M.A. / M.Sc. Geography

Syllabus (w.e.f. 2015-2017)
### Course Structure M.A. / M.Sc. Geography

#### SEMESTER - I

<table>
<thead>
<tr>
<th>Paper</th>
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<tr>
<td>Paper - I</td>
<td>GGM-101</td>
<td>Advanced Geomorphology</td>
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<td>Paper - II</td>
<td>GGM-102</td>
<td>Resource and Economic Geography</td>
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<td>GGM-103</td>
<td>Regional Geography of India</td>
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<td>Practical - I</td>
<td>GGM-104</td>
<td>Cartographic Methods</td>
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<td>Practical - II</td>
<td>GGM-105</td>
<td>Quantitative Methods in Geography</td>
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<td>Theory Paper - I</td>
<td>GGM-106</td>
<td>Hydrology and Water Resources</td>
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<tr>
<td>Paper - IV</td>
<td>GGM-201</td>
<td>Remote Sensing, GIS and Oceanography</td>
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<td>Paper - V</td>
<td>GGM-202</td>
<td>Evolution of Modern Geographical Thought</td>
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<td>Paper - VI</td>
<td>GGM-203</td>
<td>Remote Sensing and Image Processing</td>
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<td>Practical - III</td>
<td>GGM-204</td>
<td>Socio-Economic Survey</td>
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<td>Paper</td>
<td>GGM-205</td>
<td>Land Surveying and GPS</td>
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<td>GGM-207</td>
<td>Human Ecology</td>
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<td>Social Geography</td>
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<td>Paper - VIII</td>
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<td>Urban Geography</td>
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<td>Paper - IX</td>
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<td>Practical V</td>
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<td>Geographical Information Systems</td>
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<td>DIP Training</td>
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<td>Digital Cartography</td>
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<td>Paper - XI</td>
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<td>GGM-403 (A)</td>
<td>Geography of Urban Environment</td>
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<td>Project</td>
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<td>Watershed Management - HS</td>
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M.A. / M.Sc. Geography
Semester - I
Credits: 4 (CC)
Paper - I (GGM - 101)
Advanced Geomorphology

UNIT - I: FUNDAMENTAL CONCEPTS

Fundamental concepts in Geomorphology: Concept of time and space; Concept of morphogenetic regions; Concept of dynamic equilibrium; Models in Geomorphology; Recent trends in Geomorphology.

UNIT - II: EVOLUTION OF LANDFORMS

Significance of geological structures, climatic factors and the geomorphic processes in the evolution of landforms; Interruption in the evolution of landforms: Tectonic, climatic and base level changes; Slope Form, Processes and Evolution.

UNIT - III: GEOMORPHIC PROCESSES AND LANDFORMS

Drainage basin as geomorphic unit; Morphometric Laws; Morphometric analysis; Denudation and Morpho chronology; Soil erosion and its measurement. Fluvial : Evolution of river valley; Glacial : Glaciations & Forms. Aeolian : Evolution of arid landscapes ; Coastal Geomorphology : Recession of shorelines and evolution of coastal landforms.

UNIT - IV: APPLIED GEOMORPHOLOGY

Geomorphic hazards and mitigation; Geomorphology and Soils; Geomorphology in mineral and Groundwater prospecting; watershed management.

Books Recommended:

M.A. / M.Sc. Geography

Semester - I

Credits: 4 (CC)

Paper - II (GGM - 102)

Resource and Economic Geography

UNIT I: FUNDAMENTAL CONCEPTS

Definitions and Scope of Economic Geography: its place in Human Geography, Development of the discipline after Second World War with special reference to New Economic Geography (NEG).

UNIT II: THEORIES AND MODELS

A) Agricultural Land Use – Ricardian Rent theory, Von Thunen’s rent theory with modern interpretations.
B) Basic concepts in location problems; Demand, Scale, Agglomeration and Time dimension in Economic location; locational Models of Weber and Isard.
C) Christaller’s Central Place Theory and modifications by Losch.

UNIT III: RESOURCE BASE OF THE ECONOMY

Resource base of the Economy; Concept of Resources, Classification of Resources; Factors of Resource Creation; Resources and Environment – scarcity and sustainability, conversation of resources; Sectors of the Economy: agriculture, manufacturing and tertiary activities.

UNIT IV: TRADE AND EXCHANGE

Concepts of trade and exchange – opportunity costs, absolute, comparative and competitive advantage; Movements of capital and labour; Core-periphery concept in trade; Commodities in world trade; Trade Blocs; The Information Economy – Spatial and transportation implications of e-commerce.

Books Recommended:

M.A. / M.Sc. Geography
Semester - I
Credits: 4 (CC)
Paper - III (GGM - 103)
Regional Geography of India

UNIT - I: REGION AND REGIONALIZATION
India as a Geographical Unit; Concept of Region: Scheme of Regionalization: O.H.K. Spate and R.L. Singh, Agro-climatic Regions, Watershed as a Planning Region.

UNIT - II: GEOGRAPHY OF INDO-GANGETIC PLAIN
Introduction to Indo-Gangetic Plain; Upper Ganga, Middle Ganga and Lower Ganga Plains: Physiography, Drainage, Climate, Soil; Population and Economy.

UNIT - III: GEOGRAPHY OF HIMALAYAS
Introduction to Himalayas; A Regional Study of Himalayas: Physiography, Drainage, Climate, Soil, Natural Vegetation, Population and Economy.

UNIT - IV: GEOGRAPHY OF PENINSULAR INDIA
Introduction to Peninsular India; A Geographical account of Chotanagpur and Deccan plateau: Physiography, Drainage, Climate, Soil; Population and Economy.

Books Recommended:
M.A. / M.Sc. Geography
Semester - I
Credits: 2 (CC)
Practical - I (GGM - 104)
Cartographic Methods

UNIT - I: FUNDAMENTALS OF CARTOGRAPHY
Maps and their significance; Classification of maps; Theory of communication; Elements of maps: Generalization, Symbolization and Classification; Techniques of mapping: dot, choropleth, isopleths and diagrammatic; Principles of map designing.

UNIT - II: RELIEF MAPPING
Relative relief: GH Smith and Robinsons methods; Morphometric Analysis: Drainage Density, Stream order, Elongation ratio, Circularity ratio, Bifurcation ratio.

UNIT - III: MAPPING OF SOCIO-ECONOMIC DATA
Population Density; Rural – Urban population; Patterns of irrigation, Location of Industries; Cartograms.

UNIT - IV: APPLIED CARTOGRAPHY
Any one of following:
1. Topographic mapping
2. Tourist mapping
3. Service and utility mapping
Note: Students will have to prepare a set of ten maps on selected theme.

Books Recommended:
UNIT - I: MEASURES OF GEOGRAPHICAL PATTERNS

Nearest Neighbour Analysis; Gini’s Co-efficient; Lorenz curves; Location quotient; Rank size rule.

UNIT - II: NETWORK ANALYSIS

Indices of transport network efficiency; Compositing the indices of transport network efficiency; Indices of nodal accessibility; Local degree – Road Local degree - Rail. Weighed road capacity and tortousrity ratio; Compositing the indices of nodal accessibility.

UNIT - III: METHODS OF PREDICTIONS AND LEVELS OF MEASUREMENT

Levels of measurement; Methods of sampling; Simple linear regression analysis; Plotting of regression line; Plotting of absolute and relative residuals; Explanation of residuals plotted on the maps.

UNIT - IV: MEASURES OF DISPARITIES AND POTENTIAL MODELS

Gravity and potential models; Delimitation of hinterlands; Combinational analysis of Weaver, S.M. Rafiulla’s method, Measures of Disparities: Kendall’s ranking method.

Books Recommended:

UNIT - I: INTRODUCTION

Definition and scope of Hydrology, Hydrological cycle, Structure and properties of water, inventory of earth’s water resources, quality and quantity of available water, Water as a cyclic resource.

UNIT - II: SURFACE WATER DYNAMICS

Surface water: sources and factors affecting quality and quantity; Precipitation: forms and factors; Interception: factors; Runoff: sources and factors affecting runoff; Evaporation: measurement and factors; Evapotranspiration: control and factors.

UNIT - III: GROUND WATER DYNAMICS

Ground water: Characteristics of stream flow, Darcy’s Law, permeability, Infiltration, Ground water storage, Ground water aquifers in different rock systems, movement and discharge.

UNIT - IV: WATER RESOURCE PROBLEMS

Environmental influences on water resources; sectoral demands for water; urban water supply; water management; water harvesting; water pollution and control.

SUGGESTED READINGS:


M.A. / M.Sc. Geography
Semester - II
Credits: 4 (CC)
Paper - IV (GGM - 201)
Remote Sensing, GIS and GPS

UNIT - I: BASICS OF REMOTE SENSING

Stages in Remote Sensing data acquisition; Physics of Remote Sensing; Electro Magnetic Spectrum (EMS); EMR and its interaction with atmosphere and earth surface features.

UNIT - II: REMOTE SENSING PLATFORMS, SENSORS, AND SATELLITE SERIES

Platforms: Types and their orbital characteristics; Sensors types: active and passive; Sensors systems: whiskbroom and push broom; Satellite series: IRS, SPOT, IKONOS and Quick bird.

UNIT - III: DIGITAL IMAGE PROCESSING


UNIT - IV: GEOGRAPHIC INFORMATION SYSTEM AND GLOBAL POSITIONING SYSTEM

Components of GIS; Data Structures; Data Base Management System (DBMS); Data Models; spatial data analysis and applications; Fundamentals of GPS; Segments of GPS; GPS Applications.

Books Recommended:

M.A. / M.Sc. Geography
Semester - II
Credits: 4 (CC)
Paper - V (GGM - 202)
Climatology and Oceanography

UNIT - 1: GENERAL CLIMATOLOGY

UNIT - 2: APPLIED CLIMATOLOGY

UNIT - 3: GENERAL OCEANOGRAPHY

UNIT - 4: APPLIED OCEANOGRAPHY

Books Recommended:
M.A. / M.Sc. Geography  
Semester - II  
Credits: 4 (CC)  
Paper - VI (GGM - 203)  
Evolution of Modern Geographical Thought

UNIT – I: GENESIS OF GEOGRAPHICAL THOUGHT

Ancient Geography Contributions of Greek, Roman and Arab Geographers. Impact of voyages; Discoveries and Renaissance on Geographical Thought. Foundation of Scientific Geography (Contributions of Varenius and Kant).

UNIT - II: EVOLUTION OF MODERN GEOGRAPHICAL THOUGHT - I

Classical period of modern geography contributions (Humboldt and Ritter) and Darwin’s impact on Geography; Contributions of Ratzel and Blache; Shifting viewpoints in Geography during the latter half of Nineteenth Century.

UNIT - III: EVOLUTION OF MODERN GEOGRAPHICAL THOUGHT - II

The debate between Determinist and Possibilists; Geography as science of relationships and as science of distributions. Geography as Chorological science and as Morphology of Landscape.

UNIT - IV: CONTEMPORARY GEOGRAPHY POST SECOND WORLD WAR

Exceptionalism and the Schaefer-Hartshorne debate, Positivism and its reactions (behavioral and radical approaches). Post modernism and feminist Geography.

Books Recommended:

10. Martin G.J. 2005. All Possible World. OUP, USA.
   Concept Publishing Company.
UNIT - I: REMOTE SENSING AND IMAGE INTERPRETATION

Referencing layout and indent of Landsat TM and IRS imageries; Identification of objects / features on multiband imageries; Detection of defined objects/features; Preparation of Image interpretation keys; Interpretation, classification using aerial photographs.

UNIT - II: DIGITAL IMAGE PROCESSING


UNIT - III: MAPPING GEOMOGRAPHIC FEATURES

Geomographic mapping using aerial photographs and satellite imageries; Morphometric analysis: Drainage density, Stream order; Channel change.

UNIT - IV: URBAN LAND USE / LAND COVER MAPPING

Urban Land use/Land cover classification of Chandigarh / Delhi/ Bangalore / Mumbai / Hyderabad / Kolkata/ Varanasi using IRS data.

Books Recommended:

M.A. / M.Sc. Geography  
Semester - II  
Credits: 2 (CC)  
Practical - IV (GGM - 205)  
Socio-Economic Survey

UNIT- I

Procurement of a topographic map of 1:50,000 to 1:25,000 scale to study the settlements selected in its regional setting.

UNIT- II

Collection of demographic, social & economic data of the village/town from Census Reports to study the temporal changes in the profile of such characteristics. Procurement of a cadastral map of the village/town for field mapping of the features of land-use and land quality. Procurement/preparation of the settlement-site map through rapid survey to map the residential, commercial, recreational (Parks, Playgrounds), educational, religious and other prominent features.

UNIT - III

Selection of sampling site, defining sampling size, and conducting socio-economic survey at households level with a self-structured questionnaire and supplementing the information by personal observations and perceptions.

UNIT- IV

Based on results of the land-use and socio-economic survey of the households, preparation of a critical field-survey report. Photographs and sketches, in addition to maps and diagrams, may supplement the report.

Books Recommended:

M.A. / M.Sc. Geography
Semester - II
Credits: 4 (SEC)
Practical - (GGM - 206)
Land Surveying and GPS

Unit - I: Theory and Principles
Surveying: Definition, classification, objectives, principles; Plane and geodetic surveys; Triangulation: Principles, base line measurement, extension of the base.

Unit - II: Field Work
Levelling by Dumpy level; Resection: (Two point and Three point problem) by Plane Table; Horizontal and Inclined Range Determination by Telescop ic alidade; Triangulation by Theodolite.

Unit - III: GPS Theory
Overview of Global Positioning System; GPS: Receivers, Satellite Constellations, Segments, Antennas, Signal Codes and errors; Accuracy of GPS measurements; Application of GPS.

Unit - IV: Field Work
GPS Surveying and Mapping: Field Exercises using Hand Held GPS.

Books Recommended:
UNIT - I: INTRODUCTION

Human Ecology: Evolution & Development; Key Concepts: Anthropocentrism, cultural lag; Environmental ethics and institutions.

UNIT - II: HUMANS AND ENVIRONMENT

Humans and the Biosphere: Co-evolution and co-adaptation of human system and ecosystems; Resources and technologies; Environment and consumerism: Problems and consequences; Geographies of hunger and health.

UNIT - III: HUMANS AND BIOPHYSICAL SYSTEM

Humans as persons and agents of larger social system; Human population: size, growth and biophysical carrying capacity of Earth; Ecosystem: components and functions; Energy Flow: Food chain, Food Web and Trophic Levels; Material Cycles: Nitrogen and Carbon.

UNIT - IV: GLOBAL CHANGE ADAPTATION

Environmental Adaptations and behavioral changes; Environmental crises and Management: Eco regional and watershed management strategies; Landscapes restoration and conservation of biodiversity.

Books Recommended:


UNIT - I: FUNDAMENTAL CONCEPTS

Definition, scope and development of Social Geography. Relationship of social geography with other branches of Social Science. Concepts of social space, social area analysis and social well being. Development of social geography in India.

UNIT - II: PATTERNS AND PROCESSES

World Distribution of religious and linguistic groups. Cultural realm and their distribution. Socio-economic and environmental issues of the developed and developing countries. Process and problems of social change in the traditional societies.

UNIT - III: SOCIAL STRUCTURE OF INDIA

Distribution of racial and linguistic groups of India. Distribution of various social groups (i.e., SC, ST, OBC) and their socio-economic issues. Regional imbalances with-reference to literacy, health, poverty and crimes in India. Levels of social well-being in India / HDI.

UNIT - IV: SOCIAL ISSUES IN INDIA

Unity in diversity. Regional consciousness and national integration. Social conflicts and violence. Emphasis of social planning during Xth and XIth Five Year Plans.

Books Recommended:

M.A. / M.Sc. Geography  
Semester - III  
Credits: 4 (CC)  
Paper - VIII (GGM - 302)  
Urban Geography

UNIT - I: CONCEPTS AND APPROACHES TO THE STUDY OF URBAN GEOGRAPHY

Nature and scope of Urban Geography; Different Approaches; Development and Recent Trends in Urban Geography; Evolution of towns during the Ancient, Medieval and Modern periods.

UNIT - II: MORPHOLOGY AND CLASSIFICATIONS OF TOWNS

Morphology and Models of Internal Structures of cities; Functional Classification of towns; Hierarchy and Spacing of cities: Model of Christaller; Urban Fringe; Primate City and Megalopolis.

UNIT - III: QUALITY OF LIFE AND HEALTH

Economic Base of Cities; Physical, Economic, Social and Cultural component; Quality of Urban Life; Air Pollution and Public Health.

UNIT - IV: URBAN PLANNING

Urban transportation; transport and environmental degradation; vehicular pollution and congestion; urban planning in India with special reference to Chandigarh and Jaipur.

BOOKS RECOMMENDED:

UNIT - I: APPROACHES PARAMETERS AND AGRICULTURAL SYSTEMS
Nature, scope and significance; Evolution in historical perspective; Approaches: commodity, systematic, regional and ecological; Determinants of agricultural development: physical, technological, institutional; World agricultural systems.

UNIT - II: MODELS AND AGRICULTURAL REGIONALIZATION
Cropping patterns and their measurements: crop concentration, crop diversification, crop combinations, measurement of agricultural efficiency, agricultural productivity; Agricultural location models: Von Thunen and Lösch.

UNIT - III: AGRICULTURAL DEVELOPMENT AND PLANNING IN INDIA
Agriculture during plan periods; Diffusion of agricultural innovations; Green revolution and its effects on economy, society and environment; Agro-climatic regions and their planning; Measurement and levels of agricultural development; Problems and prospects of Indian agriculture.

UNIT - IV: CONTEMPORARY ISSUES IN INDIAN AGRICULTURE
Nutrition, malnutrition and hunger; Rural poverty and unemployment; Poverty alleviation strategies; Food aid and nutrition programmes; Food security and its components; Sustainable agriculture.

BOOKS RECOMMENDED:
5. Gobind,N. 1986. Regional Perspectives on Agricultural Development ; Concept Publications;New Delhi
UNIT - I: GIS SOFTWARE & DATA HANDLING

User interface with GIS software: Arc View, Geo-media, ILWIS and Arc GIS; Software and hardware interface and limitations; Data input: spatial and non-spatial; Scanning and Digitizing; Data import and export.

UNIT - II: DATA TRANSFORMATION

Data editing and cleaning; Projection and datum; Coordinate transformation; Geo-referencing; linking spatial and no-spatial data; Data base creation; Attribute handling.

UNIT - III: DATA BASE CREATION & DATA ANALYSIS

Spatial analysis: overlay, buffer and proximity, network analysis; Creation of digital elevation models (DEM): contours and spot heights; Determination of slope, aspect and hill shading; Data interpolation: point and line data; Output generation and layouts.

UNIT-IV: Applied GIS

Application of GIS in Agriculture, Urban Planning and Management, Watershed management, Suitability Analysis

BOOKS:

M.A. / M.Sc. Geography
Semester - III
Credits: 2 (CC)
Practical VI (GGM-305)
DIP Training
M.A. / M.Sc. Geography
Semester - III
Credits: 4 (CB)
Theory Paper - III (GGM-306)
Political Geography
UNIT - I: Introduction
Nature and Scope of Political Geography; recent development in Political Geography; Approaches to study of Political Geography: 1. Whittlesey’s Law-Landscape Approach
2. Hartshorne’s Functional Approach
3. Jone’s Unified Field Theory: Idea-area Chain
4. Political Systems Model

UNIT - II: Geographic elements and the state
State, Nation, Nation-state and Nation-building; Physical, Human, and Economic Elements; State and Environment Interface.

UNIT - III: Themes in political geography
Frontiers and Boundaries; Colonialism, Decolonization, Neo-colonialism, Federalism; Perspectives on core periphery concepts, Aggression, Conflicts and cooperation.

UNIT - IV: Regional Political Issues
Geopolitical significance of Indian ocean; Political geography of any one of the following regions; SAARC region, South East Asia, West Asia, East Asia. Political Geography of contemporary India.

BOOKS RECOMMENDED:
12) Husain, Majid (1994); Political Geography; Anmol, New Delhi.
13) Adhikari, S (2010); Political Geography; Rawat, New Delhi
UNIT - I: ELEMENTS OF PROBABILITY DISTRIBUTIONS AND STATISTICAL INFERENCE

Population and sample; Theory of probability and probability distributions: Binomial, Poisson and Normal; Estimation: Spatial probability distribution; Spatial sampling techniques; Level of confidence; One and two tail tests; Type I and Type II error.

UNIT - II: NON-PARAMETRIC TESTS

Non-parametric data: Chi-square; Kolmogrove-Smirnov; Mann-Whitney U-Test; Phi Coefficient.

UNIT - II: I PARAMETRIC TESTS

Parametric data: Analysis of Means; Analysis of Variance; Point Biserial Co-efficient.

UNIT - IV: MEASURES OF ASSOCIATION: ATTRIBUTE AND SPATIAL

Pearson’s product-moment coefficient of correlation; spatial auto correlation; geographically weighted regression; Court’s Method of Map comparison.

BOOKS RECOMMENDED:

UNIT - I: DIGITAL CARTOGRAPHY

History and development of Digital cartography, Cartographic and GIS software, Digital cartography, web cartography, Computer Aided Design (CAD), Spatial registration; spatial and non spatial data entry.

UNIT - II: DIGITAL MAPPING

Land use mapping (Choropleth mapping), Terrain mapping (isolines); urban land use mapping (Choropleth); Dot mapping.

UNIT - III: DIGITAL MAP ANALYSIS

Overlay analysis; buffer analysis; Network analysis; nearest neighbor analysis, 3D modeling.

UNIT - IV: Map Designing

Map designing and layout creation.

BOOKS RECOMMENDED:


UNIT - II: FRAME WORK OF DEVELOPMENT AND PLANNING

Regional development: concepts, levels, and indicators; Regional Planning: concepts and scope; Levels of planning: local, regional, national and multi-level; Master Plans; Environmental issues in regional planning; Planning for sustainable development.

UNIT - III: THEORIES AND MODELS

Theories and models of the regional development: Hirschman’s model; Growth centers and Growth pole theory of Perroux, Rostow’s model; Gunnar Myrdal model.

UNIT - IV: PLANNING AND REGION

Five Year Plans: command area development, planning for backward area, desert drought-prone, hill and tribal area development; Decentralized planning and Panchayati raj; watershed management; Regional economic imbalances and inequalities in India; SEZs in regional development.

BOOKS RECOMMENDED:

UNIT - I: CONCEPTUAL FRAME WORK

Population Geography and Demography; Approaches to Population Geography; Sources of Census Population data; History and Changing Methodology of Indian census taking.

UNIT - II: POPULATION DYNAMICS

Population change and growth; Historical trends of population growth; Trends and patterns of fertility; Trends and patterns of mortality; Trends and patterns of child mortality; Migration: Types, patterns, causes and consequences.

UNIT - III: POPULATION DISTRIBUTION AND REDISTRIBUTION

Population distribution in the world and India; Patterns and Trends of population Redistribution: Urbanization in the developed and developing world; urbanization in India: Trend and pattern; world population-resource regions: Ackerman’s scheme; Prospects of habitation of non-ecumene regions.

UNIT - IV: POPULATION PROBLEMS AND POLICIES

Population: a problem (liability) or resource (asset); Problem of Aging, Health –care and food security; Critical appraisal of population policy of India; Population in the context of environmental crises.

BOOKS RECOMMENDED:

M.A. / M.Sc. Geography

Semester - IV

Credits: 4 (CC)

Paper - XII (GGM-403) (A)

Geography of Urban Environment

UNIT - I: URBAN ENVIRONMENT IN CONTEXT

Urban Environment: Concept; Components and Levels of Analysis; City and Region Environmental Interactions: Local, Regional and Global Impacts; Approaches to the Study of Urban environment.

UNIT - II: URBAN ENVIRONMENTAL ISSUES: DEVELOPED AND DEVELOPING WORLD

Urbanization; Physical Expansion of Cities: Urban Encroachment, Urban Land use, Urban Congestion and Crowding; Urban hydrology; Urban Climate and its Impacts on Human Health.

UNIT - III: URBAN ENVIRONMENTAL ISSUES IN METRO CITIES OF INDIA

Urban Poverty, slums and crimes; Urban Pollution (Air, Water, Noise, Land) and its Health Impacts; Water crises and Water Management; Municipal Waste and its Management.

UNIT - IV: SUSTAINABILITY OF URBAN ENVIRONMENT

Concept of Urban Sustainability; Environmental Impact Assessment; Remote Sensing and GIS Applications for Urban Studies; Conventions and Strategies for Urban Environmental Monitoring.

BOOKS RECOMMENDED:

M.A. / M.Sc. Geography
Semester - IV
Credits: 4 (CC)
Paper- XII (GGM - 403) (B)
Geography of Health and Well-Being

Unit - I: Concepts, Approaches and Determinants

Basic Concepts, Scope and significance of Health, Disease and Wellbeing; Approaches to the Study of Health Geography: Ecological, Social and Spatial; Approaches to the Study of Wellbeing: Need-based, Relative Standard and Capability; Geographical Factors affecting Human Health and Wellbeing.

Unit - II: Diseases and their Typology

WHO Classification of Diseases and their Major Types: Genetic; Communicable and Non-communicable; Occupational and Deficiency Diseases; Epidemics and Pandemic.

Unit - III: Global Patterns of Human Health and Wellbeing

Ecology, Etiology, Diffusion and Distribution Pattern of Malaria, Tuberculosis, Hepatitis, AIDS, Glycemia and Cardiovascular Diseases; Poverty; Food Security; Nutrition Deficiency; Health and Sanitation Facilities.

Unit - IV: International and National Concerns

Role of WHO, UNICEF, Red Cross; Indian Health Care Planning: Child and Family Health Welfare, Immunization, Rural Health and Health for All Programmes, National Health Care Infrastructure; Health GIS.

Suggested Readings:

M.A. / M.Sc. Geography
Semester - IV
Credits: 4 (CC)
Paper - XII (GGM-403) (C)
Geography of Rural Development

UNIT - I: CONCEPT, HISTORY AND APPROACHES

Development and Rural Development: elements, objectives, scope and significance; Rural development theories: Linear stage models, Structural change models, Development themes during 1970s-1990s; Approaches to rural development: Community development approach, sectoral approach, target approach, integrated approach, participatory development approach.

UNIT - II: RURAL ECONOMICS AND RURAL DEVELOPMENT

Rural economics: concept and scope; Stages in rural economic development; Modernization theory; Gandhian Model of rural development; Determinants of rural development; Rural Industrialization.

UNIT - III: SPATIAL ANALYSIS OF FACILITIES & SERVICES

Types of community facilities and services - water, sanitation, electricity; Provider of community facilities- governmental, non-governmental and philanthropic organizations; Community facilities and services programmes; Rural transportation; Rural education, health and health care delivery systems.

UNIT - IV: RURAL DEVELOPMENT & PLANNING

Rural planning: District and block level planning; Area specific projects/programmes: Tribal Area Development and Integrated Wasteland Development programme; Agricultural specific Programmes: High Yielding Variety programme, Integrated Rural Development Programmes (IRDP), Panchayati Raj Institutions; Sustainable rural development.

BOOKS RECOMMENDED:

M.A. / M.Sc. Geography
Semester - IV
Credits: 4 (CC)
Paper - XII (GGM-403) (D)

Land Evaluation

UNIT - I: FUNDAMENTALS OF LAND EVALUATION

Basic concepts, approaches and criteria of land evaluation; Geoinformatics for data storage and analysis: Land Information System (LIS) and Geographic Information System (GIS); Cadastral mapping; Land use and land cover mapping; Physical and economic land evaluation.

UNIT - II: SOURCES OF DATA FOR LAND EVALUATION


UNIT - III: METHODS OF LAND EVALUATION AND SUITABILITY

Land parcel ownership and land quality; Land evaluation using RS and GIS; Land suitability classification for different uses; Evaluation of land degradation and land capability assessment; Principal modeling approaches: empirical (or, statistical) and dynamic simulation modeling (Cellular automata and Genetic Algorithm).

UNIT - IV: LAND USE PLANNING

Planning: Planning vs. adaptation; Collective vs. individual rights planning; Strategic vs. tactical planning; Rural land use planning on private land and state-owned land; Proscriptive vs. prescriptive planning; Legal and institutional structure of land use planning.

READING LIST OF BOOKS AND JOURNALS:


WEB LINKS:

Open Geospatial Consortium, Inc. (http://www.opengeospatial.org/)
Open Source Geospatial Foundation (http://www.osgeo.org/)
UNIT - I: CONCEPTS AND APPROACHES

Feminism and feminist movement, Feminist epistemology, scope, nature and development of gender geography.

UNIT - II: ATTRIBUTES OF FEMALE POPULATION

Quality of life among female in the developed and developing countries; sex-ratio and child and maternal mortality rate, Literacy and education; Status of females in the society in Development and Developing countries with special reference to India.

UNIT - III: FEMALE PARTICIPATION IN ECONOMIC ACTIVITIES

Gender and Work: Historical developments in the sexual division of labour, Crime against women with special reference to domestic violence; Participation in economic activities: Primary, Secondary and Tertiary Sector, Domestic work and its significance.

UNIT - IV: EMPOWERMENT OF WOMEN

Empowerment of women: education, economic opportunities, access to health services; Involvement in decision making processes from local bodies to parliaments: Role of women in development, environmental management and disaster management.

BOOKS RECOMMENDED:

10. Montagu, A, 1964, Man’s most dangerous myth-the fallacy of race, Cleveland.
M.A. / M.Sc. Geography
Semester - IV
Credits: 4 (CC)
Paper - XII (GGM - 403) (F)

Geography of Crimes

UNIT - I: Introduction
Meaning, development and scope of Geography of Crime; Sources of crime data; Types of crime and their spatio-temporal variations; Theories of Crime: Determinism Theory, Theory of Social Disorganization and Cultural Transmission, Environmental Criminology.

UNIT - II: Causes of Crime
Causes of crime; Crime in developed and developing countries with special reference to India; Crime and season; Crime and poverty; Crime and illiteracy; Crime and politics.

UNIT - III: Consequences and Impact of Crime
Impact of Crime on Society; The physical impacts of crime on the natural and built environments; Perception of crime; Influence of media and politicians on people’s perception of crime.

UNIT - IV: Management of Crime
International, National and Local initiatives; Role of Government and Non-government Organizations in Crime control; Rehabilitation of criminals; Criminal Laws.

Books Recommended:
M.A. / M.Sc. Geography
Semester - IV
Credits: 4 (CC)
Practical VIII (GGM-404)
Project
M.A. / M.Sc. Geography
Semester - IV
Credits: 4 (CB)
Theory Paper- IV (GGM-405)
Watershed Management

Unit - I: Introduction and Basic Concepts

Concepts of the watershed and its management; Delineation and Codification of watershed; Watershed management policies.

Unit - II: Morphometric Analysis

Watershed hydrology and surface runoff; Conventional methods: Smith, Wentworth and Robinson; Linear parameters of watershed; Aerial parameters of watershed; Relief parameters of watershed; Land use/land cover of watershed.

Unit - III: Management of Natural Resources

Watershed prioritization: USLE, RUSLE, MUSLE, Sediment Yield Index, Soil information system; ground water recharge; wetland ecosystem; forest ecosystem.

Unit - IV: Integrated Watershed Management

Integrated watershed management for natural resources; Social aspects: Participation of local community and stakeholders (government and non-government organizations); IWM for livelihood generation; Role of IWM in local and regional planning.

Suggested Books: