

**STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086**  
(For candidates admitted during the academic year 2004-05 & thereafter)

**SUBJECT CODE: BT/MC/GM54**

**B. Sc. DEGREE EXAMINATION, NOVEMBER 2009**  
**BRANCH V (a) – PLANT BIOLOGY AND PLANT BIOTECHNOLOGY**  
**FIFTH SEMESTER**

**COURSE : MAJOR – CORE**  
**PAPER : GENERAL MICROBIOLOGY**  
**TIME : 3 HOURS** **MAX. MARKS: 100**

**SECTION – A**

**ANSWER ALL QUESTIONS (18 marks)**

**I CHOOSE THE CORRECT ANSWER:**

1. The foundation of microbiology was laid by -----.  
a. Pasteur    b. Koch    c. Lister    d. Jenner
2. The slender, flexible, spiral shaped bacteria are called as ----.  
a. Vibrio    b. Spirillum    c. Saprospira    d. Spirochete
3. Introduction of phage hybrid DNA into the host cell is ----.  
a. Transfection    b. Transformation    c. Transduction    d. Sexduction
4. Tincture, compound that controls microbes belongs to -----.  
a. Phenols    b. Alcohols    c. Heavy metals    d. Halogens
5. Organisms used in decreasing BOD value in water are ---.  
a. Virus    b. Bacteria    c. Fungus    d. Algae

**II. FILL IN THE BLANKS**

6. The unit of distance in genetic map is -----.
7. The attenuated cultures of bacteria / virus are known as -----.
8. Autoclave is an example for ----- heat sterilization.
9. Photoautotrophs derive carbon from -----.
10. Biofloculation in waste water treatment is by -----.

**III. STATE TRUE OR FALSE**

11. Gracilicutes are groups of Gram negative bacteria.
12. Capsomeres are nothing but nucleic acid components.
13. Alcohol severely dehydrates the bacteria and hence is bacteriostatic.
14. Air borne pathogens includes bacterial cells.

**IV. MATCH THE FOLLOWING**

- |                         |                   |
|-------------------------|-------------------|
| 15. Competent cell      | -- sulphur cycle  |
| 16. <i>E. coli</i>      | -- Transformation |
| 17. <i>Thiobacillus</i> | -- Transduction   |
| 18. Prophage            | -- Sewage water   |

**V. ANSWER ANY SIX OF THE FOLLOWING EACH ANSWER NOT EXCEEDING 50 WORDS (6x3=18)**

19. Distinguish Monera and Protista
20. What are merozygotes?
21. Comment on Adenovirus
22. Define Chemolithotrophs
23. Write notes on Sigmoidal curve
24. Give an account on causal organism of Little leaf of Brinjal
25. Give the roles of Diazotrophs
26. Define BOD and COD
27. What are Bioscrubbers?

**SECTION – B**

**ANSWER ANY FOUR QUESTIONS. EACH ANSWER NOT TO EXCEED 200 WORDS: (4x6=24)**

28. How are bacteria classified based on cell arrangement and flagellation?
29. Explain the events that take place during bacterial transformation.
30. Give the outline on purification and cultivation of viruses.
31. Write notes on disease cycle and control of citrus canker.
32. Enumerate and explain various microbial interactions in soil with examples.
33. Describe the tests to check the quality of pure water.

**SECTION – C**

**ANSWER ANY TWO QUESTIONS. EACH ANSWER NOT TO EXCEED 1000 WORDS: (2X20=40)**

34. With suitable illustrations, explain the types of bacterial conjugation.
35. Bring out the details on the structure of bacteriophage. List out the differences between lytic and lysogenic cycles.
36. Explicate the types and uses of culture media.
37. Describe aerobic and anaerobic sewage treatments.

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