SHRI RAMSWAROOP MEMORIAL UNIVERSITY

End Semester Examination (2021-22)-Odd Semester

M.Tech (Environment Engineering) – I Year (I Sem)	
Course Name: Air and Noise Pollution: Process and Control	**Code: MCE1002/ 1002P**
Time: 02 Hours	**Max Marks: 60**

University Roll No.															
(To be filled by the Student)															

Note: Please read instructions carefully:

a) The question paper has 03 sections and it is compulsory to attempt all sections.

b) All questions of Section A are compulsory; questions in Section B and C contain choice.

Section A: Very Short Answer type Questions **Attempt all the questions.**		**BL**	**CLO**	**Marks (10)**
1.	Define air quality index. If the value of AQI is between 201-300, discuss the quality of air.	BL1	CLO1	02
2.	Enlist the secondary meteorological parameters that influence air pollution.	BL1	CLO2	02
3.	What do you understand by term urban heat island?	BL1	CLO1	02
4.	Enlist the techniques used to analyze gaseous pollutants.	BL1	CLO3	02
5.	State the working principle behind inertial separators.	BL2	CLO2	02
Section B: Short Answer Type Questions **Attempt any 03 out of 05 questions.**		**BL**	**CLO**	**Marks (30)**
1.	What are the operating problems associated with cyclone separators and define noise.	BL1	CLO3	10
2.	Discuss the types of aerosols on the basis of size, source, mechanism of formation and resilience site and State the applications of Navier-Stokes equation.	BL2	CLO2	10
3.	Illustrate with the help of neat diagram the plume behavior of trapping plume, fanning and coning plume.	BL3	CLO2	10
4.	Describe the principle of following method used in measuring analyzing air pollutants: (i) Gravimetric method (ii) Spectrophotometry.	BL2	CLO2	10
5.	Explain the major steps involved in collecting particles through wet scrubbers.	BL2	CLO2	10
Section C: Long Answer Type Questions/Case Study **Attempt any 01 out of 03 questions.**		**BL**	**CLO**	**Marks (20)**

1.	Explain the principle, advantages, and disadvantages of electrostatic precipitator with the help of neat diagram.	BL5	CLO3	20
2.	A stack in an urban area is emitting 90g/s of NOx. It has an effective stack height of 110m. The wind speed is 5 m/s at 12 m at ground level. It is a clear summer day with sun nearly overhead. Estimate the ground level concentration at 2 km and 4 km downwind on centerline.	BL6	CLO3	20
3.	Discuss the various particle deposition mechanisms with suitable diagrams and state the effect of air pollutants on humans and plants.	BL5	CLO3	20
