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3 (Sem-6/CBCS) GGY HE 2

2024

GEOGRAPHY

(Honours Elective)

Paper : GGY-HE-6026

(Hydrology)

Full Marks : 60

Time : Three hours

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

1. Answer the following questions : $1 \times 7 = 7$

- (a) Name the most predominant form of precipitation.
- (b) What is pluviometer ?
- (c) What is hyetograph ?
- (d) What do you mean by wetted perimeter ?

Contd.

(e) A plot between rainfall intensity versus time is called as

- (i) hydrograph
- (ii) mass curve
- (iii) hyetograph
- (iv) isohyet

(Choose the correct option)

(f) Evapotranspiration is confined to

- (i) daylight hours
- (ii) night-time only
- (iii) land surface only
- (iv) None of the above

(Choose the correct option)

(g) The intensity of rainfall is expressed as

- (i) cm/sec
- (ii) cm/hour
- (iii) m/sec
- (iv) m/hour

(Choose the correct option)

2. Answer the following questions very briefly :

2×4=8

- (a) Distinguish between throughfall and throughflow.
- (b) Distinguish between competence and capacity of a river.
- (c) Define baseflow.
- (d) What is surface runoff ?

3. Answer **any three** of the following questions in short :

5×3=15

- (a) Discuss briefly the sources of fresh water.
- (b) What are the different modes of transportation of a river ? Explain briefly. 2+3=5
- (c) Explain briefly the causes responsible for variations in the river flow.
- (d) Briefly explain the meaning of runoff discharge and mention the associated factors. 3+2=5
- (e) What do you mean by a braided river ? What are the chief characteristic causes of braiding ?

4. Discuss in detail the importance of hydrology in physical geography. 10

Or

Discuss in detail the spatio-temporal patterns of rainfall distribution in India.

5. Explain the important geometrical parameters of a river basin. 10

Or

What is a flow duration curve ? What information can be obtained from the study of flow duration curve of a stream at a site ?

6. Discuss in detail the influence of rock, soil and vegetation on runoff with necessary illustrations. 10

Or

“Human activities modify the river basin hydrology.” Justify the statement with local examples.