

# IAS Mains Geology 2002

## Paper II

### Section A

1. In about 200 words each, explain any three of the following:
  - a. Give an account of twinning in minerals (20)
  - b. Diopside-anorthite system (20)
  - c. Fades of regional metamorphism (20)
  - d. Heavy minerals and their significance (20)
2. Give the chemical composition and optical properties of Amphihole group of minerals. Add a note on their classification (60)
3. Write explanatory notes on the following:
  - a. Give classification and describe petrography and petrogenesis of charnockites (30),
  - b. ACF and AKF diagrams and their utility (30)
4. Give the classification of sandstones. Add a note on their depositional environment (60).

### Section B

5. In about 200 words each, write notes on any three of the following:
  - a. Controls of ore localisation (20)
  - b. Types of chemical bonds (20)
  - c. Explain the techniques of sampling (20)
  - d. Pollution of sea (20)
6. Write notes on the following, in brief:
  - a. Conservation and utilisation of mineral resources (30)
  - b. Describe briefly the geology and structure of the Bombay High Petroleum Resources.  
  
Comment on their economic importance (30)
7. Write notes on the following:
  - a. Give an account of the important methods of mining of metallic ores (30)
  - b. Describe the mineralogy, geology and ore genesis of copper deposits of Khetri Mines (30)
8. Write explanatory notes on the following:
  - a. Structure and composition of the Earth (30).
  - b. Impact of natural hazards on environment. Mitigating measures of any one of these natural hazards (30).

