No. of Printed Pages : 2

ET-532(B)

01051

B.Tech. Civil (Water Resources Engineering)

Term-End Examination

December, 2013

ET-532(B) : GROUND WATER DEVELOPMENT

Time : 3 hours *Maximum Marks : 70*

Note : *Attempt **any seven** questions. All questions carries **equal** marks. use of scientific calculator is **permitted**.*

1.	(a)	List the difference between laminar and turbulent flows; uniform and non-uniform flow	5
	(b)	How the concept of transmissivity varies from the haydraulic conductivity ?	5
2.	(a)	Enlist the factors controllong the hydraulic properties of unconsolidated sediments.	5
	(b)	List the areas susceptible to land-slides. What role does ground water play in failure of slope or land slides ?	5
3.	(a)	Write the assumptions for the steady flow condition of confined and unconfined aquifer with the help of neat sketches and its related equations.	5
	(b)	Write about the well lottes and well - efficiency.	5
4.	(a)	Explain the schlumberger or Wenner arrangement of Electrode spacing, with the help of a diagram.	5
	(b)	What are the sub-surface geo-physical methods ? How will you obtain a log of apparent resistivities ?	5

5. (a) Show and explain the collector wells and infiltration galluis with the help of neat sketches. 5

(b) Write about the rotary chilling method for the well construction with the help of neat sketches. 5

6. (a) What are the various types of constituents present in ground water ? 5

(b) Define the term turbility. Explain any turbidity of water is an important considerations in public water supply. 5

7. (a) Define SAR and give SAR based classification of ground water. 5

(b) What are the components of ground water recharge and write about the catchment or water-shed models approach to the computation of recharge ? 5

8. (a) How will you calculate the average rainfall over a given area with the help of isohysted method and Thiessan method ? 5

(b) State the salient points involved in the evaluation of ground water resources ? Why the increase in the ground water resources is necessary ? 5

9. (a) What are the criteria for selection of site for a percolation tank ? Also describe the basic principle of working of a percolation tank. 5

(b) Enumerate the components of ground water discharge and comment on the equations used for computing the ground water discharge. 5

10. (a) Write a short notes on : 2½x2=5

(i) Contour Bunds.

(ii) Water Resource Management.

(b) Explain the necessity and importance of leaching. 5
