

IAS Mains Geology 1999

Paper II

Section A

1. Write notes on any three of the following in about 200 words each:
 - a. Twin Laws
 - b. Sterographic projection
 - c. Pseudomorphism
 - d. Structure of Amphibole group of minerals
2. Describe optical indicatrix. How would you optically differentiate between uniaxial and biaxial minerals?
3. What are the main characteristics of primary basaltic magma? How is it generated in the mantle?
4. Describe the methodology applied to determine composition and location of provenance in the study of a sedimentary basin.

Section B

5. Write notes on any three of the following in about 200 words each:
 - a. Pneumatolytic metamorphism
 - b. Textures of magmatic ores
 - c. Opencast mining
 - d. Guides for mineral search
6. Discuss the strategic, critical and essential minerals of India, and the policy adopted for their conservation in the country.
7. Give an account of the coalfields of India, with special reference to coking and non-coking coals, their reserves and production in the country.
8. Explain the resistivity method as applied to groundwater exploration.