Registration No. : | | | | | | | | | | |

Total number of printed pages – 2

B. Tech
PCBT4307

Sixth Semester Regular Examination – 2015

INDUSTRIAL MICROBIOLOGY AND ENZYME TECHNOLOGY

BRANCH : BIOTECH

QUESTION CODE : J 355

Full Marks – 70

Time : 3 Hours

*Answer Question No. **1** which is compulsory and any **five** from the rest.*
The figures in the right-hand margin indicate marks.

1. Answer the following questions : 2 ×10

   (a) Submerged culture method.

   (b) Starter culture.

   (c) Auxotrophic mutant.

   (d) Lyophilization.

   (e) Feed batch fermentation.

   (f) α-amylase

   (g) β-lactum ring.

   (h) Enzyme stabilisation.

   (i) Microbial lipid.

   (j) Intramolecular cross linking.

2. (a) Briefly describe industrial methods for Penicilline production. 5 ×2

   (b) Distinguish between submerged and solid state fermentation..

P.T.O.

3. (a) Michelis and Menten kinetics for enzyme reaction. 5×2

(b) Sterilization of media in fermentation.

4. (a) Discuss steps involved in industrial production of ethanol. 5×2

(b) Compare between the growth and product formation kinetics between batch and continuous fermentation.

5. What is enzyme immobilization ? Discuss about the types of enzyme immobilization and add a note on advantages and disadvantages of enzyme immobilisation 2+4+4

6. Discuss isolation, selection, characterization of microorganisms for their application in fermentation. 10

7. Write down short note on any **two** of the following : 5×2

(a) Enzyme stabilization.

(b) Applications of enzyme in medical therapy.

(c) Group transfer redox.

8. Write down short note on any **two** of the following: 5×2

(a) Induced mutation.

(b) C-C bond cleavage.

(c) Stock culture.