Department of Geography
Savitribai Phule Pune University
Syllabus for Online Entrance Examination for M.A./M.Sc. Geography

Section A – General knowledge / aptitude / logic

Unit 1: Mathematical Reasoning and Aptitude:

- Number series
- Letter series
- Elementary statistics
- Time Speed and Distance
- Proportion and Percentage
- Profit and Loss
- Interest and Discounting
- Time and Work
- Ratio and proportion

Unit 2: Logical and Analytical Reasoning Syllabus:

- Arrangement – Seating/ Circular
- Directions
- Calendars
- Clocks
- Blood Relationship
- Number Series
- Coding-Decoding
- Assumption
- Syllogisms

Unit 3: General Awareness of Geography and Environment:

- Human and environment interaction
- Environmental issues
- Natural and energy resources
- Natural hazards and disasters

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Section B – Subject specific

Unit 1: Geomorphology:

1. Definition, nature and scope
2. The earth – its interior, composition and structure
3. Origin of continents and ocean basins
    i. Wegener's Continental Drift Theory
    ii. Theory of Plate Tectonics
4. Rocks
    i. Rock- Definition and origin.
    ii. Type of Rocks- Igneous, Sedimentary and Metamorphic rocks
5. Endogenetic and Exogenetic forces
6. Weathering
7. Erosion and Deposition landforms of River, Sea-wave, Wind, Glacier
8. Mass movement
9. Slopes
    i. Meaning & Definition of slopes
    ii. Types and slope segments: Concave, Convex, Terraced, Rectilinear

Unit 2: Climatology:

1. Introduction to Climatology and Atmosphere
    i. Definition, nature and scope
    ii. Importance of Climatology in modern times.
    iii. Weather and climate, elements of weather and climate
    iv. Composition and structure of the atmosphere
2. Insolation
    i. Heat budget of the Earth
    ii. Factors affecting horizontal distribution of temperature.
    iii. Inversion of temperature, lapse rate and its types.
3. Atmospheric Pressure and Wind System
    i. Vertical and horizontal distribution of pressure
    ii. Formation of pressure belts and their relation with winds
    iii. Concept of pressure gradient
    iv. Type of winds- planetary winds, periodic winds (Monsoon winds), local winds – land and sea breezes, mountain and valley winds
4. Atmospheric Moisture and Precipitation
    i. Sources of moisture, methods to express humidity of the air- absolute and relative humidity
    ii. Forms of precipitation- rain, snow, dew, hail and fog
    iii. Types of clouds- high, medium and low clouds
5. Cyclones and anticyclones

Unit 3: Oceanography:

1. Definition, nature and scope
2. Submarine relief
    i. General idea of ocean relief
    ii. Relief of Atlantic, Pacific and Indian oceans
3. Properties of ocean water – temperature, density and salinity
4. Movements of ocean water
    i. Waves- Characteristics of sea waves, tsunamis
    ii. Ocean currents- meaning, causes, types
    iii. Ocean currents of Atlantic, Pacific and Indian Oceans
    iv. Effects of ocean currents.
    v. Tides- meaning, causes, types
    vi. Equilibrium theory of tides

Unit 4: Population and Settlement Geography:

1. Population Geography – Definition, nature and scope
2. Sources of Population data - Census, National Sample Survey, Sample Registration Survey, NFHS, DLHS Data, Demographic Surveys and other Sources
3. Spatial Pattern of Distribution
    i. Determinates of Distribution and Density of Population
    ii. Distribution of Population – World & Indian Scenario
    iii. Population Growth- Global & Indian Trend
4. Composition of Population – Age and Sex, Rural – urban and economic
5. Demographic Attributes
    i. Migration-Classification, Determinants and Consequences of Migration
    ii. Measures – Fertility, Morbidity and Mortality, Marital Status
    iii. Human Development Index
6. Theories of Population growth – Demographic Transition Model and Malthus Population theory
7. Settlement Geography – Definition, nature and scope
8. Site, Situation, Type, Size, Spacing and Patterns of settlements
9. Concepts of Settlement and Urbanization – Urbanization, Centrality, City Region, Urban Fringe, Rank-size Rule, Smart City Concept, Smart Village, C.B.D., Hierarchy of Settlement

Unit 5: Economic Geography:

1. Economic Geography – Definition, nature and scope
2. Economic activities
    i. Sectors of Economy – Primary, Secondary and Tertiary
    ii. Concept of More Developed, Developing and Less Developed countries
3. Industries - Factors affecting on Industrial Location, Losch' and Weber's Theory of Industrial Location
4. Major Industries - Iron and Steel, Cotton Textile, Automobile, Ship Building
5. Agriculture
    i. Factors influencing agriculture- physical, economic, social, cultural
    ii. Spatial Distribution of major food and cash crops- Wheat, Rice, Maize, Rubber
    iii. Agricultural Classification - Subsistence Agriculture, Commercial Grain Farming, Plantation Agriculture and Market Oriented Farming
6. Tourism – Factors affecting tourism, types of tourism and tourism development in India

Unit 6: Social and Cultural Geography:

1. Meaning and Bases of Human Races
2. World languages and their distribution, Distribution of languages in India
3. World's major religions and their distribution, Distribution of religions in India
4. Regional Distribution of Tribes in India

Unit 7: Geography of India:

1. Location, Extent and Geopolitical significance
2. Major physiographic regions
3. Drainage system of India
4. Characteristics of Indian Climate: Origin of Monsoons
5. Soils and natural vegetation
6. Agriculture
    i. Green Revolution
    ii. White Revolution
    iii. Blue Revolution
    iv. Livestock Resources
    v. Tissue Culture & Horticulture
    vi. Poly House and Agriculture
7. Regional Planning and Development
    i. Concept, Objectives, Need and Nature of Regional Planning
    ii. Experience of Regional Planning in India

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Unit 8: Techniques in Spatial Analysis:

1. Maps and Map Scale: Definition
2. Projection: Definition and Classification
3. Graphs and Diagrams: Simple Line Graph, Polygraph, simple Bar Diagram, Compound Bar Diagram, Pie Chart, Choropleth Mapping
4. Toposheets: Marginal Information, Grid reference, Conventional signs and symbols, Indexing
5. Methods of Relief Representation
6. Aerial Photographs and Satellite Images: Introduction
7. Introduction to GIS

Unit 9: Surveying:

1. Directions – Various methods of deciding North direction: True, Magnetic and Grid North
2. Types of Surveying: Plane Table Survey, Prismatic Compass Survey, Dumpy Level Survey
3. GPS Survey and Plotting

Unit 10: Geography of Environment and Resources:

1. Ecosystem : Concepts, Structure and Functions : Trophic levels, Energy flow
2. Geo-chemical cycles: carbon, nitrogen and oxygen; Food chain, Food web and Ecological Pyramid
3. Resources: Meaning, Non-Renewable and Renewable Resources
4. Distribution of Water, Mineral, Energy and Forest Resources
5. Environmental Disasters: Hazard and Disaster, Basic concepts and structure of Disaster management
6. Climatic disasters, Geological and Geomorphic disasters, Anthropogenic Disasters, Environment conservation and management: sustainable development
7. Global issues – Global warming, Ozone Depletion, Acid Rain