

No 003578

B-JGT-K-HFA

**GEOLOGY****Paper I**

Time Allowed : Three Hours

Maximum Marks : 200

**INSTRUCTIONS**

*Candidates should attempt questions 1 and 5 which are compulsory, and any THREE of the remaining questions, selecting at least ONE question from each Section.*

*All questions carry equal marks.*

*Marks allotted to parts of a question are indicated against each.*

*Answers must be written in ENGLISH only.*

*Suitable sketches may be drawn, wherever required.*

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**SECTION A**

1. Write critical notes, within 150 words each, on the following : 10×4=40
- (a) The working of Global Positioning System
  - (b) Discontinuities in the Earth's interior
  - (c) Transcurrent faults
  - (d) Gravity faults and their types

2. (a) What is continental drift ? Explain the evidence put forward in favour of the theory. How does the plate tectonic theory support this ? 30
- (b) Discuss the causes of volcanoes. 10
3. (a) What is mass wasting ? Give an account of the process of weathering and its types. 30
- (b) How does a geologist study the interior of the Earth ? 10
4. (a) Explain the criteria for the recognition of geological faults in the field. 25
- (b) Discuss the effects of these geological faults. 15

## SECTION B

5. Write critical notes, within 150 words each, on the following : 10×4=40
- (a) Evolution of suture lines in ammonoids
  - (b) Lameta beds
  - (c) Principle of lithostratigraphic classification
  - (d) Fauna and flora during the Gondwana period
6. (a) Discuss the utility of microfossils in exploration for petroleum. 30
- (b) Explain how foraminifers are useful in palaeoclimatic studies. 10
7. (a) Give an account of the Aravalli Bundelkhand Province. 25
- (b) Explain the evolution of the Himalayas. 15
8. (a) Write briefly on the economic importance of Precambrian rocks. 10
- (b) Critically examine the evolution of glabella of Trilobites. 10
- (c) What are the effects of folds in tunneling ? Explain the problems related to tunnels constructed near steep slopes. 20

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