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

CLASS: B.TECH **SEMESTER : V/ADD**
BRANCH: CIVIL **SESSION : MO/2025**

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**

			CO	BL
Q.1(a)	Discuss any two factors which affect the selection of a particular source of water for supply and how it affects?	[2]	1	2
Q.1(b)	How does system of supply and policy of metering affect water demand?	[3]	1	2
Q.2(a)	List the permissible limits for the given characteristics in the potable water a.Turbidity b. Taste and odour c. Total Solids d. Chloride content	[2]	1	1
Q.2(b)	Explain Water Quality Index (WQI)	[3]	1	1
Q.3(a)	What is the principle of plain sedimentation?	[2]	2	1
Q.3(b)	The population of a locality as obtained from a census report is given. Estimate the population in 2030 and 2040 by Incremental Increase method	[3]	1	3

Census Year	1970	1980	1990	2000	2010	2020
Population	50,000	55,000	65,000	82,000	90,000	10,00,000

Q.4(a)	Differentiate between flowing through period and detention time in a sedimentation tank.	[2]	2	2
Q.4(b)	A rectangular settling tank is to treat 2 million litres per day of raw water. The detention period is 4 hours, the velocity of flow 8cm/minute and depth of water and sediment is 4.5 m. If an allowance of 1.3 m is made what should be the length and width of basin	[3]	2	3
Q.5(a)	Name a coagulant stating its advantages and disadvantages	[2]	2	1
Q.5(b)	What is the function of a flocculator in a coagulation sedimentation tank	[3]	2	2

:::::16/09/2025 :::::M