Printed Pages : 3

ECE-063

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

PAPER ID : 100857

Roll No.

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 : **5×4=20**

(a) What is the surface of seepage and free surface curve ?

(b) Define efficiency of a well.

(c) What do you understand cavity formation in open wells ?

(d) How you will design the length and size of the screen for water wells ?

(e) Describe Fluoride Removal Techniques.

(f) Define Roof Top Water Harvesting.

2 Attempt any two part of the following : **10×2=20**

(a) Define ground water modelling tchniques and explain any one of them.

(b) What is Soil Aquifer Treatment (SAT) and how it works ?

(c) What is the concept of Artificial Recharge of Ground Water ?

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.
