GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER–V(NEW) EXAMINATION – SUMMER 2022

Subject Code:3151309   **Date:07/06/2022**
Subject Name:Fundamentals of Air Pollution
Time:02:30 PM TO 05:00 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)	Name the air pollutants & write down the effect of particulate matter on plants & human health.	03
	(b)	Give the example of the fugitive & line source of air pollution.	04
	(c)	Explain the working of the high-volume air sampler for the measurement of the particulate matter.	07
Q.2	(a)	List the types of plume behaviors.	03
	(b)	Differentiate between dry adiabatic & wet adiabatic lapse rate.	04
	(c)	Write a short note on the maximum mixing depth (MMD)	07
		OR	
	(c)	Write a short note on heat island effect.	07
Q.3	(a)	Name the instrument used for determination of the following atmospheric parameters; I. Wind speed & direction II. Humidity III. Rainfall	03
	(b)	Enlist the odor pollution control technology & explain any two in detail.	04
	(c)	Enlist various noise control strategies & explain any three in details.	07
		OR	
Q.3	(a)	Differentiate between noise & sound.	03
	(b)	Name the odor characteristics & their significance for odor pollution control.	04
	(c)	Write a short note on effects of noise on Human.	07
Q.4	(a)	Define the iso kinetic condition.	03
	(b)	Discuss the purposes of stack monitoring.	04
	(c)	Discuss the Gaussian dispersion equation assumptions in detail.	07
		OR	
Q.4	(a)	Write down the full form of the NAAQS.	03
	(b)	What are the basic requirements for carrying out the ambient air quality monitoring?	04
	(c)	Derive the equation of DALR (- dT/dz) = 9.8 ° C/km.	07
Q.5	(a)	Name the major eye irritants present in the photochemical smog.	03
	(b)	Write down the equation for calculation of effective stack height.	04
	(c)	Write a short note on wind rose diagram.	07
		OR	
Q.5	(a)	Enlist the four factors responsible for formation of photochemical smog.	03
	(b)	Define Plume rise & write any two equation for determination of plume rise.	04
	(c)	Write a short note on plume rise.	07

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