



**ADAMAS UNIVERSITY**  
**END SEMESTER EXAMINATION**  
 (Academic Session: 2020 – 21)

<b>Name of the Program:</b>	M.Tech. (Environmental Engineering)	<b>Semester:</b>	II
<b>Paper Title:</b>	Solid & Hazardous Waste Management	<b>Paper Code:</b>	ENV21011
<b>Maximum Marks:</b>	50	<b>Time Duration:</b>	3 Hrs
<b>Total No. of Questions:</b>	17	<b>Total No of Pages:</b>	02
(Any other information for the student may be mentioned here)	<b>1.</b> At top sheet, clearly mention Name, Univ. Roll No., Enrolment No., Paper Name & Code, Date of Exam. <b>2.</b> All parts of a Question should be answered consecutively. Each Answer should start from a fresh page. <b>3.</b> Assumptions made if any, should be stated clearly at the beginning of your answer.		

**Group A**

**Answer All the Questions (5 x 1 = 5)**

1	Which of the following wastes is called the Municipal Solid Waste (MSW)? (a) Food wastes; (b) Wood pieces; (c) Plastic cans; (d) All of the above	<b>R</b>	<b>CO1</b>
2	The burning of solid waste is not recommended because (a) It is very costly; (b) It requires a lot of space; (c) It requires modern technologies; (d) It causes several environmental issues	<b>R</b>	<b>CO2</b>
3	Which of the following is done on an individual level? a) Burning; b) Disposal; c) Recycling; d) Source reduction	<b>R</b>	<b>CO3</b>
4	Why is it difficult to recycle plastics? a) It is very hard; b) It comes in different sizes; c) It is adhesive; d) It contains different types of polymer resins	<b>R</b>	<b>CO4</b>
5	Which of the following methods is better for the solid waste problem? a) Recycling; b) Landfilling; c) Both (a) and (b); d) None of the above	<b>R</b>	<b>CO4</b>

**Group B**

**Answer All the Questions (5 x 2 = 10)**

6 a)	Explain how solid waste is generated from residential buildings.	<b>R</b>	<b>CO1</b>
<b>(OR)</b>			
6 b)	Explain integrated waste management technique.	<b>U</b>	<b>CO1</b>
7 a)	What is called Solid waste management (SWM)?	<b>R</b>	<b>CO2</b>

<b>(OR)</b>			
7 b)	What are the State Planning Provisions?	<b>R</b>	<b>CO2</b>
8 a)	Define environmental indicator.	<b>U</b>	<b>CO3</b>
<b>(OR)</b>			
8 b)	What is the planning process of solid waste management?	<b>U</b>	<b>CO3</b>
9 a)	Recall few vehicles of solid waste collection.	<b>U</b>	<b>CO4</b>
<b>(OR)</b>			
9 b)	What is secondary collection of house hold solid waste?	<b>R</b>	<b>CO4</b>
10 a)	What are the difference between primary and secondary MSW collection system?	<b>U</b>	<b>CO3</b>
<b>(OR)</b>			
10 b)	Discuss how leachate contaminate ground water and soil.	<b>R</b>	<b>CO4</b>
<b>Group C</b> <b>Answer All the Questions (7 x 5 = 35)</b>			
11 a)	What are the strategies Integrated Waste Management.	<b>U</b>	<b>CO1</b>
<b>(OR)</b>			
11 b)	How to estimate typical costs for major waste management option?	<b>Ap</b>	<b>CO1</b>
12 a)	What are the role of NGOs in MSW?	<b>R</b>	<b>CO2</b>
<b>(OR)</b>			
12 b)	Summarise Waste Reduction Goals.	<b>U</b>	<b>CO2</b>
13 a)	Describe disposal methods for hazardous wastes.	<b>R</b>	<b>CO3</b>
<b>(OR)</b>			
13 b)	List the public health importance of health-care institution waste.	<b>R</b>	<b>CO3</b>
14 a)	Figure out the challenges of Efficient Solid Waste Collection System.	<b>R</b>	<b>CO4</b>
<b>(OR)</b>			
14 b)	Discuss the principle of solid waste collection.	<b>R</b>	<b>CO4</b>
15 a)	What is the “Hazardous Waste Generator Improvements Rule?”	<b>R</b>	<b>CO4</b>
<b>(OR)</b>			
15 b)	Write short notes on Domestic Hazardous Waste.	<b>R</b>	<b>CO4</b>
16 a)	Why segregation of MSW should be done during door to door collection point?	<b>U</b>	<b>CO3</b>
<b>(OR)</b>			
16 b)	Explain why every MSW collection & transportation vehicles should be GPS enabled?	<b>U</b>	<b>CO3</b>
17 a)	How to characterize the hazardous waste?	<b>R</b>	<b>CO4</b>
<b>(OR)</b>			
17 b)	Illustrate the precautions taken during dumping of hazardous waste.	<b>R</b>	<b>CO4</b>