

Ex/SC/GEOG/PG/CORE/TH/C101T/2025

MASTER OF SCIENCE EXAMINATION, 2025

(1st Year, 1st Semester)

GEOGRAPHY

PAPER : SC/GEOG/PG/CORE/TH/C101T

(Quaternary Geomorphology)

Time : Two Hours

Full Marks : 50

Answer one question from each unit.

Unit-I

1. Classify temporal scale and describe how it can be related to different equilibrium conditions. Define the concept of feedback in a geomorphic system with proper examples. 6+4
2. Discuss the impact of neotectonic deformation on drainage evolution using suitable examples. Explain the concept of threshold. 7+3

Unit-II

3. Evaluate the interplay of channel geometry and hydraulic factors influencing the stability of river channels with examples. Briefly explain the concept of stream power and its role in channel incision. 7+3

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[Turn Over]

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4. Discuss the various flow patterns in open channels and explain how these flow patterns determine the shape of the channel planform. Explain the concept of velocity distribution in open channels including its variations across channel cross-sections. 6+4

Unit-III

5. What are the utilities of drainage basin as a unit in geomorphological studies? State the principles of drainage basin delineation. 7+3
6. Attempt a genetic classification of fluvial erosional landforms. Differentiate between various types of river terraces. 5+5

Unit-IV

7. Discuss the concept of glacial mass balance. What is isostatic rebound and how far is it related to Late Quaternary deglaciation? What is stadial in a glacial cycle? 3+5+2
8. Classify permafrosts. Explain the importance of nivation process in periglacial landform development. 5+5

Internal Assessment

10

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