

Subject Code: 2171302

Date: 23/11/2019

Subject Name: Air Pollution Control and Management

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.

		MARKS
Q.1	(a) Discuss the importance of Air Quality Index.	03
	(b) Write a brief note on alternative fuels.	04
	(c) Write a short note on “Air pollution Episodes”.	07
Q.2	(a) Enlist the various sources of VOC emission.	03
	(b) List down the various routes for NO _x formation during the combustion process.	04
	(c) Discuss various types of automobile emission and its contribution to overall vehicular pollution.	07
	OR	
	(c) What is Photochemical smog? Explain the effects of photochemical smog in brief.	07
Q.3	(a) Discuss lime scrubbing throwaway process for removing SO _x from flue gas.	03
	(b) Explain the following process in brief for NO _x control (i) Air Staging (ii) Fuel staging	04
	(c) “By reducing the combustion temperature during the combustion process will effectively reduce the favorable condition for NO _x formation.” Above statement is true? Give your comments.	07
	OR	
Q.3	(a) Write a brief note on selective catalytic reduction	03
	(b) Differentiate between fuel desulfurization methods & flue gas desulfurization methods for prevention and control of SO _x pollution.	04
	(c) Write a short note on “Regenerative process for SO _x control”	07
Q.4	(a) Make a list of equipments used to control particulate matter along with their working principles.	03
	(b) Explain the construction of Electrostatic precipitator.	04
	(c) With neat sketch explain the construction & working principle of cyclonic scrubber.	07
	OR	
Q.4	(a) Enlist the pre-combustion and post combustion methods of NO _x pollution control.	03
	(b) Explain how gaseous pollutants are controlled using principle of adsorption and absorption.	04
	(c) Write a detail note on gravity settling chamber. How its efficiency can be improved?	07
Q.5	(a) Write a brief note on turbojet engine.	03
	(b) Explain the phenomena of Ozone formation in the atmosphere.	04
	(c) Identify the various sources pollution emitted from the metal industry and suggest the suitable pollution prevention/control measures	07
	OR	
Q.5	(a) Write a brief note on rotary combustion engines.	03
	(b) Write a brief note on Catalytic Converter.	04
	(c) Write brief note on control of air pollution in the coal base thermal power plant with neat sketch	07
