

IAS Mains Geology 2003

Paper I

Section A

1. Answer any three of the following, each within 200 words: $3 \times 60 = 60$
 - a. How do structure, climate, topography and vegetation influence rocks in nature?
 - b. Mantle of the earth.
 - c. Significance of Remote Sensing in small mining industry.
 - d. Differentiate between the following pairs:
 - i. Dome and basin
 - ii. Horst and graben
 - iii. Overthrust and underthrust faults
 - iv. Hanging wall and footwall
2. Discuss the following:
 - a. Importance of rain water harvesting for living beings
 - b. Precautions in construction of buildings in earthquake-prone zones.
3. Describe the following: Drainage patterns of Indian Sub-continent in the field? 60

Section B

4. Answer any three of the following, each within 200 words: $3 \times 2 = 60$
 - a. Pleistocene glaciation
 - b. Advantages of photo-geology over conventional geological survey.
5. Discuss the significance and mechanism of sea-floor spreading.
6. Define unconformity and describe its various types.
 - a. How can they be recognized
 - b. Role of geologists in the construction of bridge
 - c. Role of microfossils in correlation of rock formations
 - d. Describe the morphology of Gastropoda shell.
7. Discuss the evolutionary changes in the morphology of Ammonoids. 60
8. Describe the following:
 - a. Principles of stratigraphic correlation
 - b. Significance of glossopteris and ptilophyllum in the study of Gondwana