B. Sc. Geological Sciences Examination, 2023

(2nd Year, 2nd Semester)

Phanerozoic Stratigraphy of India and Tectonics

Paper – CORE/TH/10

Time : Two hours   Full Marks : 40

(Use a separate Answer script for each Part)

PART – I (Marks: 20)

Answer **Q. 1** and *any four* questions from the rest.

1. Match the following fossils with age :   4

Fossils	Age
Gondwanasauras bijoriensis	Pliocene
Joannites thanamensis	Late Permian
Belemnite alfuricus	Lowermost Paleocene
Hipparion theobaldi	Mid Jurassic
Guembelina cretacea	Upper Triassic

2. Did the Tethyan Sea completely close in the Jurassic Period? Justify the answer with suitable evidences.   4

3. Write a short note on the stratigraphy of Siwalik Group.   4

4. Write a short note on the Permo-Triassic boundary in Extrapeninsular India.   4

5. What are the evidences of Permian regression on Extrapeninsula India?   4

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6. Discuss bipartite and tripartite subdivision of the Gondwana Supergroup. 4

7. Comment on the paleogeographic configuration of the Indian Gondwana Basins during Late Carboniferous-Early Permian time. 4

8. Briefly describe the tectonic evolution of the Assam Basin. 4

PART – II (Marks: 20)

9. Answer *any four* questions : 5×4=20

a) Describe the internal structure of the Earth with a suitable sketch. 5

b) What are tectonic plates? How many plate boundaries are there? 2.5+2.5=5

c) Classify the Earthquakes on the basis of their depth of focus. What is epicenter? 2.5+2.5=5

d) Why is a R-R-R Triple Junction always stable? What is the prime condition for a stable triple junction? 2.5+2.5=5

e) Define a transcurrent fault? Write the Plate Tectonic Theory. 2.5+2.5=5

f) Write short notes (*any two*): 2.5×2=5
   i) Transform Fault
   ii) Benioff Zone
   iii) Triple Junction
   iv) Euler Pole

g) Discuss the landforms related to different convergent plat boundaries. 5