U124-312 ADDS , U124-322 CIVIL , U124-342 CSE AI , U124-392 BATC U124-3112 Mech ,

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May 2024 (ENDSEM) EXAM

F. Y. B. TECH. (SEMESTER - II)

COURSE NAME: Environmental Science **Branch: Common** **COURSE CODE: BS10233**

(PATTERN 2023)

Time: [1Hr. 30 Min] **[Max. Marks: 40]**

(*) Instructions to candidates:

1) **Figures to the right indicate full marks.**
2) **Use of scientific calculator is allowed**
3) **Use suitable data wherever required**
4) **All questions are compulsory. Solve any one sub question from each Question 1 and 2 and any three sub questions each from Questions 3 and 4.**

Q. No.	Question Description	Max. Marks	CO mapped	BT Level
Q.1	a) What is the principle behind the working of tidal power plant? Explain the components barrage and sluice ways in it. Give two advantages and two dis-advantages of tidal power plant.	[5]	1	U
	b) Comment on the ways to achieve the sustainable development. Write down the formulae to calculate thermal and overall efficiency of thermal power plant along with the percentage.	[5]	1	U
Q2	a) Explain three scales of air pollution. Classify air pollutants according to chemical composition.	[5]	2	R
	b) Explain three adverse effects of acid rain. Give two effects of noise pollution on general health.	[5]	2	R
Q.3	a) i) If 5 ml of raw sewage has been diluted to 250 ml and the DO concentration of the diluted sample at the beginning of the BOD test was 4 mg/l and 2.5 mg/l after 5-day incubation at 20^0C; find the BOD of raw sewage. ii) Give two advantages and two dis-advantages of combined glass electrode used in pH metry.	[5]	3	A
	b) Draw the structure of EDTA. What is complexometric titration? What is the role of ammoniacal buffer in the titration? Explain why the end point of titration is wine red to blue?	[5]	3	A

	c) 100 ml of water sample requires 38 ml of 0.01 M EDTA during titration. Whereas 100 ml of boiled water sample requires 27 ml of same EDTA in the titration. Calculate total, temporary and permanent hardness of the water sample.	[5]	3	A
	d) 100 ml of an alkaline water sample requires 18.4 ml of N/50 HCl up to phenolphthalein end point and total 26.2ml of the acid for complete neutralization. Find the types and amounts of alkalinities in the water sample Determine the type and amount of alkalinities.	[5]	3	A
Q.4	a) Discuss any five sources of solid wastes.	[5]	4	U
	b) Give an account of properties of solid waste on the basis of physical and chemical composition.	[5]	4	U
	c) Explain the Integrated Solid Waste Management (ISWM) hierarchy.	[5]	4	U
	d) Define the hazardous waste. Give important steps involved in hazardous waste management strategy.	[5]	4	U

Blooms Taxonomy Levels Abbreviations:

R: Remembering

U: Understanding

A: Applying