Class 12 Geography NCERT Solutions Chapter 7 Mineral and Energy Resources

Class 12 Geography Chapter 7 NCERT Textbook Questions Solved

1. Choose the right answers of the following from the given options:

Question 1.(i)
In which one of the following States are the major oil fields located?
(a) Assam
(b) Bihar
(c) Rajasthan
(d) Tamil Nadu
Answer:
(a) Assam

Question 1.(ii)
At which one of the following places was the first atomic power station started?
(a) Kalpakkam
(b) Narora
(c) Rana Pratap Sagar
(d) Tarapur
Answer:
(d) Tarapur

Question 1.(iii)
Which one of the following minerals is known as brown diamond?
(a) Iron
(b) Lignite
(c) Manganese
(d) Mica
Answer:
(b) Lignite

Question 1.(iv)
Which one of the following is non-renewable source of energy?
(a) Hydel
(b) Solar
(c) Thermal
(d) Wind power
Answer:
(c) Thermal

2. Answer the following questions in about 30 words:

Question 2.(i)
Give an account of the distribution of mica in India.
Answer:
Mica in India is produced in Jharkhand, Andhra Pradesh and Rajasthan followed by Tamil Nadu, West Bengal and Madhya Pradesh. In Jharkhand high quality mica is obtained in a belt extending over a distance of about 150 km, in length and about 22 km, in width in lower Hazaribagh plateau. In Andhra Pradesh. Nellore district produces the best quality mica. In Rajasthan mica belt extends for about 320 kms from Jaipur to Bhilwara and around Udaipur. Mica deposits also occur in Mysore and Hasan districts of Karnataka, Coimbatore, Tiruchirapalli, Madurai and Kannyakumari in Tamil Nadu, Alleppey in Kerala, Ratnagiri in Maharashtra, Purulia and Bankura in West Bengal.

Question 2.(ii)
What is nuclear power? Mention the important nuclear power stations in India.
Answer:
Nuclear power is the power that is obtained by the energy released from nuclear fission that is splitting of nucleus of radioactive minerals like Uranium and Thorium. The energy released from the nuclear fission is used to heat water, the steam released from it is used to rotate a turbine which generates electricity. The important nuclear power projects are Tarapur (Maharashtra), (Rajasthan), Kalpakkam (Tamil Nadu), Narora (Uttar Pradesh), Kaiga (Karnataka), Rawatbhata near Kota and Kakarapara (Gujarat).

Question 2.(iii)
Name non-ferrous metal. Discuss their spatial distribution.
Answer:
India is poorly endowed with non-ferrous metallic minerals except bauxite and copper.
Bauxite: Bauxite is found mainly in tertiary deposits and is associated with laterite rocks occurring extensively either on the plateau or hill ranges of peninsular India and also in the coastal tracts of the country. Bauxite is the ore for Aluminium. Odisha happens to be the largest producer of Bauxite. Kalahandi and Sambalpur are the leading producers.

The other two areas which have been increasing their production are Bolangir and Koraput. The patlands of Jharkhand in Lohardaga have rich deposits. Gujarat, Chhattisgarh, Madhya Pradesh and Maharashtra are other major producers. Bhavanagar, Jamnagar in Gujarat have the major deposits. Chhattisgarh has bauxite deposits in Amarkantak plateau while Katni-Jabalpur area and Balaghat in M.P. have important deposits of bauxite. Kolaba, Thane, Ratnagiri, Satara, Pune and Kolhapur in Maharashtra are important producers. Tamil Nadu, Karnataka and Goa are minor producers of bauxite
Copper:

The Copper deposits mainly occur in Singhbhum district in Jharkhand, Balaghat district in Madhya Pradesh and Jhunjhunu and Alwar districts in Rajasthan. It is imperative for electrical industry. Minor producers of Copper are Agnigundala in Guntur District (Andhra Pradesh), Chitradurg and Hasan districts (Karnataka) and South Arcot district (Tamil Nadu).

Question 2.(iv)
What are non-conventional sources of energy?
Answer:
Non conventional sources of energy are those energy which have been recently put to use for commercial purpose. They are generally renewable and non polluting sources of energy. They have initial high cost of installation whereas their long time running cost is low and also they are environment friendly. Eg. Soar energy, wind energy, tidal and wave energy, geothermal energy and bioenergy.

3. Answer the following questions in about 150 words:

Question 3.(i)
Write a detailed note on the Petroleum resources of India.
Answer:
Crude petroleum consists of hydrocarbons of liquid and gaseous states varying in chemical composition, colour and specific gravity. It is an essential source of energy for all internal combustion engines in automobiles, railways and aircraft. Its numerous by-products are processed in petrochemical industries.

Crude petroleum occurs in sedimentary rocks of the tertiary period. Oil exploration and production was systematically taken up after the Oil and Natural Gas Commission was set up in 1956. Till then, the Digboi in Assam was the only oil producing region but the scenario has changed after 1956. In recent years, new oil deposits have been found at the extreme western and eastern parts of the country. In Assam, Digboi, Naharkatiya and Moran are important oil producing areas. The major oil fields of Gujarat are Ankaleshwar, Kalol, Mehsana, Nawagam, Kosamba and Lunej. Mumbai High which lies 160 km off Mumbai was discovered in 1973 and production commenced in 1976. Oil and natural gas have been found in exploratory wells in Krishna-Godavari and Kaveri basin on the east coast. According to a newspaper report (The Hindu, 05.09.2006) the Oil and Natural Gas Commission has found potential zones of natural gas reserves in Ramanathapuram district. The survey is still in the initial stages. The exact quantity of gas reserves will be known only after the completion of the survey. But the results are encouraging. Oil extracted from the wells is crude oil and contains many impurities. It cannot be used directly. It needs to be refined. There are two types of refineries in India:
(a) field based and
(b) market based. Digboi is an example of field based and Barauni is an example of market based refinery. There are 18 refineries in India.

Question 3.(ii)
Write an essay on hydel power in India.
Answer:
Hydel power is a renewable energy resource because it uses the Earth's water cycle to generate electricity. Water evaporates from the Earth's surface, forms clouds, precipitates back to earth, and flows toward the ocean. The movement of water as it flows downstream creates kinetic energy that can be converted into electricity. 2700 TWH is generated every year. Out of the total power generation installed capacity in India of 1,76,990 MW (June, 2011), hydel power contributes about 21.5%, i.e. 38,106 MW.

A capacity addition of 78,700 MW is envisaged from different conventional sources during 2007-2012 (the 11th Plan), which includes 15,627 MW from large hydro projects. In addition to this, a capacity addition of 1400 MW was envisaged from small hydro up to 25 MW station capacity. The total hydroelectric power potential in the country is assessed at about 150,000 MW, equivalent to 84,000 MW at 60% load factor. The potential of small hydro power projects is estimated at about 15,000 MW.

Technology: A hydroelectric power plant consists of a high dam that is built across a large river to create a reservoir, and a station where the process of energy conversion to electricity takes place. The first step in the generation of energy in a hydro power plant is the collection of run-off of seasonal rain and snow in lakes, streams and rivers, during the hydrological cycle. The run-off flows to dams downstream. The water falls through a dam, into the hydropower plant and turns a large wheel called a turbine.

The turbine converts the energy of falling water into mechanical energy to drive the generator. After this process has taken place electricity is transferred to the communities through transmission lines and the water is released back into the lakes, streams or rivers. This is entirely not harmful, because no pollutants are added to the water while it flows through the hydro power plant.

Potential in India: India is blessed with immense amount of hydro-electric potential and ranks 5th in terms of exploitable hydro-potential on global scenario. As per assessment made by CEA, India is endowed with economically exploitable hydro-power potential to the tune of 148700 MW of installed capacity. The basinwise assessed potential is as under:

Basin/rivers Probable	Installed Capacity (MW)
Indus Basin	33,832
Ganga Basin	20,711
Central Indian River system	4,152
Western Flowing Rivers of southern India	9,430
Eastern Flowing Rivers of southern India	14,511
Brahmaputra Basin	66,065
Total	1,48,701

In addition, 56 number of pumped storage projects have also been identified with probable installed capacity of 94000 MW. In addition to this, hydro-potential from small, mini and micro schemes has been estimated as 6782 MW from 1512 sites. Thus, in totality India is endowed with hydro-potential of about 250000 MW.
Installed Capacity: The total installed capacity of India is 36878 MW

Class 12 Geography Chapter 7 NCERT Extra Questions

Class 12 Geography Chapter 7 Very Short Answer Type Questions

Question 1.
Define minerals.
Answer:
A mineral is a natural substance of organic or inorganic origin with definite chemical and physical properties.

Question 2.
Give examples of non metallic minerals.
Answer:
Fossil fuels, mica, limestone, graphite etc.

Question 3.
Name ferrous minerals.
Answer:
All the minerals which contain iron come under this category. Like – Iron ore, manganese, chromite etc.

Question 4.
What are the main types of iron found in our country?
Answer:
Haematite and Magnetite.

Question 5.
Which state is the leading producer of manganese?
Answer:
Odisha is the leading producer of manganese.

Question 6.
Name the manganese fields of Karnataka.
Answer:
Karnataka is a major producer of manganese and here the mines are located in Dharwar, Ballari, Belagavi, North Canara, Chikkmagaluru, Shivamogga, Chitradurg and Tumkur.

Question 7.
What are the uses of mica?
Answer:
Used in electrical and electronic industries and also as an insulator.

Question 8.
Which is the ore for aluminium? Which state is the largest producer?
Answer:
Bauxite is the ore for aluminium. Odisha is the largest producer.

Question 9.
Where is copper found in India?
Answer:
Copper deposits mainly occur in Singhbhum district in Jharkhand, Balaghat district in Madhya Pradesh and Jhunjhunu and Alwar districts in Rajasthan. Minor deposits in Andhra Pradesh, Karnataka and Tamil Nadu.

Question 10.
What are canaries used for?
Answer:
Singareni collieries, the country's premier coal production company, still uses canaries to detect the presence of deadly carbon monoxide in underground mines.

Question 11.
Which are the two top coalfields of India?
Answer:
Jharia and Raniganj.

Question 12.
What are the uses of petroleum?
Answer:
It is an essential source of energy for all internal combustion engines in automobiles, railways and aircraft. Its numerous by-products are processed in petrochemical industries such a fertiliser, synthetic rubber, synthetic fibre, medicines, vaseline, lubricants, wax, soap and cosmetics.

Question 13.
Which mineral is referred to as liquid gold? why?
Answer:
Petroleum is referred to as liquid gold because of its scarcity and diversified uses.

Question 14.
Which agency looks after the transport and marketing of natural gas? When was it set up?
Answer:
The Gas Authority of India Limited was set up in 1984 as a public sector undertaking to look after the transport and marketing of natural gas.

Question 15.
How is solar energy generated?
Answer:
Sun rays tapped in photovoltaic cells can be converted into energy, known as solar energy. The two effective processes considered to be very effective to tap solar energy are photovoltaics and solar thermal technology.

Question 16.
Name the sources of non conventional sources of energy.
Answer:

Solar, wind, bio, tidal and wave, geo thermal.

Question 17.
Name the states with high potential for wind energy.
Answer:
Rajasthan, Gujarat, Maharashtra and Karnataka have favourable conditions to develop wind energy.

Question 18.
Why is India endowed with a rich variety of mineral resources?
Answer:
India is endowed with a rich variety of mineral resources due to its varied geological structure. Bulk of the valuable minerals are products of pre-palaezoic age and are mainly associated with metamorphic and igneous rocks of the peninsular India.

Question 19.
Why do we need minerals for economic development?
Answer:
Industrial development of a country depends on availability of minerals and economic development depends on industrial development. Therefore, we need minerals for economic development.

Question 20.
How are minerals classified?
Answer:
Minerals are classified on the basis of their physical and chemical properties.

- Metallic minerals
- Non-metallic minerals.

Question 21.
Name the area lacking natural resources.
Answer:
The vast alluvial plain tract of north India is devoid of minerals of economic use.

Question 22.
There is inverse relationship between quantity and quality of minerals. Explain the statement
Answer:
It means that good quality minerals are less in quantity as compared to low quality minerals.

Question 23.
Where are majority of minerals found in India?
Answer:
Most of the metallic minerals in India occur in the peninsular plateau region in the old crystalline rocks.

Question 24.
In which of the river valleys important coal reserves are found?
Answer:
Over 97 per cent of coal reserves occur in the valleys of Damodar, Sone, Mahanadi and Godavari.

Question 25.
Give the distribution of bauxite ore.
Answer:
Bauxite is produced in the following states.

- Odisha is the largest producer.
- Kalahandi and Sambalpur are the leading producers.
- Gujarat, Chhattisgarh, M.P. and Maharashtra.
- Balaghat in M.P.

Question 26.
Name the areas where natural gas is found.
Answer:
Natural gas is found in:

- Eastern Coast (Tamil Nadu, Odisha, Adhra Pradesh)
- Tripura
- Rajasthan
- Gujarat
- Maharashtra

Question 27.
Name the nuclear power plant affected by tsunami which has recently been resumed.
Answer:
Kalpakkam in Tamil Nadu.

Question 28.
Where are the richest monazite deposits found?
Answer:
Monazite reserves are found in Palakkad and Kollam districts of Kerala, Vishakhapatnam in Andhra Pradesh and Mahanadi river delta in Odisha.

Question 29.
When was the first Atomic Energy Commission established and where?
Answer:
Atomic Energy Commission was established in 1948; while the Atomic Energy Institute at Trombay was established in 1954, which was renamed as the Bhabha Atomic Research Centre in 1967.

Question 30.
Name the important features of non- conventional energy sources.
Answer:

Important features of non-conventional energy sources are:

- Equitable distribution
- Environment friendly
- More sustained eco-friendly and cheaper after initial cost is taken care of.

Question 31.
Solar energy is the hope of future. Discuss.
Answer:
Solar energy is the hope of future because it is:

- Cost competitive
- Environment friendly

Question 32.
What are the advantages of bio-energy?
Answer:

- Enhance self-reliance
- Reduce environmental pollution
- Reduce pressure on fuel wood
- Conversion of municipal waste into energy.

Question 33.
Why do we need to conserve resources?
Answer:

- They are limited in number
- Exhaustible
- More time to replenish
- For sustainable development

Question 34.
Write two important uses of coal.
Answer:

- Generation of thermal power
- Smelting of iron ore for steel

Question 35.
When was the first geo-thermal energy usage attempt made? Is there any geo-thermal plant in India?
OR
Where was the first underground heat tapped?
Answer:
The first successful (1890) attempt to tap the underground heat was made in the city of

Boise, Idaho (U.S.A.), where a hot water pipe network was built to give heat to the surrounding buildings. This plant is still working. In India, a geothermal energy plant has been commissioned at Manikaran in Himachal Pradesh.

Question 36.
Name one bio-energy effort made by India.
Answer:
One bio-energy project converting municipal waste into energy is situated at Okhla in Delhi

Class 12 Geography Chapter 7 Short Answer Type Questions

Question 1.
Give an account of the distribution of bauxite in India. .
Answer:
Bauxite is used in manufacturing of aluminium. It is found mainly in tertiary deposits and is associated with laterite rocks occurring extensively either on the plateau or hill ranges of peninsular India and also in the coastal tracts of the country.

Odisha happens to be the largest producer of Bauxite. Ralahandi and Sambalpur are the leading producers. The other two areas which have been increasing their production are Bolangir and Koraput. The patlands of Jharkhand in Lohardaga have rich deposits.

Bhavanagar, Jamnagar in Gujarat have the major deposits. Chhattisgarh has bauxite deposits in Amarkantak plateau while Katni-Jabalpur area and Balaghat in M.P. have important deposits of bauxite.

Kolaba, Thane, Ratnagiri, Satara, Pune and Kolhapur in Maharashtra are important producers. Tamil Nadu, Karnataka and Goa are minor producers of bauxite.

Question 2.
What are the uses of coal? Where is it found in India?
Answer:
Coal is one of the important minerals which is mainly used in the generation of thermal power and smelting of iron ore. Coal occurs in rock sequences mainly of two geological ages, namely Gondwana and tertiary deposits. About 80 per cent of the coal deposits in India is of bituminous type and is of non-coking grade. The most important Gondwana coal fields of India are located in Damodar Valley.

They lie in Jharkhand-Bengal coal belt and the important coal fields in this region are Raniganj, Jharia, Bokaro, Giridih, Karanpura. Jharia is the largest coal field followed by Raniganj. Godavari, Mahanadi and Sone river valleys also have coal deposits.

The most important coal mining centres are Singrauli in Madhya Pradesh, Korba in Chhattisgarh, Talcher and Rampur in Odisha, Chanda-Wardha, Kamptee and Bander in Maharashtra and Singareni in Telangana and Pandur in Andhra Pradesh.

Tertiary coals occur in Assam, Arunachal Pradesh, Meghalaya and Nagaland. It is extracted from Darangiri, Cherrapunji, Mewlong and Langrin (Meghalaya); Makum, Jaipur and Nazira in upper Assam, Namchik – Namphuk (Arunachal Pradesh) ai d Kalakot (Jammu and Kashmir). Besides, the brown coal or lignite occur in the coastal areas of Tamil Nadu, Pondicherry, Gujarat and Jammu and Kashmir.

Question 3.
Which are the prospective areas of natural gases in India?
Answer:
Natural gas is obtained alongwith oil in all the oil fields but exclusive reserves have been located along the eastern coast as well as (Tamil Nadu, Odisha and Andhra Pradesh), Tripura, Rajasthan and off¬shore wells in Gujarat and Maharashtra.

Question 4.
List the major nuclear power stations along with the states.
Answer:
The important nuclear power projects are Tarapur (Maharashtra), Rawatbhata near Kota (Rajasthan), Kalpakkam(Tamil Nadu), Narora (Uttar Pradesh), Kaiga (Karnataka) and Kakarapara (Gujarat).

Question 5.
What are the advantages of solar energy?
Answer:
Solar thermal technology has some relative advantages over all other non¬renewable energy sources. It is cost competitive, environment friendly and easy to construct. Solar energy is 7 per cent more effective than coal or oil based plants and 10 per cent more effective than nuclear plants. It is generally used more in appliances like heaters, crop dryers, cookers, etc. The western part of India has greater potential for the development of solar energy in Gujarat and Rajasthan.

Question 6.
How is geothermal energy tapped?
OR
What is the source of geothermal energy?
Answer:
When the magma from the interior of earth, comes out on the surface, tremendous heat is released. This heat energy can successfully be tapped and converted to electrical energy. Apart from this, the hot water that gushes out through the geyser wells is also used in the generation of thermal energy. It is popularly known as Geothermal energy. This energy is now considered to be one of the key energy sources which can be developed as an alternate source. The hot springs and geysers are being used since medieval period.

Question 7.
Name the agencies involved in exploration of minerals.
Answer:
Geological Survey of India (GSI), Oil and Natural Gas Commission (ONGC), Mineral Exploration Corporation Ltd. (MECL), National Mineral Development Corporation

(NMDC), Indian Bureau of Mines (IBM), Bharat Gold Mines Ltd. (BGML), Hindustan Copper Ltd. (HCL), National Aluminium Company Ltd. (NALCO) and the Departments of Mining and Geology undertake systematic surveying, prospecting and exploration for minerals in various states.

Question 8.
Where are majority of petroleum reserves found?
Answer:
Petroleum reserves are located in the sedimentary basins of Assam, Gujarat and Mumbai High, i.e. off-shore region in the Arabian Sea. New reserves have been located in the Krishna-Godavari and Kaveri basins.

Question 9.
Write the uses of petroleum.
Answer:
Uses of petroleum are as follows:

- Essential source of energy for all internal combustion engines in automobiles, railways and aircrafts.
- By-products are processed in petro chemical industries such as fertilisers, synthetic rubber, synthetic fibre, medicines, vaseline, lubricants wax, soap and cosmeti.

Question 10.
Give the distribution of petroleum reserves in India.
Answer:

- Crude petroleum occurs in sedimentary rocks of the tertiary period.
- Before 1956, Digboi in Assam was the only oil producing region. But now in Assam, Digboi, Naharkatiya and Moran are important. Oilfields of Gujarat are Ankleshwar, Mehsana, etc.
- Mumbai High which lies 160 km off Mumbai was discovered in 1973.
- Natural gas have been found in exploratory wells in Krishna-Godavari a!nd Kaveri basin on the east coast.

Question 11.
Name the important belts of mineral reserves in India.
Answer:.
Minerals are generally concentrated in three broad belts in India.

- The North-Eastern Plateau Region: Chotanagpur (Jharkhand), Odisha Plateau, West Bengal and parts of Chhattisgarh.
- The South-Western Plateau Region: Karnataka, Goa and contiguous Tamil Nadu uplands and Kerala.
- The North-Western Region: Aravali in Rajasthan and part of Gujarat

Question 12.
Name the minerals which are found in South-Western plateau region belt of India.
Answer:

This belt extends over Karnataka, Goa and contiguous Tamil Nadu uplands and Kerala. This belt is rich in ferrous metals and bauxite. It also contains high grade iron ore, manganese and limestone. This belt packs in coal deposits except Neyveli lignite. Kerala has deposits of monazite and thorium, bauxite clay. Goa has iron ore deposits.

Question 13.
Write the uses and distribution of mica.
Answer:
Uses:

- Di-electric property
- Voltage resistant distribution Distribution: Jharkhand, Andhra Pradesh and Rajasthan followed by Tamil Nadu, West Bengal, M.P. and Nellore district have the best quality mica.

Question 14.
What are the features of minerals?
Answer:
Minerals have certain features:

- They are either organic like fossil fuels or inorganic like mica, limestone, etc.
- There is an inverse relationship iri quality and quantity of minerals i.e., good quality minerals are less in quantity as compared to low quality minerals.
- They contain either iron like iron ore or don't have iron content like copper, bauxite, etc.
- These minerals take long time to develop geologically and they cannot be replenished immediately at the time of need.
- All minerals are exhaustible over time. None of the minerals is a renewable source but many of them can be recycled and re-used.

Question 15.
Mention the uses of manganese and its producing states.
Answer:
Uses:

- Manganese is an important raw material for smelting of iron ore.
- It is also used for manufacturing ferro alloys.

Manganese Producing states:

- Manganese deposits are found in almost all geological formations, however, it is mainly associated with Dharwar system.
- Odisha is the leading producer of manganese. Here major mines are located in the cefttral part of the iron ore belt of India, particularly in Bonai, Kendujhar, Sundergarh, Gangpur, Koraput, Kalahandi and Bolangir.
- Karnataka is an another major producer and here the mines are located in Dharwar, Bellary, Belgaum, North Canara, Chikmagalur, Shimoga, Chitradurg and Tumkur.

- Maharashtra is also an important producer of manganese which is mined in Nagpur, Bhandara and Ratnagiri districts.
- Andhra Pradesh, Goa, and Jharkhand are other minor producers of manganese.

Question 16.
Why is it necessary to develop bio-energy in India?
Answer:
Bio-energy is a potential source of energy conversion. It can be converted into electrical energy, heat energy or gas for cooking.
Necessity for India:

- It will also process the waste and garbage and produce energy.
- This will improve economic life of rural areas in developing countries.
- It will reduce environmental pollution.
- It will enhance self-reliance.
- It will reduce pressure on fuel wood.

Question 17.
Classify minerals based on chemical and physical properties. Explain them.
Answer:
On the basis of chemical and physical properties, minerals may be grouped under two main categories of metallics and non-metallics. Metallic minerals are the sources of metals. Iron ore, copper, gold produce metal and are included in this category. Non-metallic minerals are either organic in origin such as fossil fuels also known as mineral fuels which are derived from the buried animal and plant life such as coal and petroleum. Other type of non-metallic minerals are inorganic in origin such as mica, limestone and graphite, etc.

Class 12 Geography Chapter 7 Long Answer Type Questions

Question 1.
Why is conservation of resources essential? Suggest steps to conserve minerals.
Answer:
In order to achieve economic development with least environmental impact, the goals of sustainable development must be kept in mind in order to protect the future generations. There is an urgent need to conserve the resources.

- The alternative energy sources like solar power, wind, wave, geothermal energy are inexhaustible resource. These should be developed to replace the exhaustible resources.
- In case of metallic minerals, use of scrap metals will enable recycling of metals. Use of scrap is specially significant in metals like copper, lead and zinc in which India's reserves are meagre.
- Use of substitutes for scarce metals may also reduce their consumption.
- Export of strategic and scarce minerals must be reduced, so that the existing reserve may be used for a longer period.

Question 2.
Describe the development of nuclear energy in India and challenges in its growth.
Answer:
Nuclear energy has emerged as a viable source in recent times.

- Important minerals used for the generation of nuclear energy are uranium and thorium.
- Uranium deposits occur in the Dharwar rocks. These are known to occur in several locations along the Singbhum Copper belt. It is also found in Udaipur, Alwar and Jhunjhunu districts of Rajasthan, Durg district of Chhattisgarh, Bhandara district of Maharashtra and Kullu district of Himachal Pradesh.
- Thorium is mainly obtained from monazite and lignite in the sands of beach along the coasts of Kerala and Tamil Nadu.
- World's richest monazite deposits occur in Palakkad and Kollam districts ofKerala, near Vishakhapatnam in Andhra Pradesh and Mahanadi river delta in Odisha.

Question 3.
Write a note on the three belts of mineral distribution.
Answer:
Minerals are generally concentrated in three broad belts in India. These belts are:

- The North-Eastern Plateau Region: This belt covers Chhotanagpur (Jharkhand), Odisha Plateau, West Bengal and parts of Chhattisgarh. It has variety of minerals—iron ore, coal, manganese, bauxite, mica.
- The South-Western Plateau Region: This belt extends from Karnataka, Goa and contiguous Tamil Nadu uplands and Kerala. It is rich in ferrous metals and bauxite. It also contains high grade iron ore, manganese and limestone. This belt lacks in coal deposits except Neyveli lignite. Kerala has deposits of monazite and thorium, bauxite clay. Goa has iron ore deposits.
- The North-Western Region: This belt extends along Aravali in Rajasthan and part of Gujarat and minerals are associated with Dharwar system of rocks. Copper, zinc have been major minerals. Rajasthan is rich in building stones i.e. sandstone, granite, marble. Gypsum and Fuller's earth deposits are also extensive. Dolomite and limestone provide raw materials for cement industiy. Gujarat is known for its petroleum deposits. Gujarat and Rajasthan have rich sources of salt. The Himalayan belt: It is another mineral belt where copper, lead, zinc, cobalt and tungsten are known to occur. Assam valley has mineral oil deposits.Oil resources are also found in off-shore- areas near Mumbai Coast (Mumbai High).

Question 4.
Where does India stand as far as iron resource is concerned? Write a note on its distribution.
Answer:
India is endowed with fairly abundant resources of iron ore. It has the largest reserve of iron ore in Asia. About 95 per cent of total reserves of iron ore is located in the States of Odisha, Jharkhand, Chhattisgarh, Karnataka, Goa, Telangana, Andhra Pradesh and Tamil Nadu.

In Odisha, iron ore occurs in a series of hill ranges in Sundergarh, Mayurbhanj and Jhar. The important mines are Gurumahisani, Sulaipet, Badampahar (Mayurbhaj), Kiruburu (Kendujhar) and Bonai (Sundergarh).

Jharkhand has some of the oldest iron ore mines and most of the iron and steel plants are located around them. Most of the important mines such as Noamundi and Gua are located in Poorbi and Pashchimi Singhbhum districts. This
belt further extends to Durg, Dantewara and Bailadila. Dalli, and Rajhara in Durg are the important mines of iron ore in the country.
In Karnataka, iron ore deposits occur in Sandur-Hospet area of Ballari district, Baba Budan hills and Kudremukh in Chikkamagaluru district and parts of Shivamogga, Chitradurg and Tumakuru districts.

The districts of Chandrapur, Bhandara and Ratnagiri in Maharashtra, Karimnagar and Warangal district of Telangana, Kurnool, Cuddapah and Anantapur districts of Andhra Pradesh, Salem and Nilgiris districts of Tamil Nadu are other iron mining regions. Goa has also emerged as an important producer of iron ore.

Class 12 Geography Chapter 7 Differentiates

Question 1.
Distinguish between conventional & non conventional sources of energy.
Answer:

Conventional energy	Non Conventional energy
(i) This energy is in use for a long period of time.	(i) These sources have been recently introduced on a commercial scale.
(ii) Fossil fuel sources, such as coal, petroleum, natural gas and nuclear energy are the main sources.	(ii) Solar, wind, hydro, geothermal and biomass are the main sources.
(iii) These are exhaustible raw materials	(iii) These are sustainable energy resources-which are inexhaustible sources of energy.
(iv) These are concentrated in particular locations and are limited.	(iv) These energy sources are more equitably distributed and are abundant in nature.
(v) These sources cause pollution and harm the environment.	(v) They are environmental friendly. They provide more sustained, eco-friendly cheaper energy after the initial cost is taken care of.
(vi) Both the construction and running cost is high.	(vi) Initial cost is high but the running cost is low.

Question 2.
Differentiate between ferrous and non-ferrous minerals.
Answer:

Basis	Ferrous Minerals	Non-ferrous Minerals
Meaning	Ferrous mineral refers to iron. All those minerals which have iron content are called ferrous minerals.	Those minerals which do not have iron content are non-ferrous.
Example	Iron ore itself, manganese, chromite, etc.	Copper, bauxite, iron, gold, etc.

Question 3.
Differentiate the coal on the basis of geological ages.
Answer:

Tertiary Deposits	Gondwana Deposits
(a) 55 million years of formation (b) It is found in Assam, Arunachal Pradesh, Meghalaya and Nagaland.	(a) 200 million years old. (b) It is located in Damador Valley and lie in Jharkhand, Bengal coal belt.

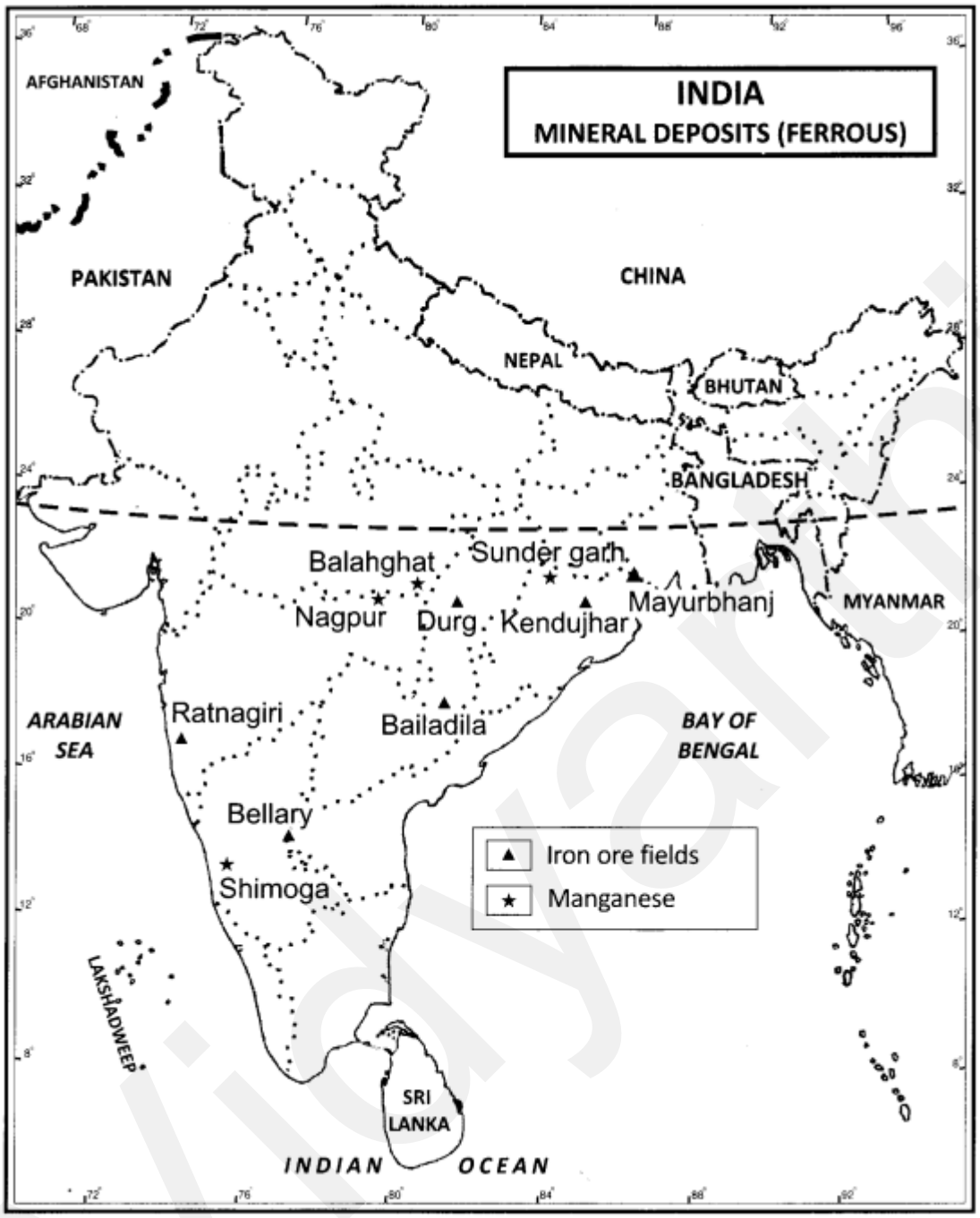
Class 12 Geography Chapter 7 Higher Order Thinking Skills (HOTS)

Question 1.
Nuclear energy is the hope of future in India. Give a few points.
Answer:
Nuclear energy is the hope of future in India. It is justified because:

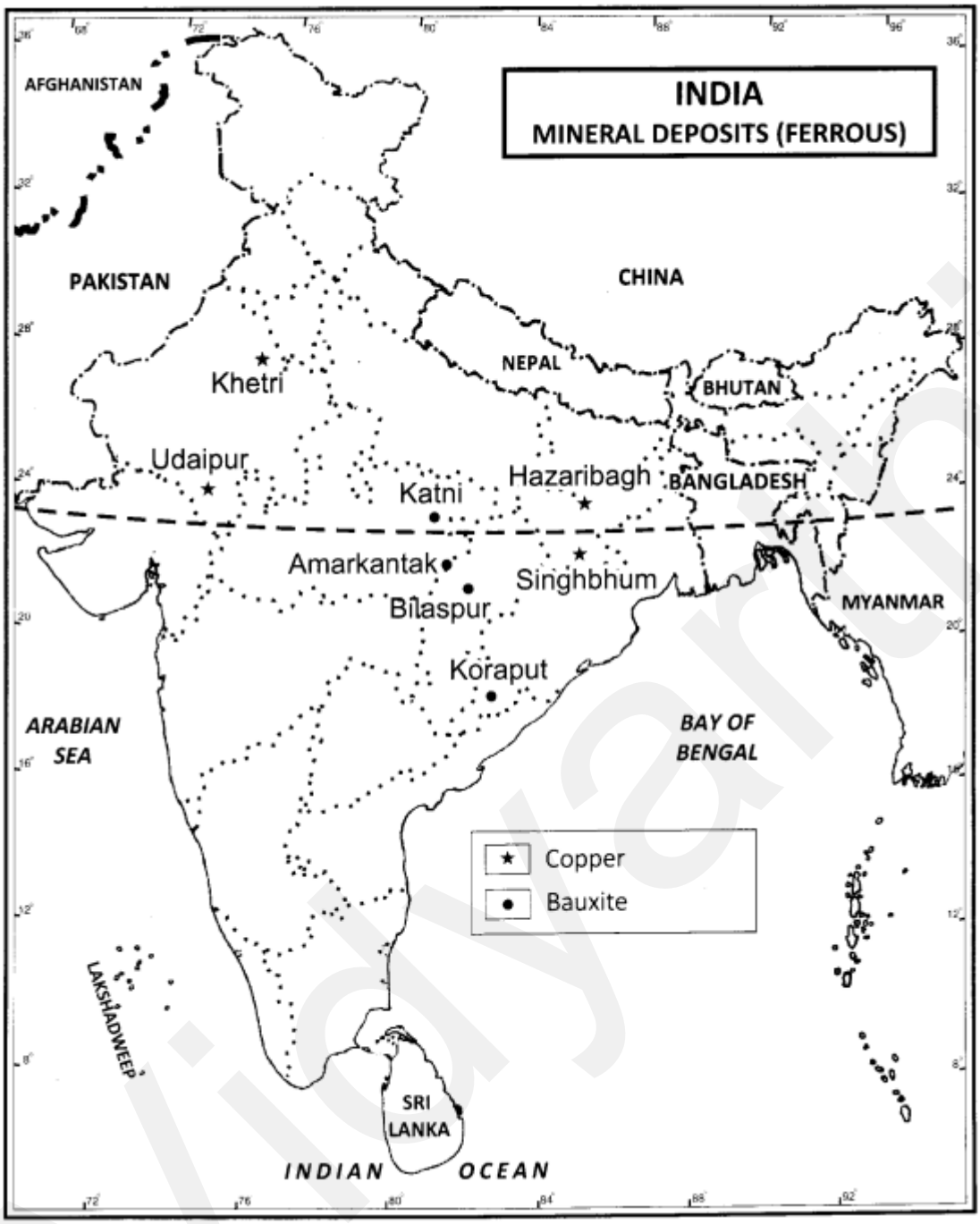
- India is deficient in mineral oil and its ' coal reserves would also exhaust soon.
- India has not been able to develop the potential of hydel power to such extent that it may depend on it fully because of some constraints.
- Technical know-how to harness nuclear energy is available.
- This power can play a complementary role in industrial and agricultural development in India.
- Availability of sufficient reserves of nuclear minerals like uranium and thorium.

Class 12 Geography Chapter 7 Map Based Questions

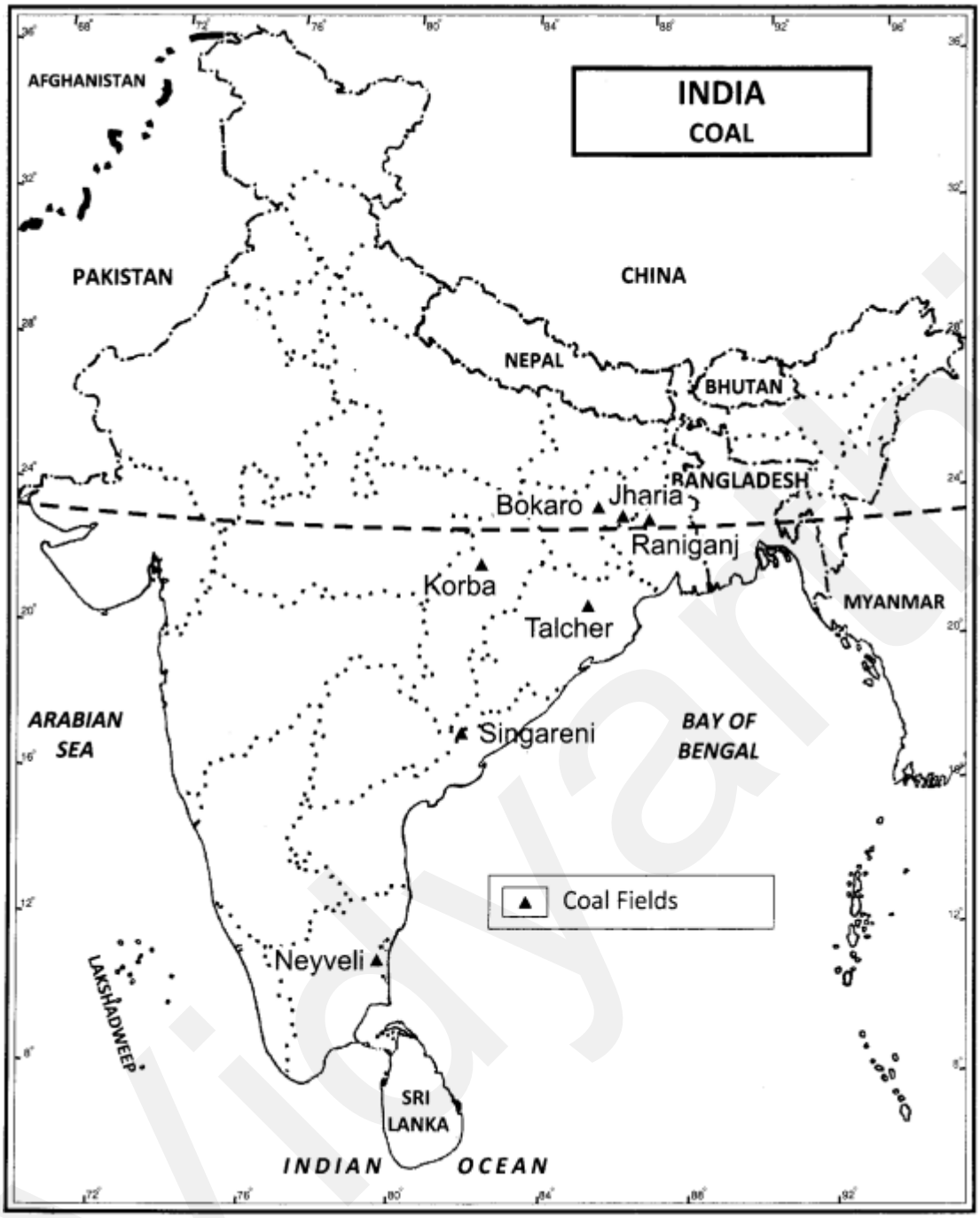
Question 1.
Label and locate the following on physical map of India.
Mineral Deposits (Ferrous) — Balaghat, Nagpur, Durg, Sundergarh, Kendujhar, Mayurbhanj, Ratnagiri, Bailadila, Bellary, Shimoga
Answer:



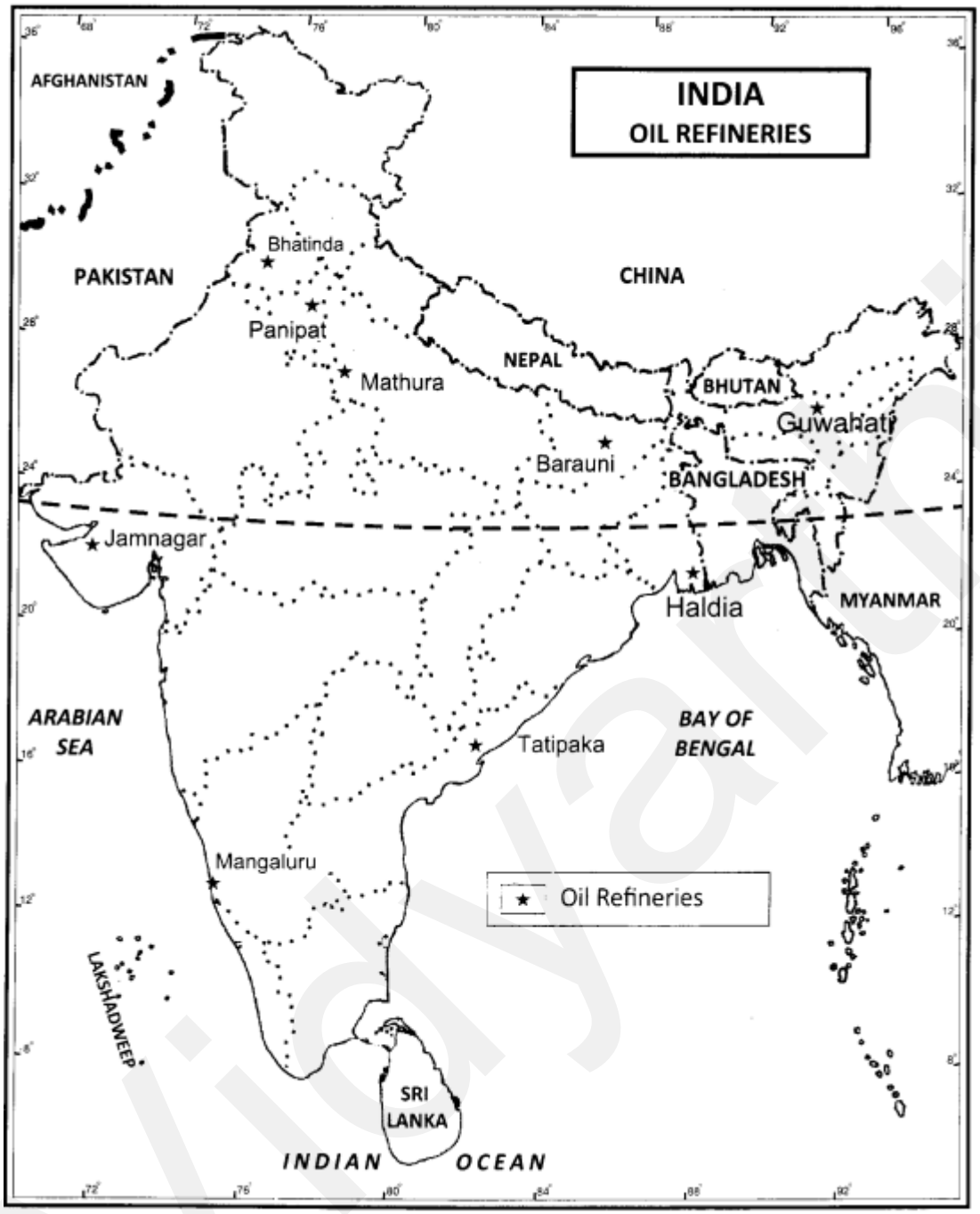
Question 2.
Label and locate the following on physical map of India.
Non-ferrous Minerals — Khetri, Udaipur, Katni, Amarkantak, Hazaribagh, Bilaspur, Singhbhum, Koraput.
Answer:



Question 3.
Label and locate the following on physical map of India.
Coal Producing States — Bokaro, Jharia, Korba, Singareni, Talcher, Neyveli, Raniganj
Answer:



Question 4.
Label and locate the following on physical map of India.
Oil Refineries — Bhatinda, Panipat, Mathura, Barauni, Guwahati, Jamnagar, Mangaluru, Haldia, Tatipaka.
Answer:



Class 12 Geography Chapter 7 Important Questions

Very Short Answer Type Questions

Question 1.
Name the place of Maharashtra, where an atomic power station is located. (A.I. 2010)
Answer:
Tarapur.

Question 2.
Name the place of Himachal Pradesh where a geothermal energy plant is located. (Foreign 2010)
Answer:
Manikaran.

Question 3.
Classify minerals on the basis of chemical and physical properties. (A.I. 2017)
Answer:
Classification of minerals:

- Metallic
- Non-metallic

Short Answer Type Questions:

Question 1.
Distinguish between thermal electricity and hydro-electricity by stating three points. (CBSE 2006, 15)
Answer:
Thermal electricity:

- Electricity which is produced by fossil fuel as coal, petroleum and natural gas.
- The source of generation of thermal power is available in sizeable amount.
- The thermal electricity plant has an adverse impact on the environment.

Hydro-electricity:

- Electricity which is produced by water.
- The source of generation of hydro¬electricity are renewable and abundant in size.
- The hydro-electricity plant is environment friendly.

Question 2.
Give two advantages of wind energy. Mention four states of India having favourable conditions for the development of wind energy. (CBSE 2008,13)
Answer:
Two advantages:

- Wind energy is absolutely pollution free, inexhaustible sources of energy.
- The kinetic energy of wind, through turbines is converted into electric energy.

Four states of India having favorable condition of wind energy:

- Rajasthan
- Gujarat
- Maharashtra and
- Karnataka & Tamil-Nadu.

Question 3.
Electricity is one of the greatest inventions of all times. It is mostly generated by using coal, natural gas and petroleum, which are exhaustable resources. Can you imagine the human society without electricity? This may happen in future, when all energy resources will be exhausted. Explain the values that can change this possible darkness scenario. (A.I. 2015)

Answer:
Mineral fuels like coal, petroleum, natural gas and nuclear energy are the conventional sources of energy. They are exhaustible. Sustainable energy resources are renewable. These resources can help us in future after taking great care of these resources.
Even then we should kept in mind certain thing to avoid such situation:

- Creating awareness among the masses about sustainable sources of energy.
- To develop sustainable sources of energy.
- Maximum use of renewable energy resources such as solar, wind, biomass and hydro electricity.
- Optimum use of energy resources and minimum wastage.
- Alternative energy sources like solar power, wind, wave, geothermal etc. are to be developed.

Question 3.
"The promotion of the use of non- conventional sources of energy in India is the need of the hour." Support the statement. (Delhi 2016)
Answer:

- Non-conventional energy sources are highly valuable.
- They are the renewable energy sources like solar, wind, hydro, geothermal and biomass.
- These energy sources are more equally distributed.
- They are environmental friendly.
- Non-conventional energy sources will provide more sustained energy.
- They are also cheaper energy sources after the initial cost is taken care of.

Question 4.
Explain the significance of bio-energy to human kind in India. (A.I. 2016)
Answer:

- Bio-energy is a potential source of energy conversion.
- It can be converted into electrical enegy, heat energy or gas for cooking.
- It will also process the waste and garbage and produce energy.
- This will improve economic life of rural areas in the country.
- It reduces environment pollution, enhance self-reliance and reduce pressure on fuel wood.

Long Answer Type Questions:

Question 1.
Which are the two main ferrous minerals found in India? Describe four characteristics of each. (Foreign 2009)
Answer:
Iron ore and Manganese are the two main ferrous minerals found in India. Characteristics of iron ore:

- Haematite and magnetite are the two main types of iron ore found in our countiy.

- Due to its superior quality, it has great demand in international market.
- It occurs in close proximity to the coal fields.
- It provides a strong base for the development of metallurgical industries.
  Characteristics of Manganeses:
- It is an important raw material for smelting of iron ore.
- It is used for manufacturing ferro alloys,
- It is mainly associated with Dharwar system.
- It is used in making glass and steel.

Question 2.
Name five sources of non-conventional energy in India and also state one potential area of each source of non- conventional energy. (CBSE 2008, 13)
Answer:
Light from sun, tidal waves, winds, biogas and geothermal energy are non- conventional sources of energy. The non- conventional sources are cheap and can be tapped easily. They are pollution free as they do not have smoke or ash when used. They have no environmental hazards,

- Solar Energy: India is a tropical country so sunlight is abundantly available in all the parts of country except north¬eastern India. Solar energy is used for cooking, water heating and space heating. Solar cooker water pumps, road lights, telephone etc. are being operated by solar energy.
- Wind Energy: Tamil Nadu, Gujarat, Maharashtra, Odisha are using wind energy. Effort is being made to develop wind generators, wind mills, battery charging system.
- Geothermal Energy: Development activities related to a cold storage unit and 5kw power plant both based on geothermal energy at Manikaram (HP) are in full progress.
- Biogas: It is most important renewable sources of energy in rural areas. As by-product a biogas plant produces enriched the fertilizer. It is used as cooking fuel and also used for lighting and power generation.
- Tidal Energy: Oceanic tide can be used to generate electricity food gate dams are built across inlets. During high tide water flows into the inlets and gate trapped, when the gate is closed. Gulf of Kachchh provides ideal condition for utilizing tidal energy.

Question 3.
'The non-conventional sources of energy will provide more sustained, eco-friendly and cheaper energy if the initial cost is taken care of." Examine the statement. (CBSE 2018)
Answer:
Non-conventional sources of energy:

- Non-conventional energy sources are solar, wind, tidal, geothermal and biomass. All these sources are sustainable.
- These are more equitably distributed.
- They are eco-friendly.
- In the long run they are cost effective.

- Wind energy like other non-conventional sources of energy is absolutely pollution free.
- Ocean currents are store house of infinite energy.
- Bio-energy is also a potential source of energy. It reduces pressure on fuel wood and saves forests as well.
- Geothermal energy can successfully be tapped, converted to electrical energy and can be developed as an effective source of energy.