

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086
(For candidates admitted during the academic year 2008- 09 & thereafter)
SUBJECT CODE: BT/MC/MB54
B. Sc. DEGREE EXAMINATION, NOVEMBER 2011
BRANCH V (a) – PLANT BIOLOGY AND PLANT BIOTECHNOLOGY
FIFTH SEMESTER

COURSE : MAJOR – CORE
PAPER : MICRO BIOLOGY
TIME : 3 HOURS **MAX.MARKS:100**

SECTION – A

ANSWER ALL QUESTIONS **(18 Marks)**

I. Choose the correct answer **(5 Marks)**

1. Bacillus of Tuberculosis was first isolated by
a) Jenner (1859) b) Pasteur (1878) c) Robert Koch (1882)
d) Paul Ehrlich (1903)
2. Mad cow disease is caused by
a) Viruses b) virioids, c) prions d) bacteria
3. In Bergey's Manual of systematic bacteriology, volume II consists the genus.
a) *Anabaena*, b) *Actinomyces*, c) *Leptospira*, d) *Rhizobium*
4. Enveloped Icosahedral symmetry is found in,
a) adeno viruses, b) parvo viruses, c) pox viruses, d) herpes viruses.
5. Sulphur oxidised into thiosulphate by
a) *Thiobacillus thiooxidans* b) *Thiobacillus ferrooxidans*
c) *Thiobacillus thioopus* d) *Thiobacillus novelbus*

II. Fill in the blanks. **(5 Marks)**

6. Czapek – Dox agar medium is used for the isolation of _____
7. _____ is considered as the 'Father of Microbiology'
8. Peptidoglycan layer is multilayered in _____ bacteria.
9. Limbriae associated with conjugation are called _____.
10. Zoogeous matrix is _____.

III. True (or) False: **(4 Marks)**

11. Wall less bacteria are Mycoplasma
12. Bacteria form plaque forming units.
13. *Agrobacterium tumefaciens* is a bacterial pathogen of insects
14. Most Probable Number (or) MPN method is for the estimation of microbial numbers in sewage waters.

IV. Match the following: **(4 Marks)**

- | | | |
|-----------------------------|---|---------------------|
| 15. Cyanobacteria | : | Sewage disposal |
| 16. <i>Escherichia coli</i> | : | microbial endophyte |
| 17. Activated sludge | : | carboxysomes |
| 18. Azorhizobium | : | indicator organism |

Answer any six of the following in 50 words

(6 x 3 = 18)

19. Koch's postulates
20. HEPA filters
21. Herpes Simplex Virus.
22. Actinomycetes
23. Oxidation ponds
24. Phyllosphere microorganisms
25. Gram's staining
26. Pure culture
27. Bioaerosols.

SECTION – B

Answer any four of the following. Each answer not to exceed 200 words.

Draw diagrams wherever necessary

(4 x 6 =24)

28. Describe Whittaker's Five kingdom Theory
29. Explain the bacterial growth curve.
30. With a neat diagram explain the structure of TMV
31. Give a detailed account on methods of air sampling and name the devices for the air sampling
32. Write any six characteristic features of Protozoans
33. Write short notes on mycorrhiza and their types.

SECTION – C

Answer any two of the following. Each answer not to exceed 1000 words. Draw diagrams wherever necessary

(2 x 20 = 40)

34. Draw and label the ultrastructure of a bacterial cell and describe the types of bacterial conjugation.
35. What is biogeochemical cycle? Explain carbon and nitrogen cycles.
36. What are the sources of drinking water? Describe the stages involved in bacterial analysis of water.
37. Write the characteristic features of viruses and describe in detail lytic cycle of the bacteriophages
