

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 2008
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. Anthrax is caused by
a) protozoan b) yeast c) mould d) bacteria
2. Ability of the recipient cell to take up naked DNA is called
a) Virulence b) pathogenicity c) competence d) infection
3. Number of viable bacteria in a sterile medium is
a) 10^4 b) 10^3 c) 10^2 d) zero
4. Extra chromosomal pieces of DNA in prokaryotes are called
a) Genes b) Plasmids c) Prions d) Prophage
5. Chemostat is used to maintain a
a) Continuous culture b) Batch culture
c) synchronous culture d) Solid state fermentation

II. FILL IN THE BLANKS

6. Autotrophs can utilize _____ as the source of carbon.
7. Enveloped viruses are sensitive to _____.
8. Bacterial cell wall is made up of _____.
9. Organisms which need high concentration of salt are called _____.

III. STATE TRUE OR FALSE

10. Gram negative bacteria are sensitive to penicillin.
11. Herpes virus infects the potato plant.
12. Turbidimetric measurement is used to determine the viable count of bacteria.
13. Aerobes need CO_2 during incubation period.
14. BOD of water decreases on treatment.

IV. MATCH THE FOLLOWING

- | | | |
|-------------------|---|-------------|
| 15. Edward Jenner | - | Virus |
| 16. Flagella | - | Vaccination |
| 17. Prophage | - | Sewage |
| 18. Coliforms | - | Motility |

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

19. Chick embryo
20. Heterotrophs
21. Streaking
22. Icosahedral capsid
23. Endospore
24. Specialized transduction
25. Selective medium
26. Pili
27. Standard Plate Count

SECTION – B

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

28. Brief notes on the Five kingdom concept of Whittaker.
29. Describe the structure of Adenovirus.
30. List out Koch's postulates. Add a note on their importance in Medicine.
31. Mention the importance of Nitrogen cycle in the agriculture.
32. List out the cause, pathogenesis, symptoms and control of Citrus canker.
33. Write brief notes on the various phases of growth in a batch culture.

SECTION – C

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

34. Explain Transformation in Bacteria. Support your answer with Suitable diagrams.
35. Discuss the importance of Microbes in the sewage treatment.
36. Define Disinfectants. Explain the applications of any TWO disinfectants you had studied.
37. Write an essay on the replication of Bacteriophages. Support your answer with suitable diagrams.
