

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
ME - SEMESTER-2 (NEW) • EXAMINATION – SUMMER 2016

Subject Code: 2723301

Date: 24/05/2016

Subject Name: Ground water management

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) Define Groundwater management and describe the role of groundwater management for effective water resource management. **07**
(b) Explain the Pumping Test and its significance for groundwater management **07**
- Q.2** (a) Define Aquifer. Describe various types of aquifer with sketch. **07**
(b) Discuss various potential threats of Groundwater overuse and depletion **07**
- OR**
- (b) Write short note on: **07**
(1) Well Hydraulics (2) Central Groundwater Board
- Q.3** (a) Describe the term Sea water intrusion and also mention the significance of Ghyben-Herzberg equation for the seawater intrusion. **07**
(b) Define the following terms : **07**
(1) Storativity (2) Hydraulic Conductivity (3) Specific Storage (4) Specific Yield
- OR**
- Q.3** (a) Describe the phenomena of artificial recharging. Enlist and explain various methods of artificial recharging. **07**
(b) Discuss the significance of radius of influence and drawdown curve for groundwater management. **07**
- Q.4** (a) Write Short note on Ground water flow and contaminant transport process **07**
(b) Discuss about sustainable groundwater management in detail. Support your answer with your suggestions. **07**
- OR**
- Q.4** (a) Describe the Leaky Aquifer and Perched Aquifer with neat sketch. **07**
(b) Discuss various design considerations of well design. **07**
- Q.5** (a) Explain various reasons groundwater quality degradation. Also discuss remedies to improve groundwater quality. **07**
(b) Describe groundwater legislations in India. **07**
- OR**
- Q.5** (a) Describe the phenomena of groundwater subsidence and conjunctive use of water resources. **07**
(b) Discuss about construction and maintenance of wells. **07**
