Here are the **exam-style questions and answers** based on **Chapter 5: Types of Rocks**, following the given format:

PART I (30 Marks)

(Attempt all questions)

Choose the correct answer from the given options:

1. Which of the following is a characteristic of minerals?
   a) They do not have a definite chemical composition
   b) They have a definite chemical composition
   c) They are made up of organic materials
   d) They contain only one type of element
   Answer: (b) They have a definite chemical composition

2. Which type of rock is known as the **"parent rock"**?
   a) Igneous
   b) Sedimentary
   c) Metamorphic
   d) Organic
   Answer: (a) Igneous

3. What is the process of **formation of sedimentary rocks** called?
   a) Crystallization
   b) Lithification
   c) Erosion
   d) Metamorphism
   Answer: (b) Lithification

4. Which of the following is an **intrusive igneous rock**?
   a) Basalt
   b) Granite
   c) Obsidian
   d) Pumice
   Answer: (b) Granite

5. What is the **main factor** responsible for the formation of metamorphic rocks?
   a) Cooling of magma

b) Deposition of sediments
c) Heat and pressure
d) Fossilization
Answer: (c) Heat and pressure

6. Which of the following is an **organically formed sedimentary rock**?
   a) Limestone
   b) Granite
   c) Basalt
   d) Quartzite
   Answer: (a) Limestone

7. What is the **rock cycle**?
   a) The process of fossil formation
   b) The continuous transformation of rocks from one form to another
   c) The breaking down of rocks into minerals
   d) The classification of rocks based on their hardness
   Answer: (b) The continuous transformation of rocks from one form to another

8. Which type of sedimentary rock is formed due to the evaporation of water, leaving behind minerals?
   a) Clastic
   b) Chemically formed
   c) Organically formed
   d) Metamorphic
   Answer: (b) Chemically formed

9. Which of the following is an **example of a metamorphic rock**?
   a) Sandstone
   b) Limestone
   c) Marble
   d) Basalt
   Answer: (c) Marble

10. Which process is responsible for the breaking down of rocks into smaller pieces?
    a) Weathering
    b) Lithification
    c) Melting
    d) Erosion
    Answer: (a) Weathering

PART II (50 Marks)

(Attempt any five questions)

1. Differentiate between minerals and rocks.

Feature	Minerals	Rocks
Composition	Definite chemical composition	Mixture of different minerals
Structure	Usually uniform in structure	Can be layered or crystalline
Examples	Gold, mica, gypsum	Granite, basalt, limestone
Organic Matter	Does not contain organic matter	May contain organic remains

2. Explain the classification of igneous rocks.

Answer: Igneous rocks are classified into:

- **Intrusive (Plutonic) Rocks**: Formed **inside the Earth's crust** when magma cools slowly, forming **large crystals** (e.g., Granite, Dolerite).
- **Extrusive (Volcanic) Rocks**: Formed when **lava cools rapidly** on the Earth's surface, forming **small or no crystals** (e.g., Basalt, Obsidian).
- **Acidic Rocks**: Contain **more silica** (light-colored, less dense) (e.g., Rhyolite).
- **Basic Rocks**: Contain **less silica** (dark-colored, dense) (e.g., Basalt).

3. Describe the formation of sedimentary rocks.

Answer: Sedimentary rocks are formed through the process of **lithification**, which includes:

- **Weathering**: Breaking down of pre-existing rocks into sediments.
- **Erosion and Transportation**: Movement of sediments by wind, water, or ice.
- **Deposition**: Sediments settle down in **layers** over time.
- **Compaction and Cementation**: The layers are pressed together by pressure, forming rocks like **sandstone, shale, and limestone**.

4. What is metamorphism? Explain the different types of metamorphism.

Answer:

- **Metamorphism** is the process where **existing rocks** (igneous or sedimentary) undergo **changes due to heat and pressure** to form new rocks.
- **Types of Metamorphism:**
  - **Contact Metamorphism**: Occurs due to **heat** from magma (e.g., Limestone → Marble).
  - **Regional Metamorphism**: Occurs due to **pressure** over large areas (e.g., Shale → Slate).
  - **Dynamic Metamorphism**: Occurs due to **earth movements and faults** (e.g., Granite → Gneiss).

5. Explain the significance of rocks.

Answer: Rocks are important for:

- **Economic Significance:**
  - Source of **minerals** like iron, gold, and aluminum.
  - Provide **fossil fuels** like coal and petroleum.
  - Used in **construction** (granite, marble).
  - Contain **precious stones** (diamonds, rubies).
- **Non-Economic Significance:**
  - Helps in **soil formation** for vegetation.
  - Fossil-rich rocks help in **geological studies**.

6. Describe the rock cycle.

Answer:
The **rock cycle** is the continuous transformation of rocks into different types due to natural processes:

- **Igneous Rocks**: Formed from **cooling magma/lava**.
- **Weathering and Erosion**: Break down igneous rocks into sediments.
- **Sedimentary Rocks**: Formed by **compaction and lithification** of sediments.
- **Metamorphic Rocks**: Formed when **sedimentary or igneous rocks undergo heat and pressure**.
- **Melting**: Metamorphic rocks melt into magma, restarting the cycle.

Mapping Questions:

Shade and mark the following on the world map:

1. A major **granite-producing country – India**
2. A **fossil fuel-rich region – Middle East**
3. A major **marble-producing region** in India **– Rajasthan**
4. An area with **active volcanic activity – Hawaii, USA**
5. The **Himalayan region**, where metamorphic rocks are found

This **exam-style** format comprehensively covers **Chapter 5: Types of Rocks**. Let me know if you need further modifications or additional content! 😊