

Social Science Geography Chapter 5

Minerals and Energy Resources

Q-1 Distinguish between the following

- (a) Ferrous and non-ferrous minerals
- (b) Conventional and non-conventional sources of energy.

Ans:

(a) Ferrous Minerals:

Ferrous minerals account for about three-fourths of the total value of the production of metallic minerals. They provide a strong base for the development of metallurgical industries. India exports substantial quantities of ferrous minerals after meeting her internal demands.

(b) Non-ferrous Minerals:

India's reserves and production of non-ferrous minerals is not very satisfactory. However, these minerals, which include copper, bauxite, lead, zinc, and gold, play a vital role in a number of metallurgical, engineering, and electrical industries. Let us study the distribution of copper and bauxite.

Conventional Sources of Energy:

- Conventional source of energy has been used since the early times.
- Coal, Petroleum, natural gas, hydroelectricity, thermal power are the source of energy.
- All conventional sources of energy except hydro-electricity are exhaustible.
- These sources cause environmental pollution.
- These sources require huge capital.

Non-Conventional Sources of Energy:

- Non- the conventional sources of energy have come into use only recently.
- Wind energy, solar energy, tidal energy, geothermal, biogas are examples of these sources of energy.
- Most of the non- conventional sources of energy are inexhaustible.
- These sources do not cause environmental pollution.
- Small amount of money is sufficient to have these sources.

Q-2

What is a mineral?

Ans:

Geologists define a mineral as a “homogenous, naturally occurring substance with a definable internal structure.” Minerals are found in varied forms in nature, ranging from the hardest diamond to the softest one. Minerals are an indispensable part of our lives. Almost everything we use, from a tiny pin to a towering building or a big ship, all are made from minerals. The railway lines and the tarmac (paving) of the roads, our implements and machinery too are made from minerals. Cars, buses, trains, aeroplanes are manufactured from minerals and run on power resources derived from the earth. Even the food that we eat contains minerals. In all stages of development, human beings have used minerals for their livelihood, decoration, festivities, religious and ceremonial rites.

Q-3

How are minerals formed in igneous and metamorphic rocks?

Ans:

In igneous and metamorphic rocks, minerals may occur in the cracks, crevices, faults or joints. The smaller occurrences are called veins and the larger are called lodes. In most cases, they are formed when minerals in liquid, molten and gaseous forms are forced upward through cavities towards the earth's surface. They cool and solidify as they rise. Major metallic minerals like tin, copper, zinc and lead etc. are obtained from veins and lodes.

Q-4

How do we need to conserve mineral resources?

Ans:

In order to conserve mineral resources, we must see to that our consumption of minerals does not increase our wants. We must remember that these resources are one of the greatest gifts of God and we must use these in such a manner that our future generations also enjoy this gift.

Q-5

Describe the distribution of coal in India.

Ans:

In India coal occurs in rock series of two main geological ages, namely Gondwana, a little over 200 million years in age and in tertiary deposits which are only about 55 million years old. The major resources of Gondwana coal, which are metallurgical coal, are located in Damodar valley (West Bengal-Jharkhand). Jharia, Raniganj, Bokaro are important coalfields. The Godavari, Mahanadi, Son and Wardha valleys also contain coal deposits. Tertiary coals occur in the northeastern states of Meghalaya, Assam, Arunachal Pradesh and Nagaland. Jharkhand is the largest producer where Jharia, Bokaro, Karampur, Palamu are the major coalfields. In West Bengal, Raniganj, Jalpaiguri and Darjeeling are the coalfields. Sarguja, Bilaspur,

Raigarh and Bastar districts are coal fields found in Chhatisgarh. M.P. has coal fields in Chinaware district and in Maharashtra, Chanda is the main field.

Q-6

Why do you think that solar energy has a bright future in India?

Ans:

Solar energy has a bright future in India because

- India is blessed with plenty of solar energy because most parts of the country receives a bright monsoon period.
- India has developed technology to use solar energy for cooking, water heating, space heating, crop drying, etc.
- It is an abundant, inexhaustible, and universal source of energy.
- India is a tropical country.
- It is pollution-free.

Q-7

Describe the impact of globalisation on Indian agriculture.

Ans:

Globalization is the new trend in the world scenario, which aims at integrating our economy with that of the world:

- Its aim is to be realised within a certain time frame.
- It is based on free and open international trade.
- It ensures that only quality and competitive goods would survive the world market.

Impact

- Indian farmers now are exposed to a new industrial environment. They would have to compete with other farmers of other countries in producing quality and competitive goods.
- With the use of favourable climatic conditions and soil conditions, improved and new implements, efficient labor we would have to produce goods, which could complete in the world markets.
- India would need the technologies being used by foreign countries. Infrastructure like the development of roads, electricity, irrigation, and credit facilities will have to be developed.

Multiple Choice Qs

1. Which one of the following is a non-metallic mineral? **[All India 2012]**
- (a) Lead
 - (b) Copper
 - (c) Tin
 - (d) Limestone
2. Kodarma Gaya-Hazaribagh belt of Jharkhand is the leading producer of which one of the following minerals? **[Delhi 2012]**
- (a) Copper
 - (b) Bauxite
 - (c) Iron-ore
 - (d) Mica
3. Which one of the following fuels is considered environment friendly? **[Delhi 2012]**
- (a) Coal
 - (b) Petroleum
 - (c) Natural gas
 - (d) Firewood
4. Which one of the following minerals belongs to the non-ferrous category?
- (a) Iron Ore
 - (b) Manganese
 - (c) Cobalt
 - (d) Copper
5. Which one of the following states is the largest producer of 'Manganese' in India ? **[CBSE CCE 2012]**
- (a) Karnataka
 - (b) Madhya Pradesh
 - (c) Orissa
 - (d) Jharkhand
6. Which one of the following is the largest producers of copper in India? **[CBSE CCE 2012]**
- (a) Jharkhand
 - (b) Rajasthan
 - (c) Madhya Pradesh
 - (d) Orissa
7. Kudremukh is an important iron ore mine of: **[CBSE CCE 2012]**
- (a) Kerala
 - (b) Madhya Pradesh
 - (c) Karnataka
 - (d) Andhra Pradesh

8. The largest solar power plant is located at: **[CBSE CCE 2012]**

- (a) Ahmedabad
- (b) Madhapur
- (c) Raipur
- (d) Ajmer

9. Which of the following states is the oldest oil producing state in India? **[CBSE CCE 2012]**

- (a) Andhra Pradesh
- (b) Manipur
- (c) Assam
- (d) Bihar

10. Which one of the following minerals is a fossil fuel? **[AI 2011]**

- (a) Barium
- (b) Coal
- (c) Zircon
- (d) Uranium

11. Which one of the following states has the largest wind-farm cluster? **[Foreign 2011]**

- (a) Himachal Pradesh
- (b) Tamil Nadu
- (c) Gujarat
- (d) Rajasthan

12. What for is Moran-Hugrijan famous ? **[Foreign 2011]**

- (a) Atomic energy
- (b) Solar plant
- (c) Coal reserve
- (d) Oil field

13. Minerals are deposited and accumulated in the stratas of which of the following rocks?

- (a) Sedimentary rocks
- (b) Igneous rocks
- (c) Metamorphic rocks
- (d) None of the above

14. Which one of the following minerals is contained in the Monazite sand ?

- (a) Oil
- (b) Uranium
- (c) Thorium
- (d) Coal

Additional Qs

15. Kudremukh is an important Iron Ore mine of

- (a) Kerala
- (b) Madhya Pradesh
- (c) Karnataka
- (d) Andhra Pradesh

16. Khetri mines in Rajasthan are famous for

- (a) Iron ore
- (b) Mica
- (c) Copper
- (d) Limestone

17. Neyveli Lignite mines are located at

- (a) Karnataka
- (b) Tamil Nadu
- (c) Chhattisgarh
- (d) Orissa

18. The largest solar power plant is located at

- (a) Ahmedabad
- (b) Madhapur
- (c) Mahabalipuram
- (d) Thar Desert

19. Kakrapar nuclear power station is located in the state of

- (a) Maharashtra
- (c) Karnataka
- (b) Andhra Pradesh
- (d) Gujarat

20. The Rihel of India is

- (a) Godavari valley
- (b) Damodar valley
- (c) Ganga valley
- (d) None of the above

21. The richest mineral belt of India is

- (a) Himalayas
- (b) Northern plains
- (c) Coastal plains
- (d) Peninsular Plateau

22. The finest quality of iron ore is
- (a) Bauxite
 - (b) Galena
 - (c) Magnetite
 - (d) Anthracite
23. Which one of the following states is the leading producer of Manganese ?
- (a) Maharashtra
 - (b) Tamil Nadu
 - (c) Mizoram
 - (d) Orissa
24. Which of the following industries is limestone a basic raw material?
- (a) Aluminium smelting
 - (b) Manufacture of ferro alloys
 - (c) Electrical
 - (d) Cement
25. Low grade brown coal is called
- (a) Magnetite
 - (b) Bauxite
 - (c) Lignite
 - (d) Limonite
26. Which of the following is an offshore oil field ?
- (a) Ankaleshwar
 - (b) Digboi
 - (c) Kalol
 - (d) Mumbai High
27. India exports minerals.
- (a) Metallic minerals
 - (b) Non-metallic minerals
 - (c) Ferrous minerals
 - (d) Non-ferrous minerals
28. Indian Iron ore is mainly exported to
- (a) USA
 - (b) UK
 - (c) China
 - (d) Japan
29. Which one of the following is not a conventional source of energy?
- (a) Cow dung

- (b) Firewood
- (c) Coal
- (d) Wind

30. A person who studies the formation of minerals, their age and physical and chemical properties – Who am I ?

- (a) Geographer
- (b) Geophysicist
- (c) Geologist
- (d) Geomorphologist

31. Minerals obtained from veins and lodes.

- (a) Iron
- (b) Gold
- (c) Copper
- (d) Manganese

32. The ocean beds are rich in

- (a) Mica
- (b) Manganese
- (c) Gold
- (d) Copper

33. Mining depends upon

- (a) Concentration of mineral only
- (b) Ease of extraction
- (c) Nearness to the market
- (d) All of the above

34. Which one of the following states is the leading producer of Iron ore ?

- (a) Chhattisgarh
- (b) Jharkhand
- (c) Karnataka
- (d) Madhya Pradesh

35. Bailadila mines is located in which of the following states ?

- (a) Madhya Pradesh
- (b) Chhattisgarh
- (c) Jharkhand
- (d) Orissa

36. The iron ore from Kudremukh mines is exported through this port.

- (a) Vishakhapatnam
- (b) Mangalore

- (c) Marmagoa
- (d) Paradip

37. Metallurgical coal used in the smelting of iron ore is

- (a) Anthracite
- (b) Bituminous
- (c) Lignite
- (d) Peat

38. Which of the following states is the oldest producer of oil ?

- (a) Arunachal Pradesh
- (b) Assam
- (c) Andhra Pradesh
- (d) Gujarat

39. The Hazira – Vijaipur – Jagdishpur pipeline does not pass through this state.

- (a) Uttar Pradesh
- (b) Gujarat
- (c) Madhya Pradesh
- (d) Maharashtra

40. Write True or False

- (a) Thermal electricity is non-renewable.
- (b) The largest solar power plant is located in Rajasthan.
- (c) The largest wind farm cluster is located in Tamil Nadu.
- (d) The Gulf of Kuchchh is the leading producer of geothermal energy.

41. Match the following :

	Column I	Column II
(A)	Most important oil field of Gujarat	(i) Andaman & Nicobar Islands
(B)	Lignite mine	(ii) Tarapur
(C)	A nuclear power plant	(iii) Neyveli
(D)	A geothermal energy plant	(iv) Ankaleshwar
(E)	Large reserves of natural gas	(v) Manikarn

- (a) (A) – (iv), (B) – (iii), (C) – (ii), (D) – (v), (E) – (i)
- (b) (A) – (iii), (B) – (iv), (C) – (ii), (D) – (v), (E) – (i)
- (c) (A) – (iv), (B) – (iii), (C) – (v), (D) – (ii), (E) – (i)
- (d) (A) – (iv), (B) – (iii), (C) – (i), (D) – (ii), (E) – (v)

42. Where in India is Rat Hole mining done ?

- (a) Tamil Nadu
- (b) Meghalaya
- (c) Uttar Pradesh
- (d) Mizoram

43. To which Geological period does Gondwana coal belong ?

- (a) over 200 million years
- (b) 100 million years
- (c) 50 million years
- (d) 500 million years

44. For which mineral is Neyveli famous for ?

- (a) Iron ore
- (b) Manganese
- (c) Lignite coal
- (d) Limestone

45. Which of the following statements are incorrect with regard to placer deposits ?

- (i) They occur as alluvial deposits.
 - (ii) They are corroded by water.
 - (iii) They occur in ocean beds.
 - (iv) They are found in sands of the valley floors and the base of hills.
- (a) (i) and (ii)
 - (b) (ii) and (iii)
 - (c) (iii) and (iv)
 - (d) (i) and (iv)

46. Which of the following pairs of statements are incorrect ?

- (i) India is rich in copper.
 - (ii) Bauxite is formed by decomposition of a wide variety of rocks rich in aluminium silicates.
 - (iii) Maharashtra is the largest producer of Bauxite.
 - (iv) Mica is the most indispensable mineral used in electrical and electronic industries.
- (a) (i) and (ii)
 - (b) (i) and (iii)
 - (c) (ii) and (iii)
 - (d) (iii) and (iv)

47. Minerals need to be conserved because

- (i) They are renewable.
- (ii) They are depleting rapidly.

(iii) They are needed for country's industrial development.

(iv) Their formation is very fast.

(a) (i) and (ii)

(b) (ii) and (iii)

(c) (iii) and (iv)

(d) All of the above.

48. Which of the following minerals is mined at Balaghat mines?

(a) Manganese

(b) Aluminium

(c) Copper

(d) Limestone

49. For which of the following minerals is Katni famous ?

(a) Iron Ore

(b) Mica

(c) Copper

(d) Bauxite

ANSWERS

Multiple Choice Questions

- | | | | | | | | | |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1. (d) | 2. (d) | 3. (c) | 4. (d) | 5. (c) | 6. (c) | 7. (c) | 8. (b) | 9. (c) |
| 10. (b) | 11. (b) | 12. (d) | 13. (a) | 14. (c) | 15. (c) | 16. (c) | 17. (b) | 18. (b) |
| 19. (d) | 20. (b) | 21. (d) | 22. (c) | 23. (d) | 24. (d) | 25. (c) | 26. (d) | 27. (c) |
| 28. (d) | 29. (d) | 30. (c) | 31. (c) | 32. (b) | 33. (d) | 34. (c) | 35. (b) | 36. (b) |
| 37. (b) | 38. (b) | 39. (d) | 40. (a) | 41. (a) | 42. (b) | 43. (a) | 44. (c) | 45. (b) |
| 46. (b) | 47. (b) | 48. (c) | 49. (d) | | | | | |