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BWA-003

**CERTIFICATE IN SOLID WASTES
TREATMENT TECHNIQUES (CSWATT)**

Term-End Examination

June, 2022

**BWA-003 : SOLID WASTES PROCESSING AND
TREATMENT TECHNIQUES**

Time : 3 Hours

Maximum Marks : 70

Note : (i) *Attempt any **seven** questions.*

(ii) *All questions carry equal marks.*

(iii) *Use of calculator is permitted.*

1. Explain the need for source reduction in waste management. List the criteria to be considered in the evaluation of various options before adopting a source reduction policy. 10
2. What is the purpose of magnetic separation ? Discuss the equipments used for magnetic separation. 10

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3. (a) Write the factors that affect the selection of screens. 4
- (b) Given that 100 ton/hr. of solid waste is applied to a rotary screen for the removal to glass prior to shredding, determine the recovery efficiency. 6
4. (a) List the factors that you will consider while planning a recycling programme. 5
- (b) State the end uses of recycled plastic and batteries. 5
5. (a) Explain the difference between compaction and size reduction and their importance in SWM. 4
- (b) Write briefly, methods used to apply heat required for drying the wastes. 6
6. What are the benefits and drawbacks of composting of wastes ? Write the materials that can be used as raw material for composting process. 10
7. Describe the various process parameters for anaerobic digestion process. 10

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8. Describe the various operations involved in MBT (Mechanical Biological Treatment) in detail. 10
9. What is incineration ? What are the advantages and disadvantages of incineration ? 10
10. (a) Give examples of combustion byproducts of concern that are generated from the thermal treatment of hazardous wastes. 6
- (b) Why does it make sense to recycle the components of electronic wastes ? 4