

PSG COLLEGE OF ARTS AND SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2024
(Second Semester)

Branch – ENVIRONMENTAL SCIENCE

INTEGRATED WASTE MANAGEMENT

Time: Three Hours

Maximum: 75 Marks

SECTION – A (10 Marks)

Answer ALL Questions

ALL Questions carry EQUAL marks

(10 x 1 = 10)

Module No	Question No	Question	K Level	CO		
1	1	Which gas produced in open dumps from the decomposition of biodegradable waste?	K2	CO1		
		a Ethane			b Propene	
		c Methane			d Ethene	
	2	2	Which was the first city to an established system of waste removal?	K1	CO1	
a Lahore			b Athens			
c London			d Paris			
2	3	Which of the following is both inorganic and organic?	K1	CO2		
		a Sewage Sludge			b Natural gas	
	4	4	Why mismanagement of battery waste can be harmful?	K2	CO2	
			a Texture			b Heavy metals
			c Plastics			d Odour
3	5	Which of the following can be recycled many times?	K2	CO3		
		a Wood			b Aluminium	
		c Plastic			d Organic materials	
	6	6	Which of the following methods is not the result of windrow composting when the wastes are distributed?	K2	CO2	
			a Homogenization			b Increased evaporation
			c Reintroducing free air space			d Landfill sealing
4	7	Which of the following hazardous waste cannot be recycled?	K2	CO4		
		a Paints			b Batteries	
		c Used oil			d Treatment waste	
	8	8	Why is manifest system necessary?	K1	CO5	
			a To monitor journey of waste			b To track waste
			c To analyse chemicals			d To export
5	9	Which toxic compound is not found in e-waste?	K1	CO5		
		a Mercury			b Neon	
		c Cadmium			d Lead	
	10	10	Why are plastics difficult to recycle?	K2	CO5	
			a Because it is a very hard material			
			b Because of the different sizes of plastic			
			c Because of different types of polymer resins			
	d Because it is very adhesive in its nature					

Cont...

SECTION – B (35 Marks)

Answer ALL Questions

ALL Questions carry EQUAL marks

(5 x 7 = 35)

Module No	Question No	Question	K Level	CO
1	11 a	Examine the challenges in waste generation in metro cities.	K4	CO1
	OR			
	11 b	Critically assess the hauled and stationary container system of solid waste collection methods.	K5	CO1
2	12 a	Distinguish between proximate and ultimate analysis of solid wastes.	K4	CO2
	OR			
	12 b	Discuss the various options for recycling and recovery of materials from solid wastes.	K5	CO2
3	13 a	Explain the various factors influencing the composting.	K5	CO3
	OR			
	13 b	Determine the usage of refuse derived fuel (RDF) in various industries.	K5	CO3
4	14 a	List out the characteristics of hazardous wastes.	K4	CO4
	OR			
	14 b	Compare the encapsulation and solidification methods in hazardous waste treatment.	K4	CO4
5	15 a	Plastic waste is a growing menace, and a wasted opportunity – Justify.	K5	CO5
	OR			
	15 b	Appraise the e-waste recycling process with a case study in India.	K5	CO5

SECTION – C (30 Marks)

Answer any THREE Questions

ALL Questions carry EQUAL marks

(3 x 10 = 30)

Module No	Question No	Question	K Level	CO
1	16	Explain the various factors influencing the waste generation rate.	K5	CO1
2	17	Describe the various methods of waste quantification.	K5	CO2
3	18	Evaluate the criteria adopted for landfill site selection.	K5	CO3
4	19	Explain the various hazardous waste minimization practices.	K5	CO4
5	20	Appraise the innovative utilization of fly ash for sustainable environment.	K5	CO5

Z-Z-Z

END