

**STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086**  
**(For candidates admitted from the academic year 2008 – 2009 & thereafter)**

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

**B. Sc. DEGREE EXAMINATION, APRIL 2011**  
**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.**

**(10 x 3 = 30)**

1. Mention the important contributions of the following scientists in the field of microbiology.  
a) Robert Koch                      b) Edward Jenner                      c) Hansen
2. Differentiate virion and prion.
3. Mention the application of the following techniques.  
a) Vital staining              b) Sterilization              c) Transmission Electron Microscopy
4. Explain the following in a sentence.  
a) Bacilli                      b) F - pilus                      c) Mesosome
5. Draw a neat labeled diagram of T<sub>4</sub> phage.
6. Match the following  
a) Metranidazole                      - 1) Anti-fungal  
b) Albendazole                      - 2) Amoebic dysentery  
c) Fluconazole                      - 3) Deworming
7. Name the causative organism of the following diseases.  
a) Tuberculosis                      b) Tetanus                      c) Typhus
8. Write the significance of normal micro-biota of human body.
9. Mention any three dairy products with the respective microbes involved in the production.
10. Comment on the biological nitrogen fixation.

**SECTION B**

**ANSWER ANY FIVE QUESTIONS**

**(5 x 6 = 30)**

11. Explain the process and the significance of Gram staining.
12. Describe the structure of bacterial flagellum.
13. Explain the bacterial growth curve indicating both total count and viable count.
14. Give a short account on flu pandemic.
15. Write a brief account on food poisoning.
16. "Viruses are living chemicals"- justify.
17. Briefly explain the conjugation in bacteria.

**SECTION C**

**ANSWER ANY TWO QUESTIONS**

**(2 x 20 = 40)**

18. Describe the plasmids and endospores in bacterial cells.
19. Discuss the nutritional requirements of bacteria. Add a note on different types of culture media.
20. Write a detailed account on sexually transmitted infections with special reference to HIV.
21. Discuss the process of safe disposal of sewage.

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