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# Gandhi Institute of Engineering and Technology University, Odisha, Gunupur (GIET University)



B. Tech (Eighth Semester - Regular) Examinations, April - 2025

## 21BCHPE48011 – Pollution & its Control

(Chemical Engineering)

Time: 3 hrs

Maximum: 70 Marks

**Answer ALL questions**  
(The figures in the right hand margin indicate marks)

### PART – A

(2 x 5 = 10 Marks)

Q.1. Answer **ALL** questions

	CO #	Blooms Level
a. What is the basic principle of adsorption?	CO1	K1
b. Mention four control measures for fugitive emission.	CO2	K2
c. What is the need of recycling sludge in activated sludge treatment?	CO2	K3
d. Write the advantages of plasma arc incineration method.	CO1	K2
e. Enlist the important properties of hazardous waste.	CO1	K1

### PART – B

(15 x 4 = 60 Marks)

Answer **all** the questions

	Marks	CO #	Blooms Level
2. a. Explain the meteorological parameters for dispersion of pollutants.	8	CO1	K2
b. Give a brief note on controlling the gaseous pollutants using electrostatic precipitator.	7	CO1	K2
(OR)			
c. Compute the equivalent noise power level $L_{Aeq}$ in a locality having three noise sources: 50 dB (A) acting for 20 minutes, 67 dB (A) acting for 30 minutes and 85 dB (A) acting for 10 minutes during one hour.	8	CO2	K3
d. Discuss the plume behaviour of looping, coning and lofting with sketches of stack plumes and temperature profile	7	CO1	K3
3.a. Write the methods of reducing the strength of waste before mixing with effluents.	8	CO3	K3
b. What are the four type equalizations in industrial waste water treatment? Explain it.	7	CO2	K3
(OR)			
c. What is the impact of industrial effluent on environment? Briefly explain it.	8	CO3	K2
d. What are the different steps of preliminary treatment of waste water? Explain briefly.	7	CO2	K3
4.a. Discuss about the different techniques of solid waste minimization	10	CO3	K3
b. Describe the methods separating the solid waste based on their characteristics.	5	CO3	K3
(OR)			
c. Explain different types of land filling methods with their advantages and disadvantages?	10	CO3	K2
d. Write short notes on composting of waste materials.	5	CO1	K2
5.a. Discuss about the source and classification of hazardous waste.	8	CO1	K2
b. What are the rules of storage and handling of hazardous waste?	7	CO2	K3
(OR)			
c. Write the characteristics of nuclear wastes.	8	CO1	K2
d. What are the different methods of controlling the hazardous nature waste?	7	CO3	K3

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