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B.E. / B.Tech. DEGREE EXAMINATION, NOV 2018

Elective

Civil Engineering

14UCE917 – MUNICIPAL SOLID WASTE MANAGEMENT

(Regulation 2014)

		,				
	Duration: Three hours	Maximum: 100	Marks			
	An	swer ALL Questions.				
	PART	A - $(10 \times 1 = 10 \text{ Marks})$				
1.	are those defined as wastes of industrial, institutional or consumer origin that are potentially dangerous either immediately or over a period of time to human beings and the environment.					
	(a) Biodegradable wastes	(b) Non-biodegradable wastes				
	(c) Hazardous wastes	(d) Residential waste				
2.	encompasses activities in Value and are either thrown away of	which materials are identified as no longer being or gathered together for disposal.	of			
	(a) Solid waste management	(b) Waste generation				
	(c) Waste storage	(d) Waste processing				
3.	refers to the activities associated with the handling of solid wastes until they Are placed in the containers used for their storage before collection.					
	(a) On-site handling	(b) On-site storage				

(d) None of the above

- 4. The approximate time taken for the paper to degrade is
 - (a) 5 to 7 days

(c) On-site collection

- (b) One year
- (c) Ten years
- (d) 5 to 30 days

5.	The collection systems in which the containers used for the storage of wastes remain at the point of waste generation except when moved for collection is known as						
	(a) Hauled- container system		(b) Stationary container system				
	(c) Hauled- container systems		(d) All the above				
6.	loaders generally service commercial and industrial businesses using large waste containers with plastic lids or wheely bins being the smaller household version.						
	(a) Rear loaders		(b) Automated Side loaders				
	(c) Front loaders		(d) Grapple trucks				
	Recycling, compostiering landfills.	ng, and source reduction	are designed to	the amount of waste			
		(b) Report	(c) Analyze	(d) Decrease			
8.	involves conversion of waste into gaseous, liquid and solid conversion products with concurrent or subsequent release of heat energy.						
	(a) Hydrolysis processes		(b) Thermal treatment				
	(c) Chemical treatment		(d) Biological treatment				
9.	Most municipal solid waste ends up in						
	(a) Sanitary landfill	(b) Composting Yard	(c) Open dumps	(d) Incinerator			
10.	How many types of landfills are there						
	(a) 3	(b) 2	(c) 5	(d) 4			
		PART - B (5 x 2 =	= 10 Marks)				
11.	List out biodegradab	le and non-biodegradable	wastes				
12.	Define Shredding.						
13.	3. What is meant by transfer station?						
14.	4. What is meant by Bio-methanation?						
15.	What is biomedical v	vaste?					

PART - C (5 x 16 = 80 Marks)

16. (a) Brief the public health and environmental impacts in Municipal Solid Waste Management (MSWM).	(16)
Or	
(b) Summarize the characteristics of solid waste.	(16)
17. (a) (i) Describe about the variouson site storage methods	(8)
(ii) Explain the methods of Waste minimization.	(8)
Or	
(b) (i) Describe about the shredding process.	(6)
(ii) Explain about the waste processing techniques	(10)
18. (a) Explain the constraints involved in collection and transfer of Solid waste.	(16)
Or	
(b) (i) Explain the collection routing and scheduling.	(8)
(ii) Describe about the hauled container system.	(8)
19. (a) Classify the composting methods and explain in detail	(16)
Or	
(b) Write short notes on	
(i) Incineration.	(4)
(ii) Vacuum pyrolysis.	(4)
(iii) Composting.	(4)
(iv) Landfilling.	(4)
20. (a) (i) Describe the Disposal methods.	(8)
(ii) Illustrate sanitary landfill with its vital parts	(8)
Or	
(b) Specify in brief about the parameters to be considered while choosing a landfill	
	(16)