

B. Sc. GEOLOGICAL SCIENCES EXAMINATION, 2023

(3rd Year, 2nd Semester)

OCEANOGRAPHY AND MARINE SCIENCE

PAPER – DSE/TH/03B

Time : Two hours

Full Marks : 40

(Use a separate Answer script for each Part)

PART – I

1. This is a schematic diagram showing a wide variety of instruments used to explore the sea floor in the search for resources. Name all the instruments as labelled from a-f. 6

2. In the world map (attached), identify and mark two zones/places showing : 4
 - a) Cobalt crusts
 - b) Black Smokers
3. Discuss the natural food chain in the sea. 5

OR

Describe the layers of the benthic environment and the general nature of life in each.

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4. Write short note (*any one*) on : 5
- a) Cosmogenous sediments
 - b) Continental shelf

PART – II (Marks: 20)

Answer *any four* questions.

- 1. a) What are the causes of ocean water movement? 2
b) How does coastal erosion affect the sea cliff? Discuss with appropriate sketches. 3
- 2. a) Define wave refraction with a schematic diagram. 2
b) Explain Ekman spiral and Ekman transport. 3
- 3. How does ocean gyre form? Give an explanation with suitable diagrams. 5
- 4. a) Explain the distribution of salinity, temperature and pressure along the ocean depth. 4
b) Why does Mediterranean Sea show salinity above normal? 1
- 5. a) Explain two methods of coastal protection with diagrams. 3
b) What are the differences between deep water and shallow water waves? 2