Name: **Enrolment No:**	

UPES
End Semester Examination, May 2024

Course: Hydrogeology **Semester: II**
Program: M. Sc Petroleum Geoscience **Time : 03 hrs.**
Course Code: PEGS 7026 **Max. Marks: 100**

Instructions: Answer all questions. However, there is internal choice in Q8, Q9, Q10 and Q11

SECTION A
(5Qx4M=20Marks)

S. No.		Marks	CO
Q 1	List out the important hydrological cycle parameters	**4**	**CO1**
Q 2	Define the term specific retention	**4**	**CO1**
Q 3	Differentiate between hydraulic conductivity and permeability	**4**	**CO2**
Q 4	Explain the use of SP log in groundwater exploration	**4**	**CO3**
Q 5	Define the term confined aquifer and unconfined aquifer	**4**	**CO2**
	SECTION B **(4Qx10M= 40 Marks)**		
Q 6	Explain the various laws being enacted in India for groundwater utilization	**10**	**CO2**
Q 7	Explain the Schlumberger resistivity method for groundwater exploration	**10**	**CO3**
Q 8	Explain the geological method of groundwater prospecting. **OR** Explain the role of remote sensing in groundwater exploration	**10**	**CO3**
Q 9	Examine the porosity measurement well logging methods in evaluating aquifer property OR Examine the lab based methods for estimating hydraulic conductivity	**10**	**CO4**
	SECTION-C **(2Qx20M=40 Marks)**		
Q 10	Develop a numerical model in determining the rate of groundwater flow, flow direction and hydraulic head OR Develop a suitable model for groundwater quality assessment for domestic use	**20**	**CO4**

Q 11	Give an overview of different types of tubewell and open well. Evaluate the relative advantage and disadvantage of open well over tubewell OR Develop an integrated geological, geophysical and well logging model for ground water exploration.	**20**	**CO4**