CBSE CLASS X

Social Science (087)

QUESTION PAPER

AI-generated question paper

Code: 4J69KW **Questions: 38** **Maximum Marks: 79** **Generated: 2026-06-26 10:04**

SELECTIONS USED

Subject	Social Science
Lessons	5 Minerals and Energy Resources
Level of understanding	Exam-ready
Question selection	CBSE board paper, whole lesson (~80 marks across Sections A-E)
Model	claude-sonnet-4-6

Composition — Difficulty: 17 straightforward · 15 medium · 6 deep | Types: 14 MCQ · 7 Short · 6 Very short · 5 Assertion–reason · 3 Long · 3 Case-based | Sections: A 19Q/19m · B 6Q/12m · C 7Q/21m · D 3Q/15m · E 3Q/12m

Q1. straightforward exam-ready **[1]**

Which of the following is the finest iron ore with an iron content of up to 70 per cent and excellent magnetic qualities?
(A) Hematite
(B) Limonite
(C) Magnetite
(D) Siderite

A Hematite
B Limonite
C Magnetite
D Siderite

◆ **Minerals and Energy Resources**

Q2. straightforward exam-ready **[1]**

Which one of the following pairs of minerals is obtained from 'placer deposits'?
(A) Coal and mica
(B) Gold and platinum
(C) Copper and zinc
(D) Gypsum and potash salt

A Coal and mica
B Gold and platinum
C Copper and zinc
D Gypsum and potash salt

◆ **Minerals and Energy Resources**

Q3. straightforward exam-ready **[1]**

Bauxite, from which aluminium is extracted, is formed by which of the following processes?
(A) Cooling of molten magma in veins and lodes
(B) Evaporation in arid regions
(C) Decomposition of surface rocks leaving a residual weathered mass
(D) Deposition in horizontal sedimentary strata

A Cooling of molten magma in veins and lodes
B Evaporation in arid regions
C Decomposition of surface rocks leaving a residual weathered mass
D Deposition in horizontal sedimentary strata

◆ **Minerals and Energy Resources**

Q4. straightforward exam-ready **[1]**

Which of the following coal types has the highest carbon content and is considered the best quality hard coal?
(A) Lignite
(B) Bituminous
(C) Anthracite
(D) Peat

A Lignite
B Bituminous
C Anthracite
D Peat

◆ **Minerals and Energy Resources**

Q5. medium exam-ready **[1]**

Petroleum is found trapped in the crest of an anticline in folded rock formations. What prevents the oil from rising further or sinking downward?
(A) Presence of porous sandstone layers
(B) Intervening non-porous rock layers
(C) High pressure of natural gas above it
(D) Dense water table below

A Presence of porous sandstone layers
B Intervening non-porous rock layers
C High pressure of natural gas above it
D Dense water table below

◆ **Minerals and Energy Resources**

Q6. straightforward exam-ready **[1]**

The Koderma–Gaya–Hazaribagh belt is the leading producer of which mineral in India?
(A) Copper
(B) Iron ore
(C) Mica
(D) Manganese

A Copper
B Iron ore
C Mica
D Manganese

◆ **Minerals and Energy Resources**

Q7. straightforward exam-ready **[1]**

Which of the following is correctly classified as a non-conventional source of energy?
(A) Natural gas
(B) Hydroelectric power
(C) Nuclear energy
(D) Tidal energy

A Natural gas
B Thermal electricity
C Coal
D Geothermal energy

◆ **Minerals and Energy Resources**

Q8. straightforward exam-ready **[1]**

Manganese is an essential input in steel manufacturing. Approximately how much manganese is required to produce one tonne of steel?
(A) 1 kg
(B) 5 kg
(C) 10 kg
(D) 20 kg

A 1 kg
B 5 kg
C 10 kg
D 20 kg

◆ **Minerals and Energy Resources**

Q9. medium exam-ready **[1]**

Gypsum and potash salt are non-metallic minerals formed by a specific geological process. In which type of rock formation are they most commonly found?
(A) Igneous rocks formed by the cooling of intrusive magma
(B) Metamorphic rocks formed under heat and pressure
(C) Sedimentary formations deposited by evaporation in arid regions
(D) Alluvial placer deposits in river valleys

A Igneous rocks formed by cooling of magma
B Metamorphic rocks under high pressure
C Sedimentary formations created by evaporation in arid regions
D Placer deposits in valley floors

◆ **Minerals and Energy Resources**

Q10. straightforward exam-ready **[1]**

Which of the following states is the oldest oil-producing state in India, with fields like Digboi and Naharkatiya?
(A) Gujarat
(B) Assam
(C) Rajasthan
(D) Maharashtra

A Gujarat
B Assam
C Rajasthan
D Maharashtra

◆ **Minerals and Energy Resources**

Q11. straightforward exam-ready **[1]**

India has identified certain regions with significant geothermal energy potential. Which of the following correctly identifies two such locations?
(A) Puga Valley (Ladakh) and Manikaran (Himachal Pradesh)
(B) Nagarcoil (Tamil Nadu) and Jaisalmer (Rajasthan)
(C) Gulf of Khambhat (Gujarat) and Chilika Lake (Odisha)
(D) Dehradun (Uttarakhand) and Digboi (Assam)

A Parvati Valley, Himachal Pradesh and Puga Valley, Ladakh
B Nagarcoil, Tamil Nadu and Jaisalmer, Rajasthan
C Gulf of Khambhat, Gujarat and Sunderbans, West Bengal
D Manikaran, Punjab and Dehradun, Uttarakhand

◆ **Minerals and Energy Resources**

Q12. straightforward exam-ready **[1]**

Ferrous minerals account for approximately what fraction of the total value of production of metallic minerals in India?
(A) One-half
(B) One-quarter
(C) Three-fourths
(D) Two-thirds

A One-half
B One-quarter
C Three-fourths
D Two-thirds

◆ **Minerals and Energy Resources**

Q13. straightforward exam-ready **[1]**

Which of the following areas in India is best known for tidal energy potential on the western coast?
(A) Gangetic delta, West Bengal
(B) Gulf of Khambhat and Gulf of Kuchchh, Gujarat
(C) Nagarcoil to Madurai, Tamil Nadu
(D) Krishna–Godavari basin, Andhra Pradesh

A Gangetic delta, West Bengal
B Gulf of Khambhat and Gulf of Kuchchh, Gujarat
C Nagarcoil to Madurai, Tamil Nadu
D Krishna–Godavari basin, Andhra Pradesh

◆ **Minerals and Energy Resources**

Q14. straightforward exam-ready **[1]**

Which of the following correctly describes the term 'ore'?
(A) A pure mineral with no impurities
(B) An accumulation of a mineral mixed with other elements in sufficient concentration for commercial extraction
(C) A rock that contains only non-metallic minerals
(D) Any naturally occurring element found in the earth's crust

A A pure mineral with no impurities
B An accumulation of a mineral mixed with other elements in sufficient concentration for commercial extraction
C A rock that contains only non-metallic minerals
D Any naturally occurring element found in the earth's crust

◆ **Minerals and Energy Resources**

Q15. medium exam-ready **[1]**

Assertion (A): Heavy industries and thermal power stations are preferably located near coalfields.
Reason (R): Coal is a bulky material that loses weight on use as it is reduced to ash, making transportation costly.

Options:
(A) Both (A) and (R) are true and (R) is the correct explanation of (A).
(B) Both (A) and (R) are true, but (R) is not the correct explanation of (A).
(C) (A) is true, but (R) is false.
(D) (A) is false, but (R) is true.

A Both (A) and (R) are true and (R) is the correct explanation of (A).
B Both (A) and (R) are true, but (R) is not the correct explanation of (A).
C (A) is true, but (R) is false.
D (A) is false, but (R) is true.

◆ **Minerals and Energy Resources**

Q16. medium exam-ready **[1]**

Assertion (A): Mineral resources are described as finite and non-renewable.
Reason (R): The geological processes that form minerals are extremely slow compared to the rate at which humans consume them.

Options:
(A) Both (A) and (R) are true and (R) is the correct explanation of (A).
(B) Both (A) and (R) are true, but (R) is not the correct explanation of (A).
(C) (A) is true, but (R) is false.
(D) (A) is false, but (R) is true.

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B Both (A) and (R) are true, but (R) is not the correct explanation of (A).
C (A) is true, but (R) is false.
D (A) is false, but (R) is true.

◆ **Minerals and Energy Resources**

Q17. deep exam-ready **[1]**

Assertion (A): The vast alluvial plains of north India are almost devoid of economic minerals.
Reason (R): Economic mineral deposits are closely related to the geological structure of a region and the processes involved in their formation.

Options:
(A) Both (A) and (R) are true and (R) is the correct explanation of (A).
(B) Both (A) and (R) are true, but (R) is not the correct explanation of (A).
(C) (A) is true, but (R) is false.
(D) (A) is false, but (R) is true.

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B Both (A) and (R) are true, but (R) is not the correct explanation of (A).
C (A) is true, but (R) is false.
D (A) is false, but (R) is true.

◆ **Minerals and Energy Resources**

Q18. straightforward exam-ready **[1]**

Assertion (A): Mica is one of the most indispensable minerals used in electric and electronic industries.
Reason (R): Mica has excellent di-electric strength, low power loss factor, insulating properties and resistance to high voltage.

Options:
(A) Both (A) and (R) are true and (R) is the correct explanation of (A).
(B) Both (A) and (R) are true, but (R) is not the correct explanation of (A).
(C) (A) is true, but (R) is false.
(D) (A) is false, but (R) is true.

A Both (A) and (R) are true and (R) is the correct explanation of (A).
B Both (A) and (R) are true, but (R) is not the correct explanation of (A).
C (A) is true, but (R) is false.
D (A) is false, but (R) is true.

◆ **Minerals and Energy Resources**

Q19. medium exam-ready **[1]**

Assertion (A): Biogas is considered a far more efficient use of cattle dung than burning it as fuel.
Reason (R): Biogas production improves the quality of manure and prevents the loss of trees and manure that results from burning fuel wood and dung cakes.

Options:
(A) Both (A) and (R) are true and (R) is the correct explanation of (A).
(B) Both (A) and (R) are true, but (R) is not the correct explanation of (A).
(C) (A) is true, but (R) is false.
(D) (A) is false, but (R) is true.

A Both (A) and (R) are true and (R) is the correct explanation of (A).
B Both (A) and (R) are true, but (R) is not the correct explanation of (A).
C (A) is true, but (R) is false.
D (A) is false, but (R) is true.

◆ **Minerals and Energy Resources**

Q20. straightforward exam-ready **[2]**

What is a mineral? How does it differ from a rock? Give one example of each.

◆ **Minerals and Energy Resources**

Q21. straightforward exam-ready **[2]**

Distinguish between veins and lodes as forms in which minerals occur in igneous and metamorphic rocks.

◆ **Minerals and Energy Resources**

Q22. straightforward exam-ready **[2]**

Why is copper considered a critically important non-ferrous mineral? Name two states in India where it is mined.

◆ **Minerals and Energy Resources**

Q23. medium exam-ready **[2]**

State two ways in which mining activities harm the environment and the health of people living near mines.

◆ **Minerals and Energy Resources**

Q24. straightforward exam-ready **[2]**

What is lignite coal? Where are its principal reserves found in India, and for what purpose are they used?

◆ **Minerals and Energy Resources**

Q25. medium exam-ready **[2]**

Why is per capita electricity consumption considered an index of development?

◆ **Minerals and Energy Resources**

Q26. medium exam-ready **[3]**

Explain the two main ways in which minerals are formed in sedimentary rocks. Give one example of a mineral formed by each process.

◆ **Minerals and Energy Resources**

Q27. medium exam-ready **[3]**

Describe the distribution of iron ore in the Durg–Bastar–Chandrapur belt and the Ballari–Chitradurga–Chikkamagaluru–Tumakuru belt. What is special about the iron ore from each of these belts?

◆ **Minerals and Energy Resources**

Q28. medium exam-ready **[3]**

What makes aluminium a commercially important metal? Explain how bauxite deposits are formed and identify the most important bauxite deposits in Odisha.

◆ **Minerals and Energy Resources**

Q29. medium exam-ready **[3]**

Explain how tidal energy is harnessed to generate electricity. Name the regions in India that are considered ideal for tidal energy development.

◆ **Minerals and Energy Resources**

Q30. medium exam-ready **[3]**

Distinguish between Gondwana coal and tertiary coal deposits in India with respect to their age, quality and geographical distribution.

◆ **Minerals and Energy Resources**

Q31. deep exam-ready **[3]**

Why is India's increasing dependence on fossil fuels considered unsustainable in the long run? Suggest any three measures — at the individual and government level — to promote energy conservation.

◆ **Minerals and Energy Resources**

Q32. deep exam-ready **[3]**

Petroleum refineries are described as a 'nodal industry'. What does this mean and why is petroleum important beyond being just a fuel? Explain with relevant examples.

◆ **Minerals and Energy Resources**

Q33. medium exam-ready **[5]**

Examine the role of coal as India's most important conventional energy resource. Describe its different grades, their characteristics, and the major coal-producing regions of India.

◆ **Minerals and Energy Resources**

Q34. deep exam-ready **[5]**

Mineral resources are finite and non-renewable, yet their consumption is rising steadily. Analyse why mineral conservation has become essential and describe the strategies that can be adopted to use mineral resources in a planned and sustainable manner.

◆ **Minerals and Energy Resources**

Q35. deep exam-ready **[5]**

India is endowed with a variety of non-conventional energy sources. Examine the potential and current status of solar energy, wind energy and biogas in India, highlighting the advantages each offers over conventional sources.

◆ **Minerals and Energy Resources**

Q36. medium exam-ready **[4]**

Read the following passage and answer the questions that follow:

India's petroleum industry is largely concentrated in rock formations of the tertiary age. The physical conditions under which crude oil accumulates are determined by the geological structures of the area. Oil may be trapped in folded structures, fault zones, or other geological formations that create pockets where hydrocarbons can collect over millions of years. The oil lies sandwiched between layers of rock with different permeability characteristics. Natural gas is almost always found in association with petroleum, and its occurrence follows the same trapping principles.

(i) In an anticline petroleum trap, where does natural gas typically collect and why? [1]
(ii) Why must at least one rock layer in a petroleum trap be non-porous? [1]
(iii) Name any two important petroleum-producing states of India and one major oil field from each. [2]

◆ **Minerals and Energy Resources**

Q37. medium exam-ready **[4]**

Read the following passage and answer the questions that follow:

The distribution of minerals across India is highly uneven and is closely linked to the geological history of different regions. The Peninsular plateau, underlain by ancient crystalline rocks, is the storehouse of most of India's metallic minerals. In contrast, the vast alluvial plains of northern India, though agriculturally rich, are almost devoid of economic mineral deposits. Some minerals are concentrated in specific geological structures such as cracks, joints, and faults, while others are spread through sedimentary strata or found in residual deposits left by weathering. The type of geological structure also determines the method and cost of extraction.

(i) Why are the alluvial plains of northern India largely deficient in mineral resources? [1]
(ii) Name two major metallic minerals obtained from veins and lodes in igneous and metamorphic rocks. [1]
(iii) What are placer deposits? Name two minerals commonly found in them. [2]

◆ **Minerals and Energy Resources**

Q38. deep exam-ready **[4]**

Read the following passage and answer the questions that follow:

India is increasingly dependent on fossil fuels to meet its growing energy needs, but rising prices, potential shortages and serious environmental damage have made this path unsustainable. India is also one of the least energy-efficient countries in the world. At the same time, the country is blessed with an abundance of sunlight, water, wind and biomass — renewable resources that remain largely underutilised. Developing these non-conventional energy sources and promoting energy conservation are seen as the twin pillars of a sustainable energy future.

(i) What is photovoltaic technology, and why is it particularly suitable for rural and remote areas of India? [1]
(ii) Name the largest wind farm cluster in India and the state where it is located. [1]
(iii) Why is the continued large-scale use of firewood and cattle dung cakes as energy sources increasingly unsustainable in India? Give two reasons. [2]

◆ **Minerals and Energy Resources**

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