

Registration No.

--	--	--	--	--	--	--	--	--	--

Total number of printed pages - 01

B.TECH  
FECH6302

**6<sup>th</sup> 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

-----