

IFS 2000 GEOLOGY

PAPER-I

SECTION A

1. Write critical notes on any four of the following, each within 150 words
 - (a) Geochronology in Geological Studies.
 - (b) What should be done in earthquake-prone areas for safety of the people and property?
 - (c) Distinction between Plate Tectonics and Continental Drift.
 - (d) Topography is known to be the function of structure and lithology.
 - (e) Lineament and its significance.
2. State the mountain-types that occur in India. Discuss, with examples, their modes of origin.
3. How do the different types of folds assist in revealing the structural history of the region? Discuss, with examples.
4. Discuss with examples:
 - (a) Thrust
 - (b) Glacial landforms
 - (c) Significance of Asthenosphere
 - (d) Seismicity in relation to Plate Tectonics.

SECTION B

5. Write critical notes on any four of the following, each within 150 words:
 - (a) Organic evolution and palaeontological studies.
 - (b) Distinction between Brachiopods and Lamellibranchs.
 - (c) Principles of stratigraphic correlation.
 - (d) Significance of unconformity.
 - (e) Lower Gondwana rocks and their palaeoclimatic significance.
6. Describe the evolutionary trends of the Gastropods.
7. Compare different Archaean stratigraphic successions from Indian Peninsula.
8. Write critical notes on
 - (a) Stratigraphy of oil-bearing rocks of NorthEastern India.
 - (b) Age of the Deccan Trap Basalts.
 - (c) Productus, Olenellus, Cardita, Murex and Perisphinctes
 - (d) Banded Magnetite Quartzites and Banded Hematite Quartzites.

PAPER-II

SECTION A

1. In about 150 words each, give an account of any four of the following:
 - (a) Pleochroism and its determination.
(10)
 - (b) Stereographic projection and its use in crystallography.
(10)
 - (c) Chemical and optical properties of amphiboles.
(10)
 - (d) Magmatic differentiation.
(10)
 - (e) Petrogenesis of Granites.
(10)

2. Briefly describe the following:

(a) Symmetry classes of Monoclinic System.

(13)

(b) Structural classification of Silicates.

(13)

(c) Optical accessories and their utility.

(14)

3. Give an account of the following in brief:

(a) Chemical and optical properties of Felspathoid group minerals.

(14)

(b) Forms and structures of Igneous rocks.

(13)

(c) Nature and composition of Magmas.

(13)

4. Describe the course of crystallisation of Common Basaltic Magma with the help of neat diagrams.

(40)

SECTION B

5. In about 150 words each, give an account of any four of the following:

(a) Important textures of sedimentary rocks and their significance.

(10)

(b) Concept of Grade, Zone and Facies in Metamorphism.

(10)

(c) Characteristic features of cavity filling mineral deposits with examples.

(10)

(d) Principal methods of underground mining.

(10)

(e) Ground Water Provinces of India.

(10)

6. Briefly give an account of the following:

(a) Environments of sediments deposition.

(13)

(b) Types of Metamorphism and their products.

(13)

(c) Merits and demerits of Lindgren's classification of mineral deposits.

(14)

7. Describe the following in brief:

(a) Process of oxidation and resulting mineral deposits.

(13)

(b) Petroleum deposits of Western India.

(13)

(c) Major geological features of Manganese deposits of India.

(14)

8. Describe the following, as brief as possible:

(a) Methods of prospecting mineral deposits.

(13)

(b) Types of soils and their distribution with reference to India.

(14)

(c) Methods of conservation of minerals.

(13)