

GEOLOGY

(Paper II)

Time Allowed : Three Hours

Maximum Marks : 300

QUESTION PAPER SPECIFIC INSTRUCTIONS

(Please read each of the following instructions carefully before attempting questions)

There are EIGHT questions divided in two Sections.

Candidate has to attempt FIVE questions in all.

Question Nos. 1 and 5 are compulsory and out of the remaining, any THREE are to be attempted choosing at least ONE question from each Section.

All questions carry equal marks.

Wherever any assumptions are made for answering a question, they must be clearly indicated.

Word limit in questions, wherever specified, should be adhered to.

SECTION 'A'

1. Write notes on any three of the following in about 200 words each:
 - (a) Twin Laws
 - (b) Stereographic 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.