G-2/223/21 **Roll No……...**

M.Sc. II Semester Examination, 2021

GEOLOGY

Paper III

(Geodynamics and Geomorphology)

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. ……discontinuity separates the upper mantle from the lower mantle.

(a) Conrad discontinuity

(b) Mohorovicic discontinuity

(c) Repetti discontinuity

(d) Gutenberg discontinuity

P.T.O.

2. Average density of crust (gm/cc) is :

(a) 4·53 (b) 2·8 – 2·9

(c) 10·72 (d) 11

3. Which of the following is an example of island arcs ?

(a) Aleutian Islands (b) Hawaiian Islands

(c) Both (a) and (b) (d) None of these

4. Himalayan mountain range is an example of :

(a) Continental ocean plate collision

(b) Continental plate-continental plate collision

(c) Divergent plate margin

(d) Triple junction

5. A comparatively stable geosyncline in which sediments accumulate without contemporaneous volcanism is called :

(a) Eugeosyncline (b) Miogeosyncline

(c) Both (a) and (b) (d) None of these

6. The earthquake magnitude is expressed in :

(a) Mercalli scale

(b) Modified Mercalli scale

(c) Rossi-Forrel scale

(d) Richter scale

7. 90% of the present landscapes belong to :

(a) Post-Tertiary age (b) Quarternary age

(c) Pre-Mesozoic age (d) Post-Polaeozoic age

8. Potholes are formed by the process of :

(a) Abrasion (b) Hydraulic action

(c) Attrition (d) Solution

9. The tributary valley of glacier valley lying above glacier valley is :

(a) Fjords (b) Hanging valley

(c) Rias (d) Moraines

10. The formula of Relief Ratio Rh is :

(a) $\frac{\text{Total Relief}}{\text{Basin Area}}$ (b) $\frac{\text{Total Relief}}{\text{Basin Area}}$

(c) $\frac{\text{Total Length of Relief}}{\text{Total Relief}}$ (d) $\frac{\text{Basin Area}}{\text{Total Relief}}$

SECTION 'B' **4 × 5 = 20**

(Short Answer Type Questions)

Note : *Answer the following questions in 250 words.*

Unit I

1. Write a note on sea floor spreading.

Or

Discuss palaeomagnetism in brief.

Unit II

2. Write a note on origin and global distribution of island arcs.

Or

What is a subduction zone ? Discuss salient features of a subduction zone.

Unit III

3. Discuss various types of earthquake waves.

Or

Write a note on Richter and Marcali scale.

Unit IV

4. Discuss the relationship of landforms with climate and rock type.

Or

Draw labelled diagrams of any four fluvial landforms and also give a brief description of each one.

Unit V

5. Discuss wind erosion in a brief manner.

Or

Write a note on the application of principles of Geomorphology in civil engineering.

SECTION'C' **10 × 5 = 50**

(Long Answer Type Questions)

Note : *Answer the following questions in 500 words.*

Unit I

1. Describe various methods of determination of age of the earth.

Or

Describe various hypotheses about the origin of the earth.

Unit II

2. Describe various types of plate boundaries along with examples.

Or

Discuss the salient features of the following :

(a) Mid Oceanic Ridge,

(b) Triple junction,

(c) Oceanic Trenches,

(d) Continent-continent collision.

Unit III

3. Describe major earthquake belts and volcanic belts of the world. Do you find any relationship between these two ? Explain with diagram.

Or

Describe classification and evolution of geosynclines.

Unit IV

4. Describe various conceept of Geomorphology.

Or

Explain salient features of Kant topography along with labelled diagrams.

Unit V

5. Describe various erosional and depositional landforms developed due to geological action of glacier.

Or

Write an essay on morphometric analysis of a drainage basin and its significance.

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