



## III B.Tech I Sem Regular End Examination, December 2022

**Air and Noise Pollution Control**

(CSC/CSD/CSM)

**Time: 3 Hours.****Max. Marks: 70**

Note: 1. Question paper consists: Part-A and Part-B.

2. In Part - A, answer all questions which carries 20 marks.

3. In Part - B, answer any one question from each unit.

Each question carries 10 marks and may have a, b as sub questions.

**PART- A****(10\*2 Marks = 20 Marks)**

- |       |   |    |     |     |
|-------|---|----|-----|-----|
| 1. a) | What is meant by pollutant?   | 2M | CO1 | BL1 |
| b)    | What are the different methods that are used for identifying air pollution?                   | 2M | CO1 | BL1 |
| c)    | What are the meteorological factors that influence the air pollution?                         | 2M | CO2 | BL1 |
| d)    | What is meant by temperature lapse rate?  | 2M | CO2 | BL1 |
| e)    | What are the basic considerations of air sampling?  | 2M | CO3 | BL1 |
| f)    | State any four types of air pollution control devices.  | 2M | CO3 | BL3 |
| g)    | What are the effects of presence of carbon monoxide pollutant in atmosphere, on human health? | 2M | CO4 | BL1 |
| h)    | What are the sources of emission of hydrocarbons into the atmosphere?                         | 2M | CO4 | BL1 |
| i)    | What is meant by sound power?   | 2M | CO5 | BL1 |
| j)    | What is meant by ultrasonic sound?  | 2M | CO5 | BL1 |

**PART- B****(10\*5 Marks = 50 Marks)**

- |           |  |     |     |     |
|-----------|--|-----|-----|-----|
| 2         | Briefly explain about the classification of air pollutants.                | 10M | CO1 | BL4 |
| <b>OR</b> |  |     |     |     |
| 3         | Discuss in detail about the different causes of air pollution              | 10M | CO1 | BL2 |
| 4         | Explain the meteorological aspects of air pollution.                       | 10M | CO2 | BL4 |
| <b>OR</b> |  |     |     |     |
| 5         | a) What are the assumptions made in Gaussian plume model?                  | 5M  | CO2 | BL1 |
|           | b) What are the effects of wind velocity and wind direction on pollutants? | 5M  | CO2 | BL1 |

- 6 What is meant by stack sampling and what are its objectives. 10M C03 BL1
- OR**
- 7 Explain the working principle of a fabric filter, what are its advantages and what are the industries that will use fabric filters 10M C03 BL4
- 8 Explain in brief, the control measure to be taken to prevent the emission of nitrogen oxide in to atmosphere. 10M C04 BL4
- OR**
- 9 What are the different approaches to reduce the air pollution form automobile industry? 10M C04 BL1
- 10 What are the effects of noise pollution on human health? 10M C05 BL1
- OR**
- 11 a) Briefly explain the methods of noise control by absorption of reflected sound. 5M C05 BL4
- b) Discuss about the effects of noise pollution on nervous system. 5M C05 BL2

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**CO - Course Outcome**

**BL - Blooms Taxonomy Levels**