

(40 & A-20)

SEAT No. _____

No. of Printed Pages : 2

SARDAR PATEL UNIVERSITY

B. Sc. SIXTH SEMESTER EXAMINATION

2017

FRIDAY 31st MARCH

10:00am to 01:00 pm

USO6CENV 03

(Waste Management)

TOTAL MARKS 70

- Note:** 1. Answers of all the questions (including multiple choice questions) should be written in the provided answer sheet
2. Draw neat and labeled diagram wherever necessary

Q1 Answer the following multiple choice questions

(10)

1. BOD is a _____ characteristic of water
(a) Organic (b) Heavy metal (c) Inorganic (d) Hazardous
2. pH is a _____ character of water
(a) Chemical (b) Physical (c) Biological (d) Hazardous
3. Financially, state government can give _____% subsidy of the total cost for waste water project
(a) 35 (b) 45 (c) 25 (d) 55
4. Principal sources of _____ are garbage, cooking oils and fats
(a) Natural fibers (b) Carbohydrates (c) Proteins (d) Lipids
5. _____ of solid waste is usually expressed as mass of moisture per unit mass of weight or dry material
(a) Moisture content (b) Volume (c) Particle size (d) Density
6. Untreated biomedical waste can be stored for not more than _____ hours
(a) 24 (b) 48 (c) 36 (d) 72
7. Hazardous waste contains alcohol by volume more than _____ %
(a) 16 (b) 18 (c) 24 (d) 20
8. _____ is the process of transfer of a yarn or thread from one type of package to another
(a) Winding (b) Weaving (c) Slashing (d) Scouring
9. _____ breaks up and disperses milk fat throughout the milk to prevent cream from rising to the top
(a) Mixing (b) Homogenization (c) Stirring (d) none of these
10. _____ process is carried out in the furnace with the addition of sodium sulphate in pulp and paper industry
(a) Pyrolysis (b) Heating (c) Incineration (d) Boiling

Q2. Answer the following questions. (Any ten)

(20)

1. Discuss the main objectives of CETP
2. Explain in brief primary treatment for waste water
3. Write about activated sludge process?
4. What are industrial wastes?
5. Define: recycling
6. Write in brief about landfilling
7. Define biomedical waste
8. What is incineration?
9. Write note on reactivity as a characteristic of hazardous waste
10. Enlist the sources of wastes from dairy industry
11. Explain chemical recovery of Kraft process
12. Name the wet operations of textile industry

Q3. (a) Explain the chemical treatment for waste water

(06)

(b) Write note on full public ownership

(04)

OR

Q3. Give a detailed note on various processes of CETP with flow diagram

(10)

Q4. Write note on:

(a) Recycling of paper

(06)

(b) On site handling of solid waste

(04)

OR

Q4. Write note on:

(a) Transfer stations and different methods to transport solid waste

(06)

(b) Types of collection systems for solid waste

(04)

Q5. (a) Give an account of categories of biomedical waste according to Schedule I

(06)

(b) Discuss the colour coding and type of container for disposal of biomedical waste

(04)

OR

Q5. (a) Explain the various characteristics of hazardous waste

(06)

(b) Describe Bubbling Fluidized Bed Incineration to treat hazardous waste

(04)

Q6. (a) Draw a simplified flow diagram of Kraft Pulp and Paper mill

(05)

(b) Explain in detail dry operations of textile industry

(05)

OR

Q6. (a) Discuss leather production

(05)

(b) Explain in detail Physical, Chemical and Biological treatments used for Pharmaceutical waste water

(05)

ALL THE BEST