

2016

## GEOLOGY - PAPER-I

Time Allowed : 3 Hours

Full Marks : 200

If the questions attempted are in excess of the prescribed number, only the questions attempted first up to the prescribed number shall be valued and the remaining ones ignored.

Answers may be written either in English or in Bengali but all answers must be in one and the same language.

GROUP-A

Answer any three questions.

1. a) What is "transform fault" ? In which way it is different from strike-slip fault. Give an example of transform fault.  
b) Write a short note on triple junction.  
c) Define hotspot. What are the characteristic features of hotspots.  
8+8+24
2. a) Why geological investigations are necessary for selecting a site for construction of a tunnel ?  
b) Describe the present day distribution of volcanoes on earth. Name the main types of volcanoes occur in nature.  
20+20
3. a) Explain the terms 'dip isogon' and 'orthogonal thickness' of a layer with neat sketches.  
b) Discuss Ramsay's geometrical classification of folds with necessary sketches.  
c) Describe the types of joint that can develop in different parts of a folded layer.  
8+20+12
4. a) Give an account of disappearance of Siwalik fauna.  
b) Describe the different types of suture observed in cephalopod with example of each type.  
15+25
5. a) What is remote sensing ? Write in brief the different applications of remote sensing in geology.  
b) Describe the types of resolutions used in satellite remote sensing.  
24+16

GROUP-B

Answer any two questions.

6. a) What is an aquifer ? Describe the types of aquifers with sketches.  
b) Describe in detail the methods of ground water explorations.  
10+30

7. a) Give the stratigraphic succession of Vindhyan Supergroup. Briefly discuss the lithology of each Group.
- b) Discuss the paleoclimate of Gondwann Supergroup from fossil records.
- 25+15
8. a) "Geological structures and lithologies are dominant controlling factors in the evolution of land forms". Discuss the above statement.
- b) Describe the evolution of the Himalaya.
- 20+20
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