



R22 Regulation

Subject code:4E6AB

# TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

**B.Tech VI Semester Supplementary Examinations, November 2025**

## ENVIRONMENTAL ENGINEERING

(CE)

Maximum Marks: 60

Date: 21.11.2025

Duration: 3 hours

- Note:
1. This question paper contains two parts A and B.
  2. Part A is compulsory which carries 10 marks. Answer all questions in Part A.
  3. Part B consists of 5 Units. Answer any one full question from each unit.
  4. Each question carries 10 marks and may have a, b, c, d as sub questions.

### Part-A

All the following questions carry equal marks (10X1M=10 Marks)		Marks	CO	Bloom Tx
1.a)	List any two factors affecting per capita water demand.	1M	1	BL1
b)	Give the common uses of infiltration gallery.	1M	1	BL1
c)	Mention the purpose of coagulation.	1M	2	BL1
d)	Write the advantages of chlorination.	1M	2	BL1
e)	Distinguish between sewage and effluent.	1M	3	BL2
f)	Why is COD always higher than BOD in most water samples?	1M	3	BL2
g)	What is wastewater treatment plant.	1M	4	BL2
h)	State the purpose and types of sedimentation tanks.	1M	4	BL1
i)	What is greenhouse effect?	1M	5	BL1
j)	How is acid rain formed?	1M	5	BL1

### Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	Bloom Tx
2	Write short notes on: a) Water Quality Testing. b) Industrial Water Demand. c) Fluctuations in water demand.	4M 3M 3M	1	BL3
OR				
3	Discuss the suitability of various surface and ground water sources for use in Municipal and Industrial water supplies with reference to their Quality and Quantity.	10M	1	BL4
4	Describe the construction details, working and functions of various components of a 'Slow Sand Filter' with the help of a sketch.	10M	2	BL4
OR				
5	Discuss the physical methods for disinfection and explain the chlorine demand. How does chlorine behave in water?	10M	2	BL3
6	a) Write a short note on BOD and COD. b) The 3 day 37°C BOD of sewage sample is 300ppm. What will be its 10-days 20°C BOD and 5-days 30°C BOD?	4M 6M	3	BL4

	OR			
7	Explain the basic requirements of a good house drainage system. Also describe the different types of sanitary fittings used in domestic plumbing and functions and importance of traps in plumbing systems. Illustrate with necessary diagrams.	10M	3	BL3
8	a) Write a note on sludge conditioning. b) Design an oxidation pond for treating sewage for a town of 30,000 persons: Sewage flow= 190 lpcd, BOD of raw sewage = 305 mg/l, organic loading rate= 280 Kg/hectare/day & depth of pond = 1.1 m.	3M 7M	4	BL5
	OR			
9	a) Discuss the function of a soak pit. b) Design a septic tank for 70 users of a hostel. Assume the necessary data. (The daily water supply rate is 140 l/p/day).	3M 7M	4	BL4
10	a) Discuss the different types and classifications of air pollutants with suitable examples. Add a note on the global effects of air pollution on human health and the environment. b) Discuss the key meteorological parameters that affect the dispersion and concentration of air pollutants.	5M 5M	5	BL3
	OR			
11	Discuss the causes and effects of noise pollution. Also explain the methods used to measure noise pollution. What instruments are commonly used and how do they work?	10M	5	BL3