SCHEME OF EXAMINATION

M.Sc. GEOGRAPHY

1st SEMESTER

Subjects List : Theory
GR - 101 Geomorphology
GR - 102 Economic Geography
GR - 103 Geography of India and Andhra Pradesh
GR - 104 Principles of Cartography

Practicals :
GR – 105 - Map Analysis
GR – 106 - Cartography

2nd SEMESTER

Subjects List : Theory
GR - 201 Climatology and Oceanography
GR - 202 Geographical Thought
GR - 203 Urban Geography
GR - 204 Principles of Remote Sensing

Practicals :
GR - 205 - Interpretation of Aerial Photographs
GR - 206 - Urban Geography
GR - 207 - Viva-Voce
3rd SEMESTER

Subjects List : Theory

GR - 301 Population Geography  
GR - 302 Environmental Geography  
GR - 303 Pedology  
GR - 304 Applied Climatology

Practicals :

GR – 305 - Quantitative Techniques in Geography  
GR – 306 - Climatic Data Analysis

4th SEMESTER

Subjects List : Theory

GR - 401 Hydrology  
GR - 402 Regional Planning and Development  
GR - 403 Geography of Health  
GR - 404 Geographic Information Systems

Practicals :

GR - 405 - Terrain Analysis  
GR - 406 - Geographical Information Systems  
GR - 407 - Viva-Voce
1st 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 – 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:

Gr 102  ECONOMIC GEOGRAPHY

Unit – I  Scope, content and recent trends in economic geography, relation of economic Geography with economics and other branches of social sciences, Location of Economic activities and spatial organization of economics, Classification of Economics, sectors of economy (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, crop combination And diversification – Von Thunen’s model and its modifications.

Unit – III  Classification of industries, Resource basin and footloose industries. Theories of Industrial location-Weber, Losch and Isard; Case studies of selected industries Iron and Steel, Aluminum, Chemical, Oil refining and Petrochemical, Engineering Textile etc.

Unit – IV  Modes of transportation and transport cost, accessibility and connectivity: International, inter and intraregional; comparative cost advantage. Typology of Markets, market network in rural societies, market system in urban economy, role Of market in the development of trade and commerce.

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 :
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 - V  Andhra Pradesh – Relief, climate, soils, vegetation, agriculture, irrigation and power, mineral Wealth and industrial development, population and urbanization.

References:

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.
Gr. 104 PRINCIPLES OF CARTOGRAPHY


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.


References:

1st 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

References:
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
2nd SEMESTER

Gr 201 CLIMATOLOGY AND OCEANOGRAPHY

UNIT – I  Earth, it origin and its planetary relation to the sun, time and its measurement. Structure and composition of the atmosphere. Insolation, heat budget of the earth and atmosphere.

UNIT – II  Mean sea level temperature distribution over the earth, temperature types of the stations. Mean sea level pressure distribution over the earth, wind systems of the globe. Zonal and seasonal distribution of precipitation, types of stations, major precipitation regions of the world


UNIT – V  Movements of ocean water (a) waves (b) Tides (c) Currents.

References:

UNIT – I The field of geography; its place in the classification of sciences; geography as a social science; and natural 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:

3rd 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 – 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.


UNIT – II  Environmental hazards and disasters, environmental degradation, Man’s impact on physical & social environments, emerging environmental issues.

UNIT – IV  Man’s modification of the biosphere – Agriculture – Green Revolution – HYV and pesticides – Man’s impact on land, soils and coastal areas.

UNIT – V  Environmental planning and Management, Resource management, conservation of forests and wild life., environmental quality, environmental law and protection, environmental impact assessment, environmental programmes.

References:


UNIT – II Physical properties of soils – chemical properties of soils

UNIT – III Classification of soils – zonal, azonal and intrazonal – world patterns – soil erosion and conservation


UNIT – V Soil reclamation and management: Soil survey and landforms in environmental management; Integrated soil and water management; sustainable development of solid resources with reference to India

References:

9. Raychoudhuri, S.P. Soils of India, ICAR, New Delhi, 1958

UNIT – II  Pressure, winds and precipitation, local control of climate, monsoon. General circulation of atmosphere – Upper air circulation. Air masses and their classification


UNIT – IV  Hydrological climatology and development of water resources. Climate – agriculture and animal production.


References:

9. WMO. Technical Note No. 108 – Urban Climates
3rd SEMESTER – PRACTICALS

Gr 305  QUANTITATIVE METHODS 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.
6. Interpolation and extrapolation
7. Time series
8. Correlation

References:


Gr 306  CLIMATIC DATA ANALYSIS

1. Rainfall data analysis – Mean annual and seasonal – intensity – rainfall variability
2. Monthly march of precipitation and temperature – global stations and Indian stations
3. Wind rose diagrams
4. Thermal continentality
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 – Clmograph, Hythergraph and Ergograph
8. Urban heat islands and temperature inversions.

References:


UNIT – II  Drainage basin characteristics – morphometric analysis – Human impact on hydrological system.

UNIT – II  Groundwater – Occurrences and types.  Movement, Quality and Quantity measures

UNIT – IV  Floods and droughts.  Nature and distribution of ground and surface waters in India


References:

UNIT – I Regional concept in geography, conceptual and theoretical framework, merits and limitations for application to regional planning and development; changing concept of the region from and inter-disciplinary view=point, concept of space, area and locational attributes. Types of regions: Formal and functional; uniform and nodal, single purpose and composite region, in the context of planning; regional hierarchy; special purpose regions.

UNIT – II Physical regions, resource regions, 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 delineation 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. Planning for a region’s development and multi-regional planning in a national context. Indicators of development and their data sources, measuring levels of regional development and disparities – case study of India.

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; peoples participation in the planning process; Panchayati Raj system; role and relationship of Panchayati Raj Institutions (Village, Block and District)/Regional development in India- Problems and prospects.

References:


References:

8. ESRI. Understanding GIS – Redlands, USA: ESRI
4th 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

References:

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: