B.Tech. Eighth Semester (Food, Pulp & Paper, Oil & Paint and Petro.Tech.) (CGS)

11083 : Professional Elective-II : Biochemical Engineering : 8 CT 04

P. Pages : 1 **AU - 3072**

Time : Three Hours *0773* Max. Marks : 80

Notes : 1. Answer **three** question from Section A and **three** question from Section B.
2. Due credit will be given to neatness and adequate dimensions.
3. Diagrams and chemical equations should be given wherever necessary.
4. Illustrate your answer necessary with the help of neat sketches.
5. Discuss the reaction, mechanism wherever necessary.
6. Use of pen Blue/Black ink/refill only for writing the answer book.

SECTION – A

1. What do you mean by biological matter? Explain their characteristics in details. **14**

OR

2. Explain the Michaelis -Menten enzyme kinetic mechanism in fermentation with suitable example. **14**

3. Explain the variable volume fed batch culture system and what do you mean by internal feedback and external feedback system? **13**

OR

4. Explain the batch culture system and continuous culture system along with their advantages and applications. **13**

5. What are enzymes? how enzyme enhances the rate of biochemical reaction and discuss its relationship with activation energy profile? **13**

OR

6. What is bioreactor? Explain the salient features of chemostat operation. **13**

SECTION – B

7. What are the various bioproducts produced by fermentation? Explain the general process in details. **13**

OR

8. What are antibiotics and how are they produced? Explain the production of penicillin. **13**

9. Explain the importance of sterilization and what are the various sterilizations techniques? **13**

OR

10. Explain in detail isolation of enzymes and utilization of enzymes. **13**

11. Explain the importance of bioprocesses in food processing with suitable examples. **14**

OR

12. Explain the following **any two.** **14**

i) Biorefining in petroleum & industries.
ii) Bio processes in oil processing industries.
iii) Pulping and bleaching by enzymatic process.

****