

B TECH**(SEM VIII) THEORY EXAMINATION 2017-18
WASTE AND BY-PRODUCT UTILIZATION****Time: 3 Hours****Total Marks: 100****Note:** 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 is waste?
 - b. Define byproduct order.
 - c. What is recycling process of waste product?
 - d. What is formation of byproducts?
 - e. Which type of product is recycle by recycling process, give the brief description any of them?
 - f. What is the agricultural waste; give your personal views?
 - g. What is BOD?
 - h. How will you classified the waste product?
 - i. What is sedimentation process?
 - j. What is charcoal briquette?

SECTION B

- 2. Attempt any three of the following: 10 x 3 = 3**
- a. Describe solid waste management process with its flow charts.
 - b. Give the scope of solid waste management.
 - c. Discuss the waste utilization in various industries and how?
 - d. Give the production of charcoal briquette.
 - e. What is disadvantage of waste and control of the waste production?

SECTION C

- 3. Attempt any one part of the following: 10 x 1 = 10**
- (a) Give the magnitude of waste generation in different food processing industries.
 - (b) How will you generate the electricity using surplus biomass, give the best process for that?
- 4. Attempt any one part of the following: 10 x 1 = 10**
- (a) Give the waste treatment processes and disposal processes respectively.
 - (b) What is secondary treatment process in full explanation and also describe biological and chemical oxygen demand for different food plant?
- 5. Attempt any one part of the following: 10 x 1 = 10**
- (a) Explain the activated sludge process with its figures.
 - (b) Give the advanced waste water treatment process of sand.
- 6. Attempt any one part of the following: 10 x 1 = 10**
- (a) Give the operation and management of institutional community and family size biogas plant.
 - (b) Give the concept of vermi-composting.
- 7. Attempt any one part of the following: 10 x 1 = 10**
- (a) Describe Theory of combustion used for solid waste management, give their advantage and disadvantage.
 - (b) Give the short notes on:

(i) Trickling filters	(ii) Tertiary treatment
(iii) Lagoons	(iv) Flocculation
	(v) Floatation