

1.5.5-2009

Sl. No. 2521

B-JGT-J-HMA

GEOLOGY

Paper—I

Time Allowed : Three Hours

Maximum Marks : 200

INSTRUCTIONS

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

The number of marks carried by each question is indicated at the end of the question.

Answers must be written in ENGLISH only.

Suitable sketches may be drawn wherever required.

Section—A

1. Write critical notes, within 150 words each, on any *four* of the following : $10 \times 4 = 40$

- (a) Origin of the earth
- (b) Mechanics of continental drifting
- (c) Geomorphology and its relation to structures
- (d) Unconformities
- (e) Dip, throw and heave of a fault

2. Discuss in detail the behaviour of minerals and rocks under deformation conditions. Illustrate with neat sketches. 40
3. Discuss the following : 20+20
- (a) Merits and applications of aerial photography
 - (b) Applications of geomorphology in mineral prospecting
4. Discuss in detail the principles of geological mapping and map reading. 40

Section—B

5. Write critical notes, within 150 words each, on any *four* of the following : 10×4=40
- (a) Modes of preservation of fossils
 - (b) Stratigraphic utility of Ammonoidea
 - (c) Confined aquifer
 - (d) Chronostratigraphic classification of rocks
 - (e) Perched water table
6. Discuss the application of microfossils in paleoclimatic interpretations. 40
7. Discuss the Permo-Triassic boundary in India. 40

8. (a) What is the role of faulting in the selection of a tunnel site? 20
- (b) What are the different groundwater conditions which affect the tunnel rocks? 20

J EYWIN