BRAINWARE UNIVERSITY

Term End Examination 2024-2025
Programme – Dip.CE-2022
Course Name – Solid Waste Management
Course Code - DCEPE501B
(Semester V)

Full Marks : 60   **Time : 2:30 Hours**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A
(Multiple Choice Type Question)   1 x 15=15

1. *Choose the correct alternative from the following :*

(i) Identify the type of solid waste generated primarily from households.

a) Biomedical waste   b) Domestic waste
c) E-waste   d) Industrial waste

(ii) Select the category of waste produced by hospitals and healthcare facilities.

a) Institutional waste   b) Agricultural waste
c) Biomedical waste   d) Market waste

(iii) List the type of waste that includes discarded electronic devices and components.

a) E-waste   b) Agricultural waste
c) Industrial waste   d) Commercial waste

(iv) Identify the solid waste produced by manufacturing processes and factories.

a) Domestic waste   b) Industrial waste
c) Biomedical waste   d) Market waste

(v) Identify the tool most commonly used for lifting and loading solid waste manually.

a) Broom   b) Shovel
c) Handcart   d) Litter Bin

(vi) Identify the tool that is most effective for collecting litter in public spaces.

a) Shovel   b) Litter Bin
c) Handcart   d) Mechanical Road Sweeper

(vii) Select the vehicle most appropriate for collecting waste in rural areas with poor road infrastructure.

a) Truck   b) Dumpers
c) Animal cart   d) Compactor vehicle

(viii) Classify the type of transportation vehicle that typically has a lower capacity but is more maneuverable in urban areas.

a) Truck
b) Auto vehicle
c) Dumpers
d) Compactor vehicle

(ix) Identify the type of waste collection equipment that is most beneficial for manual handling and loading of waste.

a) Shovel
b) Broom
c) Handcart
d) Mechanical Road Sweeper

(x) Write the importance of maintaining a balanced carbon-to-nitrogen ratio in composting.

a) To prevent odors
b) To speed up the process
c) To attract insects
d) To create heat

(xi) Write down a crucial factor affecting the rate of decomposition in composting.

a) Light exposure
b) Particle size
c) Air temperature
d) Microbial diversity

(xii) Choose the correct method used in mechanical composting to enhance the process.

a) Aerators
b) Shredders
c) Compressors
d) Dano Process

(xiii) Write the impact of particle size on the composting process.

a) Affects moisture retention
b) Influences aeration
c) Regulates temperature
d) All of these

(xiv) Write down the significance of turning in the composting process.

a) Increases temperature
b) Enhances microbial activity
c) Distributes moisture evenly
d) All of these

(xv) Write the environmental impact of improper composting practices.

a) Greenhouse gas emissions
b) Groundwater contamination
c) Loss of biodiversity
d) All of these

Group-B
(Short Answer Type Questions)
3 x 5=15

2. Define solid waste and provide examples of different types of solid waste. (3)
3. Describe the characteristics of domestic and commercial solid waste. (3)
4. Describe the role of litter bins and community bins in solid waste management. (3)
5. Write a brief description of the Indore method of composting. (3)
6. Explain the concept of BOD and COD in the context of composting. (3)

OR

Classify the different methods of composting based on their mechanization level. (3)

Group-C
(Long Answer Type Questions)
5 x 6=30

7. Write a detailed comparison of the Bangalore and Indore methods of composting. (5)
8. Explain the role of BOD and COD in the composting process and their impact on compost quality. (5)
9. Discuss the impact of improper handling of biomedical waste versus e-waste. (5)
10. Describe the classification of solid waste into hazardous and non-hazardous categories. (5)
11. Defend the use of community bins in managing urban waste. (5)
12. Compare the characteristics of institutional waste and commercial waste. (5)

OR

Evaluate the influence of waste classification on solid waste management strategies. (5)

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