

320844(20)

B. E. (Eighth Semester) Examination,

Nov.-Dec. 2021

(New Scheme)

(Civil Engg. Branch)

AIR POLLUTION and CONTROL MEASURES

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : Attempt all questions. Part (a) is compulsory in each question. Attempt any two parts from (b), (c) and (d) part of each question.

Unit-I

1. (a) What is the particle size range of fog? 2
- (b) Distinguish between stationary and mobile sources of air pollutants. 7

- (c) List out various methods of sampling and describe any one of them in detail. 7
- (d) What are the types and sources of particulate matter causing pollution of air? Briefly explain them. 7

Unit-II

2. (a) What do you know about air pollution meteorology? 2
- (b) Define wind rose. Explain the importance of wind rose in air pollution studies. 7
- (c) Derive Gaussian plume model with the help of "Expression" and "Limitation" parameters. 7
- (d) Describe with neat sketch, how different atmospheric conditions give rise to different kinds of plume? 7

Unit-III

3. (a) Define particulate matter and particle size. 2
- (b) What are the sources of No_x in the atmosphere? Mention their effects on man, plant and materials. How can we control the harmful effect of No_x ? 7
- (c) How can we remove the particulate matter from gas stream? Explain their types. 7

- (d) Write short note on : (any two) 7
- (i) Cyclone
 - (ii) ESP (Electrostatic Precipitator)
 - (iii) Setting chamber

Unit-IV

4. (a) Which gas was responsible for Bhopal Gas Tragedy? 2
- (b) What are air-borne allergens? Give some examples of air-borne allergens and mention their origin also. 7
- (c) Write short note on : (any two) 7
- (i) London smog
 - (ii) Los angeles
 - (iii) Bhopal gas disaster
- (d) What is the effect of air pollution on our National Heritage "Taj Mahal"? 7

Unit-V

5. (a) What is the constitution of state pollution control board. 2
- (b) Compare the functions of central pollution control board with the function of state pollution control board in the area of air pollution control. 7

- (c) What are the main features of the air pollution act 1981 of the government of India? 7
- (d) What is Ozone Layer Depletion? Mention its disadvantages and also mention some measure to avoid ozone layer depletion. 7