

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

SUBJECT CODE: 11BT/MC/AF14

B. Sc. DEGREE EXAMINATION, NOVEMBER 2012
BRANCH V (a) – PLANT BIOLOGY AND PLANT BIOTECHNOLOGY
FIRST SEMESTER

COURSE : MAJOR – CORE
PAPER : ALGAE, FUNGI AND LICHENS
TIME : 3 HOURS **MAX.MARKS:100**

SECTION A (36 marks)

ANSWER ALL QUESTIONS:

I. CHOOSE THE CORRECT ANSWER: (5 x 1=5 marks)

1. The reserve food material in algae is -----
a) Cellulose b) Starch c) Protein d) Glycogen
2. Which of the following has prokaryotic cells -----?
a) *Nostoc* b) *Ulothrix* c) *Sargassum* d) *Spirogyra*
3. The chief component of the cell wall of the majority of fungi is the
a) Pectin b) Chitin c) Cutin d) Lignin
4. The site of plasmogamy, as part of a sexual cycle, for *Puccinia graminis* is:
a) in a corn kernel. b) on an apple leaf. c) on a barberry leaf. d) on a wheat leaf.
5. Lichen can be described as a mutualistic symbiosis between an ascomycete and
a) chytrid. b) Archeabacterium. c) Green alga. d) Angiosperm root.

II. FILL IN THE BLANKS: (5 x 1 = 5 marks)

6. Agar, a solidifying agent in the culture media is obtained from algae belonging to _____.
7. The species of *Chara* with the stipulodes in a single whorl are called _____.
8. The fungi which live strictly as saprophytes are called as _____.
9. The naked, multinucleate, amoeboid mass of protoplasm of *Plasmodiophora* is called as _____.
10. The fungal component of the lichen is known as _____.

SAY TRUE OR FALSE: (4 x 1=4 marks)

11. Cyanophycin is found only in the cells of blue green algae.
12. The carposporophyte represents the first haploid or sporophyte generation.
13. The rusts have a polymorphic life cycle because of the presence of different types of spores in the life cycle.
14. The saxicolous lichens are basically found on the leaves and bark of epiphytes.

IV. MATCH THE FOLLOWING :**(4 x 1 = 4 marks)**

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|-----------------------------|----------------------------------|
| 15. Autotrophs | a) <i>Puccinia</i> |
| 16. Facultative saprophytes | b) Lichens |
| 17. Heteroecious parasites | c) <i>Sargassum</i> |
| 18. Symbiosis | d) <i>Phytophthora infestans</i> |

V. ANSWER ANY SIX WITHIN 50 WORDS:**(6 x 3 = 18 marks)**

19. Three Characteristic features of Chlorophyta.
20. Functions of heterocysts.
21. Akinetes.
22. Distinguish primary and secondary laterals in *Sargassum*.
23. What is an aseptate mycelium and septate mycelium? Give examples.
24. Conceptacle.
25. Apothecium of Peziza.
26. Write about asexual reproduction in *Albugo*.
27. What are crustose lichens? Give examples.

SECTION B**ANSWER ANY FOUR QUESTIONS, EACH WITHIN 200 WORDS, DRAW DIAGRAMS WHEREVER NECESSARY:****(4 x 6 = 24 marks)**

28. Describe in brief about food reserves of Algae.
29. Write notes on *Caulerpa* thallus.
30. Give the outline of Alexopoulos and Mims classification of fungi.
31. Describe the sexual reproduction in *Albugo*.
32. List the economic importance of Lichens.
33. Write short notes on: (i) Soredia (ii) Isidia

SECTION C**ANSWER ANY TWO QUESTIONS IN NOT MORE THAN 1000 WORDS EACH. DRAW DIAGRAMS WHEREVER NECESSARY.****(2 x 20 = 40 marks)**

34. Explain in detail the structure and reproduction in *Ulva*.
35. Describe the sexual reproduction in Polysiphonia.
36. Explain the structure and asexual reproduction of *Aspergillus*.
37. Trace the life cycle of *Puccinia*.
