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

SUBJECT CODE: 11BT/MC/FB14

B. Sc. DEGREE EXAMINATION, NOVEMBER 2014
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 (5 x 1 = 5 Marks)

1. Algin is present in the cell wall of----------
   a. BGA b. Green algae c. Brown algae
2. _____ algae is used in waste water treatment
   a. *Chlorella* b. *Dunaliella* c.both
3. _____ is known as mushroom sugar
   a. Chitin b. Fructose c. Trehalose
4. The fungus used for the commercial production of citric acid_____
   a. *Aspergillus niger* b. *Penicillium* c. *Rhizopus*
5. Ectomycorrhiza is found among_____
   a. Bryophytes b. Pteridophytes c. Gymnosperms

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

6. _____ discovered Penicillin.
7. *Volvariella* is also known as_____.
8. _____ is a symbiosis between fungi and plant root.
9. Carrageenan is obtained from_____algae.
10. Phycocyanin pigments are present in _____algae

III. State whether the following statements are true or false. (4 x 1 = 4 Marks)

11. Nostoc is used in bioremediation.
12. Mushrooms are found in Ascomycetes.
13. Mycorrhizae can be used as biofertilizer.
14. The major component of agar is agarose .

IV. Match the following. (4 x 1 = 4 Marks)

15. Agar - a. *Botryococcus*
16. Biofertilizer - b. *Anabaena*
17. SCP - c. *Gracilaria*
18. Biofuel - d.*Pleurotus*

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V. Write short notes on any SIX, each in about 50 words. (6 x 3 = 18 Marks)

19. Single cell protein
20. Phycobilins
21. Biofuel
22. Composting
23. Antibiotic
24. Downstream processing
25. VAM
26. Biofertilizer
27. Bioremediation

SECTION – B

ANSWER ANY FOUR QUESTIONS. EACH ANSWER NOT TO EXCEED 200 WORDS: DRAW DIAGRAMS WHEREVER NECESSARY. (4X6=24)

28. Write short notes on alginophytes.
29. Give an account on algal hydrocarbon.
30. What is a spawn? How is it prepared?
31. How do you differentiate edible mushroom from poisonous mushroom?
32. Discuss in brief the strain selection methods of *Penicillium.*
33. Write the characteristic features of ectomycorrhiza.

SECTION – C

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

34. Describe the methods for the mass cultivation of *Spirulina.*
35. Write in detail about biofertilizer and its application.
36. Write an essay on citric acid production and its industrial uses.
37. Discuss the application of mycorrhiza in forestry.

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