

**B.Sc. Semester-V Examination, 2022-23****GEOLOGY [Honours]**

Course ID : 52011 Course Code : SH/GEL/501/C-11(T)

Course Title : Hydrogeology

Time : 1 Hour 15 Minutes Full Marks : 25

*The figures in the right-hand margin indicate marks.**Candidates are required to give their answers in their own words as far as practicable.*

1. Answer any **five** of the following questions:  $1 \times 5 = 5$ 
  - a) What is perched water table?
  - b) What is the full form of TDS?
  - c) Write a comprehensive equation through which the total water is cycled.
  - d) What is piezometric surface?
  - e) What is capillary water?
  - f) What is the ratio of fresh water to saline water in the Earth?
  - g) What is meteoric water?
  - h) Which radioisotopes are used for age determination of groundwater?

2. Answer any **two** of the following questions:  $5 \times 2 = 10$ 
  - a) Derive the relationship between the porosity and void ratio.
  - b) Briefly describe the techniques of artificial recharge of groundwater.
  - c) Explain the Ghyben-Herzberg relation between fresh water and salt water in coastal aquifers.
  - d) Briefly describe the surface geological and geobotanical methods for groundwater exploration.
3. Answer any **one** of the following questions:  $10 \times 1 = 10$ 
  - a) Describe different types of springs with necessary sketches.
  - b) Describe the arsenic pollution of groundwater with special emphases on causes, effects and control measures.

*[Turn Over]*