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10CV757

Seventh Semester B.E. Degree Examination, Aug./Sept.2020
Solid Waste Management

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions, selecting atleast TWO questions from each part.

PART – A

- 1 a. Briefly explain the functional elements of Solid Waste Management. (10 Marks)
b. Discuss physical, chemical and biological properties of Municipal Solid Waste. (10 Marks)
- 2 a. Explain with neat sketches the operational task adopted with hauled containers system and stationary container system in the collection process of municipal solid waste. (10 Marks)
b. With neat sketches explain different types of Transfer Stations. (10 Marks)
- 3 a. Write with a neat sketch the explanatory note on the following :
(i) Garbage chutes (ii) Route optimization. (08 Marks)
b. Explain the following :
(i) Mechanical volume reduction
(ii) Mechanical size reduction
(iii) Magnetic component separation. (12 Marks)
- 4 a. Explain in detail Air Pollution Control System being adopted for the collection of solid particulate matter present in the flue gas. (10 Marks)
b. What is pyrolysis? Briefly explain the process of pyrolysis. (10 Marks)

PART – B

- 5 a. Explain the important design considerations for aerobic composting process. (10 Marks)
b. Explain briefly the process microbiology of Anaerobic Biological Transformations. (06 Marks)
c. Write short note on “Vermi-Composting”. (04 Marks)
- 6 a. Explain area method and Trench method of land filling techniques. (06 Marks)
b. With neat sketches explain the method control of gas movement with vents and barriers. (08 Marks)
c. What is a leachate? Explain in brief the leachate management options. (06 Marks)
- 7 a. List the various methods of disposal of solid waste. Describe briefly ocean disposal of solid waste. (10 Marks)
b. Explain the characteristics of biomedical waste and its disposal methods. (10 Marks)
- 8 a. Explain reuse and recycling of plastic, glass, metal and paper. (10 Marks)
b. Write short notes on :
(i) Energy recovery operations
(ii) Reuse significance in solid waste. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.