

**STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086**  
(For candidates admitted during the academic year 2011 – 12)

**SUBJECT CODE: 11BY/PC/MI14**

**M. Sc. DEGREE EXAMINATION, NOVEMBER 2011**  
**BIOTECHNOLOGY**  
**FIRST SEMESTER**

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

**MAX. MARKS: 100**

**SECTION – A**

**ANSWER ALL QUESTIONS:**

**20 x 1 = 20**

**DEFINE / EXPLAIN THE FOLLOWING.**

1. Phyletic system
2. Mesosome
3. Fungal cell wall
4. G+C ratio
5. Chemoorganotrophs
6. Gaseous chemosterilizers
7. Continuous Culture
8. RNA Sequencing
9. Canning
10. Biopolymers
11. Source and uses of citric acid
12. Vitamin B12
13. Prophage
14. Cyanophage
15. Plaque assay
16. Virion
17. Portal of entry
18. Leptospirosis - causal organism & morphology only
19. Bacillary dysentery
20. Candidiasis

**SECTION – B****ANSWER ANY FOUR QUESTIONS EACH ANSWER NOT EXCEEDING 800****WORDS :****4 X 10 = 40**

21. Write down the contributions of the following to the field of Microbiology:  
a) Pasteur    b) Koch    c) Flemming    d) Metchnikoff    e) Iwanowsky
22. Discuss the various phases of bacterial growth curve.
23. Discuss the steps involved in the production of Streptomycin.
24. Give an account of lysogenic cycle. Add a note on phage typing.
25. Enumerate the morphological, cultural characteristics and staining of the causal organism of TB. Add a note on its treatment.
26. Expand the following with a foot note each:  
a) PPLO    b) HEPA    c) SCP    d) HIV    e) BCG

**SECTION – C****ANSWER ANY TWO QUESTIONS EACH ANSWER NOT EXCEEDING 1500****WORDS :****2 X 20 = 40**

27. Describe the structure present outside the cell wall of bacteria. Tabulate the differences between gram positive and gram negative cell wall.
28. Write notes on:
  - a) Culture media based on applications/uses
  - b) Moist heat method
  - c) Standard plate count
  - d) Ribotyping
29. Give an account of the steps involved in the industrial production of ethanol. Mention its uses.
30. Comment on the following:
  - a) Cultivation of Viruses
  - b) Causal organism, symptoms and treatment of syphilis.

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