

The Assam Royal Global University, Guwahati

Royal School of Environmental and Earth Sciences

M. Sc. Geology 2nd Semester

Semester End Examination, July 2022

Course Title: Sedimentology

Course Code: GEOL164C202

Time: 3 Hours

Maximum Marks: 70

Note: Attempt all questions as per instructions given.

The figures in the right-hand margin indicate marks.

Section – A

1. Attempt **all** questions. (Maximum word limit 50) 2 x 8
- What are individual textural parameters?
 - Mention two advantages of sedimentary structures.
 - Define the term 'Lithofacies'.
 - Differentiate between rudaceous and arenaceous rocks.
 - What is meant by neomorphism of carbonate rocks?
 - What is the significance of ZTR Index?
 - What are Eh-pH diagrams?
 - What is meant by weathering index of source rocks?

Section – B

2. Attempt **any two** of the following: 6 x 2
- Describe the environmental connotations of grain size and shape.
 - Write an elaborate note on paleocurrent analysis.
 - Elucidate the significance of sedimentary structures.
3. Attempt **any two** of the following: 7 x 2
- Describe the lithofacies assemblage in deltaic setting.
 - Write an elaborate note on the genetic classification of sedimentary rocks.
 - Elucidate the various stages of diagenesis with suitable illustrations.
4. Attempt **any two** of the following: 7 x 2
- Give a generalized classification of sedimentary basins.
 - 'Heavy minerals have remarkable importance in provenance determination'. Illustrate the concept behind this statement.
 - Mention the Dunham classification of limestone in detail.
5. Attempt **any one** of the following: 14 x 1
- Write an elaborate note on the physico-chemical factors in sedimentation.
 - Discuss briefly about the paleo-weathering indices used in geochemical analysis.