

### 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
- What is waste?
  - Define byproduct order.
  - What is recycling process of waste product?
  - What is formation of byproducts?
  - Which type of product is recycle by recycling process, give the brief description any of them?
  - What is the agricultural waste; give your personal views?
  - What is BOD?
  - How will you classified the waste product?
  - What is sedimentation process?
  - What is charcoal briquette?

### SECTION B

2. Attempt any *three* of the following: 10 x 3 = 30
- Describe solid waste management process with its flow charts.
  - Give the scope of solid waste management.
  - Discuss the waste utilization in various industries and how?
  - Give the production of charcoal briquette.
  - 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
- Give the magnitude of waste generation in different food processing industries.
  - 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
- Give the waste treatment processes and disposal processes respectively.
  - 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
- Explain the activated sludge process with its figures.
  - Give the advanced waste water treatment process of sand.
6. Attempt any *one* part of the following: 10 x 1 = 10
- Give the operation and management of institutional community and family size biogas plant.
  - Give the concept of vermi-composting.
7. Attempt any *one* part of the following: 10 x 1 = 10
- Describe Theory of combustion used for solid waste management, give their advantage and disadvantage.
  - Give the short notes on:
 

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