No. of Printed Pages : 2

ET-532(B)

B.Tech. Civil (Water Resources Engineering)

00605

Term-End Examination

June, 2012

ET-532(B) : GROUND WATER DEVELOPMENT

Time : 3 hours *Maximum Marks : 70*

Note : *Answer **any five** questions. All questions carry **equal** marks.*

Well labelled sketches shall carry due weightage.

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1. (a) Draw and explain the working of constant head parameter. **6**

(b) Sketch out and explain : **8**

(i) Laminar flow phenomenon through sand particles.

(ii) Laminar flow without mixing of water particles.

2. (a) What are different type of tracers used in ground water hydrology study ? **4**

(b) Distinguish between storativity and transmissivity. Explain the procedure to determine transmissivity of an aquifer. **10**

3. (a) What is salination of soil ? Why and how does it occur ? List its controlling measures. **6**

(b) Explain various factors that lead to over exploitation of aquifers. How can over exploitation of ground water be avoided. **8**

4. Discuss the following : **14**

(a) Principle of pumping test

(b) Choosing the test site

(c) Equipment needed

(d) Water level measurment as well as discharge measurment.

5. Explain Thei's method (with its theory) of determining transmissivity and storivity of an aquifer. **14**

6. With regard to ground water prospecting briefly describe : **5, 9**

(a) geochemical methods

(b) geophysical methods

Elaborate on electrical resistivity method (two layer and three layer profiles).

7. Explain the tube - well design under following heads : **14**

(a) Intake part

(b) Well diameter and depth of well

(c) Casing

(d) Screens Gravel Pack

8. Write short notes on the following : **3½x4=14**

(a) Carbonation of ground water

(b) Total hardness of ground water

(c) Potable water

(d) Ground water balance
