

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(MID SEMESTER EXAMINATION MO/2024)

CLASS: BTECH
BRANCH: CEE

SEMESTER : V
SESSION : MO/2024

SUBJECT: CE304 ENVIRONMENTAL ENGINEERING

TIME: 02 Hours

FULL MARKS: 25

INSTRUCTIONS:

1. The question paper contains 5 questions each of 5 marks and total 25 marks.
 2. Attempt all questions.
 3. The missing data, if any, may be assumed suitably.
 4. Tables/Data handbook/Graph paper etc., if applicable, will be supplied to the candidates
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			CO	BL												
Q.1(a)	Sketch a population growth curve and explain its salient features	[2]	1	2												
Q.1(b)	How does system of supply affect water demand?	[3]	1	2												
Q.2(a)	How can you determine the concentration of suspended solids and dissolved solids in a sample of raw water	[2]	1	1												
Q.2(b)	Estimate the population of a locality for 2020 by incremental increase method from the census report given below.	[3]	1	3												
<table><tr><td>Census Year</td><td>1960</td><td>1970</td><td>1980</td><td>1990</td><td>2000</td></tr><tr><td>Population</td><td>3,50,000</td><td>4,66,000</td><td>9,94000</td><td>15,60,000</td><td>16,23,000</td></tr></table>					Census Year	1960	1970	1980	1990	2000	Population	3,50,000	4,66,000	9,94000	15,60,000	16,23,000
Census Year	1960	1970	1980	1990	2000											
Population	3,50,000	4,66,000	9,94000	15,60,000	16,23,000											
Q.3(a)	Which type of precipitation causes intense rain in Chirapunjee? How does it occur?	[2]	1	1												
Q.3(b)	Explain any two factors which affect settling.	[3]	2	2												
Q.4(a)	Discuss any two disadvantages of iron salts over alum	[2]	2	1												
Q.4(b)	Find the dimensions of a rectangular sedimentation tank for the following data - Volume of water to be treated -3 million litres per day, Detention period -4 hours and velocity of floe - 10 cm/minute. Provision should be made for freeboard and sludge storage. Assume any missing data	[3]	2	3												
Q.5(a)	Why does the pH value of water keep slightly less than 7 while chlorination?	[2]	2	2												
Q.5(b)	Explain break point chlorination	[3]	2	1												

:18/09/2024:M