

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086

(For candidates admitted during the academic year 2010- 11)

SUBJECT CODE: BT/MC/MB54

B. Sc. DEGREE EXAMINATION, NOVEMBER 2012

BRANCH V (a) – PLANT BIOLOGY AND PLANT BIOTECHNOLOGY

FIFTH SEMESTER

COURSE : MAJOR – CORE
PAPER : MICROBIOLOGY
TIME : 3 HOURS

MAX.MARKS:100

SECTION – A

ANSWER ALL QUESTIONS

(18 Marks)

I. Choose the correct answer:

(5x1=5)

- Exponential growth phase in Bacteria occurs during
 - Lag phase
 - Log phase
 - Stationary phase
 - Decline phase
- Germ theory of Disease was proposed by
 - Louis Pasteur
 - Robert Koch
 - Whittaker
 - Edward Jenner
- Enveloped viruses are
 - Ether resistant
 - Ether sensitive
 - Ether sensitive and infectious
 - Ether resistant and noninfectious
- Unicellular prokaryotic microbes are called
 - Bacteria
 - Yeast
 - Protozoa
 - Fungi
- Region of soil directly influenced by root secretions and associated soil microorganisms is called
 - Rhizoplane
 - Phylloplane
 - Rhizosphere
 - Phyllosphere

II. Fill in the blanks:

(5x1=5)

- Bacterial cell wall is made up of _____.
- Circular single-stranded RNAs dependent on plant viruses for replication are called _____.
- Spherical bacteria in chains are called _____.
- Anthrax is caused by _____.
- Process by which DNA is transferred from one bacterium to another by a virus is called _____.

III. True or False

(4x1=4)

- Viruses can be cultured in synthetic and defined media.
- TMV infects Tomato plant.
- Animal viruses contain DNA as the genetic material.
- Thiobacillus ferrooxidans is a potent animal pathogen .

IV. Match the following

(4x1=4)

- | | |
|-------------------|--------------------|
| 15.Vaccination | Naked DNA |
| 16.Transformation | Closed system |
| 17. Batch culture | Infectious protein |
| 18 Prions | Cow pox virus |

V. Answer any six questions each answer not exceeding 50 words (6x3=18)

19. Whittaker's five kingdom Concept.
20. Actinomycetes and their role.
21. Plaque.
22. Steps involved in Endospore formation.
23. Icosahedral symmetry.
24. Protozoa and their importance.
25. Virions.
26. Tobacco Mosaic Virus.
27. Disinfection

SECTION B**ANSWER ANY FOUR QUESTIONS EACH ANSWER NOT EXCEEDING 200 WORDS. (4x6=24)**

28. Write brief notes on the Major groups of Bacteria.
29. List out the essential features of Viruses (any six).
30. Mention the importance of Mycorrhiza in plant growth and development.
31. What are Koch's postulates? State their importance.
32. State any two methods employed in the Enumeration of Air borne organisms.
33. Discuss the importance of Purification of Potable water.

SECTION C**ANSWER ANY TWO QUESTIONS EACH ANSWER NOT EXCEEDING 1000 WORDS (2x20=40)**

34. Discuss the role of microorganisms in Sewage treatment and Disposal.
35. Explain the replication of Bacteriophages. Support your answers with suitable diagrams.
36. State the importance of soil flora in the recycling of Carbon and Nitrogen.
37. Write an essay on Genetic recombination in Bacteria with special reference to Conjugation.
