

**Department of Geography Guru Jambheshwar University of Science
and Technology, Hisar**

Syllabus for Common Entrance Test

(M.Sc. Geography 2 Years Program)

Note: 100 Multiple Choice Questions will be asked for the given syllabus.

1. Physical Geography:

a. Geomorphology

1. Interior of the earth, rocks and other types.
2. Earth movements; orogenic, eperiogenic, earthquakes and volcanoes.
3. Theory of isostasy; Wegner's theory of continental drift and plate tectonic.
4. Weathering; causes and types.
5. Mass-movements: causes, types and impacts.
6. Cycle of erosion, Landforms formed by wind, river, underground water, glaciers and sea waves.

b. Climatology and Oceanography

1. 8 Weather and climate, origin, composition and structure of atmosphere.
2. Insolation, Global heat budget, horizontal and vertical distribution of temperature, inversion of temperature.
3. Atmospheric pressure- measurement and distribution, pressure belts, planetary winds, monsoon, Jet Streams EL NINO- La Nina phenomenon and local winds.
4. Humidity- measurement and variables, evaporation, condensation, precipitation forms and types and distribution, hydrological cycle.
5. Air masses- concept and classification; fronts- type and characteristics, weather disturbances- tropical and extra-tropical cyclones.
6. Climatic classification by Koppen; climate change and global warming.
7. Configuration of oceanic floors and surface relief of Pacific, Atlantic and Indian Oceans; temperature and salinity of oceans.
8. Tides, waves and oceanic currents; circulation in Pacific, Atlantic and Indian Oceans.

2. Geography of India:

1. Location, relief, drainage, climate, soils, natural vegetation.
2. Population: distribution, density, growth and composition, migration.
3. Land resources, irrigation, regional variations in cropping pattern, green revolution and problems of Indian agriculture.
4. Energy and mineral resources: coal, petroleum, hydroelectricity, solar energy and nuclear energy, iron ore.
5. Industries- iron and steel, cotton textile, sugar and industrial regions of India.
6. Modes of transport and communication.

4. Human Geography:

1. Approaches to the study of human Geography.
2. Division of Mankind: spatial distribution of race and tribes of India; man-environment relation : a historical approach.
3. Human adaptation to the environment (i) cold region – Eskimo (ii) hot region- Bushman (iii) plateau–Gonds (iv) mountains–Gujjars.
4. Concept of over, under and optimum population; population theories: Malthus, Ricardo

and Marx.

5. Rural settlements: meaning, classification and types; urban settlements: origin, classification and functions of towns.

6. Distribution and density of world population, population growth, fertility and mortality patterns.

5. Economic Geography:

1. Nature, scope and relationship of economic geography with economics and other branches of social sciences.

2. Classification of economic activities and their impact on environment.

3. World natural resources: types, bases and classification; conservation and utilization of natural resources.

4. Spatial distribution of food (rice and wheat), commercial (cotton and sugarcane) and plantation crops (tea, rubber and coffee).

5. Classification of mineral resources (ferrous and non-ferrous), distribution and production of coal, iron ore, petroleum and natural gas.

6. Classification of industries, world distribution and production of iron and steel and textile industry, major industrial complexes of the world.

7. Transport and communication: geographical factors in their development, major modes of water, land and air transport.

8. Classification of resources – renewal and non-renewable; biotic and abiotic, recyclable and non-recyclable.

9. Distribution, utilization and conservation of biotic (flora and fauna) and abiotic (water, minerals and energy) resources.

6. Introduction to Remote Sensing, GIS & Quantitative Methods:

1. Elements of aerial Photo interpretation.

2. Remote Sensing; Electromagnetic spectrum, stages in remote sensing, type of satellites.

3. Types of Imageries and their application in various fields such as agriculture, environment and resource mapping.

4. Introduction to Geographical Information System: Purpose, advantages, software and hardware requirements.

5. Application of GIS in various fields of geography.

6. Measure of Central Tendency: Mean, Median and Mode.

7. Measure of Dispersion: Range, Quartile deviation and Mean deviation, Standard deviation, Coefficient of variation.

7. Maps, Scales and Representation of Physical Features:

1. Introduction to Cartography; maps their types, scale, enlargement and reduction.

2. Introduction to topographical sheets; conventional signs.

3. Methods of representing relief and topographical features by contours; slopes (Concave, convex, undulating and terraced).

4. Profiles and their types.

8. Representation of Climatic Data, Map Projections and Survey:

1. Representation of temperature, rainfall, pressure and humidity; Hythergraph, climograph and weather maps.
2. Map Projection: Meaning, Classification their types and characteristics with reference to cylindrical, conical and zenithal.