22ESP102N

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2025
(First Semester)

Branch – **ENVIRONMENTAL SCIENCE**

AIR POLLUTION AND MANAGEMENT

Time: Three Hours Maximum: 75 Marks

SECTION-A (10 Marks)
Answer **ALL** questions
ALL questions carry **EQUAL** marks (10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	The zone separating troposphere from the stratosphere layer of atmosphere is referred as _____ a) Stratopause b) Stratomerge c) Tropomerge d) Tropopause	K1	CO1
	2	If the air pollutant plume size is smaller than the eddy, how are they dissipated? a) There is dilution b) They will not disperse c) Uniformly d) Down-wind	K2	CO1
2	3	The permissible concentration of PM 10 in the air is _____ a) 60μg/m^3 b) 40μg/m^3 c) 50μg/m^3 d) 20μg/m^3	K1	CO2
	4	Which of the following leads to a disease called broncho spasm? a) SO_2 b) SO_3 c) SO_4 d) CO_2	K2	CO2
3	5	How many parameters are taken into consideration when measuring air quality, in India? a) 4 b) 3 c) 8 d) 9	K1	CO3
	6	What is the ambient noise level in the residential one during night time? a) 40 dB b) 45 dB c) 50 dB d) 55 dB	K2	CO3
4	7	Which particles does the electrostatic precipitator collect with the highest efficiency? a) Superfine particles b) Fine particles c) Coarse particles d) Sticky particles	K1	CO4
	8	The aerobic digestion of sewage is used to produce _____ a) Biomass b) Bio fuels c) Synthetic fuels d) Metal articles	K2	CO4
5	9	Lead compounds are added in petrol, because they can_____ a) Reduce knocking b) Reduce HC emission c) Reduce exhaust temperature d) Increase power output	K1	CO5
	10	The air pollution model used for predicting urban road ways pollution is _____model. a) Gaussian Plume b) Line Source c) Area Source d) Box Plot	K2	CO5

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SECTION - B (35 Marks)

Answer **ALL** questions
ALL questions carry **EQUAL** Marks (5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	How air pollutants behave with respect to meteorological conditions?	K3	CO1
		(OR)		
	11.b.	Comment on the elemental properties of atmosphere.		
2	12.a.	Explain the physical and chemical properties of particulate matter.	K4	CO2
		(OR)		
	12.b.	Comment on the human health effects caused due to air pollution.		
3	13.a.	Describe the chemical processes involved in the formation of particulate matter.	K3	CO3
		(OR)		
	13.b.	Give a brief account on the effects of air pollutants and its economic impacts.		
4	14.a.	Briefly explain about the use of gravitational settling, cyclone separators and electrostatic precipitators to control particulate matter pollution.	K4	CO4
		(OR)		
	14.b.	Comment your views PUSA microbial consortium and its impacts.		
5	15.a.	Give a brief account on Bharat Stage Emission standards.	K5	CO5
		(OR)		
	15.b.	Comment on different types of air pollution models.		

SECTION -C (30 Marks)

Answer **ANY THREE** questions
ALL questions carry **EQUAL** Marks (3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Explain any five meteorological parameters and their significance.	K4	CO1
2	17	Explain in detail about the classification of air pollutants.	K4	CO2
3	18	Discuss on national and international air quality standards and their significance.	K5	CO3
4	19	Give a detailed account on process modifications involved in gaseous pollution control.	K4	CO4
5	20	Summarize your views on vehicular emissions and urban air quality.	K5	CO5

Z-Z-Z END