

520203**May 2024****M.Tech. (EEE)-IIInd Semester****Air Pollution Control Engineering (MTEVE-203A-1)**

Time : 3 Hours]

[Max. Marks : 75

Instructions :

1. *It is compulsory to answer all the questions (1.5 marks each) of Part-A in short.*
2. *Answer any four questions from Part-B in detail.*
3. *Different sub-parts of a question are to be attempted adjacent to each other.*

PART-A

1. (a) Distinguish primary pollutant from secondary pollutant with help of examples. (1.5)
- (b) Give meteorological parameters affecting air pollution. (1.5)
- (c) What are Air Quality Standards? (1.5)
- (d) Give various categories of particulate air pollutants. (1.5)
- (e) What are sampling? (1.5)
- (f) Define Plume rise. (1.5)
- (g) Define stokes law. (1.5)
- (h) What is an electrostatic precipitator? (1.5)

- (i) Write any two-pollution control equipments. (1.5)
(j) Define primary pollutants. (1.5)

PART-B

2. (a) Discuss the effects of air pollution on Human health. (10)
(b) Give note on national ambient air quality standard. (5)
3. (a) Discuss iso-kinetic sampling. Why it is important? (5)
(b) Explain different types of atmospheric stability with the help of diagram. (10)
4. Determine settling velocity of particle by given data-
Density of Particle, $\rho_p = 2 \times 1.0^3 \text{ kg/m}^3$, Particle Dia. $d_p = 1.2 \mu$, Viscosity of Air, $\mu = 1.85 \times 10^{-5} \text{ k/ms}$, density of air $\rho_a = 1.2 \text{ kg/m}^3$. (15)
5. (a) Discuss various types of plume behaviour with the help of diagram. (5)
(b) Discuss working of electrostatic precipitator with its advantages and disadvantages. (10)
6. (a) Discuss causes and effects of global warming and ozone Depletion. (10)
(b) Discuss methods for removal of Sulphur dioxide from flue gases. (5)
7. Briefly describe the types of air pollution. (15)