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14 (GGY-3) 3156 (FG)

2022

GEOGRAPHY

(Optional)

Paper : GGY-3156

(Fluvial Geomorphology)

Full Marks : 80

Time : Three hours

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

GROUP-A

Marks : 40

Answer **Q. no.1** and **any three** from the rest : $16+(8\times 3)=40$

1. Explain the surface runoff as an important component of hydrological cycle and discuss the factors affecting the runoff of a river basin. 4+12=16

Contd.

Or

Critically discuss the expanding scope of fluvial geomorphology with reference to the present-day relevance of its study. 16

2. State the concept of grade and explain the criteria and symptoms of graded condition of a river. 2+6=8
3. Explain the application potentials of remote sensing in fluvio-geomorphic studies with examples. 8
4. Describe different types of hydrographs and their applications in understanding the flow behaviour of a river with examples. 2+6=8
5. Write short notes on **any two** of the following : 4×2=8
 - (a) Rainfall-runoff relationship
 - (b) Digital representation of hydrologic parameters
 - (c) Pipetting method of grain size analysis

GROUP-B

Marks : 40

Answer **Q. no.6** and **any three** from the rest : $16+(8\times 3)=40$

6. Describe different types of channels and their morphological characteristics with suitable diagrams. $4+12=16$

Or

Explain the meandering channel pattern in terms of channel geometry and causes of meandering. $6+10=16$

7. Explain the process of floodplain genesis with neat diagrams. 8
8. State with diagrams the bank erosion process as a factor of bankline changes. 8
9. Discuss the nature of channel changes in time. 8

10. Write short notes on **any two** of the following: 4×2=8

(a) Depositional process and channel morphology

(b) Plan geometry of channels

(c) Braiding process and associated causes

