

M.E. First Semester (Mechanical Engineering (Thermal Engineering)) (New-CGS)
13512 : Elective-I : Environmental Pollution control : 1 MTE 5

P. Pages : 2

Time : Three Hours



AW - 3535

Max. Marks : 80

- Notes :
1. All question carry equal marks.
 2. Answer **three** question from Section A and **three** question from Section B.
 3. Question No. **5 & 10** from Section **A & B** is compulsory.
 4. Due credit will be given to neatness and adequate dimensions.
 5. Assume suitable data wherever necessary.
 6. Diagrams and chemical equations should be given wherever necessary.
 7. Retain the construction lines.
 8. Illustrate your answer necessary with the help of neat sketches.
 9. Use of slide rule logarithmic tables, Steam tables, Mollier's Chart, Drawing instrument, Thermodynamic table for moist air, Psychrometric Charts and Refrigeration charts is permitted.
 10. Discuss the reaction, mechanism wherever necessary.
 11. Use of pen Blue/Black ink/refill only for writing the answer book.

SECTION - A

1. a) Define air pollution & differentiate natural & man-made air pollution. 7
b) Enumerate the different major air pollutants, their characteristics, sources & health effects on human beings in a tabular form. 6

OR

2. a) How & which of the air pollutants adversely affect the plant & animal life on Earth. 7
b) Write short note on acid rain & its harmful effect on the environment. 6
3. a) Define "Municipal Solid Waste" (MSW) & explain the necessity of its safe disposal. 7
b) Differentiate between "composting" & "vermi-composting" & explain their utilities in disposal off society's solid waste. 6

OR

4. a) Classify various solid wastes? Discuss their effects. 7
b) Classify the materials recovered from MSW. 6
5. a) Enumerate with examples the major sources of surface water pollution & ground water pollution. 7
b) Discuss waste water treatment with neat sketch. 7

SECTION – B

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|----|------|--|---|
| 6. | a) | Differentiate between | 6 |
| | i) | Sound & noise. | |
| | ii) | Loudness & pitch of noise. | |
| | iii) | Threshold of pain & threshold of hearing for a human ear. | |
| | b) | Briefly discuss the sources, effects & control of noise pollution. | 7 |

OR

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|----|----|--|---|
| 7. | a) | Define radioactivity? Mention sources of radioactivity. | 6 |
| | b) | Discuss oil pollution? What are its sources & its impact on the environment. | 7 |
| 8. | a) | What are sources of air pollution in 'Cement Industry'. | 6 |
| | b) | What methods of control are adopted to control dust in Cement Industry. | 7 |

OR

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|-----|-----|--|----|
| 9. | | Explain sources of air pollution & its control in thermal power plant. | 13 |
| 10. | | Write short notes on. | 14 |
| | i) | Multiple cyclones. | |
| | ii) | Cyclones in series. | |
