

Printed Pages : 3



ECE-063

(Following Paper ID and Roll No. to be filled in your Answer Book)

**PAPER ID : 100857**

Roll No.

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**B. Tech.**

(SEM. VIII) THEORY EXAMINATION, 2014-15  
**GROUND WATER MANAGEMENT**

Time : 3 Hours]

[Total Marks : 100

- 1 Attempt any four part of the following :  $5 \times 4 = 20$
- What is the surface of seepage and free surface curve ?
  - Define efficiency of a well.
  - What do you understand cavity formation in open wells ?
  - How you will design the length and size of the screen for water wells ?
  - Describe Fluoride Removal Techniques.
  - Define Roof Top Water Harvesting.
- 2 Attempt any two part of the following :  $10 \times 2 = 20$
- Define ground water modelling techniques and explain any one of them.
  - What is Soil Aquifer Treatment (SAT) and how it works ?
  - What is the concept of Artificial Recharge of Ground Water ?

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[ Contd...

- 3** Attempt any two parts of the following : **10×2=20**
- (a) The resistivity of sample of formation water reduced to a standard temp. of 27°C is 15.2 ohm-m. If the formation resistivity read from the electric log is 131 ohm-m, determine the effective porosity of the formation. Assume cementation factor of 2 in the Archie's formula.
  - (b) What is the surface geophysical techniques and explain any one of them.
  - (c) What do you understand by ground water exploration and define surface evidence.
- 4** Attempt any two parts of the following : **10×2=20**
- (a) Define Border Irrigation and find the time of irrigation by empirical formula.
  - (b) What is the basic requirements of irrigation method and explain Furrows Irrigation.
  - (c) Define the following :
    - (i) Well completion
    - (ii) Well disinfection.
- 5** Attempt any two parts of the following : **10×2=20**
- (a) What is the development of tubewells and also explain tubewell development method.

- (b) Define following :
- (i) Strainer Tubewells
  - (ii) Cavity Type Tubewells
- (c) A 40 cm well penetrates an aquifer of 30 mtr. thickness and the length of strainer is 10 mtr. The yield is 2000 lpm with a draw down in the well 2 mtr, If the length of the screen is increased 16 mtr. what will be the drawdown in the well and the increase in the specific capacity.
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