

Rocks and Minerals Chemistry Questions with Solutions

Q1. Sandstone is an example of which of the following rock

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

Answer: (b) Sandstone is an example of sedimentary rock.

Q2. Which of the following is a plutonic rock?

- (a) Granite
- (b) Gneiss
- (c) Gypsum
- (d) None of the above

Answer: (a) Granite is a plutonic rock.

Q3. Which of the following is made up of molten magma?

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

Answer: (b) Igneous rock is made up of molten magma.

Q4. Limestone is an example of which of the following rock

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

Answer: (b) Limestone is an example of sedimentary rock.

Q5. Which of the following is not an example of a metamorphic rock?

- (a) Limestone
- (b) Sandstone
- (c) Both (a) and (b)
- (d) Neither (a) nor (b)

Answer: (d) Neither limestone nor sandstone are examples of metamorphic rock. Slate, marble and schist are some examples of metamorphic rock.

Q6. What is rock? Name different types of rocks?

Answer: A rock is any natural substance composed of solid crystals of various minerals fused together to form a solid lump.

We can differentiate rocks into three types, namely:

1. Igneous rock
2. Sedimentary rock
3. Metamorphic rock

Q7. What is a mineral? Name different kinds of minerals?

Answer: A mineral is any naturally occurring inorganic mass having a specific composition and orderly arrangement of the atoms.

Based on the amount, we can classify minerals into two types.

1. Macrominerals
2. Trace minerals

Q8. What is an igneous rock?

Answer: Rocks that are formed by the cooling and solidification of magma or the molten lava inside the earth are known as igneous rocks.

Granite and basalt are examples of igneous rock.

Q9. What are the different types of igneous rocks?

Answer: Based on the chemical differentiation of magma, we can classify igneous rocks into two types.

1. Mafic rock
2. Felsic rock

Based on the size and nature of crystals of igneous rocks, we can classify them into five types.

1. Phaneritic textured igneous rock
2. Orphan textured igneous rock
3. Equigranular textured igneous rock
4. Porphyritic textured igneous rock

Q10. What is sedimentary rock? Explain different types of sedimentary rocks.

Answer: Rocks that are formed by the accumulation of fragments by any exogenous means like ice, wind and sea are known as sedimentary rocks.

Sandstone, limestone and clay are examples of sedimentary rocks.

Based on the mode of formation of the sedimentary rock, we can classify it into three types.

1. Mechanically formed sedimentary rocks
2. Organically formed sedimentary rocks
3. Chemically formed sedimentary rocks

Q11. What is a metamorphic rock?

Answer: A rock that is formed by the modification in colour, consistency, hardness and arrangement of the pre-existing rocks is known as a metamorphic rock.

Marble, slate and schist are examples of metamorphic rock.

Q12. What is a metallic and non-metallic mineral? Give three examples of metallic and three examples of non-metallic minerals.

Answer: The mineral containing one or more metal elements is known as a metallic mineral. In contrast, the mineral that does not contain any metal element is known as a non-metallic mineral. No new product is generated by melting a non-metallic mineral.

Examples of metallic minerals	Iron, Copper, and Nickel.
Examples of non-metallic minerals	Marble, Dolomite and Clay.

Q13. How can we conserve minerals?

Answer: A mineral is any naturally occurring inorganic mass having a specific composition and orderly arrangement of the atoms.

We can preserve minerals by

1. Using minerals in a planned and sustainable manner.
2. Improving technology that may enable us to use low-grade ores at affordable prices.
3. By recycling metals.

Q14. Distinguish between anthracite and bituminous coal.

Answer:

S. No.	Anthracite coal	Bituminous coal
1.	It contains more than 80% of carbon.	It contains 60% to 80% of carbon.
2.	It is rigid, black and compact.	It is of a lower grade than anthracite.
3.	It is of superior quality.	It is of medium quality.
4.	It is found in Jammu & Kashmir.	It is found in Chhattisgarh, Jharkhand, Orissa, Madhya Pradesh and West Bengal.

Q15. Match the following

Column I	Column II
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Core	Used for roads and buildings
Minerals	Made of silicon and alumina
Rocks	Has definite chemical composition
Clay	Innermost layer
Sial	Changes into slate

Answer:

Column I	Column II
Core	Innermost layer
Minerals	Has definite chemical composition
Rocks	Used for roads and buildings
Clay	Changes into slate
Sial	Made of silicon and alumina

Practise Questions on Rocks and Minerals

Q1. Distinguish between metallic and non-metallic minerals.

Answer:

S. No.	Metallic mineral	Non-Metallic mineral
1.	The mineral containing one or more metal elements is known as a metallic mineral.	The mineral that does not have any metal element is known as a non-metallic mineral.
2.	A new product is formed when a metallic mineral is melted.	No new product is formed when a non-metallic mineral is melted.
3.	Metallic minerals are usually found in igneous and metamorphic rock formations.	Non-metallic minerals are often found embedded in young fold mountains and sedimentary rocks.

4.	Metallic minerals are good conductors of electricity and heat.	Non-metallic minerals are good insulators of electricity and heat.
5.	Metallic minerals have high malleability and ductility.	Non-metallic minerals have poor malleability and ductility and can be broken down quickly.
6.	Metallic minerals generally have lustre.	Non-metallic minerals do not have any shine or lustre.
7.	Example: Iron, Copper, and Nickel.	Example: Marble, Dolomite and Clay.

Q2. What are veins and lodes?

Answer: Minerals are found in the cracks, crevices, faults or joints of the igneous and metamorphic rocks. The minor cracks, crevices, faults or joints of the igneous and metamorphic rocks are known as veins, while the large cracks, crevices, faults or joints of the igneous and metamorphic rocks are known as lodes.

Q3. What is a placer deposit?

Answer: Placer deposits are the mineral's alluvial deposits found at the base of hills or sands of valley floors are known as a placer deposit.

Q4. Minerals are unevenly distributed in India. Justify your answer.

Answer: Minerals are unevenly distributed in India. The following facts can justify it.

1. Sedimentary rocks in the western and eastern flanks of the peninsula in Gujarat and Assam have most of the deposits of petroleum.
2. Peninsular rocks contain most of the reserves of metallic minerals and non-metallic minerals like coal and mica.
3. The vast alluvial plains of North India are almost devoid of economic minerals.
4. Rajasthan, with the peninsula rock systems, has reserves of many non-ferrous minerals.

Q5. Distinguish between biogas and natural gas.

Answer:

S. No.	Biogas	Natural gas
1.	It can be obtained from shrubs, farm wastes, and animal and human wastes.	It can be obtained in natural form.
2.	It is available in limited quantities.	It is available in large quantities.
3.	It is used mainly in rural areas.	It is used as a source of power.

4.	It is not used as raw material.	It is used as raw materials in petrochemical industries.
5.	Decomposition of organic matter yields biogas, which has higher thermal efficiency than kerosene, dung cake and charcoal. It gives no smoke.	It is supplied for household use as LPG (Liquefied Petroleum Gas) and used for running vehicles as CNG (Compressed Natural Gas).