

FACULTY OF SCIENCE

Syllabus for M.A./M.Sc. Entrance Test, Department of Geography Faculty of Science Aligarh Muslim University Aligarh – 202 002

Constitution of earth's interior; Isostasy: Continental Drift and Plate Tectonic Theory. Earth's Movement; Orogenetic and Epirogenetic. Earthquakes and Volcanoes. Weathering, Mass Wasting, Concept of Cycle of Erosion by Davis and Penck. The Erosional and Depositional Features: Fluvial, Aeolian, Coastal, Glacial and Karst Topography. Rocks: Types and Characteristics. Elements of Weather and Climate. Composition and Structure of Atmosphere. Insolation, Heat Budget. Horizontal and Vertical distribution of Temperature and Pressure. Inversion of Temperature. Atmospheric Circulation and Winds: Planetary, Periodic and Local winds. Adiabatic Processes, Stability and Instability. Humidity and forms of Condensation; Precipitation and types of Rainfall. Origin of the Monsoon and its relation with Jet Streams. Air Masses and Fronts; concepts, classification and properties. Tropical and Temperate Cyclones (Polar Front Theory); Anti-Cyclone. Basis of Koppen's Classification; types and characteristics. Ocean Bottom Topography. Ocean Currents and Waves. Ocean Salinity and Temperature. Ocean deposits and marine resources. Coral Reefs.

Concepts and Approaches of Human Geography: Environmental Determinism, Possibilism, Neo-Determinism. Major Cultural Realms of the World. Distribution and Characteristics of Race, Religion and Language. Social Groups in India: castes, tribes and religion. Language and Culture in India. Migration Theories: Causes and consequences. Geography of Welfare and Social Well being. Population: Resource Relationship; Optimum, Over Population, Under Population, their problem and prospects. Ackerman's Population – Resource Region, Population growth and distribution; Population Composition; Demographic Transition Theory. Settlements: Types of Rural Settlements; Patterns of Rural Settlements. Classification of Urban Settlements based on Function and Size; Trends and patterns of World Urbanization. Concept of Nation and State; Frontiers, Boundaries. Geopolitical Theories (Heartland and Rimland).

Physiographic Divisions of India. Nature and Characteristics of Himalayan and Peninsular Drainage. Characteristics of Climate; origin of Indian Monsoon-Halley's and Flohn's concepts. Soils: origin, types and characteristics factors. Natural Vegetation: Factors for the growth and distribution. Population Distribution: Growth and structure, distribution of race, caste, religion, language, tribes in India. Distribution and Utilization of Mineral Resources. Agriculture of India: Production and distribution of Rice and Wheat. Cotton Textile, Iron and Steel Industry; Problems and Prospects.

Concepts of Region and Its Types. Need and types of Regional Planning. Ideal Planning Region. Delineation and Regionalization of Indian Planning (Agro-Ecological Zones and Agro-Ecological Regions). Models for Regional Planning: Growth Pole Model of Perroux. Growth Foci Model in Indian Context; Village Cluster. Special Area Development Plans in India: Hilly Area Development Programme; DVC: The Success Story and the Failures.

Sources of Population Data with special reference to India (Census, Vital Statistics and NSS). Determinants and Patterns. Theories of Population Growth: Malthusian Theory and Demographic Transition Theory. Fertility, Mortality and Migration. Age-Sex Composition. Literacy. Ageing of Population. Declining Sex Ratio; HIV/AIDS. Urbanization and Urban

Growth. Issues and problems of Urban Centres. Geography of Health and Social Wellbeing; Geographical determinants of health and diseases.

General Characteristics of Geography in Ancient Period. Contribution of Herodotus, Strabo, Eratosthenes and Ptolemy in the development of Geographical Thought. Dark-Age. Characteristics of Arab Geographical Thought: Al – Masaudi, Al - Biruni and Ibn- Khaldun. Modern Geographical Thought. Contribution of Humboldt and Ritter. French and British Schools of Geography with special reference to Vidal-De-Ia- Blache and Mackinder. Environmental Determinism, Possibilism, and Stop and Go Determinism. Development of Geographical Thought after Second World War. A critical study of Quantitative Revolution, Radical Geography and Behavioral Geography.

Concept in Economic Geography; economic activities, types and distribution. Concept and Classification of Resource: Degradation of natural resources and means of conservations. Agriculture Determinants and Types. Issues and problems related to Agriculture. Green Revolution; Causes and Consequences. Primary Activities: Agriculture Subsistence and Commercial Agriculture, Forestry, Fishing and Mining. Von Thunen Theory of Agriculture Location. Secondary Activities; Manufacturing (Cotton Textile, Iron and Steel). Concept of Manufacturing Regions: Special Economic Zones and Technology Parks. Weber’s Theory of Industrial Location. Tertiary Activities: Transport, Trade and Services and their role in Economic Development: Christaller and Losch’s Model.

Concepts of Biosphere: ecosystem and habitat, biomes of the Worlds. Environmental Degradation and Pollution: Causes and consequences. Natural Hazards and Disaster. Causes, impact and mitigation on of flood, draught and landslides. Impact of Climate Change. Sustainable Development and man Environment Relationship.

Maps and Scale. Principles and types of Map Projection. Cartographic Techniques and Representation of Data: Choropleth, Isopleths, Dot & Point Data, Line Graph, Climograph, Bar Diagram and Wheel Diagram. Interpretation of Topographical Map. Principles of Surveying; Plain Table, Prismatic Compass , Dumpy Level and Sextant. Use and Significance of Statistical Data: Measurement of Central Tendencies and Dispersion. Measures of Inequality; (Range, Lorenz Curve, Coefficient of Variation, Gini’s Coefficient). Normal Distribution and Chi-Square Test. Correlation and Regression Analysis. Theories of Sampling. Significance of field work methods and techniques. Principles of socio-economic survey. Remote Sensing and Aerial Photographs; principles, elements, types and interpretation. Application of Remote Sensing in Geographical Studies; Remote Sensing platform and sensors.
