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/ Uttranchal/ 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, Brahamaputra/ 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, deltas.

- ***Islands***

  Difference between Andaman and Nicobar and Lakshadweep islands.

(c) Drainage (i.e. rivers) and drainage systems: Names and sources of the main rivers (Ganga, Yamuna, Indus, Sutlej, Brahmaputra, Mahanandi, Godavari, Kaveri, Krishna, Narmada, Tapi).

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 and Leh.

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 and Jaisalmer.

(iv) Natural vegetation:

Forest – area covered, importance, use, misuse and potential both for exploitation and conservation. Present forest policy.

Distinction between vegetation and forest, virgin vegetation; 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 and explanation of the factors influencing it – landforms, climate, accessibility and level of development that result in this pattern. Comparison of the density at the State level and factors influencing it.

(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 – trends of 1921, 1951 and 1981 to the latest Census. Demographic characteristics of India at the National level- birth rate, death rate, and natural growth rate from 1991 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 and migrant, push and pull factors.

Types (National and International migration, inter migration and intra 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 –Types and patterns in hill areas, plains and coastal locations.

Distinction between Rural and Urban settlements; Rural and Urban Population.

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.

Definition of an Urban area according to the latest census; Urban agglomeration, conurbation, urban sprawl.

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

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 – 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, fallow land, 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.

Sources of irrigation:

Modern methods: sprinkler irrigation, drip irrigation, Perennial canals - Advantages and disadvantages.

Use and misuse of water for irrigation. 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, second green revolution - its strategies. 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 Camboo), Eleusine (Ragi), Pulses.

Commercial and Industrial crops – Coffee, Tea, Cotton, Sugarcane, Jute, oilseed cultivation in India particularly of Groundnut, Coconut.

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 and reasons for growth are to be studied.

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

Methods, factors affecting the importance and development, fishing ports and markets, need and methods of fish conservation.

Understanding of marine and inland fisheries; deep sea and inshore fishing; pelagic and demersal fishing should be done. Problems affecting fishing in India.

Two fishing centres and two types of fishes of each coastal State in India should be studied.

(vi) Sources of Energy

(a) Minerals and power resources.

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

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

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

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

Conventional energy sources:

Coal, Petroleum-their potential and limitations in India. 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), potential (Indian context); 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.

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 –

Natural and economic factors that govern their distribution; density and growth.

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 (Mumbai, Chennai, Kolkata, Kochi), 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 ports in India and their advantage; main items of export and import from different ports and the patterns in the last five years.

(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 tele communication.

5. Industries

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

Self-explanatory.

(b) Major 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** – Sugar, cotton textile

Sugar Industry:

Maharashtra (Ahmednagar and Pune), Uttar Pradesh (Muzaffarnagar and Saharanpur),

Cotton Textiles:

Maharashtra (Mumbai and Pune), Gujarat (Ahmedabad and Surat).

(ii) **Mineral based industries** – Iron and steel, Petrochemicals, including refineries.

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

Iron and Steel:

TISCO (Jamshedpur), Vishweshvarya 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, advantages and disadvantages also to be studied.)

Petro Chemicals:

UDEX (Koyali), IPCL (Vadodara).

Oil refineries:

IOCL (Barauni, Haldia and Digboi), HPCL (Mumbai and Vishakhapatnam).

NOTE: Factors responsible for the location, development and present status of the Agro and Mineral based industries mentioned above, as well as the 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 eco-tourism.

6. Regional Economic Development

(Case studies)

Case studies will be preceded by a brief understanding of the meaning of development, multilevel planning and planning regions. These 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):

$8^0$4'N-$37^0$6'N, $68^0$7'E- $97^0$25'E (Latitudinal and longitudinal extent of India); $23^0$30' N (Central latitude) and $82^0$30'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 (Greater, Lesser, Outer), Trans Himalayan range – Karakoram, Aravallis, Vindhyas, 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-Brahmapurtra region, Konkan, Kanara, Malabar, Coromandel, Northern Circars.

Plateaus (To mark and label):

Malwa, Chota Nagpur, Deccan, Meghalaya.

Peninsula (To mark and label):

Kathiawar, Kachchh.

Lakes (To mark and label):

Chilika, Pulicat.

Waterbodies (To mark and label):

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

Passes (To mark and label) :

Karakoram, Shipki La, Nathu La, Bomdi La, Palghat, Bhorghat, Thalghat.

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 and Kolkata, Bengaluru, Ahmedabad.

Agriculture (To identify):

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

Power resources (To identify):

Nuclear Power Stations (Kaiga, Kalpakkam, Tarapur, Rawatbhata, Narora, Kakrapara),

Industries (To identify):

Sugar Industry: Ahmednagar, Pune

Cotton Textiles: Mumbai, Ahmedabad, Surat

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

Petro Chemicals: UDEX (Koyali) and IPCL (Vadodara);

Oil refineries: IOCL (Digboi, Barauni and Haldia);

Transport (To identify):

Trace the route of: Golden Quadrilateral - 4 sides, North South Corridor, East West Corridor; State with the Highest Density of roads.

Ports (To identify):

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

SKETCH MAPS

Candidates should be able to draw, label, understand and interpret the sketch maps related to the following topics:

- *Locational setting of India;*
- *Relief 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