3 (Sem–6/CBCS) GGY HE 2

2025

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 as directed : 1×7=7

   (a) Define overland flow.

   (b) What are the units of measuring water discharge ?

   (c) Give an example of a braided river.

   (d) What do you mean by flood frequency ?

(e) Hygrometer is used for estimating —

(i) water vapour content of the air

(ii) water content of soil

(iii) capillary potential of soil water

(iv) specific gravity of a liquid

(Choose the correct option)

(f) Define ground water.

(g) What is a catchment area?

2. Answer the following questions very briefly : 2×4=8

(a) What is evapotranspiration?

(b) What do you mean by Unit Hydrograph?

(c) What is the difference between baseflow and surface runoff?

(d) Define water budget.

3. Answer ***any three*** of the following questions : 5×3=15

(a) Distinguish between long profile and cross profile of a river.

(b) Discuss briefly the types of flow in a river.

(c) Explain briefly the importance of system concept in an open channel.

(d) Define precipitation. What are the different forms of precipitation? Explain.

(e) Describe briefly the erosional activity of a river.

4. Discuss in detail the meaning and scope of hydrology. 10

Or

Describe the importance of groundwater on surface runoff.

5. What is river basin hydrology? Illustrate your answer with suitable diagrams. 10

Or

Discuss in detail the factors responsible for the streamflow variation in a channel.

6. Discuss the mechanism of flood plain formation with special reference to the Brahmaputra Valley. 10

Or

What is runoff hydrograph ? Write in detail the factors controlling the shape of a hydrograph. 3+7=10
