



UNIVERSITY OF RUHUNA
FACULTY OF FISHERIES AND MARINE SCIENCES & TECHNOLOGY

Academic Year 2022/2023

Bachelor of Science Honours in Marine and Freshwater Sciences Degree

Level III Semester I Examination – July 2024

OCG 3162– Sedimentology ~

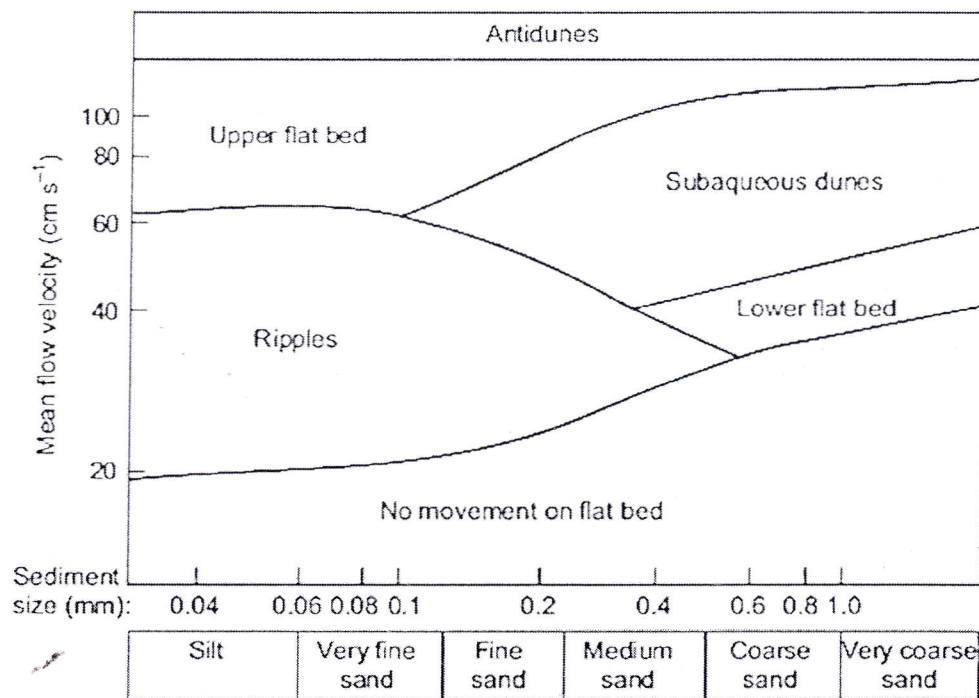
Time: 1 ½ hours

Answer only four (04) Questions

1.
 - i. What is the relationship between weathering and mineral composition of rocks? (10 marks)
 - ii. Considering relevant geological processes, discuss the potential of having Highland Complex rock fragments in the Trincomalee Bay. (15 marks)
2.
 - i. Discuss the role of paleosols in reconstructing past climates, landscapes, and ecosystems. (15 marks)
 - ii. What are the factors contributing to the variation in soil colors, composition, and textures? (10 marks)
3.
 - i. Compare and contrast the marine transgression, regression, and aggradation. (10 marks)
 - ii. What are the types of depositional facies associated with glacial environments? (15 marks)
4.
 - i. The half-life of ^{14}C isotope is 5730 years. An artifact containing wood had 80% of ^{14}C found in a living tree. Estimate the age of the sample using the radioactive age dating equation ($\lambda = 0.693/t_{1/2}$). (10 marks)
 - ii. How can various types of stratigraphic information be utilized to accurately interpret sedimentary succession? (15 marks)
5.
 - i. What is the role of paleoflow characteristics in the formation of different sedimentary structures? (15 marks)
 - ii. Discuss the factors affecting the morphology of different river types (10 marks)

6.

- i. Define tabular, trough, and hummocky cross beds and describe their formation mechanism.
- ii. Using the following diagram, discuss the characteristic features of a bedform with a number less than one (01).



@@@@@@@@@@@@