


Name:			
Enrolment No:			
UPES End Semester Examination, December 2023			
Course: Engineering Hydrology and Geology Program: B.Tech. Civil Engineering Course Code: CIVL2023		Semester: III Time: 03 hrs. Max. Marks: 100	
Instructions: <u>All questions are compulsory to attempt.</u>			
SECTION A (5Qx4M=20Marks)			
S. No.		Marks	CO
Q 1.	What is erosion? What are its phases?	04	CO1
Q 2.	State the various types of seismic waves.	04	CO3
Q 3.	State the different zones of groundwater along with their key points.	04	CO3
Q 4.	Define the following: i. Specific Gravity ii. Cleavage iii. Lustre iv. Streak	04	CO1
Q 5.	Differentiate between the different types of geological formations on the basis of permeability and porosity.	04	CO2
SECTION B (4Qx10M= 40 Marks)			
Q 6.	What are the folds? State their classification with the help of detailed diagram for each type.	10	CO2
Q 7.	State the geological considerations in the selection of a dam site?	10	CO4
Q 8.	Explain the working procedure of old (conventional) and modern seismographs. OR Why does Japan experience frequent earthquake? Explain with the help of plate tectonic theory.	10	CO3
Q 9.	A soil deposit has three layers having the same thickness, but the permeabilities of the layers are in the ratio of 1:4:8 from top to bottom. Determine the equivalent permeability.	10	CO2

SECTION-C
(2Qx20M=40 Marks)

Q 10.	Explain the various geophysical methods in detail giving the principle behind these methods. Also give the application area of each method clearly explaining its use in that particular domain. <p style="text-align: center;">OR</p> State the difference between percolation and infiltration? Draw a neat sketch of a hydrological cycle and define all the processes taking place.	20	CO3
Q 11.	How do the geologists precisely able to detect the location of an earthquake in a geographical area? Explain the same in detail with a suitable example.	20	CO3