

III B. Tech II Semester Regular/Supplementary Examinations, April - 2018
ENVIRONMENTAL POLLUTION AND CONTROL
(Civil and ECE)

Time: 3 hours

Maximum Marks: 70

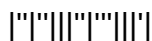
Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)
2. Answering the question in **Part-A** is compulsory
3. Answer any **THREE** Questions from **Part-B**

PART -A

- | | | | |
|---|----|---|------|
| 1 | a) | Enlist various indoor and outdoor pollution sources. | [3M] |
| | b) | Explain the significance of Equalization in Industrial Waste water management | [4M] |
| | c) | What are solid wastes? How solid wastes are disposed ultimately? | [4M] |
| | d) | State the basis for assessing the rural sanitation options. | [4M] |
| | e) | What is meant by low level Radioactive wastes? | [4M] |
| | f) | Define the term sustainable development. | [3M] |

PART -B

- | | | | |
|---|----|--|------|
| 2 | a) | Discuss in detail various air quality parameters and their limitations to be suitable for daily needs. | [8M] |
| | b) | What are the sources of Noise Pollution? Explain in detail. | [8M] |
| 3 | a) | Explain the process involved in Neutralization and Proportioning of waste. | [8M] |
| | b) | State the strategies of pollution control along with the appropriate techniques adopted. | [8M] |
| 4 | a) | Explain in detail the solid waste management hierarchy. | [8M] |
| | b) | Discuss in brief the steps involved in control measures of solid waste. | [8M] |
| 5 | a) | State the factors governing the valuable environmental sanitation for Hotels. | [8M] |
| | b) | Explain the working principle involved in any one low cost sanitation method. | [8M] |
| 6 | a) | Discuss in brief the disposal methods of hazardous waste. | [8M] |
| | b) | Enumerate the characteristics of Electronic and Chemical wastes. | [8M] |
| 7 | a) | Write a short note on cleaner production in achieving sustainability. | [8M] |
| | b) | Enumerate various indicators of sustainability and explain how do they contribute to development. | [8M] |



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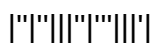
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PART -A

- 1 a) How do you measure the Air quality? State the various air quality and their consequences. [4M]
- b) State the regulations to be followed for Industrial waste water. [3M]
- c) Show the structure of solid wastes. [3M]
- d) State the factors affecting the suitability of sanitation system. [4M]
- e) Give the detailed classification of Nuclear wastes. [4M]
- f) Explain the evolution of sustainable development. [4M]

PART -B

- 2 a) Discuss in detail various controlling methods of air pollution. [8M]
- b) State the various parameters for evaluating the noise pollution along with the standards. [8M]
- 3 a) Explain in detail the understanding required for flow equalization and proportioning in IWW. [8M]
- b) Discuss in brief various effluent standards that need to be maintained for its proper disposal. [8M]
- 4 a) Show the types of wastes along with the amount of time to generate the same. [8M]
- b) By means of neat sketch, explain in brief the three types of Combustion methods adopted for solid waste management. [8M]
- 5 a) What are the criteria for an acceptable sanitation options for Hostels? Explain in brief. [8M]
- b) Differentiate between the environmental sanitation process and parameters involved in Schools and Swimming pools. [8M]
- 6 a) What is meant by Biomedical waste? Enumerate the steps in the management of biomedical waste. [8M]
- b) Discuss in brief the management process involved in Hazardous waste. [8M]
- 7 a) What are the different forms of energy contributing towards sustainable development? Discuss in brief. [8M]
- b) Write a detailed note on strategies adopted for sustainable development. [8M]



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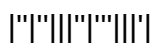
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PART -A

- 1 a) What is the significance of Smog in Air pollution? [3M]
- b) Show by means of diagram the treatment process unit operations involved in industrial wastewater management. [4M]
- c) List out the components involved in municipal solid waste. [4M]
- d) Define the term: Sanitation and the measure adopted for the same. [4M]
- e) Give the detailed classification of disposal of hazardous waste. [4M]
- f) What are the various elements to be considered in sustainable development? [3M]

PART -B

- 2 a) Explain in detail about the effects and sources of Carbon Monoxide and Sulfur dioxide pollutants. [8M]
- b) What are the various sources and effects of Noise pollution? Explain each in detail. [8M]
- 3 a) Discuss in detail about various important contaminants of Concern in Industrial Wastewater management. [8M]
- b) State and explain any two strength reduction methods of waste. [8M]
- 4 a) Give the detailed classification of wastes according to their origin and type. [8M]
- b) Explain the 4R's concept in solid waste management. [8M]
- 5 a) Discuss the treatment parameters involved in sanitation of public bathing places. [8M]
- b) State the factors governing the sanitation process at social gatherings. [8M]
- 6 a) Enumerate the characteristics of Electronic wastes. [8M]
- b) What are the various economical control methods adopted for nuclear hazardous wastes. [8M]
- 7 a) Discuss the importance of Climate change and Biodiversity in sustainable development. [8M]
- b) State the impacts of industrialization on sustainable development. [8M]



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PART -A

- | | | | |
|---|----|--|------|
| 1 | a) | Explain the causes and effects of Outdoor pollution. | [3M] |
| | b) | State the various sources of industrial wastewater management. | [4M] |
| | c) | Enlist various types of wastes. | [3M] |
| | d) | Show the classification of sanitation system. | [4M] |
| | e) | What are the characteristics of Biomedical wastes? | [4M] |
| | f) | Enlist the factors needed to achieve sustainable development. | [4M] |

PART -B

- | | | | |
|---|----|---|------|
| 2 | a) | Explain the working principles of any one particulate controlling device. | [8M] |
| | b) | Explain the measuring devices adopted for noise pollution. | [8M] |
| 3 | a) | Discuss in detail various steps involved in waste volume reduction. | [8M] |
| | b) | What is the significance of recirculation of industrial wastes? Explain the principle involved in it. | [8M] |
| 4 | a) | By means of a neat sketch, detail the characteristics of solid waste. | [8M] |
| | b) | Explain in brief the health and environmental hazards of solid waste. | [8M] |
| 5 | a) | Explain how rural sanitation is different from any other sanitation process adopted for commercial buildings. | [8M] |
| | b) | State the parameters involved in the treatment of public bathing places and institutions. | [8M] |
| 6 | a) | Discuss in brief any two control methods of disposal of Nuclear wastes. | [8M] |
| | b) | By means of a neat sketch, show the treatment process involved in hazardous wastes. | [8M] |
| 7 | a) | Discuss the importance of Nutrient and hydrological cycles in sustainable development. | [8M] |
| | b) | Enumerate the principles of sustainable development. | [8M] |

