

**337846(37)**

**B. E. (Eight Semester) Examination,**

**Nov-Dec 2021**

**(New Scheme)**

**(Mech. Engg. Branch)**

**(Specialization : Environment)**

**ENVIRONMENT POLLUTION & CONTROL**

*Time Allowed : Three hours*

*Maximum Marks : 80*

*Minimum Pass Marks : 28*

*Note : All questions are to be attempted Part (a) is compulsory. Attempt any two parts from (b), (c) and (d).*

**Unit-I**

1. (a) Define :

- |                           |   |
|---------------------------|---|
| (i) Aerosols              | 1 |
| (ii) Natural Contaminants | 1 |

- (b) Define Mist, Fog and Smoke and explain the mechanism of deterioration in polluted atmosphere. 7
- (c) Discuss the effects of CO, NO<sub>2</sub>, SO<sub>2</sub>, Lead, O<sub>3</sub> on the environment. 7
- (d) Write down the effect of air pollution on building materials, paints, textiles and paper industry. 7

### Unit-II

2. (a) Write down the three different types of emissions based on gasoline powered vehicles. 2
- (b) Explain different types of pollution emitted from ferrous metallurgical operation. 7
- (c) Explain the photochemical smog formation from the Automotive exhaust. 7
- (d) Describe briefly the sources of air pollution in thermal power plants. 7

### Unit-III

3. (a) Define :

- |   |   |
|---|---|
| (i) Mass Concentration  | 1 |
| (ii) Volume Concentration   | 1 |
| (b) Explain with neat sketch Ningalmann smoke chart method of estimating smoke density. | 7 |
| (c) Explain the control of gaseous contaminant by Absorption and Adsorption.            | 7 |
| (d) What do you mean by smoke? Write down the various methods to control smoke.         | 7 |

#### Unit-IV

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|--|---|
| 4. (a) Write down the objectives (any two) using control equipments.                           | 2 |
| (b) Explain with neat sketch working, principle and construction of inertia separator.         | 7 |
| (c) Write down the merits and demerits of control Equipments.                                  | 7 |
| (d) With the help of neat diagram, explain cyclones describing its principle and construction. | 7 |

## Unit-V

5. (a) List any two uses of air pollution indices and define Air Pollution index. 2
- (b) Briefly explain the functions of Central Board and State boards. 7
- (c) Write down the salient features of Environment Protection Act, 1986. 7
- (d) Explain "Green House Effect". What are the threats of it and how it can be prevented? 7