

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VII • EXAMINATION – WINTER • 2014****Subject Code: 171405****Date: 29-11-2014****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) Explain requirement of treatment of waste water. Discuss primary treatments of waste water **07**
- (b) Describe impact of organic pollution on stream water quality. Discuss oxygen sag curve with its importance. **07**
- Q.2** (a) What is fermentation technology? Discuss fermentation utilization of food waste. **07**
- (b) Differentiate product and byproduct. Explain byproduct utilization of dairy waste. **07**
- OR**
- (b) What is screening? Explain in detail rotary drum screen. **07**
- Q.3** (a) Write short notes (Any Two) **07**
- i) Biogas plants
- ii) Composting of waste
- iii) Flow equalization process
- (b) Explain utilization of lesser known fruits and vegetables **07**
- OR**
- Q.3** (a) List various treatments for waste disposal and discuss any two secondary treatment methods. **07**
- (b) What is effluent treatment plant? Discuss its various components and working. **07**
- Q.4** (a) Answer the followings (Any Five) **10**
- i) Explain waste water characteristics.
- ii) State measurement of discharge of waste water.
- iii) Give requirement of water utilization in food industry.
- iv) Give importance of single cell protein.
- v) Explain uses of treated waste water.
- vi) Explain food waste generation.
- (b) Explain economics of waste treatment plant. **04**
- OR**
- Q.4** (a) Define / explain following (Any Four) **04**
- (1) COD (2) Cider (3) Air pollution (4) Carbon credit (5) Natural color
- (b) Discuss activated sludge process **05**
- (c) Explain standards for waste water disposal of industry **05**
- Q.5** (a) Discuss flotation and sedimentation process **06**
- (b) Explain measurements of BOD and COD **04**
- (c) Draw flow charts of effluent treatment plant for milk industry. **04**
- OR**
- Q.5** (a) Define waste. Explain waste utilization of fruit and vegetable industry. **07**
- (b) Discuss aerobic and anaerobic methods of effluent treatments. **07**

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