

**B.Tech. Civil (Water Resources
Engineering)**

Term-End Examination

June, 2012

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.

1. Draw a neat sketch of hydrologic cycle ; and 14
explain each element briefly.

2. (a) Draw a neat and labelled diagram of 14
structure of our atmosphere and explain
various zones of atmosphere.
(b) Give reasons of atmospheric temperature
variations with height.

3. Explain the following with their respective use in 7,3,4
hydrologic planning :
(a) Probable maximum precipitation (PMP)
(b) Standard Project Storm (SPS)
(c) Probable maximum flood (PMF)

4. (a) Explain stream gauging procedure with 7
reference to non-recording stream gauging
station.

- (b) Explain the steps involved in selection of site for a stream gauge station. 7
5. Discuss multiple linear regression and explain what is understood by regression coefficient; correlation matrix of independent variables; coefficient of determination; and coefficient of correlation ? 14
6. With reference to Regional Frequency Analysis 5,3,6 discuss :
- (a) Index - flood method
 - (b) Homogeneity test
 - (c) Relationship of Mean Annual flood with catchment area.
7. Discuss various types of aquifers with the help of sketches, explaining the peculiarities of each one very clearly. 14
8. (a) Draw a definition sketch of radial flow into a well that penetrates into a confined aquifer. 7
- (b) Derive thiem equation for radial flow into a confined aquifer. 7
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