



**SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY :: PUTTUR
(AUTONOMOUS)**

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QUESTION BANK (DESCRIPTIVE)

**Subject with Code: WASTE RESOURCE MANAGEMENT(20ME0357) Course & Branch: B.Tech – CIC,EEE
Year & Sem : IV B.Tech & I-Sem Regulation : R20**

UNIT I

WASTE MANAGEMENT

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| 1 | a) Define Waste Management. Make a list of fundamental concepts of waste management. | [L1][CO1][6M] |
| | b) Explain the types of waste management. | [L2][CO6][6M] |
| 2 | a) Why is waste considered one of the major environmental issues? | [L2][CO1][6M] |
| | b) Write short notes on waste generation in India. | [L1][CO1][6M] |
| 3 | a) Briefly explain the salient features of Indian legislation on managing and handling waste. | [L3][CO1][6M] |
| | b) Explain the Waste's impact on the environment. | [L1][CO1][6M] |
| 4 | a) What are the merits and demerits of waste resource management? | [L1][CO1][6M] |
| | b) What are the technologies that are used for waste minimization? | [L1][CO1][6M] |
| 5 | a) What is the most harmful type of waste, and explain how they impact the environment? | [L1][CO1][6M] |
| | b) Write short notes on E-Waste management. | [L2][CO1][6M] |
| 6 | a) Explain the effects of pollutants on human health and the surrounding environment. | [L2][CO1][6M] |
| | b) What are the steps in Recycling and Recovery of materials? | [L1][CO1][6M] |
| 7 | a) What are the main problems of waste management? | [L1][CO1][6M] |
| | b) Discuss the classification of Waste Minimization (WM) Techniques. | [L2][CO1][6M] |
| 8 | a) Explain how manufacturing companies can reduce their waste generation. | [L2][CO1][6M] |
| | b) Discuss the role and E-Waste management Rules in 2016. | [L3][CO1][6M] |
| 9 | Identify the activities responsible for the successful implementation of a collection system | [L1][CO1][12M] |
| 10 | a) What role does technology play in modern waste management? | [L1][CO1][6M] |
| | b) Define Waste Management. Make a list of fundamental concepts of waste management. | [L1][CO1][6M] |

UNIT II

SOLID WASTE MANAGEMENT

- 1 a) What is the need for Solid waste management? [L2][CO2][6M]
- b) What is municipal solid waste's physical and chemical characteristics? [L1][CO2][6M]
- 2 Briefly explain the types of solid waste management. [L3][CO2][12M]
- 3 a) Write down the Residential and commercial wastes. [L1][CO6][6M]
- b) What are the key considerations when designing a solid waste management program for a large organization? [L2][CO6][6M]
- 4 a) Explain the Municipal solid Wastes and Industrial Solid Wastes. [L2][CO2][6M]
- b) Illustrate the Agro wastes, Construction, and demolition Waste. [L1][CO2][6M]
- 5 a) Discuss the excretory products of humans and livestock Wastes. [L1][CO2][6M]
- b) Distinguish between merits and demerits of solid waste management. [L1][CO2][6M]
- 6 List out the factors affecting the generation of solid waste. [L3][CO2][12M]
- 7 How does incineration help in the management of solid waste? Describe the incineration technologies and air emissions and its control in detail. [L2][CO2][12M]
- 8 a) Explain the concept of "zero waste." [L2][CO2][6M]
- b) Describe a challenging situation faced in solid waste management and how it was resolved. [L1][CO2][6M]
- 9 Explain the following: Pyrolysis, Open dumping, (c) Refuse derived fuel, (d) Bio gasification. [L1][CO2][12M]
- 10 a) Justify the areas where Threats are being attacked with example. [L4][CO2][6M]
- b) State the key role of the public in solid waste management. [L3][CO2][6M]

UNIT III

BIOMEDICAL WASTE

- 1 a) Define biomedical waste. [L1][CO6][6M]
- b) What do you understand by informed consent in the context of engineering as experimentation? [L1][CO3][6M]
- 2 Discuss the classification of Biomedical Waste and their uses. [L3][CO3][12M]
- 3 Define waste segregation. Explain the steps involved in medical waste segregation [L3][CO3][12M]
- 4 a) Brief about effects of biomedical waste. [L2][CO3][6M]
- b) What are sources of biomedical waste? [L1][CO3][6M]
- 5 Illustrate the categories of biomedical waste and their components. [L3][CO3][12M]
- 6 a) Write a short note on blood banks and dental clinics. [L1][CO3][6M]
- b) What are limitations of biomedical waste? [L1][CO3][6M]
- 7 a) Explain the terms autopsy centers and paramedics? [L1][CO3][6M]
- b) What are the objections of codes of ethics? [L1][CO3][6M]
- 8 Explain briefly labelling hazards of biomedical waste and its limitations. [L2][CO3][12M]
- 9 a) Define the term Disposal? What are the standards provided by disposal? [L2][CO3][6M]
- b) Justify the necessity for disposal of biomedical waste. [L4][CO3][6M]
- 10 a) What are the problems associated with the biomedical waste? [L1][CO3][6M]
- b) List out the challenges and measures of biomedical waste during the COVID-19 pandemic. [L4][CO3][6M]

UNIT IV

HAZARDOUS WASTE MANAGEMENT

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| 1 | a) Outline hazardous? Enumerate criteria for ensuring safe design? | [L2][CO6][6M] |
| | b) Define risk? What are the factors influencing hazardous? | [L2][CO6][6M] |
| 2 | a) Illustrate the classification of hazardous waste and its | [L3][CO4][6M] |
| | b) How can the products be designed by the engineers to reduce the risk to the user? | [L3][CO4][6M] |
| 3 | a) Write a short note on Radioactive waste and Chemical waste. | [L1][CO4][6M] |
| | b) Define toxic waste and what are the hazard related risks. | [L1][CO4][6M] |
| 4 | a) Briefly write about corrosive waste and explosive waste with examples? | [L1][CO4][6M] |
| | b) Explain in detail the effect of why both low-risk and high-risk products are costly? | [L2][CO4][6M] |
| 5 | Explain the public health and their environmental effects of hazardous waste. | [L2][CO4][12M] |
| 6 | Explain the toxic waste. Describe its negative effects on the environment and human health briefly. | [L1][CO4][12M] |
| 7 | Illustrate and describe the export of hazardous waste issues in India. | [L3][CO4][12M] |
| 8 | a) What is a secure hazardous waste landfill? | [L1][CO4][6M] |
| | b) What are the laws and rules against hazardous waste dumping in India.
How much hazardous waste is generated in India. | [L3][CO4][6M] |
| 9 | List out the important characteristics of industrial hazardous waste management. | [L1][CO4][12M] |
| 10 | Explain the public health and the environmental effects of hazardous waste. | [L2][CO4][12M] |

UNIT V

WASTE COLLECTION, RECYCLING & WASTE DISPOSAL

- 1 a) Define waste collection, Discuss the waste collection methods. [L2][CO5][6M]
- b) What are the various environmental concerns for the selection of waste collection? [L2][CO5][6M]
- 2 Illustrate and explain the types of waste collection. [L3][CO5][12M]
- 3 List out the waste collection components and explain briefly. [L3][CO5][12M]
- 4 a) What are the common types of storage containers? [L1][CO5][6M]
- b) Give some Need for recycling of wastes. [L2][CO5][6M]
- 5 a) Who are the consultants? Write short notes on consulting engineers and the areas they work? [L1][CO5][6M]
- b) Explain the types of collection systems. [L2][CO5][6M]
- 6 Describe and briefly explain types of waste collection system design. [L3][CO5][12M]
- 7 a) Why is it essentially required for the need for recycling of wastes? [L1][CO5][6M]
- b) Illustrate the benefits and limitations of recycling wastes [L2][CO5][6M]
- 8 a) What are disposal options are there in disposal of waste and explain briefly. [L1][CO5][6M]
- b) Why it is important waste selection criteria? Classify the selection criteria. [L2][CO5][6M]
- 9 a) Define Waste sanitary. Explain the summary of waste sanitary landfill works. [L2][CO5][6M]
- b) List out the environmental effects of landfill. [L2][CO5][6M]
- 10 List out the key issues in disposal of waste and their limitations. [L4][CO5][12M]

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