Sea	t No.:	Enrolment No	
		GUJARAT TECHNOLOGICAL UNIVERSITY	
	•	BE - SEMESTER-V(New) • EXAMINATION – WINTER 2016 Code:2151307 Date:30/11 Name:Municipal and industial solid waste management	/2016
Tiı	me: 10 truction 1. 2.	0:30 AM to 01:00 PM Total Man	rks: 70
			MARKS
Q.1	1	Short Questions Which one is not include in physical properties of municipal solid waste? (a) Moisture content (b) permeability (c) proximate analysis (d) field capacity.	14
	2	Which of the following method is for chemical transformation? (a) Mechanical separation (b) shredding (c) destructive distillation (d) composting	
	3	Which is not including in the characteristics of hazardous waste? (a) Ignitable (b) corrosive (c) degradable (d) toxicity	
	4	Solid waste management sequences.1.disposal 2. Transport 3. Onsite storage 4. Collection.	
	5	(a) 3-2-1-4 (b) 3-4-2-1 (c) 1-3-4-2 (d) 1-2-3-4 Municipal solid waste can be segregated and waste can be recycled. (a)Rubbish (b) vegetable waste (c) glass (d) wood	
	6	is complete layer of cell over the active area of the landfill. (a)Bench (b) lift (c) final cover (d) liners	
	7	Bio medical waste (management & handling rules) were enacted in India under EPA,1986 in the year: (a) 1986 (b) 1989 (c) 1998 (d) 2000	
	8	The anaerobic method of mechanical composting as practice in India is called the (a) Indore method (b) Bangalore method (c) Mangalore method (d) none of these	
	9	Pyrolysis proce is (a)Physical process (b) chemical process (c) thermal process (d) biological process	
	10	Incineration is used for (a)treatment of waste (b) disposal of waste (c) Decomposition of waste (d) storage of waste	
	11	Method is used when terrain is unstable. (a) Trench (b) area (c) canyon (d) above all	
	12	Leachate is colored liquid, that comes out of (a) Septic tank (B) compost plant (c) aerated lagoons (d) sanitary landfill	

	13	Which operation not carried out in transfer station (a) Disposal of waste (b) volume reduction (c) material separation (d) material recovery	
	14	Landfill liners are provided for (a) leachate management (b) gas management (c) post closure management (d) prevent surface drainage	
Q.2	(a)	Define the terms : (1) integrated solid waste management (2) bulky waste (3) rubbish	03
	(b)	Determine the composition of municipal solid waste in the field.	04
	(c)	What is transformation? Which process is used for biological transformation?	07
		OR	
0.4	(c)	Write down the chemical characteristics of municipal solid waste.	07
Q.3	(a)	Explain color coding of bio medical waste	03
	(b)	Give classification of hazardous solid waste.	04
	(c)	Explain categories of bio medical waste.	07
Q.3	(a)	OR Write a note on manifest.	03
Ų.J	(b)	Give characteristic of hazardous solid waste.	03
	(c)	Explain physic-chemical treatment of hazardous waste.	07
Q.4	(a)	Draw a neat sketch of concurrent direct-heat rotary drum dryer.	03
	(b)	What is the importance of storage of solid waste at source?	04
	(c)	Enlist the unit operations used for separation of waste materials. Explain any one.	07
		OR	
Q.4	(a)	Write a note on waste minimization.	03
	(b)	Enlist and explain activities involve in collection of solid waste.	04
	(c)	Explain in brief, factors that should be consider in evaluating onsite processing equipment.	07
Q.5	(a)	List down the waste materials which can be recycle & reuse.	03
	(b)	Write short note on: Need of transport in management of municipal solid waste.	04
	(c)	What is composting? Explain the two principal methods of composting.	07
		OR	
Q.5	(a)	Draw schematic diagram of landfill? Show all components of that.	03
	(b)	Write short note on: Role of transfer station in municipal solid waste management.	04
	(c)	Write a note on incineration of hazardous waste.	07
