Question Paper Code: R18A32CE03

R18

ANURAG Engineering College

(An Autonomous Institution)

III B.Tech II Semester Regular/Supplementary Examinations, June/July-2024

ENVIRONMENTAL ENGINEERING

(CIVIL ENGINEERING)

Time: 3 Hours **Max. Marks: 75**

Section – A (Short Answer type questions) (25 Marks)

Answer All Questions

		Course Outcome	B.T Level	Marks
1.	Write notes on types of demands	CO1	L1	3M
2.	What are the sources of water?	CO1	L1	2M
3.	Explain the principle of coagulation	CO2	L1	2M
4.	Explain the theory of chlorination	CO2	L1	3M
5.	Sketch the layout and general outline of various units in a wastewater treatment plant.	CO3	L1	2M
6.	Explain the need of design of screens	CO3	L1	3M
7.	Define BOD.	CO4	L1	2M
8.	Write about flushing tanks?	CO4	L1	3M
9.	What are the advantages of preparing soak pits	CO5	L1	2M
10.	State the objectives of sludge digestion?	CO5	L1	3M

Section B (Essay Questions)

Answer all questions, each question carries equal marks. **(5 X 10M = 50M)**

11. A)	i) Explain in detail about the population forecasting methods	CO1	L3	6M
	ii) Write in detail about the water quality standards			4M
	OR			
B)	i) What are water borne diseases? Write the control measures.	CO1	L3	4M
	ii) What do you mean by per capita demand? Explain various factors that affect per capita demand.			6M
12. A)	i) Explain in detail about principle of working of rapid sand filters.	CO2	L3	5M
	ii) What is the action of coagulants added to raw material?			5M
	OR			
B)	i) Define optimum dosage of coagulant.	CO2	L3	4M
	ii) Explain jar test for the determination of optimum dosage of coagulant.			6M
13. A)	i) Explain scour valves and check valves.	CO3	L3	5M
	ii) Differentiate between Hardy cross and equivalent pipe methods.			5M
	OR			
B)	Discuss with the help of diagrams, various methods of laying out the distribution system	CO3	L3	10M
14. A)	i) Explain sanitary fittings, one pipe, and two pipe systems of plumbing.	CO4	L3	5M
	ii) What do you understand by the B.O.D of sewage?			5M
	OR			
B)	i) Write a short note on inverted siphon.	CO4	L3	5M
	ii) Write about the sewer appurtenances manholes.			5M

15. A)	i) State and explain the factors affecting the sludge digestion.	CO5	L3	5M
	ii) Explain about the sludge digestion process in detail.			5M
	OR			
B)	i) Explain the design and working principles of septic tank	CO5	L3	6M
	ii) Describe the brief about oxidation ponds.			4M