

CSM : 14

GEOLOGY
PAPER - II

Time Allowed : 3 hours

Full Marks : 100

Marks for each question is indicated against it.

Attempt any 5 (five) questions taking not more than 3 (three) questions from each Part.

PART A

1. Draw a clinographic sketch of the Normal Class of Isometric system. State its symmetry elements. Mention the forms with general symbols developed in it. Also write the names of four minerals crystallizing in the Isometric System. **(3+3+10+4=20)**
2. Illustrate the relationship between magmatism and plate tectonics. Also add notes on magmatic differentiation and assimilation. **(10+5+5=20)**
3. Write explanatory notes on any two of the following: **(2×10=20)**
 - (a) ACF versus AKF diagram.
 - (b) Agents and types of metamorphism.
 - (c) Low grade metamorphism of argillaceous.
4. What are limestones? Describe the components of limestone. Write notes on the classification of limestone as proposed by Dunham and Folk. **(2+9+9=20)**

PART B

5. Write notes on the following: **(4×5=20)**
 - (a) Metallogenic epochs and provinces.
 - (b) Controls of ore localization.
 - (c) Hydrothermal deposits.
 - (d) Occurrence and distribution of lead-zinc deposits in India.
6. Mention the different methods of mining of coal. Explain any two of them with respective advantages and disadvantages. Also add a note on the impact of coal mining in the environment. **(4+10+6=20)**

7. Write explanatory notes on any two of the following : **(2×10=20)**

- (a) Types and composition of meteorites.
- (b) Significance of Trace Elements in geological studies.
- (c) Two laws of Thermodynamics.

8. Write detail notes on the following: **(2×10=20)**

- (a) Impact of mineral exploration, extraction and processing on the environment.
- (b) Mitigations of earthquake and landslide.

* * * * *