

NEW
Part-III 3-Tier
2019

GEOLOGY

(Honours)

PAPER—VI

Full Marks : 90

Time : 4 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Group—A

(Stratigraphy)

1. Answer any *five* questions : 5×5
- (a) State Steno's principles briefly. 5
- (b) (i) Name the basic units of lithostratigraphy and biostratigraphy.
- (ii) Write Walther's Law and its limitations. 2+3
- (c) Define with sketches, different types of unconformities.

(Turn Over)

- (d) (i) What do you mean by transgression and regression ?
- (ii) Define with sketches, onlap, offlap, downlap and toplap.
- (e) (i) Write a short note on Lameta formation.
- (ii) Name two index fossils of the Trichinopoly area. 4+1
- (f) (i) Write down the condition of deposition of the Barail Group.
- (ii) Write the names of plant fossils found in Nishatbagh Formation. 3+2
- (g) Write a note on the lithology and fossil content of the intertrappean beds within the Deccan trap mentioning their importance in determining the Deccan volcanism. 5
- (h) Describe the Mesozoic sequence of Kaveri area with their lithology and fossils assemblages. 5

2. Answer any *two* questions : 2×10

- (a) (i) Write down the Mesozoic succession of Spiti area mentioning important fossil assemblages of the each formation.
- (ii) Write the names of major plant fossils found in Nishatbagh formation. 8+2

- (b) Write short notes on any *two* of the following : 5+5
- (i) Rajmahal traps
 - (ii) Muth quartzite
 - (iii) Barakar Formation
- (c) Give a brief account of the Vindhyan Super Group of rocks mentioning their succession and sedimentation history. 10
- (d) Write short notes on any *two* of the following : 5+5
- (i) Iron Ore Group of Singhbhum
 - (ii) Precambrian-Cambrian Boundary
 - (iii) Cretaceous succession of Trichinopoly area.

Group—B

(Economic Geology)

3. Answer any *five* questions : 5×5
- (a) Write a short note on sandstone hosted uranium deposits.
 - (b) Write the characteristics features of any one mode of occurrence of uranium ores.
 - (c) State the process of formation of phosphorite deposits.
 - (d) Discuss any one hypothesis about the origin of coal.

(e) Define any *five* of the following :

Tenor, Tonnage, Protore, Metallogenic Epoch, Hypogene ore deposit, Cut-off grade.

(f) Write a note on petroleum traps with neat sketches.

(g) (i) Differentiate between Gondwana and Tertiary coals.

(ii) What is coke ? What are its uses ? 3+2

(h) Give a short account on the genesis of mica-bearing pegmatites. Name of Na-mica and a Li-mica. 4+1

4. Answer any *two* questions : 2×10

(a) Describe the Pb-Zn deposits of zawar, emphasizing on its general geology, mineralogy, nature of mineralization and ore genesis.

(b) What do you mean by primary and secondary migration of petroleum ? Briefly describe the processes involved in primary migration, also stating the problems involved in migration by such processes. 2+8

(c) (i) What is gossan ?

(ii) Describe in detail about types of placer deposits. 2+8

(d) Describe the Mn-deposits of M.P. and Maharashtra in terms of general geology, stratigraphic position, mineralogy, mode of occurrence and genesis. 10