# Previous Year Question

# Paper 2012

**PART-I (Compulsory)**
Answer all questions.

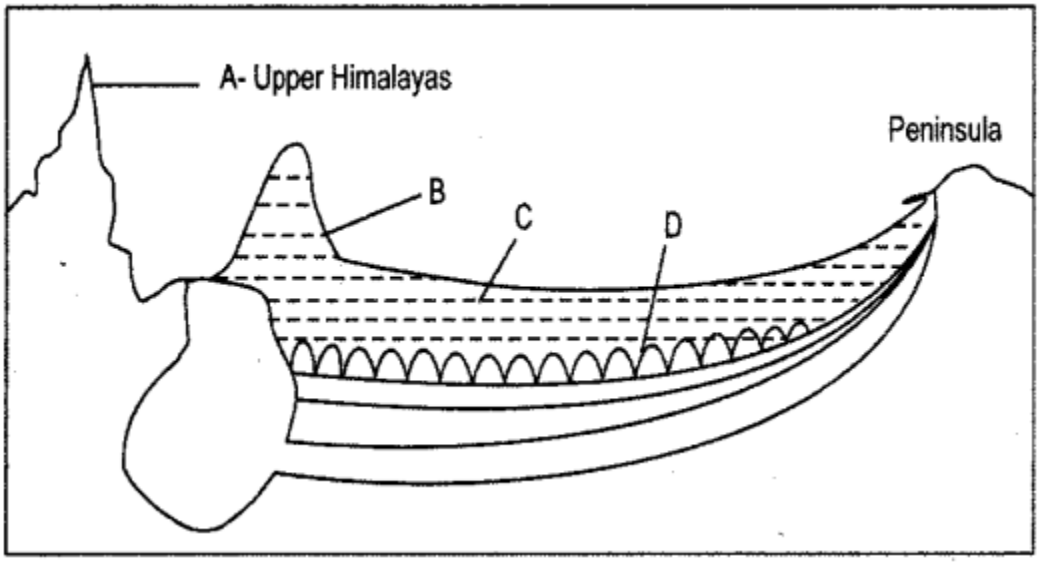
**Question 1.** **[20]**

**(i)** India's position in the Indian Ocean is paramount. Give two reasons to justify the given statement.

**(ii)** Study the cross-section given below which represents the basin of the Indo-Gangetic plain.

**(a)** Name the features B, C and D in the cross-section.

**(b)** Which layer of sediments among the above features is new and fertile.




**(iii)** The rivers of North India are Antecedent in nature. Explain with an example.

**(iv)** Differentiate between Barind and Bhur with reference to the Indus-Ganga-Brahmaputra Plain.

**(v)** What is meant by virgin vegetation? Name any two regions in India where such vegetation occurs.

**(vi)** How is arithmetic density of population different from physiological density of population ?

**(vii)** Delhi has a population density of 9,340 persons per sq. km. which is much higher than the national average of 325 persons per sq. km. Explain why.

**(viii)** Define cultivable waste. Give any one reason for its existence.

**(ix)** Name any two strategies adopted to usher in the second Green Revolution in India.

**(x)** India is richly endowed with a variety of minerals. State two reasons in support of this statement.

**Answer:**
**(i)** Indian Ocean is the only ocean in the world which has been named after a country (India), this is the biggest proof of the prominence enjoyed by India in early days when oceans were given their names. liven today India's position in the Indian Ocean is paramount as :
**(a)** India stands at the head of the Indian Ocean at the very centre of the Eastern Hemisphere commanding trade routes running in all directions.
**(b)** India commands an important strategic position on the globe with respect to trade as well as social cultural interaction. Economically and culturally India had major contacts with outside world in the last two millennia via Indian Ocean, no other country has as a long a coast line on this ocean as India has.

**(ii) (a)** 'B' is Shivalik hills.
'C' is Plains of new fertile alluvial-Khadar.
'D' is Plains of older coarse nodules of alluvium-Bhangar.
**(b)** C is the sediment deposit which is new and fertile.

**(iii)** Many of the Himalayan rivers which existed even before the Himalayan ranges were uplifted. The gorges of the Indus, the Satluj, the Alakananda clearly indicate that these rivers are older than mountains. During the upliftment of Himalayas, their banks rose steeply while the beds went lower, thus cutting deep gorges in the Himalayas. Thus, the rivers of North India are typical examples of antecedent drainage.

**(iv)** Indo-Gangetic plain is a flat and featureless plain which has its own diversities of relief. Keeping their diversities in view, the plain can be divided in four divisions: The Bhabar, the Tarai, the Bhangar and the Khadar.

The Bhangar is an area which is composed of old alluvium and forms the alluvial terrace above the level of the flood plains. Bhangar area also has some striking differences in the local relief.

**(a)** One such difference is found in the deltaic region of Bengal, it has extensive laterite formation in the Bhangar known as "Barind.".
**(b)** "Bhur" is another such difference found in upper Ganga-Yamuna doab. Bhur has been formed due to the weathering of soft fine grained topsoil, where only the coarse grained soil is left behind.

**(v)** Virgin Vegetation are often biodiversity hotspots because these areas are rich in plant and animal species.
The Nilgiris in Western Ghats and Gulf of Mannar in Tamil Nadu are best examples.

**(vi)** The arithmetic density of population is different from physiological density of population as :
**(a)** Arithmetic density is the ratio of total population to the total area of the country or a

part thereof. For example, the total population of India according to 2001 census is 1028.7 million living on a total area of 3.17 million square kilometres (excluding the area of Jammu and Kashmir illegally occupied by Pakistan and China) thus, the arithmetic density of India, according to 2011 census is 372 persons/km$^2$. The arithmetic density of population of India in 2001 is :

$$= \frac{\text{Total population}}{\text{Total area}}$$

$$= \frac{1028.7}{3.17}$$

= 325 persons per sq.km.
It is most simple and widely used all over the world but it is a 'crude measure'.

**(b)** Physiological Density is different to Arithmetic density as physiological density is the ratio of total population to the cultivated area of the country. For example : The physiological density of India, according to 2011 census is 1594 persons/km$^2$. According to 2001 census, the total population of India is 1,02,87,37,436 and the total cultivated area in the country is 14(28,190 sq km, therefore, the physiolo-gical density is :

$$= \frac{\text{Total population}}{\text{Cultivated area}}$$

$$= \frac{1,02,87,37,436}{14,28,190}$$

= 720 person per sq km.
This is a very useful measure for an agricultural country like India.

**(vii)** According to 2011 census, Delhi's population density is 11,297 persons per km$^2$. The high population density is mainly owing to the large-scale in migration that was taken place. Delhi, being the largest commercial center, attracts huge chunks of population from adjoining areas. Rapid growth and development of key industries such as IT, hotels, banking, media and tourism has absorbed the migrants resulting in high density.

**(viii)** Cultivable waste is the land available for cultivation but not used for cultivation for one reason or the other. This land has been abandoned for some reasons such as lack of water, salinity or alkalinity of soil, soil erosion, waterlogging, unfavourable physiographic position, human neglect or deficiencies occurred in soil due to the faulty agriculture practices.

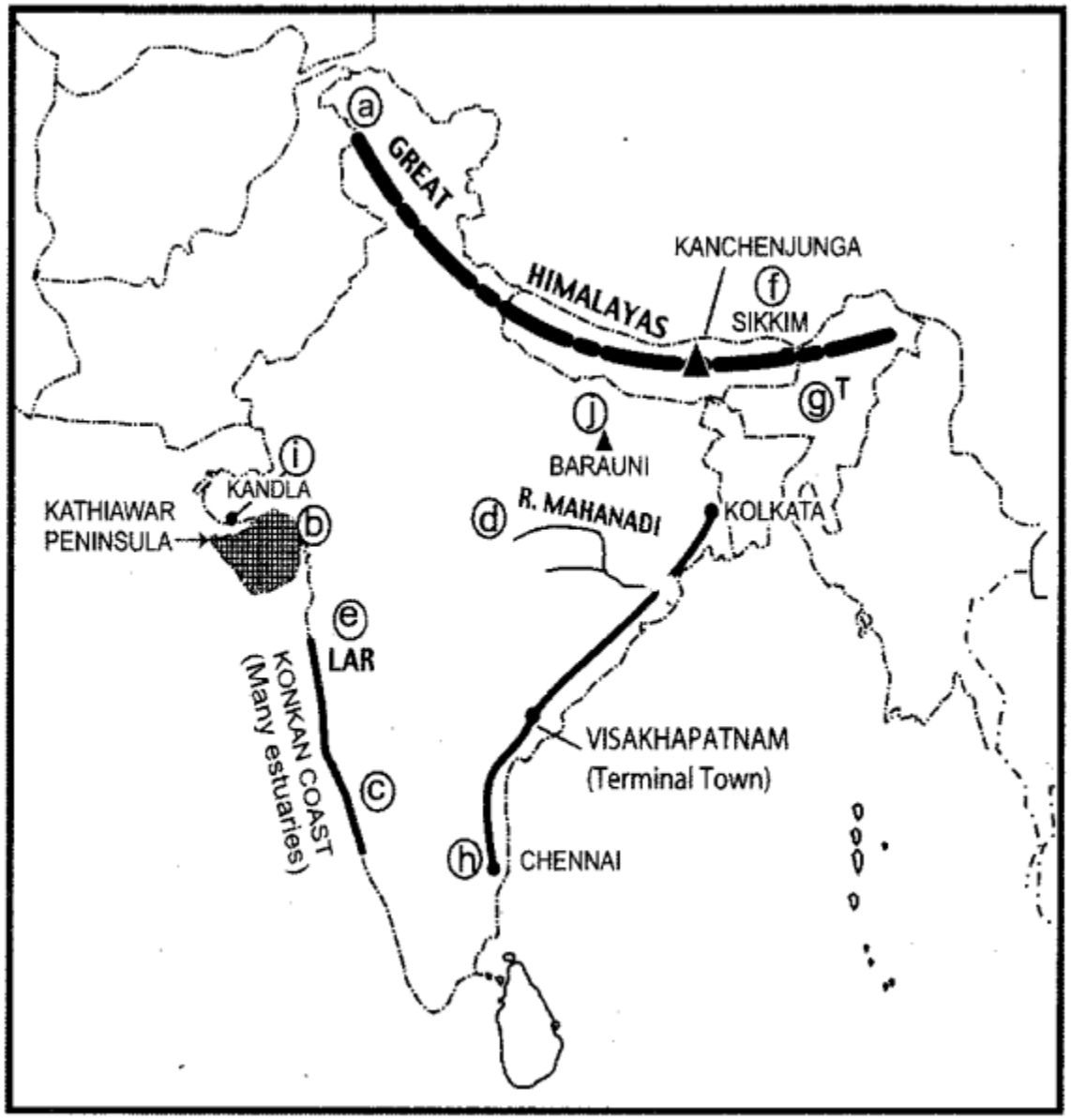
**(ix) (a)** Micro-irrigation system.
**(b)** Organic farming.

**(x)** India is richly endowed with a variety of minerals and diverse geological formations. The following two points illustrate this :

**(i)** Development of Mining : India has huge population and mining can be an important activity to absorb large labour force. India needs to develop efficient technology to avoid waste and to work the mines economically.
**(ii)** Political Influence : Existence of mineral resources was one of the greatest factors responsible for emergence of imperialism and colonization.

**Question 2.** **[10]**
On the outline map of India provided :
**(a)** Mark and name the Trans-Himalayan range that has the highest peak in India.
**(b)** Shade and name the peninsula that lies between the Gulf of Kachchh and the Gulf of Khambhat.
**(c)** Shade and name the coastal plain that is characterized by many estuaries.
**(d)** Name and trace the course of the river on which the Hirakud dam has been built.
**(e)** Print LAR over a region that experiences a low annual range of temperature.
**(f)** Shade and name the state with the lowest Index of Concentration according to 2001 census.
**(g)** Print T over one important tea growing region to the north of the Tropic of Cancer.
**(h)** Draw the longest arm of the Golden Quadrilateral and mark and name any one of its terminal towns.
**(i)** Mark and name the port that was built to replace the Karachi Port which became a port of Pakistan.
**(j)** Mark and name the public sector oil refinery located in Bihar.

**Answer:**




**(Map not to scale)**

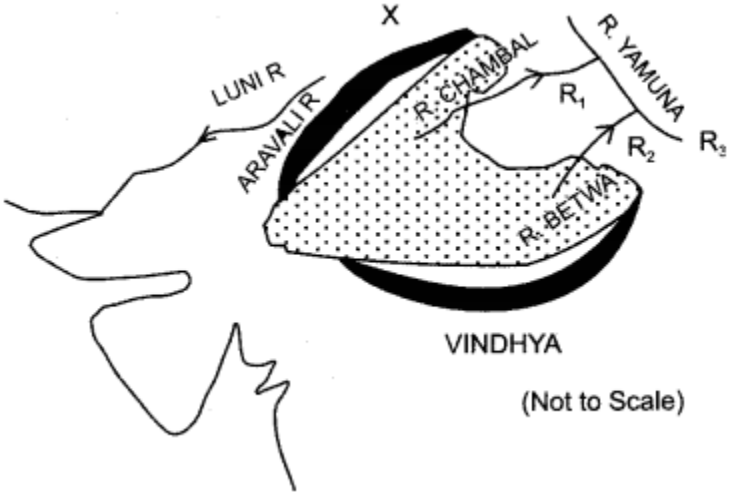
**(a)** Trans-Himalayas range—Great Himalayas with the highest peak, Kanchenjunga.
**(b)** Kathiawar peninsula.
**(c)** Konkan coast has many estuaries.
**(d)** Hirakud dam has been built on Mahanadi.
**(e)** Coastal plain of west have low annual range of temperature.
**(f)** Sikkim.
**(g)** Important tea growing region—Assam.
**(h)** The longest arm of Golden Quadrilateral is from Chennai to Kolkata with its terminal town Visakhapatnam.
**(i)** Port Mohd. Bin Qasim, 35 km. east of Karachi city.
**(j)** "Barauni" in Bihar.

**PART-II**

Answer any four questions.

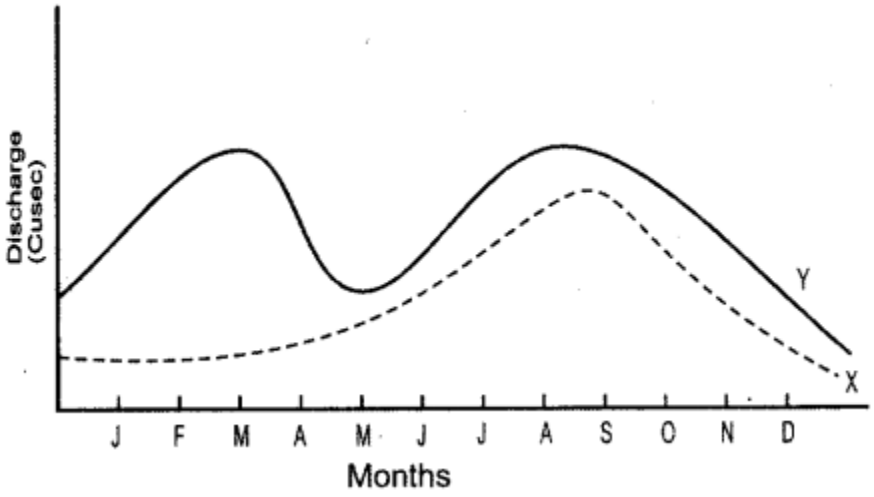
**Question 3.**

**(a)** The diagram below represents the northwestern part of the Peninsular Plateau :



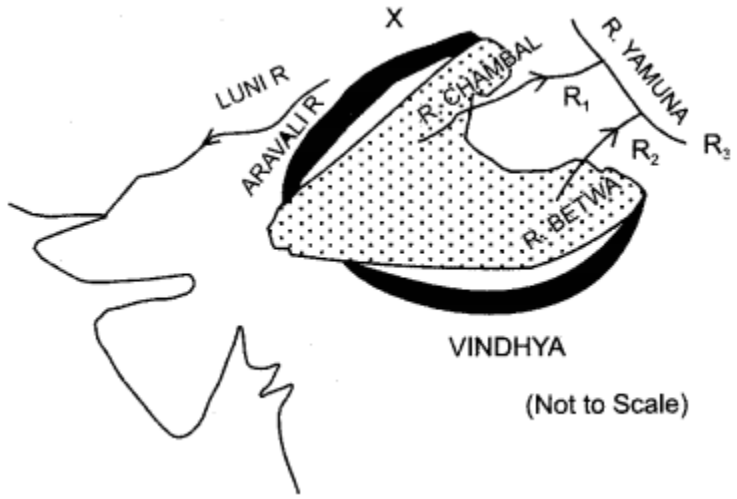

**(i)** Identify the dotted region. Name the predominant rock that constitutes the region.
**(ii)** Label the mountain range shown as X and the rivers RltR2 and R3.

**(b)** The diagram given below shows the regimes (annual fluctuation in discharge) of two hypothetical rivers X and Y. **[4]**




**(i)** Identify which of the two rivers represent the regime of a peninsular river. Give a reason for your answer.
**(ii)** Name the peninsular river which is an exception to the general pattern. Why is it an exception?
**(c) (i)** Why are deciduous forests of India considered economically important? **[1]**
**(ii)** Give two reasons to explain the decrease in forest cover in recent years. **[2]**
Answer:
**(a) (i)** Dotted region is Malwa Plateau region. Hard rocks like granite are the

predominant rocks which constitutes it.
**(ii)** Mountain range X is Aravali Range.
$R_1$ is R. Chambal.
$R_2$ is R. Betwa.
$R_3$ is R. Yamuna.




**(b) (i)** River X represents the regime of a peninsular river, because peninsular rivers are seasonal rivers and they have more water in the months of rainy seasons, which lasts from June to November.
**(ii)** Peninsular rivers flow from west to east originating from the Western Ghats and falling into Bay of Bengal, but Narmada and Tapi are two exceptions. These rivers flow from east to west direction falling into Gulf of Khambhat.

**(c) (i)** The deciduous forests of India are economically important because :
Though it is a mixed forest but single species of trees grow in patches favouring the exploitation of forest resources. These forests are not too dense and therefore are easily accessible. Moreover, these forests provide valuable wood which is commercially very important such as sal, teak, shisham, sandalwood and khair etc.
**(ii)** The forest cover in recent years has decreased due to:

1. Thoughtless and rapid exploitation of forest resources as per demand of increasing population.
2. For acquiring land for agriculture, industries and construction purposes, the forests have been cut down recklessly.

**Question 4.**
**(a)** Define population growth and population growth rate. **[2]**
**(b)** Differentiate between crude literacy rate and literacy rate. **[2]**
**(c)** How does census of India differentiate between statutory towns and census towns ?**[2]**
**(d) (i)** Explain the term urban sprawl. Why is it considered to be a problem of

urbanization ? **[2]**
**(ii)** What is a conurbation ? Give two examples. **[2]**

**Answer:**
**(a)** Population growth means the difference between the natural birth rate and death rate of an area/country When the birth rate is higher than the death rate it is called positive growth because the population increases, but when the birth rate is low'er than the death rate, then it is negative growth because ,the population decreases.

But population growth rate is slightly different to the population growth, it is a change in the number of people living in a particular area between two given points of time. The net change between two points of time is expressed in percentage and is described as the growth rate of population.

**(b)** Crude Literacy Rate : Up to 1981 census, literacy rate was calculated by dividing literate persons by total population and multiplying by hundred. This was 'crude literacy rate' and was calculated by using the following formula :

$$\text{Crude literacy rate} = \frac{\text{Literate population}}{\text{Total population}} \times 100$$

(In this total population means 0 age to the old age).
Literacy Rate : The literacy rate becomes more meaningful if the sub-population in the age group 0-6 is excluded from the total population, so it was decided in 1991 to use the term literacy rate for the total population relating to seven years and above. The same concept has been continued in 2001. It is a better measure of literacy and is calculated by the following formula:

$$\text{Literacy rate} = \frac{\text{Literate population}}{\text{Population in the age group of seven years and above}} \times 100$$

Literacy rate is more meaningful, accurate in finding out the percentage of literate people than the crude literacy rate.

**(c)** In census of India 2001, two types of towns were identified:
**(i)** Statutory Towns: All places with a municipality, corporation. Cantonment board or notified town area committee, etc. so declared by a state law, are known as statutory towns.
**(ii)** Census Towns: Places which satisfy the following criteria :

- A minimum population of 5000.
- At least 75 percent of male working population engaged in non-agricultural pursuits; and
- A density of population of at least 400 persons per sq km.

**(d) (i)** Urban Sprawl: Urban sprawl is unchecked spreading of a city or its suburbs. It often involves the construction of residential and commercial buildings in rural areas or otherwise undeveloped land at the outskirts of the city. Almost all the cities grow at the expense of surrounding agricultural land, thereby reducing the scope for agricultural expansion. Most residents of typical urban sprawl neighbourhood live in single family homes and commute by car to workplaces in the city.

The term Urban Sprawl is generally used with negative connotation because people sprawling in neighbourhoods tend to drive more than those who don't. Urban Sprawl is sometimes associated with increased air pollution.
Moreover at the initial stage the suburbs grow along the major roads radiating from the town because of their accessibility, but soon the demand for Suburban homes increases and the land between the settlements is also covered by buildings so the new roads are to be constructed for the accessibility.

**(ii)** Conurbation: A large densely populated Urban Sprawl formed by the growth and coalescence of individual towns and cities. Small towns and villages within the commanding distance of major cities are developed for residential use. In this way towns keep on growing continuously and in some areas the suburbs of a number of neighbouring towns may coalesce to form continuous urban area known as 'Conurbation'.
Big cities like Delhi, Kolkata and Mumbai along with their suburban towns are good examples of Conurbation.

**Question 5.**
**(a)** What is rainwater harvesting? State two of its objectives. **[3]**
**(b)** How is agriculture responsible for reduction in the availability of surface and ground water ? **[2]**
**(c)** What are the two categories of 'land not available for cultivation'? **[2]**
**(d)** Give three reasons to explain the importance of irrigation in Indian agriculture. ' **[3]**
Answer:
**(a)** Rainwater harvesting is the accumulation and storage of rainwater for reuse before it reaches the aquifer. Uses include conserving water for domestic purpose, conserving water for agricultural use and other civil purposes.
The two main objectives of rainwater harvesting are:

1. Collecting and storing of rainwater to make optimum use of it, at the time of no rainfall and to meet the demand of increasing population (domestic, agricultural and industrial).
2. Preventing the rainwater from loss by evaporation, surface run off and injecting it to underground to keep the level of water table high.

**(b)** Agriculture is responsible for reduction in the availability of surface and ground-water as :

- Agriculture leads to indiscriminate use of chemical fertilizers, pesticides and insecticides which aggravate the problem of the surface and ground water pollution.
- Residual of fertilizers and other chemicals reach water bodies and contaminate them.
- Misuse of over watering.

**(c)** The two categories of land not available for cultivation are:
1. Culturable Waste: The 'culturable waste' is the land available for cultivation but not used for cultivation for one or the other reasons such as lack of water, salinity or alkalinity of soil, soil erosion, waterlogging, an unfavourable physiographic position or human neglect.
2. Fallow Land: This category includes all that land which was used for cultivation but is temporarily out of cultivation. Fallow land is left uncultivated from 1 to 5 years to regain its fertility in the natural way depending upon the nature of soil and the nature of farming.

There is a need to reduce the extent and frequency of the fallow land in order to increase agricultural production. Fallow land can be improved by proper dose of fertilizers, providing irrigation facilities, crop rotation, etc.

**(d)** Irrigation is important in Indian agriculture because:

**1. Uncertainity of Rainfall:** The rainfall in India is highly irregular in place and time. Sometimes monsoons arrives early and sometimes it comes late. Sometimes rainfall is not regular throughout the rainy season leading to water scarcity and withering of crops. Hence, irrigation in the only support to raise crops.

**2. Uneven Distribution of Rainfall :** The distribution of rainfall in India is uneven in most part of country receiving 80% of rainfall, in June to Sept. Western Ghats and Eastern India get more than 250 cm, northern plains and Eastern peninsula get 100-200 cm; Gujarat, Rajasthan, Punjab and Haryana lie in arid zone.
Therefore this inadequacy of rainfall has to be met by irrigation.

**3. Crop requirements :**

1. Three crop seasons, zaid or summer crops depend on irrigation.
2. Rapid growth of population force farmers to grow two or three successive crops in a single year which is possible through irrigation only.
3. High yielding varieties require high quantity of chemical fertilizers which need more water.
4. Commercial crops like sugar cane needs frequent watering which is possible through irrigation only.

**Question 6.**
**(a) (i)** What is the importance of Manganese in Iron and Steel Industry ?
**(ii)** Name the state which is the leading producer of Manganese. Also, name any two areas in this state, where Manganese is mined. **[3]**
**(b)** Name the minerals associated with the following locations :
**(i)** Ankleshwar
**(ii)** Bailadila
**(iii)** Korba
**(iv)** Bilwara **[2]**
**(c) (i)** Give two reasons why the rivers of the northern mountains are more important for the generation of hydroelectric power in India.
**(ii)** Name the area with the highest power generating potential. **[3]**
**(d)** State the chief characteristic of Japanese method of rice cultivation. Why is rice not cultivated in the northern parts of China ? **[2]**

**Answer :**
**(a) (i) (a)** Manganese is used to make steel tough and resistant to rusting.
**(b)** Manganese acts as basic raw material for smelting of iron ore and manufacturing its ferrous alloys.
**(c)** Nearly 10 kilograms of manganese is required for manufacturing one tonne of steel,
**(ii)** Orissa is the leading producer of manganese. It produces over 36% manganese ore of India. Manganese is mined in Sundargarh and Keonjhar districts of Orissa.

**(b)** Minerals associated with the following locations are:
**(i)** Ankleshwar
**(ii)** Bailadila
**(iii)** Korba
**(iv)** Bhilwara

**(c) (i)** The rivers of the Northern mountain are more important for the generation of hydroelectric power in India because :

- The rivers of Northern India are perennial, as they are snowfed. So the hydroelectric power can be generated throughout the year.
- These rivers are longer and fall from a great height. Falling from a height is a basic requirement for generating hydroelectricity.

Peninsular rivers are rainfed so they have water in rainy season and the height of the Western Ghats are not high as the Himalayas.

**(ii)** The North-Eastern part of the mountainous region constituting the Brahmaputra basin has the highest power generating potential.

**(d)** Japanese method of rice cultivation gives some of the highest yields of rice in the world. The chief characteristics of Japanese methods are:

- Rice is first prepared as nursery in the seed beds and the seedlings are transplanted in late spring to the flooded fields.
- Paddle wheels, electric and diesel pumps are used to supply irrigation ditches with water.
- Small tractors are used for preparing the fields.
- Terrace is a common feature of rice cultivation on the margin of the plains.
- The rows of plants are fixed at a distance of 25 cm. Similarly, the distance between the plants is about 15 cm. It makes easy for the farmer to give proper care to the plants by weeding them.
- Manure is used extensively to increase the yield. The plants give a higher yield in this method.

Rice is not cultivated in the northern parts of China because the climate of this region is too cold for rice cultivation.

**Question 7.**
**(a)** Give two reasons to explain why transport plays an important part in the development of India. **[2]**
**(b) (i)** With reference to railway transport, differentiate between fare and freight. **[4]**
**(ii)** Why is there a distinct contrast in the . railway network between the Eastern and the Western coastal plains ?
**(c) (i)** State two advantages of water transport. **[4]**
**(ii)** Mention any two factors that hinder inlandwater transport in India.

**Answer:**
**(a)** Transport plays an important part in the development of India as :
**(i)** Needed to connect remote and inaccessible parts of the country.
**(ii)** Helps in extending relief during disasters and calamities.

**(b) (i)** Fare is the amount charged by the railways to carry passengers, while freight is the amount charged by the railways to transport goods and luggage from one place to another.
**(ii)** There is a distinct contrast in the rail network between the Eastern and Western coastal plains. There exists a long trunk route all along the east coast but such a rail track is missing along the western coast from Mumbai to Kochi. The outcrops of the Western Ghats being very close to the coast, restrict the extent of the coastal plain while the eastern coast is wider and the Ghats lie away from the coast. Now, Konkan Railway Corporation has been constituted to construct west coast rail line, which is one of the most important achievement of Indian Railways and it is considered as an engineering marvel. It crosses 146 rivers, nearly 2000 bridges and 91 tunnels. Asia's largest tunnel, which is nearly 6.5 km long, also lies on this route. The states of Maharashtra, Goa and Karnataka are partners in this undertaking.

**(c) (i)** 1. Water transport is the cheapest means of transport and is most suitable for carrying heavy and bulky materials having low specific cost.
2. It is fuel efficient and environment friendly mode of transport.
**(ii)** The factors that hinder inland water transport in India, are :
1. Inland water transport suffered a great deal at the hands of roads and railways because they could not compete with the speed of road and rail transport.
2. Though efforts are being made to revive the inland waterways, yet this mode of transport is at its initial stage. Waterways provide only one percent of total transport of India as it is greatly under utilized as it is a time consuming transport.

**Question 8.**
**(a)** What are industrial clusters ? State any two indices used to identify industrial clusters. **[3]**
**(b)** Examine the role played by the availability of raw materials in influencing location of industries. **[2]**
**(c)** Where is Visvesvaraya Iron and Steel Limited located ? How has this steel plant overcome the disadvantage of not being located near any coal mining region of India ? **[3]**
**(d)** With reference to tourism in'India, explain : **[2]**
**(i)** Heritage Hotels
**(ii)** Eco-tourism.

**Answer:**
**(a)** Industrial Cluster : Industries are unevenly distributed in India because the factors affecting industrial location are not same everywhere. Industries tend to be concentrated in a few pockets because of certain favourable factors. The pockets having high concentration of industries are known as industrial clusters. Several indices are used to identify the clustering of industries, important among them are :

1. Average daily factory employment/No. of workers.
2. Quantum of power used for industrial purposes.

**(b)** Industries which use heavy and bulky raw materials in their primary stage in large quantities, are usually located near the supply of the raw materials. It is true in the case of raw material which lose their weight in the process of manufacture or which cannot bear high transport cost or cannot be transported over long distances because of their perishable nature. The Jute mills in West Bengal, Sugar mills in Uttar Pradesh, Cotton mills in Maharashtra and Gujarat are concentrated close to the sources of raw materials for this very reason. The industries like iron and steel which use very large quantities of coal and iron ore and lose weight in the process of manufacture are generally located near the sources of coal and iron ore. Thus, availability of raw material plays an important role in influencing the location of an industry.

**(c)** Visvesvaraya Iron and Steel Ltd. is located at Bhadrawati on the banks of river Bhadrawati in Shimoga district of Karnataka. This steel plant has overcome the

disadvantage of not being located near any coal mining region of India, by obtaining charcoal from the forest wood and using it for smelting. Now, it uses hydroelectric power obtained from Sharavati Power Project.

**(d) (i)** Heritage Hotels : Heritage hotels cover running hotels in palaces, castles, forts, havailies, hunting lodges residence or any size built prior to 1950. The facade architect feature and general construction should have the distinctive qualities and ambience in keeping with the traditional way of life of the area.

**(ii)** Eco-Tourism : Eco-tourism is a form of tourism involving visiting usually protected areas, intended as a low impact and often small- scale alternatives to commercial (mass) tourism. Its purpose is to educate travellers to provide funds for ecological conservation, to directly benefit the economic development and political empowerment of local communities or to foster respect for different cultures and for human rights.

**Question 9.**
**(a)** What does a geographer's concept of development comprise ? **[2]**
**(b)** Explain what are macro regions, giving at least one example from India. **[3]**
**(c)** How was the state of Chhattisgarh created ? State any two features of agriculture practised in Chhattisgarh. **[3]**
**(d)** Explain with reference to its location, how Haldia Port has helped release congestion at Kolkata Port. **[2]**

**Answer:**
**(a)** Geography is an integrating discipline and offers a unique synthesis of development of natural and human resources. As such as geographer's conceptualization of development is much more comprehensive. It considers economic progress, social advancement, political development and environmental preservation.
Development is the use of resources and application of available technology to bring about an increase in the standard of living in a country. The geographer's view of development is much broader involving social and cultural advancement as well as technological change and economic growth.

**(b)** A macro-region is a large unit with greatly diversified natural resources capable of being a self contained (not necessarily self-sufficient) region with a self generating economy to support a high quality of life. There are the largest regions in the three-tier system of planning regions. These combine in themselves a number of meso-regions on the basis of their socio-economic bonds, south peninsular region is an example of macro region e.g., Indo-Ganga plain.

**(c)** Due to its large tribal population Chhattisgarh had not been a part of main stream and thus, remained underdeveloped. This reason lead to a process of questioning and protest hence leading to creation of Chhattisgarh state curved out of Madhya Pradesh.

- About 35% of the total geographical area is under cultivation. Kharif is the main cropping season in Chhattisgarh.
- Rice is the predominant crop of Chhattisgarh, it is known as the ‘Rice Bowl’ of India. Chhattisgarh basin drained by the Mahanadi and its tributaries is the main rice producing region.

**(d)** Haldia Port has been developed to release congestion at Kolkata Port. This port is located at the confluence of river Hugli about 105 km. downstream from Kolkata.

- It receives larger vessels which otherwise would have gone to Kolkata.
- Some of the large vessels which cannot enter the Kolkata port can easily come up to Haldia.
- The hinterland of port Haldia is more or less the same as that of Kolkata. It covers a vast area which includes almost the whole of eastern and north-eastern parts of the country.