

19/12

Sr. No. 013706

December 2023

B.Tech (ME) 7th Semester

WASTE MANAGEMENT IN DAILY LIFE (OES-301A)

Time: 3 Hrs.

Max. Marks: 75

- Instructions:**
1. It is compulsory to answer all the questions (1.5 marks each) of Part -A in short.
 2. Answer any four questions from Part -B in detail.
 3. Different sub-parts of a question are to be attempted adjacent to each other.

PART-A

Q.1 Briefly answer the following questions:

- (a) Classify the waste collected in urban locality. (1.5)
- (b) What is importance of waste storage and transportation? (1.5)
- (c) What are the challenges faced in waste processing? (1.5)
- (d) How 3R concept of waste management is beneficial for the society? (1.5)
- (e) Enlist the importance of waste prevention and recycling in sustainable waste management. (1.5)
- (f) What are the key issues associated with open dumping and burning of waste? (1.5)
- (g) Enlist any *three* best practices for solid waste disposal? (1.5)
- (h) How waste-to-energy conversion techniques can contribute to waste management? (1.5)
- (i) Differentiate between engineered and non-engineered landfill sites? (1.5)
- (j) Enlist the steps to be followed for composting of kitchen gardening. (1.5)

PART-B

- Q.2 (a) What is waste? Give a detailed account of different sources of waste generated in urban areas. (7.5)
- (b) How can waste collection be improved in residential areas? Discuss the use of different sample collection bins. (7.5)
- Q.3 (a) Explain the concept of sorting and segregation of waste at the point of generation towards effective management of solid waste. (7.5)
- (b) Explain waste processing methods aimed at reduction of size and volume. Give a brief account of various advantages of these techniques. (7.5)
- Q.4 (a) How can individuals and small communities contribute to waste reduction, recycling, and reuse, explain in detail? (7.5)

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- (c) What do you mean by recycling? Give a comprehensive overview of steps of the recycling process. (7.5)
- Q.5 (a) How are diseases linked to the improper handling of waste materials? Suggest possible preventive measures to reduce their adverse impact. (7.5)
- (b) Give a detailed account of concept of safe waste disposal. Discuss its significance for environmental and public health. (7.5)
- Q.6 (a) Differentiate between composting and vermicomposting, along with their key significance towards sustainable management of solid waste. (7.5)
- (b) What do mean by waste-to-energy conversion techniques? Explain their significance towards management of solid waste along with key advantages and disadvantages. (7.5)
- Q.7 (a) What are the environmental and economic benefits of waste-to-energy conversion methods, explain in detail? (7.5)
- (b) What is anaerobic digestion process. Explain its significances, process stages and factor affecting the process. (7.5)

PART-B

- Q.2 (a) What is waste? Give a detailed account of different sources of waste generated in urban areas. (7.5)
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- Q.3 (a) Explain the concept of sorting and segregation of waste at the point of generation towards effective management of solid waste. (7.5)
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- Q.4 (a) How can individuals and small communities contribute to waste reduction, recycling and reuse, explain in detail. (7.5)

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