ET-532(A)

00254

B.Tech. Civil (Water Resources Engineering)

Term-End Examination

June, 2013

ET-532(A) : HYDROLOGY

Time : 3 hours   *Maximum Marks : 70*

Note :   *Answer **any five** questions. Use of calculator is allowed. The answers shall be in your own language.*

1. (a)   What is meant by differential heating of   7
          earth ? Write its effect on the atmosphere.

    (b)   What is rain gauge ? Write the different   7
          types of Recording type rain gauges ?

2. (a)   What is evapotranspiration ? Explain   7
          briefly different methods to estimate the
          potential evapotranspiration ?

    (b)   What is meant by interception loss ? What   7
          are the factors affecting interception loss ?

3. (a)   What is Flow-Duration Curve ? How can   7
          you draw it ?

    (b)   What is stream gauging station ? What are   7
          the different types of stream gauging
          station ?

4. (a) What is Unit Hydrograph ? How can you   7
        derive a unit Hydrograph (UH) ?

    (b) What is Synthetic Unit Hydrograph ? What   7
        are the different methods to develop
        synthetic UH ?

5. (a) Write about :   7
        (i)   Binomial distribution
        (ii) Poisson Distribution

    (b) Explain :   7
        (i)   Index–Flood method
        (ii) Homogeneity test

6. Given below are the ordinates of a 4hr Unit   14
    Hydrograph (UH) of a basin in m^3/sec at one hour
    interval. Convert it into 3hr UH

4	25	44	60	72	61	52	45	38	32
27	22	18	14	11	8	6	4	2	1

7. (a) What do you understand by flood routing ?   7
        Write the basic equation in hydrologic
        reservoir routing ?

    (b) A well penetrating an aquifer which is   7
        underlain by impermeable layers was tested
        with a uniform discharge of 1000/pm. The
        steady state drawdown measured in two
        observation wells which were at 1m and
        10m radial distances from the centre of the
        pumped well were 13.40 m and 4.2 m
        respectively. Determine the hydraulic
        property of the aquifer, if its thickness is
        10m.