

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086
(For candidates admitted during the academic year 2011- 12 & thereafter)
SUBJECT CODE: 11BT/MC/MB54
B. Sc. DEGREE EXAMINATION, NOVEMBER 2014
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 one

(5x1=5)

1. When a virus attacks a bacterium, the material that enters the host is
a) Protein coat b) Nucleic acid c) both a & b d) None
2. Chlorosis is caused by
a) fungi b) virus c) mycoplasma d) None
3. Treatment of waste water is done by the
a) Photoautotrophic microbes, naturally present in the sewage
b) Chemoautotrophic microbes, naturally present in the sewage
c) Heterotrophic microbes, naturally present in the sewage
d) Heterotrophic microbes inoculated in the sewage from outside only.
4. Algae are classified into major groups on the basis of
a) Nature of reserve food produced
b) Chemical composition of cell wall
c) Vegetative characters
d) Types of pigments
5. Which one of the followings is not the basis of 5 kingdom classification?
a) cell type b) body organization c) reproduction d) reserve food material

II. Fill in the blanks:

(5x1=5)

6. _____ is considered the founder of vaccines.
7. Earthy smell after the first rains are due to the presence of _____ in soil.
8. *Arthobotrys oligospora* is a _____ fungi.
9. Main component of biogas is _____ and _____.
10. Conjugation in bacteria was discovered by _____ first in _____.

III. True or False

(4x1=4)

11. Double stranded DNA is found in TMV.
12. Ammonifying bacteria convert ammonia to aminoacids.
13. Air is a rich environment for growth and reproduction of microbes.
14. Virion is a fully developed viral particle.

IV. Match the following**(4x1=4)**

- | | | | |
|-----|-----------------|---|--------------|
| 15. | Mad cow disease | - | VAM |
| 16. | Baculovirus | - | Actinomycete |
| 17. | Gigaspora | - | Prion |
| 18. | Streptomyces | - | NPV |

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

19. Whittaker's classification was constructed on which criteria?
20. List out Koch's Postulates.
21. Identify & brief out on structures of a bacterium external to the cell wall.
22. Explain gram staining technique.
23. Write any THREE symptoms in plants infected with virus.
24. Write a short note on nematophagous fungi
25. Write about the secondary sewage treatment.
26. List out the difference between domestic waste water & municipal sewage.
27. Write the general characters of prions, virioids & virusoids.

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

28. Describe the case study by Louis Pasteur that eventually led to the term 'vaccination'.
29. Discuss the growth stages in bacteria.
30. Write a note on genetic recombination in bacteria.
31. Discuss the replication cycles in virus.
32. Discuss rhizosphere interactions in soil giving emphasis on VAM.
33. Write a note on bioinsecticides developed from bacteria and viruses.

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

34. Give a brief account on sources and distribution of air borne organisms and describe the various air sampling techniques.
35. Give a detailed account of Biogeocycling with an emphasis on Nitrogen Cycle.
36. Write the Bergey's classification of bacteria.
37. Describe the distribution pattern and taxonomy of bacteria, actinomycetes, algae & fungi.
