

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VI (NEW) - EXAMINATION – SUMMER 2016

Subject Code:2161307

Date:17/05/2016

Subject Name: Ground Water Contamination

Time: 10:30 AM to 01:00 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 vertical distribution of ground water with neat sketch. **07**
(b) Explain in detail ground water in hydrological cycle with neat sketch. **07**
- Q.2** (a) Explain the Darcy's law. What is its limitation? Discuss its validity. **07**
(b) Distinguish between **07**
(1) Aquifer & Aquitard.
(2) Unconfined aquifer & a leaky aquifer
- OR**
- (b) Write down the hydrological properties of water bearing strata. **07**
- Q.3** (a) Describe the occurrences of ground water in unconfined & confined aquifer with neat sketch. **07**
(b) Describe the hydrological water budget with the aid of example. **07**
- OR**
- Q.3** (a) Write down the Indian & international standards for ground water quality. **07**
(b) Explain in detail different sources responsible for ground water pollution with causes. **07**
- Q.4** (a) Derive governing differential equation of unsteady ground water flow in confined aquifer. **07**
(b) Explain the pumping test to estimate the safe yield from an open well. **07**
- OR**
- Q.4** (a) Derive governing differential equation of unsteady ground water flow in unconfined aquifer. **07**
(b) Explain the recuperation test to estimate the safe yield of an open well. **07**
- Q.5** (a) What is artificial recharge? Explain different artificial recharge methods of ground water. **07**
(b) Explain sampling & monitoring methods for ground water. **07**
- OR**
- Q.5** (a) Enlist and explain ground water remediation methods. **07**
(b) Write a short note on advective and dispersive transport mechanism. **07**
