

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B.E SEM-VII Examination-Nov/Dec.-2011**

**Subject code: 171405**

**Date: 29/11/2011**

**Subject Name: By-product Utilization and Management**

**Time: 10.30 am-01.00 pm**

**Total marks: 70**

**Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1 (a)** Answer the followings (Any seven) **07**
1. What is the composition of fruit waste?
  2. Differentiate between main products and byproducts.
  3. What is BOD?
  4. What is food packaging waste?
  5. What is animal food?
  6. Give the name of the products from banana waste.
  7. What is waste disposal?
  8. What is natural color?
- (b)** Discuss in brief: Various products from microbial utilization. **07**
- Q.2 (a)** Explain main products and by products of milk processing. **07**
- (b)** Discuss various flow characteristics. Explain standards for waste water disposal. **07**
- OR**
- (b)** Write a short note on: Environmental legislation for food waste disposal. **07**
- Q.3 (a)** Discuss in brief about Product development from food processing industry waste. **07**
- (b)** Write a short note on: Sources of natural color and pectin. **07**
- OR**
- Q.3 (a)** Discuss cider and vinegar production from waste. **07**
- (b)** Draw process flow chart for effluent treatment in dairy. **07**
- Q.4 (a)** Answer the followings.
1. Discuss mango waste in detail. **03**
  2. Discuss future of waste utilization industry. **02**
  3. Explain use of waste as a animal feed. **02**

- (b) Answer the followings (Any two) **07**
1. Discuss products and byproducts from fruits and vegetable waste.
  2. Discuss Effects of waste water on quality of stream.
  3. Write in short about: Solid waste treatment.
- OR**
- Q.4** (a) Discuss waste water characteristics. Also explain oxygen sag curve with its importance. **07**
- (b) Answer the followings.
1. Why food waste treatment is necessary? **03**
  2. Give classification of waste. **02**
  3. Define waste and food waste. **02**
- Q.5** (a) What is waste management? Give classification of waste treatment methods. **07**
- (b) Write a short note on: Adsorption **07**
- OR**
- Q.5** (a) Write a short note on: Membrane separation **07**
- (b) Write in brief about: flocculation and coagulation. **07**

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