

Serial No.

C-HFP-L-HMA

GEOLOGY

Paper I

Time Allowed : Three Hours

Maximum Marks : 200

INSTRUCTIONS

Candidates should attempt SIX questions in all including Question No. 1, which is compulsory, from Part—I and attempt ONE question each from Sections A, B, C, D and E from Part—II.

The number of marks carried by each question is indicated against each.

Answers must be written only in ENGLISH.

Symbols and abbreviations are as usual.

Neat sketches may be drawn to illustrate answers, wherever required.

PART—I

1. Write short notes on any TEN of the following :—

5×10=50

- Drainage pattern
- Air Base and Photo Base
- Vertical fault
- Spectral Resolution

- (e) Infra – Trappean and Inter – Trappean Beds
- (f) Palaeogeography
- (g) Plankton
- (h) Inlier
- (i) Stereoscopy
- (j) Shear joints
- (k) Topographic map
- (l) Syncline.

PART—II
SECTION—A

2. (a) Discuss the importance of geomorphology in hydrogeological studies. 20
- (b) What are the differences between aerial photographs and satellite imagery ? 10
3. Write short notes on :— 5×6=30
- (a) Elements of Hill Slopes
 - (b) IFOV and PIXEL
 - (c) Etch plain.
 - (d) Tone and Texture
 - (e) Strandlines
 - (f) Spheroidal weathering

SECTION—B

4. Give an account of classification of folds and on the mechanism of folding. Draw neat sketches to illustrate. 30

5. Write short notes on :—

5×6=30

- (a) Strike and Dip
- (b) Lineations
- (c) Superposed deformation
- (d) Salt Dome
- (e) Projection Diagram
- (f) Distinction between joints and faults.

SECTION—C

6. Discuss in detail the planetary evolution of the earth. Illustrate your answer with neat sketches. Add a note on the evolution of the Indian subcontinent.

20+10=30

7. Write short notes on :—

5×6=30

- (a) Epeirogeny
- (b) Meteorites
- (c) Continental shield areas
- (d) Seismic belts of the earth
- (e) Sea floor spreading
- (f) Oceanic Islands.

SECTION—D

8. (a) Give an account of the Cuddapah Supergroup of rocks with special reference to its mineral wealth.

20

(b) Write a note on the stratigraphic correlation of unfossiliferous rocks.

10

9. Write short notes on :—

5×6=30

- (a) Kurnool Series
- (b) Deccan Volcanics
- (c) Lithostratigraphy
- (d) Barakar Formations
- (e) Singhbhum Granite
- (f) Palaeoclimates.

SECTION—E

10. (a) Give an account of the study of Micro-palaeontology in relation to Stratigraphy. 20

(b) Highlight the evolutionary changes in molluscs in geological time. 10

11. Write short notes on :—

5×6=30

- (a) Species and genera
- (b) Life in Precambrian times
- (c) Gondwana flora
- (d) Ornamentation on gastropod shells
- (e) Dinosaur
- (f) Siwalik Vertebrate Fauna.