

Printed Pages:02

Paper Id: 

900008
--------

Sub Code: NFT 021/ EFT 012

Roll No. 

--	--	--	--	--	--	--	--	--	--

**B TECH**  
**(SEM-VIII) THEORY EXAMINATION 2018-19**  
**FOOD PROCESSING WASTE MANAGEMENT**

*Time: 3 Hours**Total Marks: 100***Note: 1.** Attempt all Sections. If require any missing data; then choose suitably.**SECTION A**

- 1. Attempt *all* questions in brief. 2 x 10 = 20**
- a. What do you understand by Environment Pollutants?
  - b. Differentiate between BOD and COD.
  - c. What is the importance of Phosphorous estimation in waste water?
  - d. What are the pretreatments that are used in wastewater treatment?
  - e. Enlist the byproducts of fruits and vegetables industry with their possible utilization.
  - f. Differentiate between TDS and TSS in wastewater.
  - g. What is the role of aerators in wastewater treatment?
  - h. What do you understand by biological oxidation?
  - i. What is the significance of microfiltration in wastewater treatment?
  - j. What do you understand by disinfection?

**SECTION B**

- 2. Attempt any *three* of the following: 10x3=30**
- a. Discuss the functions of Environmental labs and the procedure for taking samples.
  - b. Discuss the utilization of by-products of Rice & Wheat Milling Industry.
  - c. Discuss the various types of screens used in waste water treatment.
  - d. With the help of a neat sketch discuss in detail the principle and operation of Trickling Filters in food processing effluent treatment.
  - e. Write a technical note on Sludge treatment and its ultimate disposal.

**SECTION C**

- 3. Attempt any *one* part of the following: 10 x 1 = 10**
- a. Discuss the elements of importance in the efficient management of food processing wastes.
  - b. Give the standards for effluents as per EPA 1986 for (a) Sugar Industry & Fermentation Industry and (b) Food and Fruit Processing Industry.
- 4. Attempt any *one* part of the following: 10 x 1 = 10**
- a. Discuss the major utilization of by-products of Hatchery & Poultry Industry.
  - b. Discuss the utilization of by-products of Sugar & Fermentation Industry.

- 5. Attempt any *one* part of the following: 10 x 1 = 10**
- a. Discuss the significance of nitrogen, sulphur and phosphorous in wastewater.
  - b. What do you understand by sedimentation? Also discuss different types of sedimentation processes that are used in primary treatment of wastewater.
- 6. Attempt any *one* part of the following: 10 x 1 = 10**
- a. Discuss the principle and working of Rotating Biological Contractors in waste water treatment.
  - b. Discuss in detail the principle & functioning of Activated Sludge Process used in industrial wastewater treatment.
- 7. Attempt any *one* part of the following: 10 x 1 = 10**
- a. Comment on the principle and significance of Coagulation and Flocculation in waste water treatment.
  - b. Discuss the significance & principle of activated carbon adsorption process in waste water treatment.