**M. TECH. DEGREE EXAMINATIONS: DECEMBER 2009**

First Semester

**BIOTECHNOLOGY**

BTY502: Applied Microbiology

**Time: Three Hours** **Maximum Marks: 100**

**Answer ALL Questions:-**

**PART A (10 x 2 = 20 Marks)**

1. What is numerical taxonomy?
2. Define pasteurization
3. What is Bioremediation?
4. Define xenobiotic compounds.
5. Differentiate live and killed vaccine.
6. What is the action of penicillin and tetracycline?
7. What is spermosphere?
8. Define symbiosis.
9. Define prebiotic.
10. What are the types of cheese?

**PART B (5 x 16 = 80 Marks)**

11. a) i) What is growth curve? How will you quantify microbial growth? (8)

ii) Explain Enter-Doudroff pathway. (8)

**(OR)**

b) i) Describe in detail the various chemical methods used for sterilization. (8)

ii) Explain the structure and function of mitochondria and chloroplast. (8)

12. a) i) Give an account on biofilms. (8)

ii) Explain in detail the interaction between microorganisms and animals. (8)

**(OR)**

b) i) Describe in detail about bioremediation. (8)

ii) Discuss in detail the interaction between microorganism and humans. (8)

13. a) i) Explain in detail the mode of action of various antibacterial agents. (8)

ii) Discuss in detail the microbial disease of nervous system. (8)

b) i) Describe in detail the various microbial diseases of skin and eyes. (8)

ii) Explain in detail Recombinant vaccine and DNA vaccines. (8)

14. a) i) Describe in detail the production and application of biofertilizers. (8)

ii) Explain sulphur cycle. (8)

**(OR)**

b) i) Give an account on endophytes. (8)

ii) Discuss in detail about phyllosphere and rhizosphere (8)

15. a) i) Explain with a neat flow diagram the production of citric acid. (8)

ii) Give an account on probiotics and prebiotics. (8)

**(OR)**

b) i) Describe in detail the production of bread. (8)

ii) Discuss in detail the various microorganisms involved in the spoilage of food. (8)

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