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17CV551

## Fifth 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. Classify the Air Pollution sources. Also give example for each source. (10 Marks)
- b. Enumerate the effects of Air pollution on Human health and Vegetation. (10 Marks)

**OR**

- 2 a. Explain about Photochemical Smog with the help of chemical reactions involved in it. (10 Marks)
- b. Define Inversion and briefly explain the different types of inversion with the aid of neat sketch. (10 Marks)

### Module-2

- 3 a. Explain Super adiabatic and Subadiabatic Stability conditions of the environment. (05 Marks)
- b. Briefly explain about Windrose diagram. (05 Marks)
- c. Define Lapse rate. Explain the different types of Lapse rate. (10 Marks)

**OR**

- 4 a. What is Maximum Mixing depth? How is it determined? (10 Marks)
- b. Discuss in detail the general characteristics of Stack Plumes and their behavior. (10 Marks)

### Module-3

- 5 a. Explain the principles of Sampling the Gaseous Air Pollutants. (10 Marks)
- b. With aid of neat sketch, explain high volume air sampler for measurement of particulate matter. (10 Marks)

**OR**

- 6 a. With the help of neat sketch, explain the measurement of SPM in air. (10 Marks)
- b. Give step by step procedure for the analysis of  $SO_x$  and  $NO_x$ . (10 Marks)

### Module-4

- 7 a. With the help of neat sketch, explain the particulate matter removal by Gravity Settler. (10 Marks)
- b. Explain the factors affecting the Selection of the Particulate air control devices. (10 Marks)

**OR**

- 8 a. With aid of a neat sketch, explain the working principle of Electro static precipitator. (10 Marks)
- b. With the help of a neat sketch, explain the Working principle of Cyclone Separator. Also mention advantages of Cyclone Separator. (10 Marks)



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**Module-5**

- 9 a. Briefly explain the following environmental issues :  
i) Global warming                      ii) Acid rain. (10 Marks)  
b. Explain briefly the Emission of the gasoline driven vehicles and diesel driven vehicles. (10 Marks)

**OR**

- 10 a. Define Noise Pollution. Explain the sources of Noise pollution and its control measures. (10 Marks)  
b. Give the salient features of Environmental Protection Act 1986. (10 Marks)

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