**Last Date of Submission [illegible]** **Section CE 4[illegible] 4[illegible]**

**Babu Banarasi Das -National Institute of Technology & Management, Lucknow**

*B. Tech Second Year (Third Semester) 2018-19*

*Department of Civil Engineering*

**WATER RESOURCE ENGINEERING-[illegible]**

**Assignment: I (Unit-I)**

**NOTE-ATTEMPT ALL PARTS**

1. Describe the concept of hydrologic cycle with the help of a neat sketch. What are the different components of the hydrologic cycle ? What do you mean by hydrologic system ?
2. A basin has the shape in the form of a regular pentagon with each side of the length of 2 km. The five rain – gauges located at the corners recorded the rainfall as 60, 81, 73, 59 and 45 mm respectively. Compute the average depth of rainfall over the basin by arithmetic mean method and Thiessen Polygon method, sketch few isohyets also.
3. Write short notes on :
   i. Intensity – Duration Curve and
   ii. Probabilistic Maximum Precipitation Curve
4. What do you understand by consumptive use of water ? What are the factors affecting consumptive use of water ? List the various direct methods of measurement of consumptive use of water.
5. Define infiltration and describe the factors that affect the process of infiltration. How will you measure the rate of infiltration ?
6. What do you understand by infiltration indices ? How do you determine them ?
7. What do you understand by precipitation ? Explain various types of precipitation.
8. Describe various methods of computing average rainfall over a basin. How will you ascertain the missing raingauge data ?
9. Describe the salient features of probabilistic maximum precipitation curves and its application and its estimation.
10. The ordinates (in mm/hr) a rain fall mass curve on a storm ,which commenced at 6.30hr recorded by self recording raingauge at 10minutes interval are as under 0, 12.4, 22.3, 35.1, 52.7, 63.7, 68.9, 109.3, 123.5, 132.6, 143.3, 146 and 146. construct hyetograph and maximum intensity duration curve.

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****Note: Assignment will not be evaluated after last date of submission.**