MANIPAL INSTITUTE OF TECHNOLOGY
MANIPAL
(A constituent unit of MAHE, Manipal)

VII SEMESTER B.TECH (CIVIL ENGINEERING)
END SEMESTER EXAMINATION, NOV 2022
SUBJECT: AIR AND NOISE POLLUTION [CIE 4301]
/11 /2022

TIME: 3 HRS. **MAX. MARKS: 50**

Note: 1. Answer all questions.
2. Any missing data may be suitably assumed.

Q.NO	QUESTION	Marks	CO
1A.	Explain the sources of Sulphur dioxide in atmosphere.	03	CO1
1B.	Define dust, smoke, mist, fumes and fog.	05	CO1
1C.	List any two major air pollution episodes and their causative agents.	02	CO1
2A.	Define smog. Explain the different types of smog.	03	CO1
2B.	With a neat sketch explain the different types of plume behavior.	05	CO2
2C.	Define wind rose. What are the applications of wind rose diagram in air pollution studies?	02	CO2
3A.	Define thermal inversion. Explain with the neat sketch two types of thermal inversion.	05	CO2
3B.	Determine the effective height of a stack , given the following data (a) Physical stack is 180m tall with a 0.95m inside diameter. (b) Wind velocity is 2.75 m/s. (c) Air temperature is 20^0 C. (d) Barometric pressure is 1000 millibars. (e) Stack gas velocity is 11.12 m/s. (f) Stack gas temperature is 160^0 C.	03	CO2
3C.	What is Pollutant Standard Index (PSI)? List the pollutants considered in estimating PSI.	02	CO2
4A.	Explain different entry points of toxic agents?	02	CO3
4B.	Explain Preliminary condition and stages of sampling?	05	CO3
4C.	Explain different types of investigations carried out to study the health effects of air pollutants on humans.	03	CO4
5A.	Explain Nitrogen dioxide photochemical reaction.	05	CO4
5B.	Air contains 5 ppm of diethylamine (TLV-TWA of 10 ppm), 20 ppm of cyclohexanol (TLV-TWA of 50 ppm) and 10 ppm of propylene oxide (TLV-TWA of 20 ppm). Has the TLV-TWA level been exceeded?	02	CO4
5C.	Explain different causes and effects of noise pollution?	03	CO5