

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-VII EXAMINATION – WINTER 2015

Subject Code: 171405**Date:04/12/2015****Subject Name: Bio waste utilization and management****Time: 10:30am to 1:00pm****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) Discuss fermentation utilization of food waste. **07**
 (b) Explain by-product utilization of less known fruits. **07**
- Q.2** (a) Explain primary treatments of waste water disposal in brief. **07**
 (b) Give classification of waste treatment methods. And explain screening in detail. **07**
- OR**
- (b) Write a short note on Equalization basins. **07**
- Q.3** (a) Write a short note on Sedimentation. **07**
 (b) Discuss coagulation and flocculation in detail. **07**
- OR**
- Q.3** (a) Discuss rotary drum screen in detail. **07**
 (b) Describe byproduct utilization of dairy waste. **07**
- Q.4** (a) Write the short notes on. **07**
 (1) Flow equalization process.
 (2) Legal requirements for food waste handling.
 (b) Answer the followings. **07**
 (1) Draw flow chart of effluent treatment plant for milk industry.
 (2) Describe any one biogas plant with sketch.
- OR**
- Q.4** (a) Answer the followings. **08**
 (1) Explain single cell protein.
 (2) List criteria measured for estimating pollution in water.
 (3) Explain measurement of discharge of water waste.
 (4) What is waste water?
- Q.4** (b) Describe effluent treatment plant. Discuss various components of it in detail. **06**
- Q.5** (a) (i) Explain the following terms. **04**
 (1) Whey
 (2) Cider
 (3) COD
 (4) Air pollution
 (ii) Describe Oxygen Saq curve. **04**

(b) Explain waste from fruit and vegetable industry. **06**

OR

Q.5 (a) Answer the followings.

(1) Explain need of treating effluent. **03**

(2) Explain standards for disposal of industrial effluents. **04**

(b) Discuss activated sludge process in detail. **07**
