No. of Printed Pages : **2**

ET-535(A)

B.Tech. Civil (Construction Management)

Term-End Examination

December, 2013

ET-535(A) : ELEMENTARY HYDROLOGY

Time : 3 hours *Maximum Marks : 70*

Note : *Answer **any five** questions, **all** questions carrying **equal** marks. Give neat, well - labelled sketches. Answer in your own language.*

1. (a) Explain what is a hydrograph ; and a unit hydrograph. Give their uses. **10**

(b) Consider a long, narrow catchment area, and assume a uniform rain storm occurring over it. How will the ascending limb of its hydrograph be different from the descending limb. Explain properly, giving reasons. **4**

2. Draw a neat, full-page, diagram depicting hydrologic cycle. Show all the processes involved in it, and explaining briefly. **14**

3. Define and explain with examples.

(a) Design storm **3**

(b) Maximum Probable Flood **3**

(c) Base flow and its importance in water resources planning and management. **8**

4. (a) How is a Thiessen Polygon drawn on the ground ; and what is its importance ? 5

(b) Compute the daily average rainfall over a given catchment, using the following data : 9

Rain guage station	Area of Polygon (ha)	Consecutive 3 - hrly rainfall (mm)							
		1	2	3	4	5	6	7	8
1	35	3	6	8	9	-	-	-	2
2	82	6	4	4	2	-	-	-	6
3	91	4	10	8	2	1	-	-	-
4	130	-	-	12	9	4	1	-	1
5	52	-	7	11	7	3	2	2	1

5. Draw a definition sketch of a recording stream gauging set - up. Explain its working. 14

6. (a) Draw any self - recording rain - gauge, and explain its working. 7

(b) What considerations influence the selection of site for locating a rain gauge ? Explain in detail. 7

7. Write short notes on **any four** of the following : **4x3.5=14**

(a) Rating curve.

(b) Measurement of snow fall.

(c) Probability of occurrence of any given rainfall storm.

(d) Effects of wind on evaporation of water from a given water body.

(e) Measurement of infiltration.

(f) Drainage density of a given catchment.
