

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-V (NEW) EXAMINATION – WINTER 2022****Subject Code:3153512****Date:09-01-2023****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 atmospheric stability and lapse rate.	03
(b) What are the different types of scrubbers? Explain in brief.	04
(c) Explain the control methods for automobile emission.	07
Q.2 (a) What is CEPI? Explain in brief.	03
(b) What are the salient features of Air Pollution Act & Rules?	04
(c) Discuss in detail about the sampling procedure for Benzo(a)Pyrene.	07
OR	
(c) Discuss in detail about the sampling procedure for Ozone.	07
Q.3 (a) What are the salient features of ODS Rules?	03
(b) What are the operational problems of ESP?	04
(c) What are the methods to control odour? Explain in detail.	07
OR	
Q.3 (a) What heat island effect?	03
(b) What is AQI? Describe all AQI categories with remarks and colour codes.	04
(c) Explain the construction and working of Bag house.	07
Q.4 (a) What Maximum Mixing Depth?	03
(b) Explain in detail about controls of noise pollution.	04
(c) What is the absorbing reagent used for sampling of Sulphur dioxide? Explain the steps for sampling of Sulphur dioxide.	07
OR	
Q.4 (a) Draw a neat sketch of fumigation, trapping and coning.	03
(b) Discuss the advantages and disadvantages of gravity settling chamber.	04
(c) What is the absorbing reagent used for sampling of Nitrogen dioxide? Explain the steps for sampling of Nitrogen dioxide.	07
Q.5 (a) Explain the characteristics of packing media in a packed column.	03
(b) How AQI is calculated?	04
(c) Explain effective stack height in detail.	07
OR	
Q.5 (a) What are the health effects of CO?	03
(b) Explain the working of cyclone with a neat diagram.	04
(c) Explain in detail about the physical and physiological effects of noise pollution?	07
