

**STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086**  
**(For candidates admitted from the academic year 2019 – 2020 & thereafter)**

**B. Sc. DEGREE EXAMINATION, APRIL 2024**  
**BRANCH VI.A. – ADVANCED ZOOLOGY AND BIOTECHNOLOGY**  
**FOURTH SEMESTER**

**COURSE : MAJOR – CORE**  
**PAPER : MICROBIOLOGY**  
**SUBJECT CODE : 19ZL/MC/MB44**  
**TIME : 3 HOURS** **MAX. MARKS: 100**

**SECTION A**

**ANSWER ALL THE QUESTIONS.** **(10x3 =30)**

1. Comment on cytoplasmic inclusions in bacteria.
2. List the factors influencing spoilage of cosmetics.
3. Enumerate the types of flagellar arrangement in bacteria.
4. Define Plasmids and its types.
5. Give three names of normal microbiota of mouth and stomach.
6. What are Psychrophiles?
7. Give any three characteristic features of Archaea.
8. Name the causative agent of Ebola, Polio and Syphilis.
9. Highlight the significance of Standard Plate Count (SPC).
10. What is a fomite borne disease?

**SECTION B**

**ANSWER ANY FIVE QUESTIONS** **(5x6=30)**

11. Write the principle and steps involved in Gram's Staining technique.
12. Briefly explain the serial dilution method with diagram.
13. What are the phases of the bacterial growth curve and the characteristics of each phase?
14. Write short notes on causative agent and pathogenicity of Influenza.
15. Give brief notes on the spoilage mechanism of food and the factors affecting the same.
16. Elucidate the classes and mechanism of action of antibiotics on microbes.
17. Write short notes on Pasteurization.

**SECTION C**

**ANSWER ANY TWO QUESTIONS** **(2x20 = 40)**

18. Describe the various types of Culture media with examples.
19. Explain the structure and reproduction of T<sub>4</sub> phage.
20. Describe in detail the different modes of Recombination in bacteria.
21. Elaborate on Nitrogen Cycle with diagram.

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