

320844(20)

**B. E. (Eighth Semester) Examination,
April-May 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) Define Air Pollution. 2
- (b) What are the four principal sources of air pollution?
What are the major types of pollutants provided by
each source. 7

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- (c) Describe the procedure for suspended particulate matter sampling. 7
- (d) By neat sketches, explain the principle of 7
- Piezoelectric monitor
 - Beta attenuation monitor.

Unit-II

2. (a) Define wind profile. 2
- (b) A factory uses 2,00,000 litres of furnace oil (specific density = 0.97) per month. If for one million litre of oil used per year, the particulate matter emitted is 3 tonnes/year, SO_2 emitted is 59.7 tonnes/year, NO_x emitted is 7.5 tonnes/year, hydrocarbons emitted are 0.37 tonnes/year and carbon monoxide emitted is 0.52 tonnes/year. Calculate the height of chimney required to be provided for safe dispersion of the pollutants. 7
- (c) Write short notes on : 7
- Adiabatic lapse rate
 - Inversion

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- (d) Describe the meteorological condition responsible for dispersion of air pollutants. 7

Unit-III

3. (a) How many times an average man breathe. 2
- (b) Briefly explain the causes and effects of 'episodes' of notable air pollution disasters in the world. 7
- (c) Write a note on the effects of exposure of animals to ionizing radiation. 7
- (d) Explain various effects of SO_x on human animal health, plants and on material. 7

Unit-IV

4. (a) Give the name of special disease caused by air pollution. 2
- (b) Write in brief various mechanism of deterioration in polluted atmosphere. 7
- (c) Explain the effects of photochemical smog on plants. 7
- (d) What are the air-borne allergens? With examples, explain their origin. 7

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Unit-V

5. (a) What was the purpose of clean air act? 2
- (b) What is ozone layer depletion? Explain its mechanism and sources. 7
- (c) Write short notes on : 7
- (i) Effect of acid rain
- (ii) Green house effect
- (d) With a neat sketch, explain the principle, construction and working of electrostatic precipitator. 7