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Total No. of Pages : 01

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M.Tech.(Bio Tech.) (Sem.-2) FERMENTATION TECHNOLOGY Subject Code : MTBT-106 Paper ID : [E0914]

Time: 3 Hrs.

Max. Marks: 100

INSTRUCTION TO CANDIDATES :

- Attempt any FIVE questions out of EIGHT questions. 1.
- 2. Each question carries TWENTY marks.
- Q1 Discuss the criterion for selecting the microorganism for industrial production.
- "Medium formulation is essential stage in design of successful laboratory experiments, 02 *pilot plant development and manufacturing process*". Discuss the statement.
- a) What are the design criteria for Sterilization? O3
 - b) Give a brief account of design of batch sterilization process.
- a) Discuss the industrial production process of Penicillin. 04 irstRanker.
 - b) Write short notes on any two :
 - (a) Inducers
 - (b) Precursors
 - (c) Inhibitors

Q5 Explain why?

- a) Del factor increases with the increasing volume of the reactor.
- b) Using lower temperature for longer duration adversely affects the nutrient quality.
- c) Small size impeller is installed in a reactor while scaling up.
- d) Continuous sterilization is preferred over batch sterilization.
- a) What is the criterion for defining the aeration capacity of a fermenter? 06
 - b) Discuss the importance of oxygen transfer in an aerated fermentation system and its major steps.
- a) What is K_La ? How many types of K_La measurement methods are there? 07
 - b) Describe the dynamic method for measurement of K_{La} .
- 08 Describe Airlift and Continuous stirred tank reactors and make a comparison of the working and application.

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