

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**ME- SEMESTER II- EXAMINATION – SUMMER 2015**

**Subject Code: 2721601****Date: 30/05/ 2015****Subject Name: Industrial Biotechnology****Time: 2:30 PM – 5:00 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) Write in detail about the Microbial Metabolites 07  
(b) Write in detail about Medium formulation and its components 07
- Q.2** (a) Describe the methods for storage of microorganism at reduced temperature. 07  
(b) Give comparison of batch and continuous culturing in industrial processes. 07
- OR**
- (b) Write advantages and applications of fed batch culture. 07
- Q.3** (a) Write the methods for isolation of industrial important microorganisms and explain any one in detail. 07  
(b) Give importance and name of sources for carbon as a media component. 07
- OR**
- Q.3** (a) Explain mechanisms for suspended solids may be separated from a fluid during filtration. 07  
(b) Write criteria for sub-culturing with effect of substrate concentration on the specific growth rate of micro-organisms. 07
- Q.4** (a) Describe types of reaction contribute to the loss of nutrient quality during sterilization. 07  
(b) Explain method of sporulation on solidified media for inoculation of mycelia process. 07
- OR**
- Q.4** (a) Give reasons why oxygen is required for industrial fermentation? 07  
(b) Explain Tower fermenter and Cylindro-conical fermenter 07
- Q.5** (a) Write the names of types of fermentation. Explain Dual fermentation in detail. 07  
(b) Write production process for Amylases 07
- OR**
- Q.5** (a) Define the term Antibiotic. Describe the production process of Benzyl Penicillin 07  
(b) What is Modern biotechnology? Write importance and applications of it. 07

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