B. TECH.

(SEM. VI) EXAMINATION, 2006-07

FERMENTATION BIOTECHNOLOGY

Time : 3 Hours] [Total Marks : 100

Note : (1) Attempt all questions.
       (2) All questions carry equal marks.

1 Attempt any two parts of the following : 2×10
   (a) Discuss the solid state fermentation of Citric acid.
   (b) Draw the generalized flow diagram of a fermentation process.
   (c) Discuss the stages in the chronological development of fermentation industry.

2 Attempt any two parts of the following : 2×10
   (a) Discuss the desirable properties of a raw material to be used in fermentation industry.
   (b) What do you mean by quality of an raw material? How alternative raw materials are selected? Explain with a suitable example.
   (c) Why pretreatment of raw materials are required? How pretreatments are done?
3 Attempt any two parts of the following: 2×10
   (a) Discuss the importance of regulating the catabolic processes in microorganism.
   (b) What is feedback inhibition? Explain with a suitable example.
   (c) Why auxotrophic mutants have got importance in fermentation industry? Explain with suitable examples.

4 Attempt any two parts of the following: 2×10
   (a) What are the criteria to develop a suitable media in order to grow a desired mutant for industrial fermentation?
   (b) How overproduction of metabolites can be done? Explain the procedure.
   (c) What is enrichment culture? Discuss the screening method of industrially important strain.

5 Attempt any two parts of the following: 2×10
   (a) Discuss a general approach of industrial scale fermentation process.
   (b) How fermentation of genetically engineered microbes differs from that of normal cells.
   (c) Discuss the merits and demerits of fermentation process dealing with genetically engineered microbes.