

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VI (NEW) EXAMINATION – WINTER 2017****Subject Code: 2161307****Date: 20/11/2017****Subject Name: Ground Water Contamination****Time: 02:30 PM TO 05:00PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		<b>MARKS</b>
<b>Q.1</b>	(a) Differentiate aquifer and aquitards.	<b>03</b>
	(b) Explain site selection criteria for artificial recharge.	<b>04</b>
	(c) Explicate ground water in hydrological cycle with neat sketch.	<b>07</b>
<b>Q.2</b>	(a) Elucidate how to monitor groundwater quality.	<b>03</b>
	(b) Discuss in detail ground water budget.	<b>04</b>
	(c) Explain the recuperation test to estimate the safe yield of an open well.	<b>07</b>
<b>OR</b>		
	(c) Explain in detail steady & unsteady flow solution for fully penetration wells.	<b>07</b>
<b>Q.3</b>	(a) Distinguish unconfined aquifer & a leaky aquifer.	<b>03</b>
	(b) Explicit the assumptions made in Dupuit's theory.	<b>04</b>
	(c) Explain in detail different sources responsible for ground water pollution with causes.	<b>07</b>
<b>OR</b>		
<b>Q.3</b>	(a) Explain artesian well.	<b>03</b>
	(b) Write down the hydrological properties of water bearing strata.	<b>04</b>
	(c) Write down the Indian & International standards for ground water quality.	<b>07</b>
<b>Q.4</b>	(a) Define: Perched aquifer, Aquifuge.	<b>03</b>
	(b) Explain the different methods of waste water recharge for reuse.	<b>04</b>
	(c) Write a short note on advective and dispersive transport mechanism.	<b>07</b>
<b>OR</b>		
<b>Q.4</b>	(a) What do you mean by precipitation and sublimation?	<b>03</b>
	(b) Explain in detail method of images.	<b>04</b>
	(c) Explain the Darcy's law with its limitations. Discuss its validity.	<b>07</b>
<b>Q.5</b>	(a) What is cone of depression?	<b>03</b>
	(b) Explain in detail interference among wells.	<b>04</b>
	(c) Write down the ground water quality criteria for drinking water.	<b>07</b>
<b>OR</b>		
<b>Q.5</b>	(a) Enlist ground water remediation methods.	<b>03</b>
	(b) Describe ground water sampling.	<b>04</b>
	(c) What is ground water? Discuss formation of ground water with neat sketch.	<b>07</b>

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