

Total number of printed pages-3

14 (GGY-4) 4206 (OP) FG

2022

## **GEOGRAPHY**

(Optional)

Paper : GGY-4206

**(Fluvial Geomorphology)**

Full Marks : 80

Time : Four hours

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

### **UNIT-I**

***Answer Q. No. 1 and any three from the rest.***

***Marks : 40***

1. Describe flow types and explain the factors affecting the velocity of flow in a channel with examples. 6+10=16

***Or***

Citing examples from the Brahmaputra river of Assam, state the fluvio-geomorphic processes associated with channel aggradation and degradation. 8+8=16

*Contd.*

2. State how the channel variables are affected by water discharge. 8
3. Describe the mechanics and causes of channel erosion with suitable examples. 8
4. Discuss the impacts of sediment discharge on channel morphology. 8
5. Write short notes on **any two** from the following : 4×2=8
  - (a) Forces acting in channel
  - (b) One method of water discharge estimation
  - (c) Types of sediment load

## UNIT-II

*Answer Q. No. 6 and any three from the rest.*

*Marks : 40*

6. Present a systematic discussion on the fluvial geomorphology of the Brahmaputra Valley of Assam. 16

**Or**

Discuss the issues and strategies as to how the catchment ecosystem can be restored for proper planning and development of river basin. 6+10=16

7. Explain the downstream impacts of dam construction on the hydrology and morphology of rivers. 8
  8. Describe the various aspects of wetland geomorphology with special reference to Brahmaputra floodplain of Assam. 8
  9. Assess the probable impacts of climate change on the river system and fluvial processes. 8
  10. Write short notes on **any two** from the following : 4×2=8
    - (a) Flood as a geomorphic hazard
    - (b) Land use land cover change in river basin due to human interference
    - (c) Concept and meaning of eco-geomorphology
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