

00259

B.Tech. Civil (Water Resources Engineering)**Term-End Examination****December, 2011****ET-532(A) : HYDROLOGY***Time : 3 hours**Maximum Marks : 70*

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

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| 1. | Describe the processes that contribute to making water available on the surface of earth. Illustrate with sketches. | 14 |
| 2. | (a) Discuss saturation vapour pressure as a function of temperature over a water body. | 6 |
| | (b) Derive the equation for the amount of precipitable water at a given location. | 8 |
| 3. | (a) Sketch out a typical non-recording rain gauge and explain its working. | 7 |
| | (b) Draw the section of a snow sampling equipment. Explain its uses and functions. | 7 |
| 4. | (a) Explain the construction of a synthetic unit Hydrograph by Snyder's method. | 6 |
| | (b) Explain the steps involved in deriving an average unit hydrograph. | 8 |
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5. With reference to *hydrology* and its data analysis, discuss : 2x7=14
- (a) Simple linear regression
 - (b) Inferences on regression coefficients.
6. While analysing a given set of hydrologic data with reference to its frequency, Explain : 14
- (a) normal distribution ;
 - (b) log-normal distribution ;
 - (c) exponential distribution ;
 - (d) Gumbel Extreme value distribution.
7. (a) What is *flood routing* ? Explain. 5
- (b) Discuss Muskingum method of routing. 9
8. (a) Draw a neat sketch of a steady state flow in a confined aquifer. 4
- (b) Derive Dupre equation for a steady flow in an unconfined aquifer. 10
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