

IAS Mains Geology 1990

Paper I

Section A

1. Explain any three of the following in about 200 words each:
 - a. Petro fabric analysis as a tool in structural studies
 - b. Drainage patterns
 - c. Origin of continents and oceans
 - d. Products of volcanic eruptions
2. Write a short essay on 'Geomorphic features of the Indian sub-continent'
3. Answer the following questions
 - a. What are joints? How do they differ from faults? Give a genetic and geometrical classification of joints.
 - b. How does the repetition of beds differ due to folding and faulting?
4. Distinguish between the members of the following pairs:
 - a. Bedding Plane and Cleavage
 - b. Esker and Kame
 - c. Horst and Graben
 - d. P-waves and S-waves
 - e. Solution valley and Glacial valley

Section B

1. Answer any three of the following in about 200 words:
 - a. Extinction of Dinosaurs
 - b. Evidences of first marine transgression in South India during mesozoic and related stratigraphic unit/units.
 - c. Permian-Triassic Boundary
 - d. Microfossils and their significance
2. Give in a tabular form the stratigraphic succession, lithology and characteristic fossils of the Siwalik System. Discuss the conditions of deposition and climatic factors during that period.
3. Draw a neat, full-page-size labelled diagram in illustrate the external morphology of:
 - a. a Gastropod
 - b. Trilobita

Name two genera, from each of the above groups from Indian stratigraphy mentioning their

4. Discuss the following:

- a. Gondwana flora climatic vicissitudes and stratigraphic classification of the supergroup
- b. Recent developments in Dharwarian stratigraphy