

**STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086**  
**(For candidates admitted from the academic year 2011 – 2012 & thereafter)**

**SUBJECT CODE: 11ZL/MC/MB44**

**B. Sc. DEGREE EXAMINATION, APRIL 2014**  
**BRANCH VI.A. – ADVANCED ZOOLOGY AND BIOTECHNOLOGY**  
**FOURTH SEMESTER**

**COURSE : MAJOR – CORE**  
**PAPER : MICROBIOLOGY**  
**TIME : 3 HOURS**

**MAX. MARKS: 100**

**SECTION A**

**ANSWER ALL THE QUESTIONS.**

**(10x3 =30)**

1. Mention the important contributions of the following scientists in the field of microbiology.  
a) Alexander Fleming      b) Louis Pasteur      c) Joseph Lister
2. Differentiate nucleoid and plasmid.
3. Mention the application of the following techniques.  
a) ELISA      b) Silver impregnation      c) VDRL
4. What are probiotics? Write its significance.
5. Draw a neat labeled diagram of T<sub>4</sub> phage.
6. Explain the following in a sentence.  
a) Streptococci      b) Fomite transmission      c) Coliform
7. Name the causative organism of the following diseases.  
a) Syphilis      b) Paratyphoid      c) Genital herpes
8. Match the following  
a) Polymixin B      - 1) Inhibits folic acid metabolism  
b) Mitamcin      - 2) Disruption of cell wall  
c) Sulfonamide      - 3) Blocks DNA synthesis
9. Mention any three types of meat spoilage with a microbe involved in each.
10. Comment on the pasteurization of milk.

**SECTION B**

**ANSWER ANY FIVE QUESTIONS**

**(5x6=30)**

11. Give a brief account on isolation and maintenance of pure culture.
12. Differentiate Gram positive and Gram negative cell walls.
13. Explain transformation as a method of recombination in bacteria.
14. Explain the role of normal micro-biota in preventing pathogenic microbes.
15. Write the microbiology of cheese.
16. Describe the structure and significance of endospore.
17. Write a note on secondary treatment of sewage.

**SECTION C**

**ANSWER ANY TWO QUESTIONS**

**(2x20 = 40)**

18. Describe the capsule, pili and flagellum of bacteria.
19. Compare and contrast the sexduction and transduction in bacteria.
20. Give an account on airborne infections with few examples.
21. Discuss the role of microbes in abatement of heavy metal pollution.

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