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JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATIONS-2022

B.Tech-8th Semester (Backlog)

COURSE CODE: 18B11CE314

MAX. MARKS: 25

COURSE NAME: Water Supply Engineering

COURSE CREDITS: 3

MAX. TIME: 1 Hour 30 Min

Note: All questions are compulsory. Marks are indicated against each question in square brackets.

Q.1 Explain different types of intake towers used in water supply schemes? (4 Marks)

Q.2 Describe in brief various features of gravity flow and pressure flow? (2 Marks)

Q.3 Define hardness in water. What are the different kinds of hardness generally encountered in potable water? (3 Marks)

Q.4 Define biological oxygen demand? Also briefly describe the procedure for calculating BOD of Water? (2 Marks)

Q.5 Estimate the size of supply conduits leading to an adequate service reservoir, serving

a) A relatively small town with population of 25,000 (Per capita demand=120LCPD)

b) A large industrial establishment having population of 5 Lakhs. (270 LCPD)

Also find the gradient at which the pipe should be laid. Assume suitable data wherever necessary.

(6 Marks)

Q.6 Design a river intake with respect to:

(8 Marks)

1) Number and Size of openings in intake well.

2) The shape, size and shape of intake well.

3) The gravity pipe for a raw water connecting the intake well and Jack well.

R.L of river Bed = 100Mtr.

RL of Lowest water level= 102 Mtr.

RL of normal water level = 115 Mtr.

RL of highest flood level =120 Mtr

Population = 50,000; Average Water demand = 200 lph.