UNIVERSITY OF NORTH BENGAL

B.Sc. Honours 4th Semester Examination, 2023

CC10-GEOLOGY

HYDROGEOLOGY

Time Allotted: 2 Hours   Full Marks: 40

The figures in the margin indicate full marks.

1.   Answer any *five* from the following: 1×5 = 5
   (a) In what types of rock do most caves form?
   (b) What is gaining stream?
   (c) What is Perched water table?
   (d) What are the uses of Harvested Rainwater?
   (e) What is effective porosity?
   (f) What is overdraft?
   (g) What is clogging?
   (h) What is Intrinsic permeability?

2.   Answer any *three* from the following: 5×3 = 15
   (a) Write short note about the necessity of desalination.
   (b) Write briefly about the problems of overexploitation of Groundwater.
   (c) What is hydrologic cycle? Briefly write about different components of hydrologic cycle.
   (d) Explain how saltwater incursion takes place.
   (e) ***"Groundwater level is a function of space only under steady-state flow condition"***. – Explain the statement.

3.   Answer any *two* from the following: 10×2 = 20
   (a) Discuss the relationship between groundwater and geology. ***"Capillary rise is inversely proportional to grain size"*** – Explain with proper equation.   5+5
   (b) Should all contaminated groundwater be cleaned up? Should some aquifers be deliberately left contaminated if there is no current use of the water or if future use could be banned?   5+5
   (c) What is meant by rain water harvesting? Discuss about different methods of rain water harvesting.   5+5
   (d) Give an account of the causes for fluctuation of water levels in aquifers due to pressure changes, tides, nearness of rivers and application of load. $2\frac{1}{2} \times 4 = 10$

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