

IAS Mains Geology 1990

Paper II

Section A

1. Write notes on any three of the following in about 200 words each:
 - a. International system of crystallographic solution
 - b. Use of stereographic projections to represent symmetry
 - c. Biaxial indicatrix
 - d. Ionic radii coordination number
2. Discuss in detail application of X-rays for crystal studies.
3. What is the difference between pleochroic and interference colours? Explain how these colours are produced in minerals.
4. Give an account of the physical, chemical and optical properties of pyroxene group of minerals.

Section B

5. Write notes on any three of the following in about 200 words each:
 - a. Facies and grades of metamorphism
 - b. Metallogenetic epochs
 - c. Bowen's Reaction in Principle
 - d. Ore dressing and beneficiation
6. Give a brief account of the oil and gas fields of India with particular reference to post-independence discoveries.
7. Give an account of textures present in sedimentary rocks and discuss their significance.
8. Discuss in detail the use of aerial photographs in geological investigations.