PVP 20

Code: 20CE2501A

III B.Tech - I Semester – Regular / Supplementary Examinations
NOVEMBER 2024

AIR POLLUTION AND CONTROL

(Common to ALL Branches)

Duration: 3 hours Max. Marks: 70

Note: 1. This paper contains questions from 5 units of Syllabus. Each unit carries 14 marks and have an internal choice of Questions.
2. All parts of Question must be answered in one place.

BL – Blooms Level CO – Course Outcome

			BL	CO	Max. Marks
UNIT-I					
1	a)	Define air pollution. Explain the effect of air pollution on ecosystem.	L2	CO1	7 M
	b)	Compare between primary and secondary air pollutants.	L2	CO1	7 M
OR					
2	a)	What is greenhouse effect? Explain its causes and effects.	L2	CO1	7 M
	b)	What are the causes of ozone depletion? Explain the effects of ozone layer thinning.	L2	CO1	7 M
UNIT-II					
3		Write about various air quality models and explain the Gaussian plume dispersion equation for the gaseous pollutants.	L3	CO2	14 M
OR					

4	a)	With a neat sketch, discuss the Plume behaviour for different atmospheric conditions.	L3	CO2	7 M
	b)	With a neat sketch explain about Windrose diagram and its applications.	L3	CO2	7 M
		UNIT-III			
5	a)	Explain the importance of monitoring and analysis of air pollutants.	L2	CO3	7 M
	b)	Explain the procedure for sampling of particulate pollutants.	L3	CO3	7 M
		OR			
6	a)	List and discuss the various difficulties faced during air sampling.	L2	CO3	4 M
	b)	Explain how to monitor and analyse the air pollutants i) SO_X and ii) NO_X	L3	CO3	10 M
		UNIT-IV			
7	a)	Explain the working principle of settling chamber to control particulate air pollutants.	L2	CO4	7 M
	b)	Explain the advantages and disadvantages of Electrostatic Precipitators and also explain the working principle of it.	L3	CO4	7 M
		OR			
8		Write a short note on a) Scrubbers b) Bag house filters	L2	CO4	14 M

	UNIT-V			
9	Mention the common methods of control of gaseous contaminants and describe any one of them in detail.	L2	CO5	14 M
	OR			
10	Explain about Control of NO_x gases.	L2	CO5	14 M