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JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

END TERM TEST

SUMMER SEMESTER - JUNE 2016

B.Tech 5thSemester

COURSE CODE: 10B11CE514

MAX. MARKS: 50

COURSE NAME: Water Supply Engineering

COURSE CREDITS: 04

MAX. TIME: 2 Hrs

Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.

Q1. What are the common sources of water for a water supply scheme? State the factors that govern the final selection. Explain how you would determine the yield from any three of such sources. (6)

Q2. (8)

- a) Discuss the various methods to control the evaporation losses of a reservoir
- b) Explain with the help of sketch the utility of a mass curve

Q3. The design annual rainfall for the catchment of a proposed reservoir has been computed to be 99cm. The catchment area has been estimated to have the mean annual temperature of 20⁰ C. The catchment area is 1000 km². Calculate the annual design yield for the reservoir (6)

Q4. Write brief notes on the following (10)

- a) Hydrological cycle and its importance
- b) Precipitation and its types
- c) Rainfall and its distribution
- d) Rainfall measurement , rain gauges and their types

Q5. What is meant by 'porosity and permeability' and how do they affect the ground water storage? (5)

Q6. Briefly explain the following (10)

- a) Capillary fringe
- b) Specific yield
- c) Specific retention
- d) Perched aquifer

Also deduce relationship between Specific yield and specific retention

Q7. Calculate the discharge from a tube well 50cms in diameter with a drawdown of 2.5m in an unconfined water bearing stratum 15m thick. Permeability may be taken as 1600 l/day and radius of influence as 250m. (5)