Ref. No.: EX/PG/FTBE/T/112B/2018

M.TECH(F.T.B.E) 1 ST SEMESTER EXAMINATION- 2018

ADVANCED MICROBIAL TECHNOLOGY Time: 3hrs Full Marks: 100

Use Separate Answer Script for each Part

(50 marks for each part)

PART- I

Answer question 1 and any two from the rest.

1. Explain the following: 4 X 5
   a) different methods of production of 6APA
   b) characteristics of a test organism for bioassay of fermented product.
   c) Defects of vinegar.
   d) Problems of polysaccharide fermentation.

2. What is antibiotic ? Give example. Discuss about the mechanisms of action of antibiotic. What is meant by penicillin resistance? Explain with example primary metabolite and secondary metabolite. 2+7+3+3

3. What are microbial exopolysaccharides? State the functions of microbial polysaccharides. Explain about the enzymes involved in exopolysaccharide biosynthesis. Comment on recovery of polysaccharide from fermented broth. 1.5+3.5+6.5+3.5

4. Write short notes on: (any 3) 3x5
   a) Strict autotrophic and heterotrophic bacteria. b) synthetic media and selective media. c) feed back inhibition. d) biochemical activities of soil microorganisms for transformation of S.

Ex/PG/FTBE/T/112B/2018

M.TECH. FOOD TECHNOLOGY AND BIO-CHEMICAL ENGINEERING FIRST YEAR FIRST SEMESTER - 2018

Subject: ADVANCED MICROBIAL TECHNOLOGY **Time: Three Hours**
Full Marks: 100

Use Separate Answer Scripts for Part I and Part II

Part II (Marks-50)

Question No.1 is Compulsory and answer any ***three*** questions from rest

1. a) What is the difference between Protoplast and Spheroplast?

b) What are the similarities and dissimilarities of Actinomyces with bacteria and fungi? 2+3=5

2. What are the physical, chemical and biological methods of isolation of microorganism? 5+5+5=15

3. What is antifoaming agent? What should be the desired characteristics of it? Write about the spore process for microbial transformation of Progesterone. 1+5+9=15

4. How bacterial growth is measured? Give two examples of actinomyces. Why microorganism are much preferred than plant and animal cells for isolation of enzyme? 8+2+5=15

5. Write about the fermentative production of any one microbial enzyme mentioning the source, fermentation medium, recovery, purification and assay of the enzyme. 15

6. Write short notes on: 7.5+7.5=15

i. Microbial transformation of Alkane

ii. Morphology of Fungi.