

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.

The number of marks carried by a question/part is indicated against it.

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. In about 200 words each, explain any three of the following:

(a) Pleochroism in minerals of pyroxene and amphibole groups	20
(b) Metamorphic zones in medium grade metamorphism of pelitic rocks	20
(c) Albite-Anorthite silicate system	20
(d) Primary sedimentary structures	20
2. Give the general chemical composition, physical properties and occurrence of sulphide group of minerals. 60
3. Write explanatory notes on the following in brief:

(a) Bowen's Reaction Principle and magmatic differentiation process	30
(b) Anatexis and the genesis of granitic rocks	30
4. Give the classification of impure carbonate rocks. How are they deposited. 60

SECTION 'B'

5. In about 200 words each, write notes on any three of the following:

(a) Metallogenic epochs	20
(b) Marine mineral resources	20
(c) Sampling techniques in the assessment of ore reserves	20
(d) Pollution of ground and surface water	20
6. Write notes on the following, in brief:

(a) Structural controls in the formation of mineral deposits	30
(b) National Mineral Policy of India in relation to globalization and present world order	30
7. Describe the methods of geochemical prospecting. 60
8. Write notes on the following, in brief

(a) Major elements and trace elements in the Earth's crust	30
(b) Mitigation of natural hazards in Himalayan terrain	30