

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER-V (NEW) EXAMINATION – WINTER 2024

Subject Code:3153512

Date:17-12-2024

Subject Name:Air Pollution Control - I

Time:10:30 AM TO 01:00 PM

Total Marks:70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

		MARKS
Q.1	(a) Define (i) Sound Pressure and (ii) Sound Power.	03
	(b) Explain in detail about the types of Gravity Settling Chamber.	04
	(c) Explain the concept of effective stack height in detail.	07
Q.2	(a) Explain what are the effects of SO ₂ on plants, materials and animals.	03
	(b) Describe the operational problems of Cyclone Separator.	04
	(c) Explain in detail about methods to control odour.	07
	OR	
	(c) Explain in detail about controls of noise pollution.	07
Q.3	(a) Define lapse rate. Draw a neat sketch of trapping and coning.	03
	(b) Discuss the advantages and disadvantages of Bag house.	04
	(c) Explain flowchart for measurement of Ozone.	07
	OR	
Q.3	(a) What is Maximum Mixing Depth?	03
	(b) Discuss the advantages and disadvantages of Absorption tower.	04
	(c) Explain flowchart for measurement of Benzo(a)pyrene.	07
Q.4	(a) What is AQI? Explain in brief.	03
	(b) Describe all AQI categories with remarks and colour codes.	04
	(c) Explain the sampling procedure for NO _x	07
	OR	
Q.4	(a) What is CEPI? Explain in brief.	03
	(b) Describe in detail how AQI is calculated?	04
	(c) Explain the sampling procedure for Carbon Monoxide.	07
Q.5	(a) What are the salient features of Air Pollution Act & Rules?	03
	(b) Explain the construction of cyclone separator with a neat diagram.	04
	(c) Explain heat island effect.	07
	OR	
Q.5	(a) What are the salient features of ODS Rules?	03
	(b) Explain the construction of ESP with a neat diagram.	04
	(c) What are the physical and physiological effects of noise pollution? Explain in detail.	07
