

GEOLOGY

(Paper I)

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. Attempt any THREE of the following in about 200 words each: **20×3=60**
- (a) Mountain building processes.
- (b) Application of Geomorphology to Environmental problems.
- (c) Electromagnetic spectrum.
- (d) Principles of geological mapping.
2. What is sea-floor spreading? Discuss its evidences and mechanism. **60**
3. Discuss the following: **30×2=60**
- (a) Geomorphological features of India.
- (b) Advantages of photogeology over conventional survey.
4. What are different types of unconformities? Why are they significant in the study of geological history? **60**

SECTION 'B'

5. Discuss any THREE of the following in about 200 words each: **20×3=60**
- (a) Application of microfossils in palaeoclimatic studies
- (b) Biostratigraphic correlation
- (c) Importance of rain-water harvesting
- (d) Factors controlling the choice of bridge sites
6. Discuss with suitable sketches, the morphology of Brachiopod. Name five brachiopods of stratigraphic significance with their age. **60**
7. Describe the following: **30×2=60**
- (a) Volcanic activities in Rajmahal and Deccan igneous provinces
- (b) K-T boundary succession in India.
8. Discuss the following:

30×2=60

- (a)** Ground water recharge and various recharging methods.
- (b)** Geological investigations for tunnel alignment.