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Question Paper Code	12307
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**M.E. / M.Tech - DEGREE EXAMINATIONS, NOV / DEC 2023**

First Semester

**M.E. - Industrial Safety Engineering**

**20PISPC102– ENVIRONMENTAL SAFETY**

(Regulations 2020)

Duration: 3 Hours

Max. Marks: 100

**PART - A (10 × 2 = 20 Marks)**

Answer ALL Questions

- |  | <i>Marks,<br/>K-Level, CO</i> |
|--|-------------------------------|
| 1. Air pollution may lead to climate change. Justify.  | <i>2,K2,CO1</i>               |
| 2. Mention the environmental hazards due to ozone layer depletion.   | <i>2,K2,CO1</i>               |
| 3. Differentiate between sewage and sewerage.  | <i>2,K2,CO2</i>               |
| 4. What are the chemicals dissolved in water due to effluent discharge from textiles?                                  | <i>2,K2,CO2</i>               |
| 5. How are the solid hazardous wastes disposed into the land?  | <i>2,K1,CO3</i>               |
| 6. Differentiate between hazardous and non-hazardous wastes.   | <i>2,K2,CO3</i>               |
| 7. Mention any two-control equipment for removing fine particulate matters.  | <i>2,K2,CO4</i>               |
| 8. Define electrostatic precipitation.   | <i>2,K2,CO4</i>               |
| 9. Which of the following chemical is least harmful to human beings?<br>a) DDT , b) PCB, c) Sodium chloride, d) Dioxin | <i>2,K3,CO5</i>               |
| 10. Is hydropower a good alternative? Justify your answer.   | <i>2,K2,CO5</i>               |

**PART - B (5 × 13 = 65 Marks)**

Answer ALL Questions

11. a) What are the measures taken by the government to reduce vehicular emissions? How did the quality of air is improved? *13,K1,CO1*
- OR**
- b) How is air pollutants classified? What are the different sources of air pollutants? Give examples. *13,K1,CO1*
12. a) Discuss the various types of Corrosion prevention and control techniques in industrial effluents. *13,K3,CO2*
- OR**
- b) What is meant by water pollution and mention the common types of pollutants? Also list the different types of sources of water pollution. *13,K1,CO2*

13. a) Describe & list the various environmental legislation for municipal solid waste. *13,K2,CO3*

**OR**

b) Explain in detail about 3Rs Principle. How can we follow the 3R principle as an individual? *13,K3,CO3*

14. a) Enumerate and briefly explain various sources of radioactivity in environment and write about its control measures. *13,K3,CO4*

**OR**

b) Tabulate the National air quality standards for residential, Industrial and sensitive areas. *13,K3,CO4*

15. a) Explain in detail about the utilization of the following safer renewable sources of energy (i) Solar Power (ii) Wind Power (iii) Hydro Power. *13,K3,CO5*

**OR**

b) Briefly explain about the emissions and effluent discharge from dying and pigment industries and suggest some control measures. *13,K3,CO5*

**PART - C (1 × 15 = 15 Marks)**

16. a) “The automobile is one of the worst inventions made by mankind”. Justify this statement by focusing on the environmental impact on environment. Review the approach to reduce the usage of automobile. *15,K3,CO6*

**OR**

b) Give a brief description about the pollutants and its effects emitted from the following industries: (i) Textile industries, (ii) Petroleum and Petroleum product industries, (iii) Tanneries. *15,K3,CO6*