25I101 (Pages: 2) Name : .....

Reg. No : .....

FIRST SEMESTER M.Sc. INTEGRATED GEOLOGY DEGREE EXAMINATION, NOVEMBER 2025

(FYIP)

CC25GLOI1C101 - GEOLOGICAL TIME

(M.Sc. Integrated Geology - Major Course)

(2025 Admission - Regular)

Time: 2.0 Hours Maximum: 70 Marks

Credit: 4

Part A (Short answer questions)

Answer ***all*** questions. Each question carries 3 marks.

1. Analyze the decay of Uranium-235 leads to which stable isotope of lead? [Level:4] [CO4, CO6]
2. Define Angular unconformity. [Level:1] [CO5]
3. List the tectonic plate boundaries. [Level:1] [CO3]
4. Define the "redshift" and what does it tell us about galaxies? [Level:1] [CO1, CO5]
5. Define Stromatolites. [Level:1] [CO1, CO3]
6. Recognize the Great Oxidation Event, and during which eon did it occur? [Level:2] [CO5]
7. Analyze the species associated with the earliest known use of fire. [Level:4] [CO1]
8. Discuss one significant evolutionary event among plants during the Mesozoic. [Level:2] [CO1]
9. Explain Radioactive decay. [Level:2] [CO4]
10. List the basic principles of geology. [Level:1] [CO5]

(Ceiling: 24 Marks)

Part B (Paragraph questions/Problem)

Answer ***all*** questions. Each question carries 6 marks.

11. Discuss how radiocarbon dating and dendrochronology complement each other in chronological studies. [Level:2] [CO4]
12. Describe the composition and behavior of the Earth’s mantle. [Level:2] [CO1]
13. Discuss the process of seafloor spreading as proposed by Harry Hess. [Level:2] [CO3]
14. Explain the role of Milankovitch cycles in controlling Pleistocene glacial–interglacial alternations. [Level:2] [CO1]

15. Explain the major climate changes that have occurred through geological time. [Level:2] [CO1, CO3]

16. Describe the role of gravity and accretion in the formation of planets. [Level:2] [CO1]

17. Discuss the formation and breakup of the supercontinent Columbia (Nuna). [Level:2] [CO1]

18. Summarize the evolution of land plants during the Paleozoic. [Level:2] [CO1]

(Ceiling: 36 Marks)

Part C (Essay questions)

Answer any ***one*** question. The question carries 10 marks.

19. Explain the concept of palaeomagnetism. How is ancient magnetic information preserved in rocks, and what does it reveal about Earth's past? [Level:2] [CO3]

20. Describe the evolution of Earth's atmosphere from a reducing atmosphere to the present oxygen-rich composition. What role did photosynthetic organisms play in this transformation? [Level:2] [CO2]

(1 × 10 = 10 Marks)

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