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ICSE Board
Class X Geography
Board Paper – 2015 Solution

Part I

Answer 2



Part II (50 Marks)

Answer 3

a) Two factors which affect the climate of India are:

- The Himalayas: The Himalayas act as a climatic barrier. It protects South Asia from the cold winds which blow over Central Asia. The Himalayas trap the moisture laden South West Monsoon winds resulting in rainfall over the Indo Gangetic Plains. Without the Himalayas, most of the fertile Indo Gangetic Plains would have been hot and dry during the summers and cold and dry during the winters. Thus these plains in the absence of the Himalayas would have been deserts or semi-deserts.
- Latitude: The Tropic of Cancer passes through India at 23°26'N to the North of the equator. The northern part of India lies in the temperate zone while the southern part lies in the tropical zone. Temperatures remain high throughout the tropical regions.

b) Two differences between the rainfalls which occur from June to September and from December to February in North India are:

Rainfall from June to September	Rainfall from December to February
The rainfall is caused due to the South West monsoon winds.	The rainfall is caused due to the western depression.
The northern parts of the country receives moderate to adequate rainfall.	The northern part of the country receives low rainfall which is useful for the <i>rabi</i> crops.

c)

- i. Kerala lies in the coastal region surrounded by water bodies like the Arabian Sea. Kerala also lies in the tropical region and thus receives convectional rainfall. When the monsoon winds blow over the Arabian Sea, they pick up moisture and strike the Western Ghats. Kerala is also prone to storm surges and torrential downpour as a result of cyclones. This results in frequent rainfall and a long rainy season in Kerala.
- ii. The Konkan Coast experiences orographic rainfall because the monsoon winds which blow over the Arabian Sea strike the western side of the Western Ghats resulting in heavy rainfall. By the time these winds reach the Eastern Ghats, they are already dry as they have already shed their moisture.
- iii. The city of Kanpur in Uttar Pradesh lies in the interiors of the plain region. The plain regions experience continental type of climate with a wider range of temperature. Chennai, on the other hand is a coastal region and experiences moderate type of climate in which the range of temperature is low.

d)

- i. May and September are the hottest months.
- ii. Annual rainfall = Sum of rainfall in all the twelve months
Therefore, annual rainfall is 131.9 cm.
- iii. The North East Monsoon winds bring maximum rainfall to the city.

Answer 4

a)

- i. **Black Soil:** Black soil is fertile because it is clayey in nature. Thus, it helps in water retention. During the dry season, the soil develops big cracks which help in air circulation.
- ii. **Red Soil:** It is porous and has a high percentage of iron oxide. The soil can be used for cultivation after the application of fertilisers.

b)

- i. Leaching
- ii. Gully erosion

c)

- i. **Pedogenesis:** It is a process of soil formation. The formation of soil is influenced by climatic conditions such as rainfall, temperature etc.
- ii. **Humus:** It is the organic component of soil which is formed by microbial decomposition of leaves and other plant materials. It increases the fertility of the soil.
- iii. **Bhangar:** Old alluvial soil composed of lime nodules or *kankar* is called Bhangar. It has a clayey composition.

d)

- i. Alluvial soil is extremely fertile because it is formed by the accumulation of sediments transported by rivers and is a mixture of sand, clay and silt.
- ii. Soil conservation is required to protect the washing away of the fertile top soil. Draining away of the fertile top soil reduces the content of minerals and nutrients of the land, which may affect the agricultural production.
- iii. The roots of trees hold on to the soil and help in soil conservation. Deforestation exposes the soil to water and wind forces which leads to soil erosion.

Answer 5

a) Two characteristics of the Tropical Deciduous Forests are:

- i. Tropical Deciduous forests shed their leaves for about six to eight months during the dry season.
- ii. These forests are less dense. Based on the availability of water, these forests are categorised into moist deciduous forests and dry deciduous forests.

b) Two reasons why Tropical Evergreen Forests are difficult to exploit because these forests are dense with many plants and climbers tangled to each other in these forests. Secondly, the lack of transport means to travel deep into these forests has made their trees difficult to be used commercially.

c)

- i. Sandelwood
- ii. Sundari
- iii. Shisham

d) Planting of trees on a large scale is known as afforestation. Deforestation refers to the large scale destruction of forests.

Disadvantages of deforestation: Since trees help in moderation of the climate, deforestation results in environmental changes like increase in temperature and reduced precipitation.

Answer 6

a) Irrigation is important in a country like India because of the following reasons:

- Monsoons in India are uneven, erratic in nature and hence unreliable. While it may rain well during one year, another year the rainfall may be scarce. Hence irrigation is necessary despite the monsoons.
- To maximise production, it is important to irrigate crops. Depending on rainfall does not always result in high production.

b) Two modern methods of irrigation are:

- **Drip Method:** is the best modern method of irrigation as in this method water is directly given to the crops through perforated pipes. This reduces the evaporation and each crop can be irrigated according to its nature.
- **Spray Irrigation:** In this method, water is utilised more efficiently. Hence, the amount of water needed to irrigate a field reduces considerably.

c)

i. Wells are still popular means of irrigation due to the following reasons:

- Firstly, surface wells can be constructed at a very low cost while construction of inundation canals from rivers is not within the reach of poor farmers.
- Secondly, wells can be used even during summers.

ii. Many countries in the world today suffer from water scarcity. Rain water harvesting is required as this technique of storing water ensures water supply even during dry months or droughts. Besides this is an environmental friendly technique of storing water.

d)

i. The world is in the danger of facing severe water shortage in the coming years due to the following reasons:

- The over exploitation of underground water has resulted in the lowering of the water table considerably in most parts of the world.
- Water resources like the underground water, lakes, rivers and tanks are getting polluted due to the discharge of industrial, municipal and household wastes in them.

ii. The government should encourage building of small dams, tanks and other reservoirs for collecting water. This will not only meet the water demand of the people without harming the environment but also recharge the ground water level.

Answer 7

- a) Limestone is a valuable mineral because of the following reasons:
- It is used as a flux in the iron and steel industry.
 - It is also used in the cement industry.
- b)
- i. Iron ore: It is used to extract steel, which in turn is used as raw materials in various industries.
 - ii. Bauxite: It is the main source of aluminium, which is used in the manufacturing of aircrafts, automobiles, rail wagons and shipping industries.
- c)
- i. Indian Oil Corporation Limited
 - ii. Jharkhand
 - iii. Magnetite
- d)
- i. Most port cities have their own refineries to avoid the risk of transporting oil into the interiors of the country due to its inflammable nature.
 - ii. Petroleum is called a fossil fuel as it was formed millions of years ago when plants and animals were buried deep under the surface of the Earth. Due to the great amount of heat and pressure, they were transformed into fossils.
 - iii. Coal is called a versatile mineral because it is used for many purposes. Besides being used in the generation of electricity it is also used for manufacturing iron and steel and as an important source of heat in rural households. It is also used for running trains, ships and in dynamos.

Answer 8

- a) Differences between the rabi crops and the kharif crops are:

Kharif Crops	Rabi crops
Kharif crops are sown in months of June and July and harvested in the months of September and October.	Rabi crops are sown in the months of October to December and harvested in the months of March and April.
Main crops are rice, maize, jowar, cotton, jute and groundnut.	Main crops are wheat, barley, gram, mustard etc.

- b) The cotton crop requires a uniform high temperature between 21°C to 30°C. Jute requires a hot and humid climate with 90% relative humidity.
- c)
- i. Ratooning
 - ii. Oil Cakes

- d)
- i. Tea is cultivated on hill slopes because though the crop requires well distributed rainfall, and standing water is harmful to the crop. As water does not collect on the hill slopes it is ideal for tea plantations.
 - ii. The yield per hectare of sugarcane is higher in the southern states as it has moderate climate which is free from the effects of 'loo' and winter frost.
 - iii. Pulses are important food crops because they are an important source of protein to the vegetarian people. Leguminous crops also fix atmospheric nitrogen into the soil, increasing its fertility.

Answer 9

- a)
- i. The cotton textile industry is known as an agro based industry because it uses raw materials produced by the agricultural sector.
 - ii. Jute industries are mainly located in the Hoogli region as jute is mainly produced in this region. On the contrary, cotton is grown almost all over India and thus cotton industries are most widespread in the country.
- b)
- i. One important point of similarity between the wool industry and the silk industry is that both are the textile industries.
 - ii. State which produces most woollen products: Punjab
State which produces most silk products: Karnataka
- c)
- i. Two major problems faced by the sugar industry are:
 - The sugarcane cultivation in India is of poor quality giving low yield per hectare and low sucrose content.
 - Use of old and obsolete machinery in the sugar industry is another reason for low production.
 - ii. Two by products of the sugar industry are molasses and bagasse.
- d)
- i. One of the main problems of the silk industry is the competition from the artificial silk mills which produce cheaper silk.
 - ii. Two products of the jute industry other than gunny bags and ropes are coarse carpets and rugs.
 - iii. Synthetic fibres are popular because they are much cheaper compared to the jute.

Answer 10

a)

- i. Iron and steel industry is called a basic industry because all other kinds of industries such as light, medium and heavy industries depend upon it for their machinery. Steel is required to manufacture several engineering goods, construction materials, defense goods, telephonic parts and a variety of other consumer goods.
- ii. Mini steel plants are those whose period of construction and gestation is short. Further, they use ferrous scrap, pig or sponge iron as their raw material.

b)

- i. Kanpur: Heavy electrical industry
- ii. Rourkela: Iron and steel industry
- iii. Pune: Heavy electrical industry
- iv. Mangalore: Chemical and Fertilisers Company

c)

- i. Two reasons for the growing importance of the petrochemical industries are:
 - The industry produces articles like synthetic fibres, synthetic rubber drugs, pharmaceuticals and fertilisers which are largely used in industrial and agricultural fields.
 - It also produces plastic sheets, bowls, baskets and plastic foam which are used for household purposes.
- ii. Two products of the petroleum industry are petrol and natural gas.

d)

- i. Two conditions necessary for setting up of a heavy engineering industry are:
 - The industry has to take the support of ancillary industries which could provide it with bulky raw materials and machineries.
 - It is a sophisticated industry which requires highly skilled labour force.
- ii. Kolkata

Answer 11

a)

- i. Railways are an important means of transport compared to airways because they are much cheaper. Also railways connect almost every town apart from big cities.
- ii. The Golden Quadrilateral Project has interconnected major cities of Indian and have given great impetus to truck transport in India.

b)

- i. A highway denotes any paved road which provides transportation for vehicles. It may have 2 or four lanes, divided or undivided. An expressway is normally a 4 lane divided highway which may have limited access, entrances and exits, and may include overpasses, and over intersections.
- ii. Ahmedabad- Vadodara expressway was the first expressway to be constructed in the country.
- iii. Northern rivers are perennial rivers while most of the rivers in the Deccan are non-perennial and thus are not navigable all round the year. Thus, Northern Rivers are more suitable for navigation than the Deccan Rivers.

- c)
- i. 'Waste segregation' is essential because it is important to segregate solid, semi-solid, liquid, biodegradable and non-biodegradable wastes so that these could be disposed off separately according to their nature.
 - ii. Nuclear wastes are harmful because they can cause serious health hazards to the human body and environment if not disposed properly.
 - iii. As a student, I can help in the reduction of waste generation by not using polythene bags. I would use jute bags and paper bags which can be recycled.
- d)
- i. Wastes which can be degraded by microorganisms and by natural processes are known as biodegradable wastes.
 - ii. One source of gaseous waste is the release of carbon monoxide by automobiles.