

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATIONS-2023

B.Tech-V Semester (Civil)

COURSE CODE (CREDITS): 18B11CE512(3)

MAX. MARKS: 25

COURSE NAME: Sewage Treatment and Disposal

COURSE INSTRUCTOR: Niraj Singh Parihar

MAX. TIME: 1 Hour and 30 Minutes

Note: All questions are compulsory. Marks are indicated against each question in square brackets. Assume suitable data if required.

1. Discuss the methodology/technique adopted for
 - a. Detection of defects in the sewer pipes. [3]
 - b. Fixing the alignment of sewer line. [3]

[CO2]
2. List the important factors taken into consideration while selecting the sewer material. Discuss the advantages and disadvantages of asbestos sewers. [2+3]

[CO2]
3. The BOD of a sewage incubated for one day at 30°C has been found to be 100 mg/l. Derive the 5-day 20°C value of BOD. Take $k=0.12$ at 20°C. [4]

[CO3]
4. 100 cumec of a city sewage is discharged into a river fully saturated with oxygen flowing @ 1250 cumecs with a minimum velocity of 0.15 m/sec. If the 5-day BOD of the sewage is 260 mg/l, find the distance of the critical D.O. level in the river. Take the coefficient of purification of the river as 4 and coefficient of D.O. as 0.11 and assume that the ultimate BOD is 125% of the 5-day BOD of the sewage-river water mix. [5]

[CO4]
5. Write short notes on the following:
 - a. Drop Manhole
 - b. Oil and Grease traps

[2.5x2] [CO3]