

G-2/222/21

Roll No.....

M. Sc. II Semester Examination, 2021

GEOLOGY

Paper II

(Sedimentary Petrology and Crustal Evolution)

Time : 3 Hours]

[Maximum Marks : 80

Note : *All questions are compulsory. Question Paper comprises of 3 sections. **Section A** is objective type/multiple Choice questions with no internal choice. **Section B** is short answer type with internal choice. **Section C** is long answer type with internal choice.*

SECTION 'A'

(Objective Type / Multiple Choice Questions)

Choose the correct answer :

1 × 10 = 10

1. Herringbone cross bedding are typical bed forms produced by :

- (a) Tide (b) Anticyclone
(c) Cyclone (d) Develop in Estuaries

2. The scientific study of biogenic sedimentary structures trace fossils are called :

- (a) Ichnology (b) Pedogogy
(c) Palynology (d) Pedology

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3. Coarse grained biogenic limestone is termed as :

- (a) Biomicrite (b) Oomicrite
(c) Biosparite (d) Oosparite

4. Insitu formed limestone is called autochthonous while transported ones are called :

- (a) Leaky limestone (b) Derived limestone
(c) Allochthonous (d) None of these

5. Limestone restricted to upper cretaceous stratigraphic horizons usually white fine grained are identified as :

- (a) Micrite (b) Rudite
(c) Chalk (d) Sparite

6. Heavy mineral have specific gravity more than :

- (a) 3.20 (b) 3.30
(c) 4.0 (d) 2.87

7. When depositional environment migrate laterally, sediment of one environment come to lie on top of sediment of an adjacent environment is :

- (a) Euler's law (b) Jame's law
(c) Walther's law (d) Franklin's law

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8. Sediments formed by slow precipitation of minerals from sea water in place of crystallisation are called as :

- (a) Terrigenous Marine Sediments
- (b) Palagic marine sediments
- (c) Authigenic marine sediments
- (d) All of the above

9. Presence of augite mineral in sedimentary rock is indicator of :

- (a) High grade metamorphic source
- (b) Volcanic rock source
- (c) Sandstone rock source
- (d) Low grade metamorphic source

10. Structure produced by trapping and binding of sediments are called as :

- (a) Stylolites (b) Mud-cracks
- (c) Stromatolites (d) Rain prints

SECTION 'B'

4 × 5 = 20

(Short Answer Type Questions)

Note : Answer the following questions in 250 words.

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Unit I

1. Describe the importance of quartz as a provenance indicator.

Or

What is the relation between Bowen's reaction Series with Mineral stability.

Unit II

2. Write briefly on porosity and permeability.

Or

Write an elaborate on formation and origin of Evaporites.

Unit III

3. Distinguish between lithification and diagenesis.

Or

Give a short note on Palaeocurrent analysis.

Unit IV

4. Define sedimentary facies.

Or

Define the term sequence stratigraphy.

Unit V

5. Explain in detail on tectonism and sedimentation.

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Or

Briefly explain anatomy of orogenic belts.

SECTION 'C' 10 × 5 = 50

(Long Answer Type Questions)

Note : Answer the following questions in 500 words.

Unit I

1. Give classification of carbonate rocks proposed by Folk and Dunham.

Or

Give the description of argillaceous sediments their composition and depositional environment.

Unit II

2. Describe the process of dolomitization.

Or

Write notes on :

- (a) Dot's classification of sandstone,
(b) Graphical representation of statistical data.

Unit III

3. Describe the primary and secondary sedimentary structures with neat diagram. Give its significance in top and bottom criteria.

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Or

Write notes on :

- (a) Significance of stable isotope in sedimentology,
(b) Application of trace elements.

Unit IV

4. Define sedimentary environment. What are the environment types ? Briefly describe any one in detail.

Or

Write notes on :

- (a) Delta and its type,
(b) Classification of clay minerals.

Unit V

5. How sedimentary basins are correlated with plate tectonics ?

Or

Write notes on :

- (a) Precambrian Cambrian boundary with special reference to India.
(b) Formation of mountain roots.

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