

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

SUBJECT CODE: 11BT/MC/FB14

B. Sc. DEGREE EXAMINATION, NOVEMBER 2011

BRANCH V (a) – PLANT BIOLOGY AND PLANT BIOTECHNOLOGY
FIRST SEMESTER

COURSE : MAJOR – CORE
PAPER : ALGAL AND FUNGAL BIOTECHNOLOGY
TIME : 3 HOURS MAX.MARKS:100

SECTION – A

ANSWER ALL QUESTIONS (18 X 1 = 18)

I Choose the correct answer (5x1=5)

- The alga which is rich in protein content is
a) Spirulina b) Nostoc c) Ascophyllum d) Sargassum
- _____ is used for immobilization of microbial biomass.
a) Calcium oxalate b) Calcium alginate c) Calcium nitrate
d) Potassium nitrate
- Pleurotus is also called as
a) Milky mushroom b) Paddy straw mushroom c) inkycap
d) Oyster mushroom
- Strains of fungus used in the manufacture of citric acid
a) Aspergillus flavus b) Aspergillus niger c) Penicillium griseofulvum
d) Mucor mucedo
- _____ is the most common among agricultural crops.
a) Ectotrophic mycorrhiza b) Symbiosis c) VAM d) Saprophytes

II FILL IN THE BLANKS (5x1=5)

- Chondrus crispus is the chief source of _____.
- Chlorellin is an antibiotic obtained from _____.
- _____ is a Poisonous mushroom.
- _____ discovered Penicillin.
- Mycorrhiza is an example for _____ association.

III STATE WHETHER THE FOLLOWING STATEMENTS TRUE OR FALSE (4X1=4)

- Agar – Agar is an important algal products used in the manufacture of pills and ointments.
- The use of algae in domestic waste has proved the conversion of dangerous and expensive waste into an odourless and valuable fertilizer.
- Algin is a Fungal polysaccharide.
- Strains of *Chlorella* and *microcystis* produce hydrogen, a clean type of fuel.

IV MATCH THE FOLLOWING**(4X1=4)**

- | | | |
|-------------------|---|--------------|
| 15. Spawn | - | Alginic acid |
| 16. Spirulina | - | Mushroom |
| 17. Laminaria | - | Anabaena |
| 18. Biofertilizer | - | Protein |

V ANSWER ANY SIX IN 50 WORDS:**(6 X 3 = 18)**

19. Carrageenan
20. Biofertilizer
21. Pigments in cyanophyceae
22. Bioremediation
23. Spawn
24. Volvariella
25. Antibiotics
26. Uses of Spirulina
27. Algin

SECTION – B

ANSWER ANY FOUR QUESTIONS. EACH ANSWER NOT TO EXCEED 200 WORDS: DRAW DIAGRAMS WHEREVER NECESSARY.

(4X6=24)

28. Write about the source and applications of agar agar.
29. Explain the role of algae in waste water treatment.
30. Comment on Algal biofuel.
31. Enumerate the nutritional value of mushroom.
32. Explain the different types of Mycorrhiza.
33. Give an account on Penicillin production.

SECTION – C

ANSWER ANY TWO QUESTIONS. EACH ANSWER NOT TO EXCEED 1000 WORDS: DRAW DIAGRAMS WHEREVER NECESSARY.

(2X20=40)

34. Write an essay on mass cultivation of Spirulina.
35. Give an account of method of extraction, application, nutritional value and significance of LSF.
36. Describe method of production and industrial application of citric acid.
37. Discuss the methods involved in the cultivation of edible mushroom.
