

PG DEPARTMENT OF GEOGRAPHY

M.A. IN GEOGRAPHY SYLLABUS

CHOICE BASED CREDIT SYSTEM (CBCS)

S.C.S. (A) College, Puri



Academic Session

2017-19

Website: www.scscollege.nic.in

CBCS – M.A. GEOGRAPHY SYLLABUS

SEMESTER – I
(500 marks, Credits 20)
GEOG 1: CORE – I
GEOMORPHOLOGY

100 marks Credits 04

- UNIT – I:** Fundamental Concepts and their recent changes. Morphological evolutionary concept of Davis, Penck and King.
- UNIT – II:** Concept of Isostasy given by Airy, Pratt and Heiskanen. Continental Drift and related evidences. Ocean floor spreading and Plate tectonics. Earth movements. Geosynclines and theories of Mountain building.
- UNIT – III:** Weathering, Erosion and Mass Wasting-Types, Factors, Causes and Processes. Slope Profile, Slope Analysis, Development of Slopes.
- UNIT – IV:** Action of Running Water, Morphometric Analysis of Drainage Basins: (1) Stream Order (2) Stream Length (3) Basin Area (4) Drainage Density (5) Laws of Morphometric Analysis (Horton & Strahler). Concept of coastal zone and coastal agents and processes. Waves and associated landforms. Coastal Erosion.
- UNIT – V:** Geological action of wind, Underground Water, Glacier. Processes and Landforms created by Periglacial Erosion.

Suggested Readings

1. Chorley, R. J. (1972) - *Spatial Analysis in Geomorphology*, Meuthen London.
2. Dayal, P. (1992) - *Geomorphology*, Shukla Book Depot, Patna
3. Holmes, A. (1989) - *Principles of Geomorphology*, ELBS, London
4. Small, R. J. (1970) - *The Study of Landforms*, Cambridge University Press.
5. Steers, J. A. (1979) - *The Unstable Earth*, Kalyani Publishers, Ludhiana
6. Stoddart, D. R. (ed.) (1996) - *Process and Form in Geomorphology*. Routledge, New York.
7. Strahler, A. N. (1975) - *Physical Geography*, Wiley Int Edition, New York.
8. Strahler & Strahler - *Modern Physical Geography*, Wiley Int Edition, New York.
9. Skinner, B. J. & Potter, S. C. (1995) - *The Dynamic Earth*, John Wiley, New York.
10. Sparks, B. W. (1960) - *Geomorphology*, Longman, London.
11. Sharma, H. S. (eds) (1980) - *Perspective in Geomorphology*. Concept, New Delhi.
12. Singh, S. (1998) - *Physical Geography*, Prayag Publication, Allahabad.
13. Thornbury, W. D. (1960) - *Principles of Geomorphology*, John Wiley, New York.

GEOG – I: CORE – II

ECONOMIC GEOGRAPHY

100 marks Credits 04

- UNIT – I:** Fundamental concepts of Economic Geography. Economic Geography- Definition, Scope, Concept and Method. Concept of Economy, Classification of Economy, Economic Development.
- UNIT – II:** Location of Economic Activity-Agricultural Location theory of Von Thunen. Location of Secondary Activity- Industrial Location Theory of A. Weber and E. Hoover. Location of Tertiary Activity-Contribution of Walter Christaller and August Losch.
- UNIT – III:** Definition of resource. Dynamic concept of Resource. Types of Resources(Natural, Human, Cultural).Classification of Resources-Biotic & Abiotic, Exhaustible & Inexhaustible, Potential & Developed ,Agricultural & Pastoral, Mineral & Energy Resources. Resource utilization - Patterns and problems.
- UNIT – IV:** Resource Scarcity Hypothesis, Resource Conservation & Management, Sustainable Resource Management.
- UNIT – V:** Principles of Areal Functional Organisation. Agricultural Regions of the world. Industrial regions of the world.

Suggested Reading

1. Beningsons & Von Raoyan (1971) - *Fundamentals of Economic Geography*, Prentice Hall of India, New Delhi.
2. Alexander, J.W. (1963) - *Economic Geography*, Prentice Hall Inc, USA
3. Fryer, D.W. - *World Economic Development*, McGraw Hill Books.
4. Jones, F.F. & Darkenward, G. C. (1967) - *Economic Geography*, Mc Millon, London.
5. Isard, W. (1972) - **Location & Space Economy: A general Theory relating to Industrial Location, Market Areas, Landuse, Trade and Urban Structure**, MIT Press, London.
6. Roopke (1967) - *Readings in Economic Geography*, John Willey, New York.
7. Chorley& Hagget - *Models in Geography*.
8. Hussain, M. - *Models in Geography*.
9. Smith, D. M. (1961) - *Industrial Location - An Economic Geographical Analysis*. John Wiley & Sons, London.
10. Smith, G. H. (eds.) (1969): *Conservation of Natural Resources*. John Wiley & Sons Inc. New York.
11. Zimmerman - *Economic Geography*.

GEOG – I: CORE – III CLIMATOLOGY

100 Marks Credits 04

- UNIT – I:** Fundamental concepts of climatology. Insolation and Heat budget of the earth. Atmospheric Temperature - Vertical & Horizontal distribution.
- UNIT – II:** Pressure Belts and Wind Circulation. Forces controlling motion of wind. Planetary, periodic, local and Geostrophic wind. Upper air circulation, Jetstream.
- UNIT – III:** Air mass - Origin, Source region, types, Characteristics, Distribution and Modification. Atmospheric disturbances - Cyclones and Anticyclones. Tropical & temperate cyclones, Tornado, thunderstorm.
- UNIT – IV:** Climatic Classification of Koppen & Thornthwaite. Major climatic regions of the world - Equatorial, Temperate, Tropical, Polar. Mechanism of Monsoon.
- UNIT – V:** Climate Change-Evidences, causes and Theories. Impact on Environment- Global Warming, Green house gases, ozone depletion. Weather analysis.

Suggested Reading

1. Barry, R. G. & Chrley, P. J. - Atmosphere, Weather & Climate.
2. Critchfield, J. H. - General Climatology.
3. Das, P. K. - Monsoons.
4. Griffith, J. F. - Applied Climatology.
5. Lal, D. S. - Climatology.
6. Lydolph, P. E. - The Climate of the Earth.
7. Menon, P. A. - Our Weather.
8. Peterson, S. Introduction to Climatology.
9. Trewartha, G. T. - An Introduction to Climate
10. Weather Forecasting - A NBT publication.
11. An introduction to climatology – G. Trewartha
12. Mteorology – W. Blake

GEOG I: CORE – IV GEOGRAPHY OF INDIA

100 marks, credits 04

- UNIT – I:** Concept of Unity in Diversity. Structure and Relief: Geological Evolution, structural division. Relief and Physiographic division. Drainage System: Drainage Basin, Peninsular and Himalayan Rivers. Evolution of Himalayan rivers.
- UNIT – II:** Climate of India: Factors, seasons, rainfall distribution pattern. Climatic regions of India. Soils of India: Classification, Characteristics, Distribution, Conservation. Natural vegetation of India: Classification, Characteristics, Distribution, Conservation.
- UNIT – III:** Agriculture in India: Factors, Problems and prospects. Production and distribution of major crops- Rice, Wheat, Jute, Cotton, Sugarcane , Tea, Coffee. Multi-Purpose river valley projects.
- UNIT – IV:** Major mineral resources-Iron ore, bauxite, Manganese.-Production distribution and trade. Power resources- Conventional and Non-conventional. Industries in India: Mineral based Industries-Iron & Steel, Aluminium; Agriculture based Industries- Sugar & textile; Chemical industries-Petro-chemical & fertilizer. Transport and Communication-Road, Rail and Air transport.
- UNIT – V:** Population in India: Growth and Distribution. Migration- Causes, types and Impacts. Urban and Rural population, Urbanisation-Determinants, trends, spatial patterns.

Suggested Readings

1. Ahmed, A. - India, A General Geography
2. Khullar, D. R. - India, A Comprehensive Geography
3. Gautam, A. - Advanced Geography of India.
4. Mamoria, C. B. - Economic and Commercial Geography of India.
5. Sharma & Coutinho - Economic & Commercial Geography of India.
6. Spate, O. H. K. - India & Pakistan
7. Wadia, D. N. - Geology of India
8. Chandm M. & Puri, V. K. - Regional Planning in India

GEOG I: CORE – V (P)
QUANTITATIVE & STATISTICAL TECHNIQUES

100 marks Credits 04

- UNIT – I:** Geographical data, Sources of Geographical Data. Schedule, Questionnaire, Preparation of Questionnaire. Sampling, Types of Sampling. Frequency distribution. Drawing of Histogram, Frequency Polygon, Frequency Curve, Ogive.
- UNIT – II:** Measures of Central Tendency: Mean, Median, Quartiles, Mode. Measures of Dispersion: Range, Inter-quartile Range, Quartile Deviation, Mean Deviation, Standard Deviation, Co-efficient of Variation, Moving Average.
- UNIT – III:** Skewness and Kurtosis. Co-relation. Bi-variate scatter, Scatter Diagram, Co-efficient of Correlation-Spearman's Rank Correlation, Karl Pearson's Product-Moment Correlation.
- UNIT – IV:** Regression Analysis (Linear). Regression Equations and regression co-efficient. Testing of Hypothesis: Student T-test, Chi-square Test. Use of SPSS for statistical analysis.
- UNIT – V:** Practical Record and Viva-Voce.

Suggested Reading:

1. Elhance, D. N. - **Statistics**.
2. Brian, E. & Fitzgerald, P. - **Science in Geography**.
3. Gupta, S. P. - **Statistical methods**.
4. Pal, S. K. - **Statistics for Geoscientists**.
5. Gregory, S. - **Statistical Methods and the Geographer**
6. Matthews, John, A. - **Quantitative and Statistical Approaches to Geography**.
7. SPSS Inc.-SPSS for Windows Release 6.0 Student Version, Prentice Hall

SEMESTER – II
(Marks 500, Credits 20)
GEOG2 –CORE - I

Human and Settlement Geography

(100 marks Credits 04)

- UNIT – I:** Meaning and scope of human geography-major sub-fields. Man and environment relationship. Origin and Evolution of human race.
- UNIT – II:** Races of mankind, language & religion, cultural landscape, Major cultural realms of the world.
- UNIT – III:** Population distribution, growth, Demographic transition theory, population composition.
- UNIT – IV:** Meaning, scope and objectives of settlement geography. Types and patterns of settlement. Origin of rural settlement. Spatial characteristics of rural settlement-distribution, size, form, morphology, house type.
- UNIT – V:** Origin and growth of urban settlement, morphology, function and functional classification-Quantitative and Qualitative. Urban land use pattern, Urban land use theory.

Suggested Readings

1. Ghose, S. Introduction to Settlement Geography.
2. Negi, B.S., Human Geography
3. Forde, C.D., Habitat, Economy and Society
4. Johnston, R.J., et al (eds) The Dictionary of Geography
5. Perpillon, A.V. Human Geography
6. Wagner, P.L. & Mikesell, M.W., Readings in Cultural Geography

GEOG 2 CORE – II OCEANOGRAPHY

100 Marks Credits 04

- UNIT – I:** Meaning, Nature and Scope of Oceanography. Morphology of ocean bottom, bottom topography of Indian, Pacific and Atlantic.
- UNIT – II:** Composition of sea water, density, salinity and its distribution. Temperature of sea water, Water mass, Types of water mass, T-S diagram. Waves-Wind generated waves in the ocean, their characteristics, shallow and deep water waves, transitional wave, wave breakers and types. Wave transformation (surf, destructive, constructive, reflection, refraction, deflection).
- UNIT – III:** Ocean deposits-Types and sources, distribution. Estuaries-classification and nomenclature, estuarine circulation, tides in estuaries, sedimentation in estuaries and salinity intrusion. Sea level processes and sea level changes, transgression, regression, relative and eustatic sea level change, causes and consequences of sea level change, Pleistocene sea level.
- UNIT – IV:** Current-causes and characteristics, types, theories, oceanic circulation in Pacific, Atlantic and Indian. Tide- Tide producing forces and their magnitude. Prediction of tide by harmonic method. Coastal pollution, mixing and disposal of pollutants in estuaries and near shore areas. Impact of pollution on marine bio-diversity.
- UNIT – V:** Human impact on marine communities. Impact of climate change on marine bio-diversity. Physical and chemical factors affecting marine life. Coastal marine communities, coral reefs and mangrove communities. Marine resource- energy and food. Integrated Coastal Zone Management.

Suggested Readings

1. Basu, S.K. (2003): **Handbook of Oceanography**. Global vision, Delhi.
2. Bird, E.(2000): **Coastal Geomorphology-an introduction**, John Wiley & Sons.
3. Davis, R.A. (1972): **Oceanography**. Addison Wesley publishing Company.
4. Garrison, T.M. (1999): **Oceanography**, Brooks/ Cole Wordsworth, New York.
5. Grant, **G.M.** (1982): **Oceanography**, Prentice Hall Inc, New Jersey.
6. King, C.A. M. (1962): **Oceanography for Geographers**, Edward Arnold.
7. Sharma and Vatal (1962): **Oceanography for Geographers**, Chaitanya Publishing House, Allahabad
8. Tooley, M. M. & Shenan (1987); **Sea Level Change**, Basil Blackwell, Oxford, U.K.

GEOG 2 CORE – III

GEOGRAPHICAL THOUGHT

100 Marks Credits 04

- UNIT – I:** Meaning, nature and scope of Geography. Geography and related disciplines. Place of geography in the world of knowledge. Geographical knowledge during ancient, medieval and modern period.
- UNIT – II:** Contribution of Humboldt, Ritter, Vidal de la Bache, Ratzel, E.C. Semple. Dualism and Dichotomy in Geography-Determinism vs. Possibilism. Systematic vs. Regional, Physical vs. Human.
- UNIT – III:** Conceptual and methodological development during the Twentieth century. Changing Paradigm in Geography, Model Building. Hypothesis, Laws and Theories in Geography.
- UNIT – IV:** Applied geography-Concept, Methods, Techniques and application in land use, urban planning and disaster management. Recent trends in Geography-Scientific method Quantitative revolution and computer application. Positivism, Humanism, Radicalism, Behaviouralism, Feminism, Ecofeminism in Geography.
- UNIT – V:** Regional Concept and regional Geography, Development of Geography during Modern and Post Modern period. Historical explanation in Geography.

Suggested Reading:

1. Adhikari, S.(1995): **Fundamentals of Geographical Thought**, Chaitanya Publication House, Allahabad.
2. Abler, P. Adams, J.S. & Gould, P. (1972): **Spatial Organisation; The Geographer's view of the World**, Prentice Hall, London.
3. Chorley & Hagget (1968): **Models in Geography**. Methuen & Co Ltd London.
4. Dikshit, R.D. (2006): **The Art and Science of Geography**, Prentice hall of India, New Delhi.
5. Freeman, T.W.(1961):**The Makers of Modern geography**, Hundred Years of Geography, Duckworth, London.
6. Gregory,D.(1978):**Ideology, Science and Human Geography**, London.
7. Harvey,D.(1984): **Explanations in Geography**, Arnold Heinemann, New Delhi.
8. Hussain, M. (1984): **Evolution of Geographical Thought**, Rawat Publications, New Delhi.
9. Hartshorne, R. (1959): **Perspectives on the Nature of Geography**, Chicago.
10. Peet, R. (2011): **Modern Geographical Thought**, Rawat Publications, Jaipur.

GEOG 2 CORE – IV

ENVIRONMENTAL GEOGRAPHY

100 Marks Credits 04

- UNIT – I:** Concept and Types of Environment. Development of Environmentalism Basic Principles of Environment. Environment and resource, Environmental Laws.
- UNIT – II:** Environmental Impact Assessment-EIA concept, Process and Evaluation methods. Goals and Principles of EIA. Effects of EIA on projects: Environmental effects of Tourism development Activities. Environmental Impact management of water resource development projects. Different Earth summits.
- UNIT – III:** Environmental Pollution-Types of pollution, sources of pollution, effects and control of pollution (Air, Water, Land, Noise, Nuclear).
- UNIT – IV:** Concept of Hazard and disaster-types, occurrence & characteristics of natural disaster-drought, flood, cyclone, earthquake, tsunami, landslide. Concept of Disaster Management-Relief, rehabilitation, reconstruction, planning, preparedness, mitigation.
- UNIT – V:** Global Ecological Imbalance-Approaches for balance. Sustainable Development-Concept, Definition and goal. Dimensions of sustainable development-social, economic, ecological, spatial and cultural. Programme of action for Sustainable development in Agenda 21. Sustainable Use of Natural Resources. Principles of carrying capacity and Principles of Eco-development. Obstacles to sustainable development, Strategy for sustainable living.

Suggested Reading:

- 1. Environmental Impact Assessment: A Management Tool for Development Projects** (1991): United Nations, ESCAP, Newyork.
- 2. David, Reid (1995): Sustainable Development CAU Introductory Guide**, Earthscan Publication Ltd. London.
- 3. Simmons, I. G. (1993): Interpreting Nature (cultural Constructions of Environment)**, Routledge, London & Newyork.
- 4. White, G. F. (1974) (Eds): Natural hazards: Local, National and Global.** Oxford University Press, London.
- 5. Singh, S. (1991): Environmental Geography**, Prayag Pustak Bhawan Allahabad.
- 6. Hagget, P. (1983): Geography, A Modern Synthesis.** Harper & Row, New York.
- 7. Dash, M. C. (1993): Fundamentals of Ecology**, The Tata McGraw Hill, New Delhi.
- 8. Sinha, P.C. (1998): Encyclopedia of Disaster Management**, Anmol Publications, New Delhi.
- 9. Srivastava A. K, (2003): Environment Impact Assessment**, APH Publishing Corporation, New Delhi.
- 10. Watts, D. (1971): Principles of Biogeography**, McGraw Hill, London.
- 11. Wright, R.T. & Nobel B.J. (2002): Environmental Science**, Prentice Hall Inc. NJ USA.

GEOG 2 CORE - V (Practical)
CARTOGRAPHY

100 Marks Credits 04

- UNIT – I:** Grouping Techniques & Classification of Cartographic Data. Calculation of Composite Index and representation by Choropleth Map, Drawing of Isoleth Map, Traffic Flo Cartogram.
- UNIT – II:** Representation of population distribution by Uniform and Multiple Dots, Representation of urban Population by spheres, proportional circles, cubes and blockpile diagram, Pyramid diagram, Isochronic Map.
- UNIT – III:** Drawing of Graphs; Poly graph, Band graph, Climograph, Ergograph, Lorenze Curve.
- UNIT – IV:** Map Projection –Theory of Map Projection, Properties of Map Projection, Construction of Universal Transverse Mercator's Projection Conical with two Standard Parrallel, Sinusoidal, Polyconic, Gall's and Molloweid's Projection.
- UNIT – V:** Practical record and Viva voce.

SEMESTER – III
GEOG 03, CORE – I
GEO – INFORMATICS

100 marks Credits 04

- UNIT – I:** Cartography- History and development of cartography. Definition, scope, concept and trends of cartography. Characteristics of maps, types of maps, map drawing equipments, methods of mapping, scales, symbolization and map reproduction. Cartographic data-Sources of data-ground survey, Remote sensing, Census and sampling data. Data processing, digital data base and basic statistical methods. Geodesy-history of geodesy, Spherival earth, ellipsoidal earth, geoid earth, geodetic survey system, world geodetic system and datum. Cartographic co-ordinates, Use of developable surface.
- UNIT – II:** Remote sensing- Definition, concept, principles, history and development of Remote Sensing. Radiation Principles - EMR and EM spectrum, Resolutions - Spatial, Temporal, Spectral and Radiometric. Remote sensing Platforms and Sensors. Earth resource satellites-IRS, Landsat, Spot, Ikonos Satellite series and their data products.
- UNIT – III:** Introduction to aerial photography- Basic Information, Planning and execution of photograph flights, end lap and side lap, aerial camera and films, geometry of virtual aerial photograph. Types of aerial photographs, Scale of virtual photograph over flat terrain and variable terrain. Stereoscopic vision and application of aerial photograph for natural resources. GPS-Introduction to Global Positioning System. Fundamental Concepts, GPS system elements and signals, measurements, accuracy, classification of GPS receivers.
- UNIT – IV:** Introduction to GIS, Concept, components, history of development and future trends of GIS.GIS data- Types of data-spatial and attribute. Sources of data- land survey, remote sensing, census and sampling, data structure-Vector and Raster. Data input, Verification, Storage and output, data quality, errors and natural variations, database management, digital elevation model.
- UNIT – V:** Web based GIS-definition, methods and uses.GIS hardware and software- Map Info, ARC GIS, Geometica, Erdasimagin. Application of GIS in natural resources management-land use/land cover, hydrology, geomorphology, agriculture, mineral resources, natural hazard management. Application of GPS, Application of Remote sensing-land use/land cover, hydrology, geomorphology, agriculture, forestry, natural disaster management, mineral resources.

Suggested Readings

1. Agrawal,N.K.(2004): Essentials of GPS, Spatial Networks Pvt. Ltd, Hyderabad.
2. Burrough, P. A. & Mc donnell, R.A. (2000): Principles of Geographical Information System, Oxford University Press, New York.
3. Fazal Shahab (2008): GIS Basics, New Age International Publishers, New Delhi.
4. Haywood Ian: An Introduction to Geographical Information System, Pearson Education, Singapore.
5. Kumar, S. (2005): Basics of Remote Sensing and GIS, Firewall Media.
6. Robinson, A. & others (1978): Elements of Cartography, John Wiley and Sons, New Delhi.
7. Ramphal, K.K. (1999): Handbook of Aerial Photography and Interpretation, Concept Publishers, New Delhi.
8. Reddy, M. Anji (2001): Remote sensing and Geographical Information Systems, B. S. Publications, Hyderabad.
9. Sahu, Kali Charan (2007): Textbook of Remote Sensing and Geographical Information Systems. Atlantic Publishers and Distributors, New Delhi.

GEOG 03, CORE – II
REGIONAL GEOGRAPHY OF ODISHA

100 marks Credits 04

- UNIT – I:** Physiographic Divisions, Climate and Climatic Regions, Soil - Classification, distribution, problems and conservation. Natural Vegetation – Classification, distribution, problems and Conservation.
- UNIT – II:** Drainage and River systems. Major multi-purpose river valley projects, Irrigation, Natural Hazards- Flood, Drought and Cycloe.
- UNIT – III:** Population- Growth, Distribution, Problems. Urbanisation- Trend of urbanization, urban-rural population, Problems of population.
- UNIT – IV:** Resources- Mineral: Iron ore, Bauxite, Coal. Power-Hydel power, Thermal power, Major Industries-Iron & Steel, Aluminium.
- UNIT – V:** Transport & Communication- Roads, Railways, Airways and water transport. Tourism-Potential, problems and planning. Economic development-Problems and planning.

Suggested Readings.

GEO 03 CORE – III

RESEARCH METHODOLOGY

100 Marks Credits 04

- UNIT – I:** Concept and Definition of Scientific research. Salient features of research. Characteristics of scientific research. Classification of research, kinds of research, types of research. Basic norms of scientific community.
- UNIT – II:** The research Process- The issue, Problem Identification or Statement of problem, Research rationale, scope and limitation, Assumption or premise, Research objectives, hypothesis, Development of a research proposal. Types of research design.
- UNIT – III:** Coordination schema (Assembling the components of a research-objective, parameters, variables and values), Utility, Format, fitting, Approach, Steps, Construction. Methods of data collection-Source (primary and secondary). Types, Reconnaissance, Observation, Survey, Interview, Group discussion, Key Informants, Methods for developing a structured questionnaire survey. PRA, RRA.
- UNIT – IV:** Literature Review-Finding the literature (types, searching skills etc.) Managing the Literature (keeping track, annotating, summary and critical comment). Using the literature (Exploring topic, developing a research question, articulating a rationale and designing method).The formal Literature review (Purpose, coverage, the writing process, Style and Tone.)
- UNIT – V:** Analysis and Interpretation of data-data preparation, descriptive analysis, content analysis, SWOT analysis, Participatory research. Report writing-basic components of a research report, report writing process, data analysis and writing the report.

Suggested Readings

1. Black, J A & Champion D.J. (1976) Methods and Issues in Social Research, Wiley and Sons.
2. Miller, D C (1983) Handbook of Research Design and Social Measurement, Longman
3. Weber, K E & Tiwary, I P; Research and survey format Design, AIT, Bangkok.
4. Kumar, R (2011) Research Methodology: A Step By Step Guide for Beginners, Sage Publications India Ltd. New Delhi.
5. Zina O' Leary (2010) The Essential Guide to Doing Your Research, Sage Publications India Ltd. New Delhi.
6. Somekh B & Lewin C. (2010) Research Methods in Social Sciences, Vistar Publications, New Delhi.
7. Guthire, G. (2010) Basic Research Methods, Sage Publication India Limited. New Delhi.
8. Stoddard, R. (1982) Field Techniques and Research Methods in Geography, University of Nebraska, Lincoln.
9. Swain A K P C (2007) A Textbook of Research Methodology. Kalyani Publishers, Kolkata.

GEO 03 CORE – IV

NATURAL HAZARDS AND DISASTER MANAGEMENT

100 Marks Credits 04

- UNIT – I:** Natural Hazards and Disasters- Meaning and concept. Types, occurrences and characteristics of natural hazards and disasters: Earthquake, Flood, Cyclone, Drought, Volcanic eruption, Tsunami, Landslide, Bushfire, Epidemic
- UNIT – II:** The Concept of Disaster management. Dimensions and Implication of disasters. The concept of Vulnerability and Risk in the context of Natural Disaster Management. Disaster mapping. Major requirements for coping with disaster, Disaster policies.
- UNIT – III:** Components of disaster management - Relief: search, rescue, evacuation, shelter. rehabilitation, Reconstruction. Planning - disaster preparedness plan. Preparedness- Predictability, Forecasting and warning, land use zoning for disaster management, preparing community through IEC. Mitigation.
- UNIT – IV:** Impact and mitigation strategy for specific disasters: Flood, Earthquake, Drought, Cyclone-causes, severity, hazard assessment and mapping, elements at risk, mitigation.
- UNIT – V:** Natural disaster management at International level, National level and State level. Role of OSDMA, Government, NGO.

Suggested Readings:

1. Merriman, P.A. and C. W. A. Browit (eds) (1993) - Natural Disasters, Protecting Vulnerable Communities. Thomas Teford, London.
2. Carter, W. Nick, (1991) - Disaster Mitigation: A Disaster Manager's Handbook. Asian Development Bank, Manila.
3. White, G. F. (1974). Natural Hazards: Local, National and Global, Oxford University Press, London.

GEOG 03, CORE – V

QUANTITATIVE AND SPATIAL MODELS (P)

Marks 100 Credits 04

- UNIT – I:** Morphometric Analysis of Fluvial Landscape: Testing the laws of morphometry (Laws of stream order, Length, Area, Slope and Allometric growth) Drainage density, Sinuosity index as a measure of stream pattern.
- UNIT – II:** Study of Rural and Urban settlement pattern: Nearest Neighbour and Distance techniques and chi-square test for pattern analysis. Centro graphic study of settlements, Rank size relationship of central places, population potential and population Interaction model.
- UNIT – III:** Transport network Analysis-Alpha, Beta and Gamma Indices, degree of circuitry, Detour Index, Degree of Development
- UNIT – IV:** Agricultural Efficiency- Bhatia and Kendall method, Drawing of isotim and isodapane, Population projection-AP, GP, Gibb's and Registrar General Method.
- UNIT – V:** Practical Record and Viva voce

Suggested Readings:

1. Hagget, P., Cliff, A. & Frey Allan (1977) Locational Analysis in Human Geography, Edward Arnold, London.
2. Hagget and Chorley; Network Analysis in Geography.
3. Yeats, M H; An introduction to Quantitative Analysis in Economic geography. McGraw Hill
4. Cole, C P & King C A M (1969): Quantitative Geography, John Wiley & Sons, London.
5. Chorley & Hagget (1968); Models in Geography, Meuthen & Co.
6. Isard, W. (1968); Methods of regional analysis, MIT press & Associates.

SEMESTER – IV
500 marks, Credits 20
GEOG 04, CORE – I
(SOCIAL, CULTURAL AND POLITICAL GEOGRAPHY)

Marks 100 Credits 04

- UNIT - I:** Definition, Nature & Scope of Social Geography, Elements of Social Geography: Tribe, Caste, Language, Religion, Socio-Geographical Analysis of India, Historical Development of Social Organization.
- UNIT - II:** Concept, Field & Approaches in Cultural Geography, Cultural Elements, Components, Convergence & Divergence, Cultural Diversity of the World. Race, religion & language as elements of Culture.
- UNIT - III:** Meaning Nature & Scope of Political Geography, Recent trends in Political Geography. Approaches to the Studies of Political Geography (Witlessness's law and landscape approach Hartshorne's Functional Approach)
- UNIT - IV:** Social & Political Organizations - Concept of Nationalism, Nation & State, Concept of Geo-Politics: External & Internal resource development & power.
- UNIT - V:** Concept of Electoral Geography, Trends in Electoral Geography, Geography of Voter Participation, Regional Stability, Regional Alignment, Geography of representation

GEOG 04, CORE – II
(SETTLEMENT AND URBAN GEOGRAPHY)

Marks 100 Credits 04

- UNIT - I:** Meaning, Objectives & Scope of Settlement Geography Factors Affecting the Origin & Growth of Settlements. Types & patterns of settlements.
- UNIT - II:** Origin of Rural Settlements Spatial Characteristics of rural settlements. (Distribution, Size, form, morphology & house types) Social & Infrastructural attributes in Rural Settings. Rural settlements in India.
- UNIT - III:** Origin & Growth of urban settlement, Morphology of urban settlement, Function of urban settlement, Functional classification of Cities.
- UNIT - IV:** Forces in the process of urbanization, Urban land use pattern. Urban land use Theories, Change in the urban land use & land use Planning.
- UNIT - V:** Rural-Urban Continuum, Urban Sphere of influence (Um land, Hinterland, Urban Fringe) Urban Hierarchy, Rank- Size rule, City, Metropolis and City Region, Urban agglomeration.

GEOG 04, CORE – III
(GEOGRAPHY OF TOURISM)

Marks 100 Credits 04

- UNIT - I:** Geography of Tourism - Nature, Meaning & Concept of Tourism, Travel, Tour & Tourism; Purpose of Tour: Leisure, recreation, adventure, experience; Historical Development of Tourism ; Growth & development of modern tourism.
- UNIT - II:** Types of tourism - Eco-Ethnic, Adventure National, Domestic & International Tourism. Basic components & elements of Tourism. Tourism as an Industry.
- UNIT - III:** Infrastructure & Support System: 4A' Concept (Attraction, Accessibility, Amenities Availability). Tourism demand a Marketing concept; Mainstream tourism, Special interest Tourism, Alternative Tourism, levels of demand , elasticity of demand ,Tourism promotion.
- UNIT - IV:** Tourism & Environment: Impact of tourism on physical and Social Environment; Tourism and economic development; Importance of Golden Triangle's in Odisha, Ecotourism with Reference to Odisha.
- UNIT - V:** Factors Affecting the Growth of Tourism. Recommendation of U.N. Conference, Heritage tourism (Cultural, Natural, Mixed) Tourism Policy of India, Measurement of tourism. Terrorism and tourism.

**GEOG 04, CORE – IV
(TERM PAPER AND SEMINAR)**

Marks 100 Credits 04

UNIT – I: Term Paper –Student will be assigned a topic on any branch of geography to prepare a term paper under the guidance of a teacher which will carry 50 marks

UNIT – II: Seminar - Student will be assigned a topic on any branch of geography to prepare an present seminar under the guidance of a teacher which will carry 50 marks

Presentation – 30 Marks

Report – 20 Marks

**GEOG 04, CORE – V
(DISSERTATION)**

Marks 100 Credits 04

Student will submit a dissertation based on project work to be allotted by the department under the guidance of a teacher which will carry 100 marks

1. Dissertation - 60 marks
2. Viva-Voce - 40 marks