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3 (Sem-5/CBCS) GLG HC 2

2024

## GEOLOGY

Paper : GLG-HC-5026

( *Geomorphology* )

Full Marks : 60

Time : Three hours

***The figures in the margin indicate full marks for the questions.***

1. Tick (✓) the correct option :  $1 \times 7 = 7$
- (i) Identify the duricrust that has limited geographic distribution and develop in very arid regions.
- (a) Gypcrete
  - (b) Alcrete
  - (c) Calcrete
  - (d) Silcrete

*Contd.*



(ii) The end product of a Davisian Cycle of Erosion is

- (a) Piedmont plain
- (b) Pediment
- (c) Floodplain
- (d) Peneplain

(iii) Which of the following is not correct ?

- (a) Calderas have diameter  $\geq 2$  km
- (b) Shield volcanoes are endogenous basalt domes
- (c) Strato volcanoes are composed of tephra and lava
- (d) A laccolith is a form of sill

(iv) Identify the wrong statement.

- (a) Denudation results in reduction in elevation and relief
- (b) Denudation is an exogenic process
- (c) Denudation is primarily an endogenic process
- (d) The geomorphic processes of running water, wind and glacier cause denudation

(v) Nivation is a

- (a) Glacial process
- (b) Fluvial process
- (c) Coastal process
- (d) Periglacial process

(vi) The lunar landscape is developed by the process(es) of

- (a) Volcanic flooding
- (b) Impact cratering
- (c) Volcanic flooding and bolide impact
- (d) Aeolian action

(vii) Very slow downslope movement of water saturated soil mass is

- (a) Gelifluction
- (b) Solifluction
- (c) Debris flow
- (d) Mudflow

2. Briefly explain why :  $2 \times 4 = 8$

- (a) A piedmont zone is developed towards north of the Ganga plain.
- (b) Large river basins have developed in the Southeast Asian region.
- (c) Large deserts have developed in subtropics.
- (d) Pacific Ring of Fire developed around the Pacific.

3. Write explanatory notes on : **(any three)**

$5 \times 3 = 15$

- (a) Soil profile



- (b) Landslide
- (c) Drainage pattern
- (d) Fluvial signatures in Martian rocks
- (e) Coastal plains of India
- (f) Quaternary sea level fluctuations

4. Answer the following :  $10 \times 3 = 30$

- (A) Write an illustrated account on the major structural and morphological features of the Himalaya.

**Or**

Write an explanatory note on the origin and evolution of the Himalaya.

- (B) Explain how tectonics play a major role in landform development. Give suitable sketches and examples.

**Or**

Write a detailed account on tectonic land-forms. Give suitable examples.

- (C) Explain the fluvial processes of erosion, transposition and deposition.

**Or**

Write an illustrate account on the fluvial landforms. Give examples.