

Registration No.

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Total number of printed pages - 01

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B.TECH
FECH6302

6th Semester Regular / Back Examination 2016 - 17

BIOTECHNOLOGY

BRANCH : Chemical

Time : 3 Hours

Max Marks : 70

Question Code : Z868

Answer Question No. 1 which is compulsory and any FIVE from the rest.

The figures in the right-hand margin indicate marks.

Answer all parts of a question at a place.

1. **Answer the following questions :** **2 x 10**
 - (a) What do you mean by bacterial chemotaxis?
 - (b) What is BOD?
 - (c) What are the goals of classification of bacteria?
 - (d) What is three kingdom classification?
 - (e) Define the terms autotrophs and heterotrophs.
 - (f) What is the function of capsule in bacterial cell?
 - (g) What do you mean by mesophiles and thermophiles?
 - (h) Define the term parasitism and predation.
 - (i) What is oxidation pond?
 - (j) What do you mean by electronic enumeration technique?

2. Explain the "Modern advanced waste water treatment" with neat flow sheet. **10**

3. Briefly explain the general methods of classifying bacteria. **10**

4. (a) Write an extended note on antagonism. **05**
 (b) Write a note on plant-microbe interactions with emphasis on symbiosis. **05**

5. (a) What are the different types of bacteria found in water? **05**
 (b) Discuss about IMViC test. **05**

6. Draw a typical growth curve and level the various phases. Discuss those factors which determine the beginning and end of each phase. **10**

7. Draw a neat diagram of bacterial cell. Write the functions of different components of bacterial cell. **10**

8. **Write short notes on any TWO:** **5 x 2**
 - (a) Activated sludge process
 - (b) Pure culture techniques
 - (c) Cultural characteristics
 - (d) Application of microbiology in industry
