CBCS SCHEME

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18CV732

Seventh Semester B.E. Degree Examination, Feb./Mar. 2022
Air Pollution and Control

Time: 3 hrs. Max. Marks: 100

Note: ***Answer any FIVE full questions, choosing ONE full question from each module.***

Module-1

1 a. Define Air Pollution. Explain primary and secondary Air pollution in detail. **(10 Marks)**
b. With respect to Air pollution, explain Air borne contaminants. **(04 Marks)**
c. Define the different sources of Air pollution and explain any 3 sources. **(06 Marks)**

OR

2 a. What are the effects of carbon dioxide on Plant , Animal and Human life? Explain. **(10 Marks)**
b. Write a note on Photochemical Smog. **(04 Marks)**
c. Define : i) Fog ii) Mist iii) Smoke iv) Soot v) Particulate vi) Droplet. **(06 Marks)**

Module-2

3 a. Explain in detail the temperature lapse rate with the neat sketch. **(10 Marks)**
b. Explain in detail wind rose diagram and pollutant – wind correlation. **(10 Marks)**

OR

4 a. With the help of neat sketch, explain in detail the various types of Plume behaviour. **(12 Marks)**
b. Explain the effects of Air pollutant on Meteorology. **(08 Marks)**

Module-3

5 a. What is meant by Air sampling? Explain Non – iso kinetic and Iso – kinetic sampling. **(12 Marks)**
b. Write a note on Indoor Air Pollution. **(08 Marks)**

OR

6 a. Explain the Gaussian plume dispersion equation for the gaseous pollutants. **(12 Marks)**
b. It is proposed to establish a new coal fired 1000MW power plant which works with 35% efficiency. If coal with 4% sulphur with a heat content of 14000 $B_{tu/\ell b}$ emits SO_2 at the rate of 143000 ℓb/day from a stack with an effective height equal to 200m, estimate the ground level concentration of SO_2 at a downwind distance of 4km. The wind speed at 10m height is 3.5m/s and it is a cloudy summer day. Also estimate at what downwind distance maximum concentration of SO_2 can be observed. **(08 Marks)**

Module-4

7 a. With the help of neat sketch, explain the working principle of Electrostatic precipitator. **(10 Marks)**
b. With the help of neat sketch, explain the working principle of wet scrubbers. **(10 Marks)**

OR

8 a. Explain the factors to be considered for the selection of Industrial plant location. (10 Marks)
b. with the help of neat sketch, explain the working principle of Fabric filters. (10 Marks)

Module-5

9 a. Define Noise pollution. Explain in detail the causes , effects and control of Noise pollution. (12 Marks)
b. Brief about Air pollution due to Automobiles. (08 Marks)

OR

10 a. Explain the Bhopal Gas Tragedy in detail. (10 Marks)
b. What is Green House effect? Explain briefly effect of Green house effect on Environment. (10 Marks)

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