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Code No: 156DU

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year II Semester Examinations, January/February - 2025

GENERAL GEOLOGY

(Common to CE, MIE)

Time: 3 Hours

Max. Marks: 75

Note: i) Question paper consists of Part A, Part B.

ii) Part A is compulsory, which carries 25 marks. In Part A, Answer all questions.

iii) In Part B, Answer any one question from each unit. Each question carries 10 marks and may have a, b as sub questions.

PART – A

(25 Marks)

- 1.a) What are the reasons of the weathering and erosion? [2]
- b) Present briefly the structure, composition of the Earth. [3]
- c) State law of Uniformitarianism. [2]
- d) Explain the scope of geomorphology in Geology and petroleum engineering. [3]
- e) Define Eskers and Erratics in glacio-Fluvial deposition. [2]
- f) State and explain barchans, Seifs and Transverse dunes. [3]
- g) What is metamorphism, give some examples of rocks. [2]
- h) Describe different types of Unconformity with diagrammatically. [3]
- i) Explain the characteristics of contour lines. [2]
- j) What are the challenges and limitations of using paleontological data in hydrocarbon exploration? [3]

PART – B

(50 Marks)

- 2.a) Classify Internal dynamic process of Plate tectonics and important features of plate-tectonics.
- b) Compare and contrast seismic moment magnitude, Richter scale, and body wave magnitude scales in terms of their accuracy. [5+5]

OR

- 3.a) Explore the different types of volcanic eruptions and their associated hazards.
- b) Present briefly origin of the earth about the Nebular hypothesis and the planetesimal hypothesis. [5+5]

- 4.a) Discuss the key principles of geomorphology and their significance in understanding Earth's surface processes
- b) Write short note on paleo-channels, and buried channels. [5+5]

OR

- 5.a) Name and briefly describe four common types of drainage patterns with diagrammatically.
- b) Examine the concept of geomorphic cycles and their application in landscape analysis. [5+5]

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6.a) Explain the following terms:

i) Arete ii) Cirques iii) Horn iv) Hanging valley

b) State deflation and abrasion and explain the depositional features of wind. [5+5]

OR

7.a) Illustrate the geological work of rivers, with diagrammatically.

b) State and classify different sea erosion and its deposited landforms. [5+5]

8.a) Compare between Topographic maps, thematic maps,

b) What is deltaic system? Explain the favorable conditions to form deltas. [5+5]

OR

9.a) Present the petrographic characters of conglomerate, and sandstone.

b) State and explain Dykes and sills, describe the texture of sedimentary rock. [5+5]

10.a) Discuss characteristics and distribution of microfossils-Foraminifera, Radiolarian.

b) State and explain the terms Fossils and Fossilization, and its applications. [5+5]

OR

11.a) What is the importance of Paleontology in hydrocarbon exploration, and state its applications.

b) Evaluate the role of micropaleontology in hydrocarbon exploration. [5+5]

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