No. of Printed Pages : 2

ET-532(B)

00257

B.Tech. Civil (Water Resources Engineering)

Term-End Examination

June, 2011

ET-532(B) : GROUND WATER DEVELOPMENT

Time : 3 hours *Maximum Marks : 70*

Note : Answer ***any five*** questions. All questions carry **equal** marks. Answer in your own language. Give neat and labelled sketches.

---

1. Draw a neat and labelled sketch of a constant head permeameter, and explain its working. **14**

2. (a) List the salient hydraulic features of an unconfined aquifer. **5**

(b) Sketch out a confined aquifer and explain its hydraulics. **9**

3. Explain, with the help of a neat sketch, the construction and working of : **7, 7**

(a) well in an unconfined aquifer.

(b) well in a confined aquifer.

4. With regard to ground water exploration discuss the following : 7, 7

   (a) Electrical resistivity method

   (b) Seismic refraction method

5. Explain, with reference to well construction the following : 5, 5, 4

   (a) Cable tool drilling,

   (b) Rotary drilling

   (c) Gravel pack

6. Giving detailed sketches, describe the use of : 7, 7

   (a) Symon's Pattern rain gauge.

   (b) Natural Syphon Recording rain gauge.

7. Explain the role of contour bunding, afforestation, farm ponds and percolation tanks in water shed development. 14

8. Write short notes on ***any four*** of the following : 14

   (a) Salination of soils

   (b) Hypothetical geophysical logs

   (c) Infiltration galleries

   (d) Regional hydrologic cycle

   (e) Factors governing composition of ground water

   (f) Thiesen Polygon method
