

ICSE Board
Class X Geography
Board Paper – 2014

Time: 2 hrs

Total Marks: 80

General Instructions:

1. *Answers to this paper must be written on the paper provided separately.*
2. *You will **not** be allowed to write during the first **15** minutes.*
3. *This time is to be spent in reading the question paper.*
4. *The time given at the head of the paper is the time allotted for writing the answers.*
5. *Attempt **all** questions from Part I (compulsory) and any **five** questions from Part II, **two** out of **three** questions from **Section A** and **three** out of **five** questions from **Section B**.*
6. *The intended marks of questions or parts of questions are given in brackets [].*

PART – I (30 Marks)

Part-A

Question 1

Study the extract of the Survey of India Map sheet No. 45D/10 and answer the following questions:

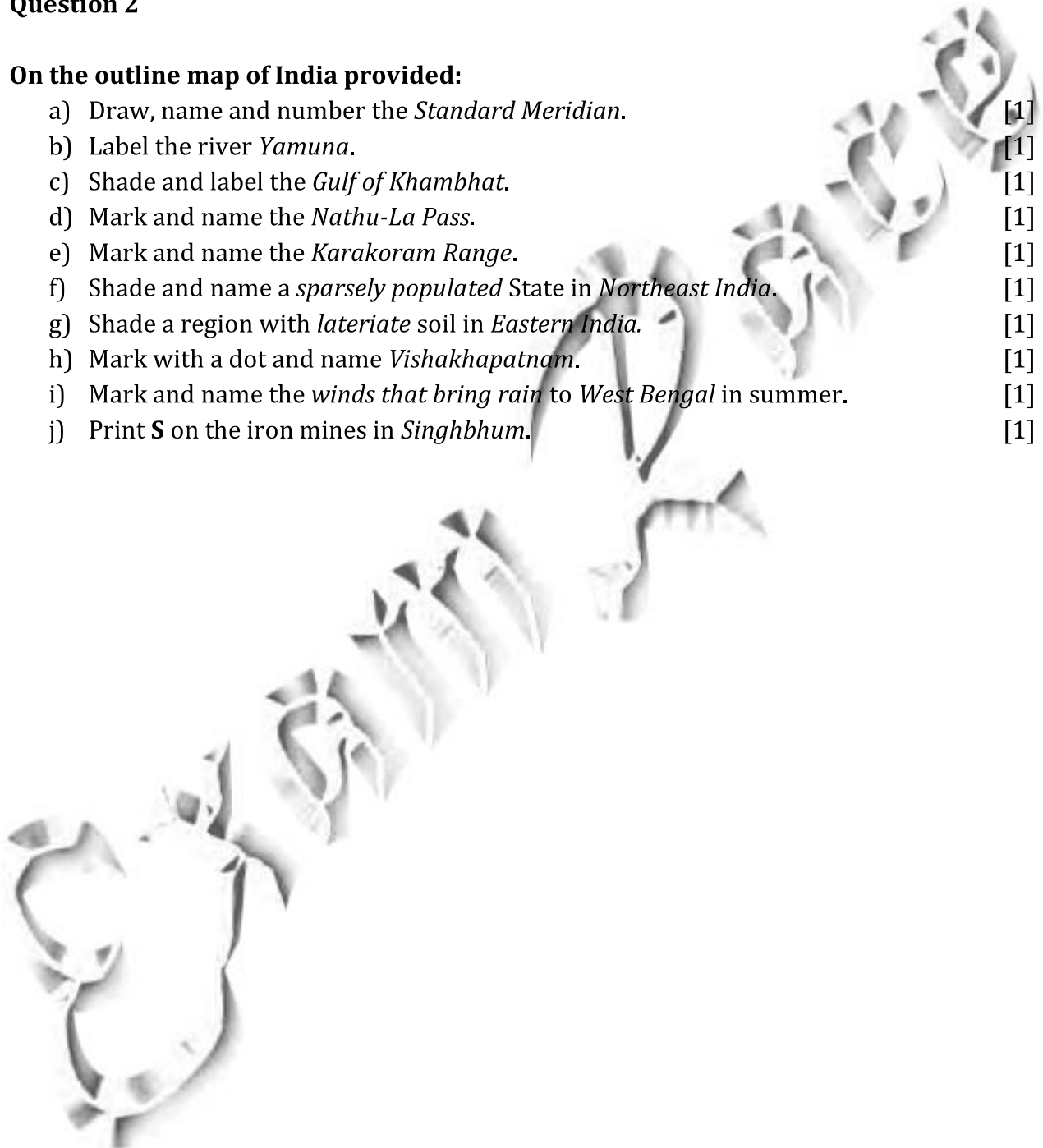
- a) i. Give the four figure grid reference of the settlement of Hamirpura. [2]
ii. Give the four figure grid reference of the temple in the settlement of Jolpur.
- b) i. What does the blue coloured circle in the grid square 0619 represent? [2]
ii. What is the compass direction of Dantrai from Jolpur?
- c) What is the difference between the : [2]
i. pattern of settlements in 0725 and the settlement of Idarla?
ii. drainage pattern of the streams in 0624 and those in 0824?
- d) What is the value of the contour line in square 0226? What is the contour interval in the map? [2]
- e) Mention any two factors which provide evidence that the region in the map extract is a rural region. [2]
- f) i. How does the feature, indicated by the black curves in 0721, show that rainfall in this region is seasonal? [2]
ii. Mention one man made feature in the map, which also provides evidence that the rainfall is seasonal. [2]
- g) i. Name two natural features in 0527.
ii. Name two natural features in 0325.
- h) Name two features which makes Dantrai a more important settlement than the other settlement in the map extract. [2]

- i) Calculate the area of the region which lies to the south of northing 21 in square kilometers. [2]
- j) What are the following? [2]
 - i. The black vertical line between eastings 09 and 10
 - ii. 302 in grid square 0425.

Question 2

On the outline map of India provided:

- a) Draw, name and number the *Standard Meridian*. [1]
- b) Label the river *Yamuna*. [1]
- c) Shade and label the *Gulf of Khambhat*. [1]
- d) Mark and name the *Nathu-La Pass*. [1]
- e) Mark and name the *Karakoram Range*. [1]
- f) Shade and name a *sparsely populated State in Northeast India*. [1]
- g) Shade a region with *laterite soil in Eastern India*. [1]
- h) Mark with a dot and name *Vishakhapatnam*. [1]
- i) Mark and name the *winds that bring rain to West Bengal in summer*. [1]
- j) Print **S** on the iron mines in *Singhbhum*. [1]



PART II (50 marks)

(Attempt **any five** questions from **this Part**)

Question 3

- a) Mention the different sources of rain in Punjab and Tamil Nadu during the winter season. [2]
- b) State the benefits that are derived from the local winds that blow in summer in the following states: [2]
- Kerala
 - West Bengal
- c) Mention the geographical reason for each of the followings: [3]
- Patna receives heavier rain than Delhi.
 - Western Rajasthan receives no rain from the Arabian Sea branch of the South West Monsoon winds.
 - Mangalore is not cold even in the month of December.
- d) Study the climate data given below and answer the questions that follow:

Month	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Temperature in °C	25.0	25.5	26.3	27.1	30.0	36.2	36.0	35.9	30.3	29.3	27.0	24.6
Rainfall cm	24.5	23.1	15.0	2.4	0.1	11.0	9.3	4.0	10.5	4.0	14.5	20.4

- Calculate the annual temperature range. [3]
- What is the total annual rainfall?
- Presuming that the station is located in India, give a reason for its location being on the east coast or west coast of India.

Question 4

- a) State any two methods of controlling soil erosion. [2]
- b) Mention two differences between alluvial soil and red soil. [2]
- c) Give geographical reason for: [3]
- different regions in India having different kinds of soil.
 - black soil being suitable for growth of cotton.
 - the conservation of soil as a natural resource.
- d) Name the soil which---- [3]
- is good for the cultivation of cashew nuts.
 - covers almost all of west Bengal
 - is a result of leaching.

Question 5

- a) Mention two reasons why monsoon deciduous forests are commercially more valuable than the other types of forests. [2]
- b) How do forests---- [2]
 - i. have a favourable effect on the climate of the region?
 - ii. act as a flood control measure?
- c) Give one important use of the following types of trees: [3]
 - i. Sundari
 - ii. Sandalwood
 - iii. Rosewood
- d) Name the natural vegetation largely found in the following regions: [3]
 - i. The delta of the Ganga river.
 - ii. The windward side of the Western Ghats
 - iii. The Deccan Plateau

Question 6

- a) State two reasons why tank irrigation is popular in South India. [2]
- b) Mention two advantages that surface wells have over inundation canals. [2]
- c) Give one geographical reason for each of the following statements: [2]
 - i. Irrigation is necessary despite the monsoon.
 - ii. The drip method of irrigation is the best among all modern methods of irrigation.
 - iii. Canal irrigation leads to the ground around it becoming unproductive.
- d) Give three reasons for the conservation of water resources. [2]

Question 7

- a) Mention any two uses of manganese. [2]
- b) Which of the different varieties of coal is used for domestic purposes and why? [2]
- c) Name the mineral used in the manufacture of: [3]
 - i. Cement
 - ii. Aluminum
 - iii. Synthetics
- d) Which state is the leading producer of the following minerals? [3]
 - i. Coal
 - ii. Oil
 - iii. Manganese

Question 8

- a) How has poverty and fragmentation of land become problems of agricultural India? [2]
- b) Mention any two features of plantation farming stating two examples. [2]
- c) Mention three differences in the geographical conditions and cultivation of rice and wheat. [3]
- d) Give geographical reasons for each of the following: [3]
 - i. Cotton grows widely in Maharashtra.
 - ii. Clonal planting is the best method of tea propagation.
 - iii. Oilseeds are an important commercial crop grown in India.

Question 9

- a) Name two textile industries using any animal fibers. Name an important state where these industries are located. [2]
- b) Give two reasons for each of the following: [2]
 - i. Kolkata is an important cotton manufacturing center even though West Bengal is not a leading producer of cotton.
 - ii. The wool industry is not as well developed as cotton industry in India.
- c) Mention three problems of the jute textile industry in India. [3]
- d) Mention three factors that have helped the sugar industry flourish in the peninsular region rather than in the northern regions of India. [3]

Question 10

- a) Name one integrated iron and steel plant in the private sector. Where does it obtain its iron and coal from? [2]
- b) Name two raw materials used in the petrochemical industry and state two advantages of petrochemical products. [2]
- c) Give a reason for each of the following: [3]
 - i. Vishakhapatnam is a leading center for ship building.
 - ii. Mini steel plants cause less pollution than integrated steel plants.
 - iii. The electronic industry has made an impact on both entertainment and education.
- d) Name a manufacturing sector for each of the following industries: [3]
 - i. Engine for MIG aircraft
 - ii. Diesel locomotives
 - iii. Software

Question 11

- a) Why is road transport in India considered more useful than rail transport? State two reasons in support of your answer. [2]
- b) Mention one advantage and one disadvantage each of inland waterways. [2]
- c) How does waste accumulation affect the environment? [3]
- d) What is acid rain? Mention two of its effects. [3]



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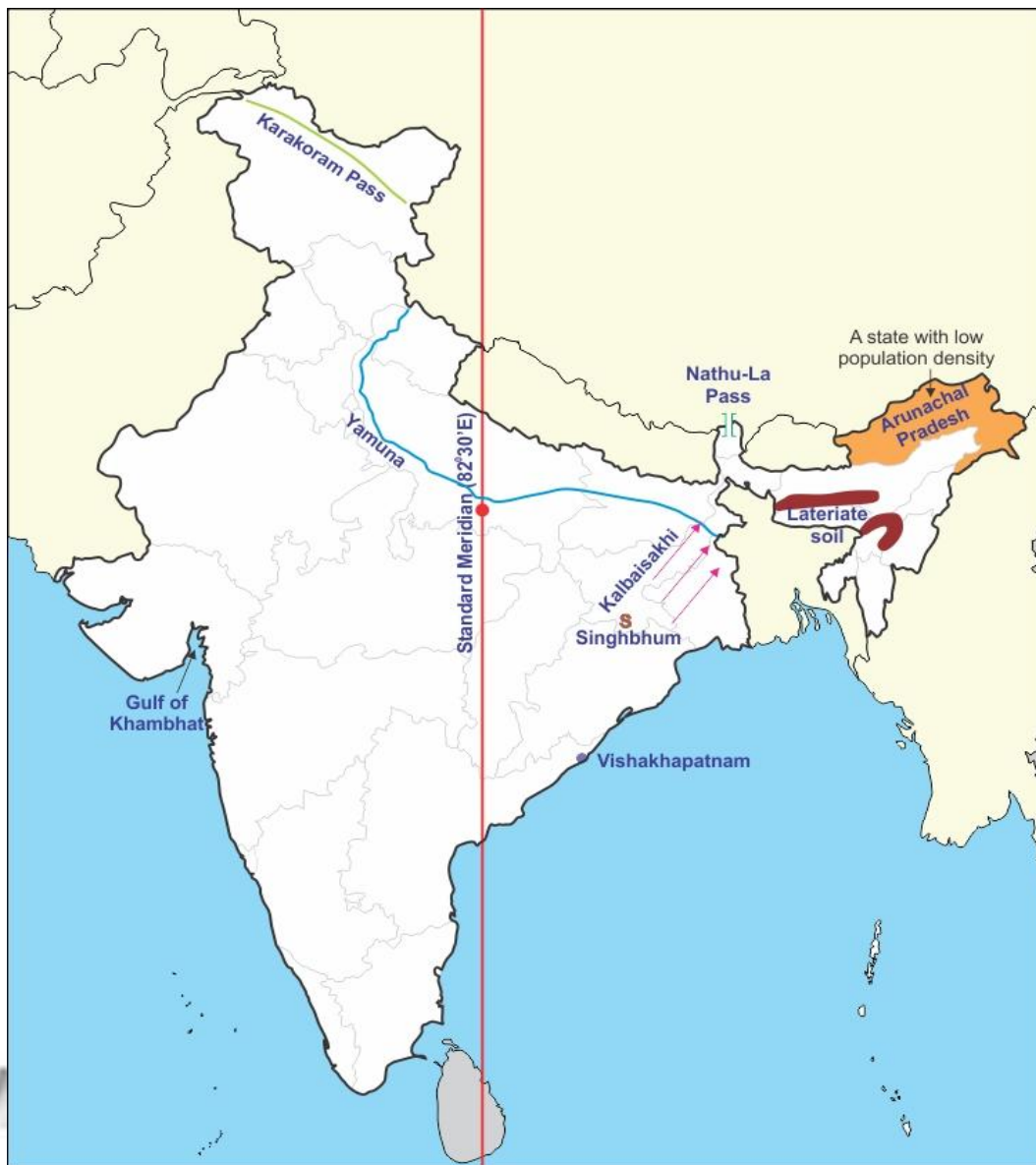
PART – I (30 Marks)

Answer 1

- a) i. 0123
ii 079 187
- b) i. Lined perennial well
ii North West
- c) i. Dispersed settlement
ii Nucleated settlement
- d) i. 300 meter
ii 20 meter
- e) Two factors that provide evidence that the region in the map extract is a rural region are that there are no large settlements and there is an absence of metalled roads.
- f) i. The rainfall in 0721 is seasonal as the ground is broken. Broken grounds are formed along the banks of seasonal rivers due to alternate dry and wet periods.
ii. The existence of large number of lined perennial wells indicates that the rainfall is seasonal in the region.
- g) i. Barren lands and seasonal streams and trees are two natural features in 0527.
ii Settlements and motorable roads in dry season are two man made features in 0325.
- h) The settlement at Dantrai has a police chowki and a post office which are absent in the other settlements.
- i) Length= 9.75 km
Breadth= 3km
Area= $9.75 \times 3 = 29.25$ sq.km
- j) i It is a longitude
ii 302 in grid square 0425 is a spot height.

Part I
Section II

Answer 2



Answer 3

- a) During the winter season, Punjab receives rainfall from temperate cyclones that originate from the Mediterranean Sea. These cyclones are not of great intensity. Tamil Nadu receives rainfall from the north east monsoon winds that blow over the Bay of Bengal and bring winter rainfall to the state.
- b) Benefits that are derived from the local winds that blow in summer in the following states are:
- i. Kerala: Local winds cause rainfall in the state. This rainfall is popularly known as 'mango showers' as they help in the ripening of mangoes.
 - ii. West Bengal: Local winds known as 'Kalbaisakhi' bring rainfall to West Bengal during the summer season. This rainfall is useful for growing jute and rice in the state.
- c) i. The Bay of Bengal branch, which brings rainfall to the north eastern states due to the presence of mountain ranges, sheds its moisture as it travel towards the west. Thus there is a decrease in rainfall as one goes from east to west. Since Patna lies in the lower Ganga valley and Delhi lies further west of Patna, it rains more in Patna than in Delhi.
- ii. The Arabian Sea branch of the South west monsoon blows parallel to the Aravalli Hills. Since the moisture bearing winds do not strike the mountains, they do not cause any precipitation in Western Rajasthan.
- iii. Mangalore is a coastal region which experiences moderate climate due to the influence of the sea. It does not experience extreme climate. Hence, Mangalore is not cold even in the month of December.
- d) i. Annual range of temperature= highest temperature-lowest temperature
 $36.2 - 24.6 = 11.6\text{ }^{\circ}\text{C}$
- ii. Annual rainfall= Sum of rainfall in all twelve months.
 Therefore, annual rainfall is 138.8 cm.
- iii. The station is located on the east coast of India as it receives adequate rainfall during the winter months of November and December.

Answer 4

- a) Two methods of controlling soil erosion are:
- Afforestation: The roots of the trees hold on to the soil and prevent soil erosion.
 - Terrace Farming: In the hilly regions, terrace farming prevents the soil from being washed away by running water.
- b) Differences between alluvial soil and red soil:

Alluvial Soil	Red Soil
It is formed due to depositional activities carried out by rivers.	This soil is formed as a result of weathering of rocks.
It is extremely fertile.	It is comparatively less fertile. It can become fertile after adding fertilisers to it.

- c) i. India has a vast latitudinal and longitudinal extent. Different climatic conditions prevail over different parts of the country. The nature and composition of rocks differ from region to region and hence different regions in India having different kinds of soil.
- ii Cotton grows well in soil which can hold water and has good drainage. This is because excessive water logging and moisture can harm the cotton crop. Since black soil has a high level of clay, it has good water holding capacity making it suitable for the growth of cotton.
- iii Conservation of soil is essential, as the loss of the top layer of soil with all the nutrients from the surface of the earth, may result in the reduction of agricultural productivity.
- d) i. Laterite soil
ii Alluvial soil
iii Laterite soil

Answer 5

- a)
 - i. Monsoon deciduous forests are commercially more valuable than the other types of forests because they are less dense and hence can be easily felled.
 - ii These forests provide valuable timber which is commercially very important.
- b)
 - i. Forests determine the climate of a region. They affect the humidity of a place by the process of transpiration, affect temperature and rainfall of a region. Trees take in carbon dioxide and hence prevent the rise in temperature and air pollution.
 - ii Forest cover reduces the intensity of floods. The roots of the plants hold on firmly to the soil deep inside the surface of the earth. This prevents flooding and soil erosion.
- c)
 - i. Sundari: The trees provide hard and durable timber for construction purposes.
 - ii Sandalwood: It is used for making ornamental objects and it is used for making sandalwood oil.
 - iii Rosewood: It is used for making furniture and for making ply boards.
- d)
 - i. Mangrove forests
 - ii Tropical ever green forests
 - iii Dry deciduous forests

Answer 6

- a) Tank irrigation is popular in South India because of the following reasons:
- i. South India does not have perennial rivers and hence the tanks form an important source of irrigation.
 - ii. It is difficult to dig wells in the region due to the presence of stony grounds. Tanks can easily be made by collecting rainwater in hollow depressions.
- b) Surface wells can be constructed at a very low cost while the construction of inundation canals from the rivers is not within the reach of poor farmers. Secondly, wells could be used even during summers. Inundation canals can be used only during the time of floods.
- c) i. The monsoon in India is uneven, erratic in nature and is unreliable. While it may rain well during one year, in another year, the rainfall may be scarce. Hence Irrigation is necessary despite the monsoon.
- ii The drip method of irrigation is the best among all modern methods of irrigation as in this method water is directly given to the crops through perforated pipes. This reduces evaporation and each crop may be irrigated according to its requirements.
- iii Alkaline salts may come up to the ground in areas where canals are used for irrigation. This happens when the water table is only a few feet below the ground. This salt when it mixes with the soil makes it unproductive.
- Three reasons for the conservation of water resources are:
1. Uncertainty of Rainfall: In India, rainfall is highly irregular and uncertain. At times the monsoon arrives early and sometimes it comes too late. It also does not rain uniformly in all parts of the country. In such a situation, we cannot totally depend upon rainfall and thus need to conserve water.
 2. Our population is increasing at a tremendous rate which may lead to the depletion of water resources at a fast pace. Thus water needs to be conserved.
 3. Most of the water in rivers and other natural resources are getting polluted. The water not only needs to be conserved but also needs to be treated to meet the demands of the people and the farmers.

Answer 7

- a) Two uses of manganese are:
 - i. It is used in the manufacturing of steel and ferro manganese alloy.
 - ii. It is used in the manufacturing of insecticides and pesticides.
- b) Bituminous coal is largely used for domestic purposes because its carbon content varies from 50% to 80% and hence could be utilised.
- c)
 - i. Limestone
 - ii Bauxite
 - iii Petroleum
- d)
 - i. Coal: Chhattisgarh and Jharkhand
 - ii Oil: Assam and Gujarat
 - iii Manganese: Odisha

Answer 8

- a) Poor farmers are not able to look after their fields well due to their lack of purchasing capacity of seeds and fertilisers. Fragmentation of land results in small size land holdings. Modern agricultural methods like the use of modern machines or scientific cultivation can not be carried out on small landholdings as the agricultural output is low. Fragmentation of land holdings results in waste of time, labour and irrigation facilities.
- b) Two features of plantation farming are:
- One crop is cultivated by using modern scientific methods. For example, in rubber plantation, only rubber is grown.
 - Some plantation crops are labour intensive like tea plantation.
- c) Differences in the geographical conditions and cultivation of rice and wheat are

Rice	Wheat
It grows well in warm and humid conditions.	It can grow well in many climatic conditions, though it grows best during cool winters.
The crop requires plenty of rainfall between 150 to 250 cm.	It requires moderate rainfall between 70-80cm.
It is a kharif crop which is sown in June and harvested in September or October. However, it can also be grown throughout the year if irrigation facilities are available.	It is a rabi crop which is sown before winters and harvested in April.

- d) i. Cotton is grown widely in Maharashtra as it grows well in well drained clayey soil. Also while growing cotton, the minimum temperature should not drop below 20°C and rainfall should be moderate. All these climatic conditions exist in Maharashtra and thus it is widely grown here.
- ii. Clonal planting is the best method of tea propagation because in this method high yielding varieties of tea shrubs from nurseries can be planted in the plantations.
- iii. Oilseeds are an important commercial crop grown in India as oils extracted from these seeds are used for a variety of purposes like as raw materials in cooking, the paint industry etc.

Answer 9

- a) Silk textiles industry and woollen textile industry are the two textile industries that use animal fibers. While silk industries are largely based in Karnataka, the woollen industry is based in Punjab and Jammu and Srinagar.
- b) i. The hot and humid climate of Kolkata is suitable for the spinning of yarn and cotton. Further, the cheap supply of labour has facilitated the development of spinning units.
- ii While cotton clothes are in demand for the entire year, woollen clothes are required only in northern Indian states during the winter season. Further, good quality of wool is not available in India and it has to be imported. This is the reason that the wool industry is not as developed as the cotton industry.
- c) Three problems faced by the jute textile industry in India are:
- Competition from the World Market: Jute industry in India is facing stiff competition from countries like Bangladesh, Thailand, Brazil, Egypt etc. who offer jute products at very cheap rates.
 - Competition from substitutes: Products made out of synthetic fibers have replaced jute products. For example, hemp and plastics bags have hit the jute industry in India hard.
 - Outdated Machinery: Most of the jute industry is equipped with outdated machinery. This not only results in high cost of production but also results in low production.
- d) Three factors that have helped the sugar industry flourish in the peninsular region are:
- The climate of south India is more favourable than the climate of north India. The climate of south India is free from extreme summers and frost during winters. Thus a longer production period of sugar cane exists in peninsular India.
 - The black soil in peninsular India is more fertile for growing sugarcane than the alluvial soil in north India.
 - An excellent network of transportation facilities exists in the states like Maharashtra and Tamil Nadu. This has further boosted the sugarcane industry in peninsular India.

Answer 10

- a) One integrated iron and steel plant in the private sector is the Tata Iron and Steel Company. It receives its supply of iron from the Gurumahisani mines in Mayurbhanj district of Odisha and from the Naomundi mines in Singhbhum district of Jharkhand. The industry receives coal from the Jharia and Bokaro coalfields of Jharkhand.
- b) Two raw materials used in the petrochemical industries are Ethylene and Benzene which are petroleum products.

Two advantages of petrochemical products are:

- Petrochemical products are economical and cost effective as they are produced on a large scale.
 - They are durable as compared to the traditional agricultural products.
- c) i. Since ship building is a heavy industry that requires bulky raw materials, Vishakhapatnam has an oil refinery, a steel plant and industrial complexes which favour the growth of the ship building industry.
 - ii Mini plants use electric power and hence cause less pollution than the integrated steel plants.
 - iii The electronic industry has made an impact on both entertainment and education because its devices and software are used in both the above fields. For example in entertainment industry, stereo players, CDs etc are used.
- d) i. Hyderabad
 - ii Varanasi
 - iii Bengaluru

Answer 11

- a) Road transport in India is more useful than the rail transport as it connects even the remotest villages to the cities. Secondly, roads can be built even in the uneven, rugged and difficult terrain where rail lines cannot be laid down.
- b) One advantage of inland waterways is that it helps in the transportation of bulky and heavy goods. One disadvantage is that goods cannot be transported if the inland waterway has barriers like rapids and waterfalls.
- c) Accumulated waste easily becomes the breeding ground of mosquitoes, houseflies, rodents etc which can lead to the spread of many diseases like dengue, malaria, plague etc. Further, during the rainy season, wastes may flow down into the river or a small stream and pollute it with plastics and other waste materials. When this water is consumed by human beings, it can cause various diseases.
- d) When pollutants like sulphuric acid and nitrogen oxides (released by burning of fossil fuels and industrial emissions) present in the air combine with droplets of water in the air and come down as rain, it is known as acid rain.

The following are the harmful effects of acid rain:

- Acid rain may lead to the corrosion of buildings, monuments, bridges etc.
- It increases acidity in the soil leading to its reduced fertility and affects the lives of aquatic animals.