New Delhi, 1994.
5. Hartshorne, R. Perspectives on Nature of Geography. Rand McNally & Co., 1959
6. Hussain, M. Evolution of Geographic Thought. Rawat Pub. Jaipur, 1984.
7. Johnston, R.J. Philosophy and Human Geography. Edward Arnold, London, 1983.
8. Johnston, R.J. The Future of Geography. Methuen, London, 1988
9. Minshull, R. The Changing Nature of Geography. Hutchinson University Library, London, 1970.
10. Taylor (ed). Geography of the 20th century. Mathew, London.

Gr – 203. URBAN GEOGRAPHY
(Replaced w.e.f. 2014 -15)

- Unit –I: Internal structure of Cities; Concentric Zone theory, sector theory, multi nuclei theory, city classification – functional classification of Towns.
- Unit – II: Rural Urban fringe: City Region and Umland, Central Business District.
- Unit – III: Primate City distribution and rank rule size. The central functions and central place theory.
- Unit – IV: Urban problems: Slums & squatter settlement. Housing problems, Transport traffic congestion problem.
- Unit – V: Urban Environmental problems (Air, Water, Solid waste)

References:

1. Berry. B.J.L and Horton. F.F: Geography Perspectives on urban systems. Prince Hall, Eaglewood Cliffs, New Jersey, 1970.
2. Carter: The study of Urban Geography. Edward Arnold Publishers, Lodon, 1972.
3. Chorely, R.J.O. Hagget p (ed). Models in Geography. Methen, London, 1996.
4. Dickinson, R.E: City and Region, Rutled, London, 1964
5. Gibbs, J.P. Urban Research Methods. D. Van Nostrand Co. in Princenton, New Jersey, 1961.
6. Jones. P.L. and Jones C.F (eds): American Geography, Inventory and prospect, Syracuse University Press, Syracuse, 1954.
7. Kanda, A. Urban development and Urban research in India, Khama publication, 1992.
8. Mayor, H.M. Kohn C.F.(eds). Readings in Urban Geography. UNIVERSITY OF Chicago Press.
9. Rao . V.L.S.P. Urbanization in India spatial Dimensions. Concept Publishing Co New Delhi.
10. Rao V.L.S.P: The structure of an Indian Metropolis: A study of Bangalore. Allied Publishers, Banglore.
11. Singh K and Steinberg F (eds): Urban India In Crisis. New Age interns, New Delhi, 1998.
12. Tewario, Vinod K. Jay A. Weinstein, VLS Prakasa Rao (Editors). Indian Cities. Ecological Perspectives Concept 1966.

Gr – 204. PRINCIPLES OF REMOTE SENSING

- Unit – I.** The basic components of remote sensing system, energy sources and Radiation principles. Electromagnetic Spectrum – Energy interactions with Atmosphere, Earth's surface features. Spectral reflectance patterns, Atmospheric windows.
- Unit – II. Fundamentals of Aerial Photography. Types and scales of aerial photographs – photographic resolution. Mosaics, Geometry of vertical aerial photographs – Image displacement – Stereoscopy – Parallax measurement.
- Unit – III Aerial photo interpretation techniques – equipment – elements of interpretation. Application of aerial photographic techniques to Agriculture, Forests, Urban and Regional planning.
- UNIT – IV Modern Remote Sensing Platform. Resolution – Spectral, Spatial, Temporal, Radiometric Sensors – Modes of Scanning. Characteristics of IRS, Land sat, spot, Visual image interpretation. Digital image preprocessing and classification
- UNIT – V Integrating Remote Sensing and GIS – Land and geographic information systems. Data structures. Application of Remote Sensing techniques.

References:

1. American society of photogrammetry. Manual of remote sensing ASP, Falls Church, V.A., 1983.
2. Barret, E.C. and L.F. Curtis. Fundamentals of Remote Sensing and Air Photo interpretation, McMillan, New York, 1992.
3. Compbell, J. Introduction to remote sensing. Guilford, New York, 1989.
4. Curran, Paul J. Principles of Remote Sensing. Longman, London, 1985.
5. Leuder, D. Aerial Photography Interpretation: principles and application. McGrahill, New YORK, 1959.
6. Rao, D.P. (eds). Remote Sensing for earth resources. Association of Exploration Geophysicist, Hyderabad, 1998.
7. Sabins, F.F. Remote Sensing Principles and interpretation. John Willey & Sons, New York, 1987.
8. Thomas M. Lillesand and Ralph W. Kiefer. Remote Sensing and image interpretation. John Wiley & Sons, New York, 1994.

II SEMESTER – PRACTICALS

Gr – 205. INTERPRETATION OF AERIAL PHOTOGRAPHS

1. Testing of spectroscopic vision – Exercise with lense stereoscope.
2. Oblique photographs
3. Stereogram, landforms, drainage, urban, rural, agricultural and industry
4. Stereo pairs: Landforms, drainage, urban, rural, agricultural and industry
5. Land sat Imageries
6. Use of Mirror stereoscope.
7. Use of stereo meter.
8. Use of aero-sketchmaster.

References:

1. Lattman&Ray. Aerial Photographs in field Geology. Holt. Reinhart&Winston, New York 1965.
2. Francis.H.,Moffitt: Photogrammetry, International Text Books Co. Scranton, Pennsylvania, 1959.
3. Leuder, D.R Aerial photographic interpretation. McGraw Hill, New York,1960.

Gr – 206. CLIMATIC DATA ANALYSIS

1. Rainfall data analysis Mean annual and seasonal –intensity-rainfall Variability
2. Monthly mean precipitation and temperature - Global stations and Indian drain stations
3. Wind rose diagrams
4. Thermal continantality
5. Water balance computation and graphical representation humidity and aridity indices-Moisture index-Moisture adequacy.
6. Drought climatology –drought frequency histogram –climatic shifts
7. Graphs-Climograph, Hydrograph and Ergo graph
8. Urban heat islands and temperature inversions

References:

1. H.J.Critchfield.General Climatology.Prentice Hall of India. New Delhi-1975
2. B.Haurwitz J.M.Austin Climatology. McGrew Hill Book Co.New York, 1944
3. I.A Ramadas, Crops and Weather in India, ICAR, New Delhi.
4. J.R.Mathur, climatology: Fundamentals and Applications. McGraw Hill, New York, 1974.

III SEMESTER

Gr – 301. POPULATION GEOGRAPHY

- Unit – I Nature and Scope of population geography-Interface between society, population, ecology and geography. Population geography and its relation with other social sciences. Sources of data and methodology of studying population geography
- Unit – II World population, distribution and composition. India's population, composition and distribution. Factors affecting the growth and distribution of population.
- Unit – III Malthus theory of population and his contribution – Demographic transition theory and theory of optimum population.
- Unit – IV Components of population growth – Fertility, mortality and migration. Factors affecting fertility, mortality and migration.
- Unit – V Population policies in developed and developing countries – India's population policy measures to control population.

References:

1. UNESCO. Determinants and consequences of population trends, 1953.
2. W.S. Thompson. "Population", National Book Trust, New Delhi, 1967.
3. J.I. Clarke. Population Geography, Pergamon Press, 1965.
4. Asha, A. Bhende & Tara Kanitkar. Principles of population studies, Himalaya Publishing House. Bombay, 1978
5. Zelinsky, W. Prologues to population Geography, Prentice Hall, Englewood Cliffe, M.J., 1966.
6. Garnier, J.D. Geography of population, Longman and Green, 1968.
7. Agarwala, S.N. India's population: Facts, problems and policy, Meerut, Meenakshi Prakasam, 1967.
8. Chandrasekhar, S. India's population: Facts, problems and policy, Meerut, Meenakshi Prakasam, 1967.

Gr - 302. ENVIRONMENTAL GEOGRAPHY
(Revised w.e.f 2014 -15)

- UNIT – I Nature and scope of environmental geography – Environmental Geography and related sciences. Ecosystem – concepts and components, energy and nutrients in the ecosystem – Bio - geochemical cycles.
- UNIT – II Major biotic regions of the world. Man - environment relationship. Resources use and ecological imbalance with reference to soils, forests and energy resources. Biodiversity and its conservation.
- UNIT – III Population growth and environment, carrying capacity of the earth, Land resources and world food security. Human settlements and environment; Industrial environment – urban environment. Man’s impact on physical & social environments.
- UNIT – IV Emerging environmental issues – environmental degradation, environmental pollution, ozone depletion, green house gases, global warming. Environmental quality – environmental impact assessment.
- UNIT – V Environmental legislation – the Stockholm Conference, the Earth Summit Environmental laws in India. Environmental planning and management. Environmental programs.

References:

1. The State of India’s environment 1982 & 1984 – A citizen’s report. Centre for Science and environment, New Delhi.
2. Savindra Singh. Environmental geography. Prayag Pustak Bhavan, Allahabad.
3. Robinson, H. Biogeography, ELBS, KLondon, 1978.
4. Swarup, R.V., Mishra, S.N., Janchari, V.P. Encyclopediao of ecology, environment and pollution control.
5. K.M. Agrawal, P.K., Sikdar, S.C. Deb. A Text book of Environment. Macmillan India Limited.
6. Nag, P., Kumar, V.K. and Singh, J. Geography of Environment.
7. Strahler, A.N. and Strahler, A.H. Geography and Man’s Environment. John Wiley and Sons, New Delhi.
8. Daniel B. Botkin, Edward A. Keller. Environmental Science (Earth as a living planet). John Wiley Sons Inc., New York.
9. Bernard J. Nebel. Environmental Science – The way the world works. Prentice Hall, Englewood Cliff, NJ 07632.
10. Chandana, R.C. Environment. Kalyani Publishers, Ansari Road, New Delhi.

Gr – 303. PEDOLOGY & HYDROLOGY
(Replaced w.e.f.2014-15)

- UNIT – I Factors and processes of soil formation, Soil profiles, Physical and chemical properties of soil; Classification of soils-zonal, zonal and intra zonal, world patterns.
- UNIT-II Soil erosion and conservation, Soils of India, Sustainable development of soil resource with reference to India.
- UNIT-III Hydrological cycle: Elements of hydrological cycle; Precipitation intensity and duration; Evaporation; infiltration, water balance elements and analysis ; flood and drought analysis.
- UNIT-IV Ground water occurrences and types, Movement, Quality and quantity measure; Nature and distribution of ground and surface water distribution in India.
- UNIT-V: Water conservation, Application of Remote sensing in hydrological studies.

References:

1. Backman, H.O. and Brady, N.C. The nature and properties of Soils, Mc Millan, New York, 1960.
2. Bennet, Hugh H. Soil Conservation, McGraw Hill, New York.
3. Bunting, B.T.. The Geography of Soil, Hutchinson, London, 1973.
4. Clarke, G.R. Study of the Soil in the Field, Oxford University Press, Oxford, 1957.
5. Fothy, H.D. and Turk, L.M. Fundamentals of Soil Science, John Wiley, New York. 1972.
6. Govinda Rajan, S.V. abd Gopala Rao, H.G. Studies on Soils of India, Vikas, New Delhi, 1978
7. Mc Bride, M.B. Environmental Chemistry of Soils, Oxford University Press, New York.
8. Nye, P.H. and Greene, D.J. The soil under shifting cultivation, Commonwealth Bureau of Soil Science, Technical Communication, No. 51, Harpender, England, 1960
9. Raychoudhuri, S.P. Soils of India, ICAR, New Delhi, 1958
10. A.N. Strahler. Physical Geography, Wiley Eastern Pvt. Ltd., New Delhi, 1965.
11. Addison, H., Land, water and food, Chapman and Hall, London-1961
12. Chorley, R.J.(ed), Introduction to Physical Hydrology, Methuen, London-1969
13. Chorley, R.J.(ed), Water, Earth and Man , Methuen, London,1967.
14. Dakshina Murty, C., et al., Water resources of India and their utilization in agriculture, Indian agricultural Research Institute, New Delhi, 1973
15. Jone, J.A.A, Global Hydrology: Processess, Resources and Environmental Management, Longman, London, 1997
16. Matter, J.R. Water Resources, Distribution, Use and management, JohnWiley, Marylane, 1984.
17. Singh, R.A and Singh S.r., Water Management: Principles and Practices, Tara Publication , Varanasi-1972.
18. Toddu, D.K., Groundwater Hydrology, John Wiley, New York-1959

Gr - 304. DISASTER MANAGEMENT STUDIES
(Replaced w.e.f. 2014 – 15)

- UNIT – I Definition and concept of Hazards : classification of hazards; climate change causes and implications; natural hazards: Earthquakes; volcanicity, landslides, land subsidence and avalanches; forest fires.
- UNIT – II Climatic hazards : Droughts and desertification: drought preparedness and monitoring, floods: flood control and management; thunderstorms; tornadoes, cyclones, heat waves, cold waves, hail storms.
- UNIT – III Coastal hazards: coastal erosion. Storm surge and Tsunamis; origin, propagation and devastation.
- UNIT – IV Human induced disasters: Urban and industrial disasters: Air pollution, acid rains; Global warming and Ozone depletion, Deforestation; Desertification; siltation; wetland degradation; Epidemics.
- UNIT – V Risk assessment: Disaster preparedness and management for various hazards; Geo – spatial technologies for disaster management; Remote Sensing applications in disaster management.

References :

1. Burton, Kates, R.W AND White, G.F, Environment as hazard, 2ND edition, Guilfordpress, New York, 1993
2. Chakraborty, S.C, Natural hazards and disaster management, pragatishil prakashak, Kolkata, 2007.
3. Schneid, T AND Collins, L. Disaster management and preparedness, Lewis Publishers, Washington, DC, 1998.
4. Bryant Edwards (2005): Natural Hazards, Cambridge University Press, U.K.
5. Roy, P.S., Van Westen, C.J. Jha, V.K. Lakhera, R.C and Champathi RAY, P.K., Natural disaster and their Mitigation: Remote sensing and geographical information system perspectives, IIRS, Dehra Dun, Govt. of India, 2003
6. Hewitt, K., regions of risk: a geographical introduction to disasters, Longman, London, 1997.
7. Rajib Shaw and RR. Krsihna Murthy (eds), 2009. Disaster management : Global challenges and local solutions, University Press, Hyderabad.
8. D.B. Murthy, Disaster management: text and case studies, publishers: deep publications.
9. Bergman E.F., Renwick W.H., and Vasantha Kumaran T., 2008: Introduction to Geography: People, Places and Environment, Pearson Education Inc.,

III SEMESTER – PRACTICALS

Gr - 305. QUANTITATIVE TECHNIQUES IN GEOGRAPHY

1. Questionnaire formulation and collection of primary data
2. Processing of data: Classification and tabulation
3. Representation of statistical data
4. Statistical measures of central tendency – Mean, Median, Mode, Quartiles, Deciles and percentiles.
5. Measures of dispersion – Range, Mean deviation, standard deviation and quartile deviation.
6. Interpolation and extrapolation
7. Time series
8. Correlation

References:

1. Rao, A.B.: Essentials of statistics, Continental Prakasan, Poona, 1972
2. C.B. Gupta. An Introduction to statistical methods. Vikas publishing House Pvt. Ltd., New Delhi.
3. S.P. Gupta. Practical statistics. S. Chand Co.Ltd. Ramnagar, New Delhi.
4. Gregory, G. Statistical methods in Geography, Longman & Green Co., London, 1963.
5. Pet. Devies. Data descripti8on and presentation. Oxford University Press, London, 1974.

Gr – 306. IMAGE PROCESSING

Visual Interpretation – Elements, Keys, land use, land cover mapping, multispectral data, FCC, Digital analysis – Image data formats, sub map extraction, colour composite, Statistics extraction, image registration, Image enhancement – contrast stretching, Edge enhancement, Filtering, Band rationing, Image classification – supervised, un supervised, creating base map, over lay, field work.

References:

1. Curran, Paul J. Principles of Remote Sensing. Long man, London, 1985.
2. Thomas M, Lillesand and Ralph W. Kiefer. Remote sensing and Image interpretation. John Willey & Sons, New York, 1994.
3. M. Anji Reddy. Remote Sensin and geographical Information systems, Booionics, Hyderabad.
4. Gautam, N.C. et al . Space Technology and geography, NRSA, Hyderabad, 1994.

IV SEMESTER

Gr - 401 AGRICULTURAL GEOGRAPHY (Repaced w.e.f. 2014 – 15)

- UNIT – I Nature, scope, significance and development of agricultural geography. Approach to the study of Agricultural Geography. Determination of agriculture.
- UNIT – II Von Thunen's model of agricultural location – modifications, limitation and application in India. Whittlesey's classification of agricultural systems. Agricultural Typology – International Commission of the IGU.
- UNIT – II land holding and land tenure systems, land use classification, land capability and land suitability. Agricultural concepts and their measurement. Land holding and land tenure systems, land use classification, land capability and land suitability. Agricultural concepts and their measurement.
- UNIT – IV agricultural regions of India and their characteristics. Agricultural typology of India. Five year plans and agriculture. Agricultural policy in India. Green revolution and implication. Specific problems in Indian agriculture.
- UNIT – V Contemporary issue – Food, nutrition and hunger. Food security and food aid programmes. Role of irrigation, fertilizers, insecticides and pesticides, technological knowhow. Significance of biotechnology, organic farming, polyhouse, tissue culture and precision farming. Sustainable agricultural development.

References:

1. Ali Mohammad: Studies in Agricultural Geography, Rajesh Publications, New Delhi.
2. Bayliss Smith, T.P. The ecology of Agricultural systems. Cambridge University Press, London, 1987.
3. Berry, B.J.L. et al. The geography of Economic Systems. Prentice Hall, New YORK, 1976.
4. Brown, L.R. The changing World Food prospects – The Nineties and Beyond. World Watch Institute, Washington D.C;1990.
5. Dyson, T. Population and Food – Global trends and future prospects, Routledge, London, 1996.
6. Gregor, H.P. Geography of agriculture. Prentice Hall, New York, 1970.

7. Grigg, D.B. The agricultural systems of the world, Cambridge University Press, New York, 1974
8. Hartshorn, T.N. and Alexander, J.W. Economic Geography. Prentice Hall, New Delhi. 1988.
9. Jasbir Singh and Dillon, S.S. Agricultural geography, Tata Mc. Graw Hill, New Delhi. 1988.
10. Majid Husain, Systematic agricultural geography, Rawat publications, New Delhi. 1996.
11. Mandal, R.B. Land Utilisation, theory and practical concept. New Delhi. 1982.
12. Mannion, A.M. agriculture and Environmental change, John Wiley, London, 1995.
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Gr - 402 REGIONAL PLANNING AND DEVELOPMENT
(Replaced w.e.f 2014 -15)

- UNIT – I Concept of Region: Planning in India: Goals and Achievements – Ideology, Objectives, challenges and opportunities. The system approach – Economic regions, Environmental region, Administrative regions, Multi level planning regions.
- UNIT –II Regional patterns and imbalance. Regional structure of population distribution – population density, Rural urban ratio. Regional structure of economic development – History of planning regions (Macro, Meso and Micro level). Identification of planning regions in India. Trends in Regional Development Planning. Metropolitan regional planning. Development of Backward areas. Regional planning at the state level.
- UNIT – III The process of Regional development: Theoretical foundation. Von Thunens concentric ring model. Christaller’s central place theory. A new approach to regional development – growth pole hypothesis. Inadequacies and modified version of the Growth pole hypothesis planning for growth foci and emerging problems.
- UNIT – IV An operational design for new approach. Choice of lower level – Growth foci. Choice of higher level growth foci. Problems of implementation. Planning for Tribal region..
- UNIT – V Planning for agricultural region. Planning for industrial region.

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Gr – 403. GEOGRAPHY OF HEALTH

- 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 (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 cause for the same. Deficiency disorders and problems of mal – nutrition in India.
- UNIT – V Health – care planning: (i) International level – WHO, UNICEF, Red cross (ii) National level government and NGO s. 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 programs.

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Gr - 404. GEOGRAPHIC INFORMATION SYSTEMS

- UNIT – I GIS: Development and definitions – computer environment of hardware and software – Trends in GIS. General database concept: Spatial and non-spatial data – Database Management Systems – Geographic data sources – Sources of error and data quality.
- UNIT – II GIS Database: Data structure – Raster and Vector and their capabilities – Data conversions – Relational database model; Data compression of spatial objects. GIS Functioning: Data capture – digitizing and scanning – preprocessing – Data manipulation – analysis.
- UNIT – III GIS and Cartography: Mapping concepts – Coordinate system and geocoding: Common coordinate system – grids – UTM - computer assisted cartography.
- UNIT – IV GIS and Remote Sensing: Satellite data – digital processing – Classification – Integration of GIS and Remote Sensing – Use of GPS. GIS and digital elevation models – concepts of DTM, DEM and TIN.
- UNIT – V GIS and applications – GIS application areas – GIS as a decision making tool – management of information systems – Land information system – Resource management applications – Facility management applications – Urban GIS – Environmental GIS.

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IV SEMESTER – PRACTICALS

Gr - 405. TERRAIN ANALYSIS

1. Methods of Representation of relief – Profiles – Geological cross sections
2. Morphometry of drainage basin
3. Slope analysis – Wentworth and Smith methods
4. Altimetric frequency Analysis
5. Hypsometric Analysis
6. Clinometric Analysis
7. Relative relief Analysis
8. Digital Elevation Model representation

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Gr – 406. GEOGRAPHICAL INFORMATION SYSTEMS

1. Components of Information system
2. Directory and File Structures, Binary coding
3. Organization of data records – network, relational and hierarchical records
4. Topology
5. GIS data structure: Vector and raster database structures and conversions
6. Buffer zones in Raster and Vector models
7. Data entry and map composition: Digitizing – Scanning – Editing – Plotting and map making
8. Overlay analysis and Boolean operations
9. Digital Elevation Models

References:

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2. ESRI. Arc/Info User's guide, Redlands, USA, 1992.
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