

## IFS Geology 2005 PAPER I

### SECTION A

1. Write critical notes, within 150 words each, on any four of the following:

(a) Meteorites

(10)

(b) Broad geo-morphological features of Indian subcontinent

(10)

(c) Limitations of aerial photographs

(10)

(d) Strain ellipsoid

(10)

(e) Projection diagrams.

(10)

2. What is Seismology? Discuss the role of seismological studies in understanding the interior of the earth.

(40)

3. (a) Discuss the role of geomorphology in civil engineering construction activities.

(20)

(b) Indian Remote Sensing Satellites.

(20)

4. Discuss the mechanical conditions for the origin of three fundamental types of faults.

(40)

### SECTION B

5. Write critical notes, within 150 words each, on any four of the following

(a) Species diversity

(10)

(b) Principles of superposition

(10)

(c) Genetic classification of water

(10)

(d) Correlation of unfossiliferous strata

(10)

(e) Geotechnical problems of Tehri Dam

(10)

6. Discuss briefly the morphology of brachiopods with suitable sketches; also write names of five brachiopods of stratigraphic significance along with their age.

(40)

7. (a) Code of stratigraphic nomenclature in relation to classification of stratigraphic sequences.

(20)

(b) Stratigraphic position of Deccan Volcanic Succession.

(20)

8. (a) Problems and management of groundwater.

(20)



- (b) Geological factors of significance in the design and construction of tunnels.  
(20)

## **PAPER - II**

### **SECTION A**

1. Write on any four of the following in about 150 words each

- (a) Biogenic sedimentary structures.  
(10)  
(b) Granulitic facies.  
(10)  
(c) Dott's classification of sandstones.  
(10)  
(d) Metamorphism of calcareous sediments  
(10)  
(e) Chatoyancy and asterism.  
(10)

2. Write short notes on:

- (a) Miller indices and parameters  
(10)  
(b) Amphibole group of minerals  
(10)  
(c) Uniaxial and Biaxial minerals  
(10)  
(d) 4 3 m  
(10)

3. Write detailed notes on the following:

- (a) Igneous structures citing suitable examples.  
(20)  
(b) Metasomatism  
(10)  
(c) Eclogite facies  
(10)

4. Define sedimentary environments. Explain in detail, various parameters which control depositional environments.

### **SECTION B**

5. Write on any four of the following in about 150 words each

- (a) Oxidation-Reduction potential  
(10)  
(b) Neyveli lignite deposits  
(10)  
(c) Principles of seismic methods of exploration.  
(10)  
(d) Comminution and sizing.  
(10)  
(e) Important global environmental impacts due to human activities.  
(10)

6. Write notes on:

- (a) Iron ore deposits of India  
(10)



(b) Diamond deposits of India

(10)

(c) Metamorphism plays vital role in formation of mineral deposits

(10)

(d) Sedimentary ore deposits

(10)

7. Write a detailed account on the various methods of mining used in alluvium placer deposits.

(40)

8. Write explanatory notes on:

(a) Thermodynamic potential equations

(10)

(b) Core of the earth is Self Exciting Dynamo

(10)

(c) Groundwater quality criteria for drinking water

(10)

(d) Chemical fertilizers and pesticides as biological hazards.

(10)