

GEOGRAPHY (853)

CLASS XII

There will be **two** papers in the subject:

Paper I – Theory (3 hours)

...70 marks

Paper II – Practical and Project Work ...30 marks

PAPER I: THEORY (70 Marks)

INDIA IN THE WORLD'S CONTEXT

1. Physical Environment

- (i) **Locational setting - India:** size and area. Present importance of the location of India with reference to the Indian Ocean Rim countries and the Northern and Western frontiers.

Extent, position with reference to latitude and longitude, length of coastline and frontiers with neighbouring countries. The locational advantages of India in the Indian Ocean and as a subcontinent.

- (ii) **Structure of India** – Geological formation, relief and drainage; major physiographic divisions and their characteristics.

- (a) *Outline of the geological evolution and structure.*

Names of the main Standard and Indian geological eras with reference to Indian Geology.

Geological evolution of: the Peninsular Plateau, the Himalayas and the Great Plains. Difference between the Peninsular Plateau and the Himalayas.

- (b) *The three-fold physiographic divisions: the Himalayan mountain complex, the Indus-Ganga-Brahmaputra Plains and the Peninsular Plateau.*

- **Himalayan mountain complex: (orthoclinal structure)**

The three parallel ranges, the northwest and northeast offshoots, comparison between Western and Eastern Himalayas.

Regional divisions of the Himalayas (Kashmir/ Punjab Himalayas, Himachal/ Uttaranchal/ Kumaon Himalayas, Nepal Himalayas, Assam Himalayas).

- **Indus-Ganga-Brahmaputra Plains**

The relief features – bhabar, tarai, bhangar, khaddar, doabs. Regional divisions of the plains: Rajasthan plain (the Great Indian desert), Punjab plain, Ganga plain, Brahmaputra/ Assam plain.).

- **The Peninsular Plateau**

The Malwa plateau, Chotanagpur Plateau and Deccan Plateau: the relief features - badland, Western Ghats, Eastern Ghats, Aravalis. Comparison between the Western Ghats and the Eastern Ghats.

The above three physical divisions are to be studied with reference to their extent, altitude, slope and landform characteristics.

- **Coastal Plains**

Comparison between Western and Eastern Coastal Plains and their divisions. The relief features: Lagoons, estuaries, deltas.

- **Islands**

Difference between Andaman and Nicobar and Lakshwadweep islands.

- (c) **Drainage (i.e. rivers) and drainage systems:** Names and sources of the main rivers and their major tributaries.

Comparison of Himalayan and Peninsular rivers.

- (iii) **Climate: India** - Factors affecting India's climate: Temperature - factors affecting temperature. Atmospheric pressure conditions during the year; origin and mechanism of the monsoon, Jet streams, Southern Oscillations; wind and rainfall distribution during the year; characteristics of the four main seasons - hot and dry, hot and wet, cool and dry, cool and wet with reference to temperature distribution in north and south India, pressure, wind conditions – distribution of resultant rainfall; variability of rainfall, incidence of droughts and floods. Temperature and rainfall graphs of Mumbai, Delhi, Kolkata, Chennai, Jaisalmer, Leh, and Hyderabad.

Role of various factors affecting Indian climate – latitudinal extent, distance from the sea, northern mountain ranges, physiography, monsoon winds, upper air circulation, western disturbances and tropical cyclones, southern oscillation, El Nino; understanding of the concept and mechanism of monsoon; Indian Monsoonal Regime – onset, rain bearing system, break in the monsoon, retreat of the monsoon;

Seasons of India – with reference to temperature, pressure distribution, wind systems and local winds (loo, kalbaisaki/Norwesters, Mango showers; explanation of the variability of rainfall in different areas over different seasons.

Droughts and Floods – meaning, causes, affected areas and mitigation programmes. Temperature and rainfall graphs of Mumbai, Delhi, Kolkata, Chennai, Leh, Jaisalmer and Hyderabad.

- (iv) **Natural vegetation:** Forest – area covered, importance, use, misuse and potential both for exploitation and conservation. Present forest policy.

Factors affecting vegetation.

Importance of forest to man; Impact of human activity on vegetation. Forest area and forest cover in India. Forest Conservation – need, Social Forestry (Agro forestry, community forestry, commercial farm forestry, non-commercial farm forestry,

urban forestry); Forest Conservation Movement: Van Mahotsav, Chipko Movement.

National Forest Policy (1988): objectives of the Forest Policy.

2. Population and Human settlements

- (i) Population of India compared to six countries - China, Australia, USA, Canada, Russia and Brazil.

Population of India as compared to the other six countries with reference to percentage of world population and India's position in the world.

- (ii) National and State level patterns of population distribution.

Definition of census. Index of concentration (highest and lowest index of concentration as per the latest census), density of population – arithmetic and physiological.

Spatial distribution of population in India. Comparison of the density at the State level.

- (iii) Pattern of population growth in the last three decades; implications for development.

Meaning of terminologies such as population, birth rate, death rate, population growth rate, natural growth rate and migratory growth.

Population growth of India at national level – to the latest Census. Demographic characteristics of India at the National level-birth rate, death rate, and natural growth rate according to the latest Census.

Drawing general conclusions about the:

Impact of rapid growth rate on economic development, on environment; need for planned development (to maintain the ecological balance).

- (iv) Migration trends over the last 25 years.

Explanation of the important terms – step-wise migration push and pull factors.

Types (National and International migration, inter migration and intra migration) and trends of migration.

Streams of migration: (rural-rural, rural-urban, urban-urban and urban-rural).

Causes for migration - natural, economic, political and social.

- (v) Demographic attributes at National level - trends and patterns of: 1. Rural urban population 2. Age and sex composition 3. Literacy levels 4. Working and non-working population; implications for development.

Study of the causes and trends of rural urban composition, age and sex ratio, literacy level, working and non-working population at the National level (highest and lowest figures for each of the above) in the latest census. Implications for development.

- (vi) Rural settlements – size and number of villages as per the latest census. Types and patterns in hill areas, plains and coastal locations.

Distinction between Rural and Urban settlements; Rural and Urban Population. Classification of villages as per the latest census.

Factors affecting the types (distinction between compact and dispersed) and patterns (linear, circular, star shaped, rectangular, shapeless) of rural settlements in plains, coastal areas, mountains and plateau areas.

- (vii) Urban settlements – size classification of towns as per the latest census. Study of population growth in India.

Definition of an Urban area according to the latest census; Urban agglomeration, conurbation, urban sprawl, ribbon settlement, infill, metropolis, megalopolis, slums, squatter settlements.

Factors that influence the growth of urban centres in India. Problems and advantages of urban growth.

3. Resources of India and their Utilisation

- (i) Need for environmental management vis-à-vis development.

Understanding that from the development point of view, environment may mistakenly be seen as a 'resource' to be exploited, whereas,

environment needs to be viewed as a 'capital' that needs to be managed carefully.

- (ii) Land resources: Land use pattern in India – quality of cultivable land, size of land holdings.

Defining the term land resource; its importance and problems. Land use pattern – defining the terms and factors influencing: net sown area, area sown more than once, forests, land not available for cultivation, permanent pastures and other grazing lands, land under miscellaneous tree crops, culturable (cultivable) waste, current fallow land, fallow other than current fallow, quality and size of cultivable land holdings. Methods to reduce fragmentation of land holdings.

- (iii) Water resources and types of irrigation.

Water Resources: Their demand and utilization. Types of water resources: surface and ground water.

Meaning, importance and need for irrigation in India.

Use and misuse of water for irrigation; study of alternative methods of irrigation (sprinkler and drip). Overwatering - reasons and regions affected by it; dangers of overwatering.

Conservation of water resources including their management; rain water harvesting.

- (iv) Agriculture: Types, development and problems.

(a) Wet and dry farming, crop rotation, intensity of cropping, problems of Indian agriculture; use of technology in agriculture. Modern inputs, change over from subsistence to commercial agriculture, need for Green Revolution. Diversifying Indian agriculture – importance of animal husbandry.

Wet and dry agriculture: Crop rotation. Intensity of cropping – concept and crops associated; problems of Indian agriculture; Use of new technology – Green revolution: Need, impact and problems, second green revolution - strategies for second green revolution.

Diversification of Indian agriculture – Animal Husbandry: meaning and its importance in Indian Agriculture.

(b) Study of crops:

(i) Conditions of growth (soil, temperature, rainfall requirements, crop seasons). (ii) World production and India's position. (iii) Major producing States in India and their rank as producers of the following crops:

Food grains – Rice, Wheat, Coarse grains – Sorghum (Jowar, Maize), Pennisetum (Bajra or Cambo), Eleusine (Ragi), Pulses.

Commercial and Industrial crops – Coffee (Nilgiris), Tea, Cotton, Sugarcane, Jute, Groundnut.

Conditions of growth: For each crop, the type of soil, temperature range, rainfall range, the crop seasons are to be done.

Main areas of growth of the above crops.

Name of the leading producer (country) in the world for each of the above crops (Food grains, commercial and industrial crops) and India's position in the world.

Importance of Market Gardening and Orchard Farming – reasons and trends in development in recent years.

Self-explanatory

(v) Fishing in India and Japan.

Factors influencing development of fishing in India and Japan.

(vi) Sources of Energy

(a) Minerals and power resources.

Distinguishing between metallic and non-metallic minerals; ferrous and non-ferrous minerals.

Production and distribution (leading State and one leading centre) of Iron ore, mica, coal, manganese and petroleum; their uses.

Iron ore, mica, coal: their types.

The main power resources - Nuclear thermal, hydel; three main centres for generation of nuclear thermal power in India.

(b) Conventional energy sources - fossil fuels and firewood, potential (Indian context) and limitations of each source, methods of harnessing and environmental consequences of their use.

Conventional energy sources:

Coal and Petroleum. Environmental concerns with regard to their use (global warming, thermal pollution in waters, fly ash, atmospheric pollution, etc.).

(c) Non-conventional energy sources - types of non-conventional sources (bio-mass, solar, wind, ocean, hydel, geothermal); their environmental consequences; need to promote non-conventional energy sources.

Advantages and limitations of each non-conventional energy source.

Uses of these energy sources and distribution.

Understanding the need to promote non-conventional energy sources.

(The study should include uses and the distribution of the above energy resources).

4. Infrastructural Resources (Development of Transport and Communication).

(a) Railways, Roadways, Water transport (inland and coastal), Air transport, Pipelines - these modes of transport are to be studied with regard to –

Factors: natural and economic that govern the distribution of railways, roadways, water and air transport; density and growth. Patterns in India.

The present position, areas well and poorly served by each mode.

Problems – comparative advantage of each mode of transport, national goals to be achieved in the development of modes of

transport (The Golden quadrilateral - its north-south and east-west corridor).

Ports, their location and advantage; major exports and imports of different ports. Nature and direction of trade from the ports. International trading patterns and products in the last five years.

Distinguishing between harbour and port; natural and artificial harbours. Location of major seaports in India and their advantage; main items of export and import from different ports (Mumbai, Chennai, Kolkata, Kochi).

- (b) Communication – importance of communication in rural development and its policy. Importance of infrastructure as key to the development of an industrial economy.

Modern means of communication - satellites and remote sensing - Geographic Information Systems (GIS), cellular phones, radio, doordarshan, internet; difference between mass communication and telecommunication. Infrastructure as key to the development of an industrial economy.

5. Industries

- (a) Study of the location and distribution of important industrial centres; a general comparison of disparities.

Self-explanatory.

- (b) Major and minor industrial regions – factors governing their growth.

Reasons for the spread of industrial areas; Understand how the distribution of heavy and consumer industries varies in the different regions; Understanding why certain industries are more in a particular region.

Major Industrial regions: Mumbai-Pune, Hooghly, Bengaluru-Tamil Nadu, Gujarat, Chota Nagpur, Vishakhapatnam-Guntur, Gurgaon-Delhi-Meerut.

Factors governing the growth of the above to be studied.

- (c) Location, production and growth of the following industries:

- (i) **Agro based industries** – Cotton textile

Maharashtra (Mumbai), Gujarat (Ahmedabad).

- (ii) **Mineral based industries** – Iron and steel and Petrochemicals.

The following industrial centres of each industry are to be studied.

Iron and Steel:

TISCO (Jamshedpur), Vishweshwarya Iron and Steel Plant (Bhadravati), Bhilai Iron and Steel Plant (Bhilai), Rourkela Iron and Steel Plant (Rourkela), Hindustan Steel Limited Plant (Durgapur), Bokaro Iron and Steel Plant (Bokaro), Salem Iron and Steel Plant (Salem), Vishakhapatnam Iron and Steel Plant (Vishakhapatnam).

(Integrated and mini steel plants: meaning and advantages to be studied.)

Petro Chemicals:

UDEX (Koyali), IPCL (Vadodara).

NOTE: Factors responsible for the location, development and present status of the Agro and Mineral based industries mentioned above, as well as the main distribution centres are to be studied.

Difference between key and footloose industry; industrial clusters and indices to identify industrial clusters.

Maps and sketches of Industrial regions and centres (location of agro based and mineral based industries) should be the basis for explaining the pattern of industrial development.

- (d) **Tourism industry** – Major natural and cultural tourist areas in India. Their special features and level of development - impact on environment and local economy. Tourist flows.

Definition of tourism, growth of tourism, advantages of tourism, important places – both natural and cultural. Positive and negative impact of tourism, problems of tourism and measures for developing ecotourism.

6. Regional Economic Development

(Case studies)

Understanding of the meaning of development, multilevel planning and planning regions. The case studies will be undertaken with reference to the advantages and disadvantages that have accrued to the people and area - aspects covered will be their geographical location, resource base, developmental history, agriculture and industrial activities, issues of development.

1. Area development in Chhattisgarh region – mining, silk industry and farming.
2. Electronics industry in Bengaluru– reasons for its development, extent, national and international linkages and problems.
3. Growth of Haldia port, its industries and hinterland.

7. Map Work

A question on map work will be set to identify, label and locate any of the following items studied in topics 1-6.

MAP LIST:

Locational setting of India: (To identify)

$8^{\circ}4'N-37^{\circ}6'N$, $68^{\circ}7'E-97^{\circ}25'E$ (Latitudinal and longitudinal extent of India); $23.5^{\circ}N$ (Central latitude) and $82.5^{\circ}E$ (Central longitude); Indira Col and Cape Comorin (Northern and Southern point of mainland India).

Mountains: (To mark and label)

3 parallel ranges of Himalayas, Trans Himalayan range – Karakoram, Pir Panjal, Ladakh, Zaskar. Aravallis, Vindhya, Satpura, Western and Eastern Ghats, Nilgiris, Cardamom hills, Garo, Khasi, Jaintia hills, Patkoi hills, Naga hills, Mizo hills.

Plains: (To mark and label)

Indus-Ganga-Brahmaputra region, Konkan, Kanara, Malabar, Coromandel, Northern Circars.

Plateaus: (To mark and label)

Malwa, Chota Nagpur, Deccan.

Peninsula: (To mark and label)

Kathiawar, Kachchh.

Waterbodies: (To mark and label)

Arabian Sea, Bay of Bengal, Palk Strait, Gulf of Kachchh, Gulf of Khambat.

Rivers: (To identify)

Indus, Jhelum, Chenab, Ravi, Beas, Sutlej, Ganga, Yamuna, Gomti, Ghaghara, Gandak, Kosi, Chambal, Betwa, Ken, Son, Damodar, Luni, Narmada, Tapi, Mahanadi, Godavari, Krishna, Kaveri, Brahmaputra.

Population: (To identify)

The States of India (according to the latest Census) for the following: The Lowest density of population, highest density of population, highest level of urbanization, lowest level of urbanisation, highest Index of Concentration of population, the highest sex ratio, the lowest sex ratio, the highest literacy, the lowest literacy;

Urban cities of Delhi, Mumbai, Chennai, Kolkata and Bengaluru.

Agriculture: (To identify)

Main producing States/regions of India for: Rice, Wheat, Coffee, Tea, Cotton, Jute, Sugarcane, Groundnut.

Minerals: (To identify)

Iron Ore (Keonjhar, Singhbhum), Coal (Jharia, Bokaro, Raniganj), Petroleum (Digboi, Mumbai High), Manganese (Nagpur).

Industries: (To identify)

Cotton Textiles: Mumbai, Ahmedabad.

Iron and Steel: TISCO (Jamshedpur), Bhilai Iron and Steel Plant (Bhilai), Vishakhapatnam Iron and Steel Plant (Vishakhapatnam);

Transport: (To identify)

The route of: Golden Quadrilateral - 4 sides, North south Corridor, East West Corridor.

Ports: (To identify)

Kandla, Mumbai, Kochi, Tuticorin, Haldia, Chennai, Vishakhapatnam, Kolkata.

SKETCH MAPS

Candidates should be able to understand and interpret the sketch maps/ diagrams, graphs related to the following topics:

- Locational setting of India;
- Relief and drainage of India;
- Climate;
- Population;
- Industries.

PAPER II: PRACTICAL WORK AND PROJECT WORK (30 Marks)

Candidates will be required to undertake the following Practical work and Project work .

1. Practical Work:

Any **two** of the following topics to be undertaken:

- (i) Drawing of scales: linear, graphic scales showing primary and secondary divisions; representative fractions and statement of scale methods.
- (ii) Drawing of cross-section or profiles of important contours, viz. ridge, plateau, escarpment, valley, conical hill, types of slope, sea cliffs, waterfalls, spurs, by using vertical exaggeration and horizontal equivalent.
- (iii) Understanding and illustrating location references of SOI maps.
- (iv) Map reading and interpretation of survey of India maps: Study will be based on representative portions of any **two** topographical sheets. It will include the description of location, extent, relief features, drainage, land use, settlement patterns, communications and inferences about human occupations and stage of economic development of the area.
- (v) Introduction to Geographic Information System: Elements of visual interpretation of remote sensing maps/ images.
Colour significance in the image and true colour (false colour composition): texture; size; shape; shadow; association.
(Reference material – Wikipedia, Google. earth, IIRS Hyderabad).
- (vi) Elementary principles of surveying an area: preparing two plans of school compound and/or a small area using Plane table/ GPS.

2. Project Work (Assignment):

Local field surveys on any **one** of the following will be submitted as Project Report. These surveys should be organized with a table of contents, sample taken and statistical methods used, interview schedule. The report should be organized systematically, and the conclusions should be clearly stated.

- (i) Agricultural land use survey.

Choose a district or topographical map of an area 1: 250000 and make a sketch map showing land use; compare the patterns of these. Alternatively, a local village could be chosen and the fields mapped from the cadastral map with information on the crops grown in different seasons and the location of the village, its roads and landmarks, if any.

- (ii) Household survey of about 30-60 households of a village or locality.

Family size, age structure, educational background, occupation, involvement of men and women in economic activity, educational service. Draw conclusions to reflect the economic development of the households.

- (iii) Amenity study.

Study of hospitals in a city, schools (school where you studied), post offices, municipal zones within the city (blocks in a village study) – reasons for travel (based on the importance and demand for the place), travel time, travel distance, mapping the hinterland of the service.

- (iv) Study of a manufacturing industry or a self-employed person.

Visit a manufacturing unit or self-employed person – cycle or car repair shop, small fabricating unit, factory if nearby and find out – source of raw material, supply routes, final product, areas where it is sent, manpower strength and their organization.

- (v) Area development of a multipurpose river valley project – impact on the region.

Self-explanatory.

The Practical Work and the Project Work will be assessed by the teacher and a Visiting Examiner appointed locally and approved by the Council. No question paper for practical work and project work will be set by the Council.

Evaluation of Practical Work and Project Work will be as follows:

Practical file (Sessional Record):	10 marks
Assignment (Project Report):	10 marks
Viva voce:	10 marks