Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE – SEMESTER – VI (NEW).EXAMINATION – WINTER 2016

Subject Code: 2161307 **Date: 26/10/2016**

Subject Name: Ground Water Contamination

Time: 02:30 PM to 05:00 PM **Total Marks: 70**

Instructions:

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

Q.1	**(a)**	What is ground water? Discuss formation of ground water with neat sketch.	**07**
	(b)	Enlist and explain ground water remediation methods.	**07**
Q.2	**(a)**	Define the following terms. (1) Confined aquifer (2) Unconfined aquifer (3) Aquiclude (4) Aquifuge (5) Aquitard (6) Leaky aquifer (7) Perched aquifer	**07**
	(b)	Write down the ground water quality criteria for drinking water.	**07**
		OR	
	(b)	Explain in detail ground water sampling.	**07**
Q.3	**(a)**	Explain the Darcy's law. What is its limitation? Discuss its validity.	**07**
	(b)	Explain in detail interference among wells.	**07**
		OR	
Q.3	**(a)**	Write down the application of Darcy's law for simple flow system.	**07**
	(b)	Explain in detail how to monitor ground water quality.	**07**
Q.4	**(a)**	Derive the differential equation for Confined aquifer.	**07**
	(b)	Explain in detail steady & unsteady flow solution for fully penetration wells.	**07**
		OR	
Q.4	**(a)**	Derive the differential equation for Unconfined aquifer.	**07**
	(b)	Explain in detail steady & unsteady flow solution for Partial penetration wells.	**07**
Q.5	**(a)**	Explain the different methods of waste water recharge for reuse.	**07**
	(b)	Enlist the site selection criteria for Artificial recharge.	**07**
		OR	
Q.5	**(a)**	Explain Artificial recherge for "energy purpose".	**07**
	(b)	Explain induced recharge method with their flow pattern.	**07**

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