

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

**SUBJECT CODE: 11BT/MC/FB14**

**B. Sc. DEGREE EXAMINATION, NOVEMBER 2012**  
**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)**

1. Agarose is present in  
a) Macrocystis      b) Nostoc      c) Spirulina      d) Gelidium
2. Atmospheric nitrogen is fixed by  
a) Anabaena      b) Laminaria      c) Chlorella      d) Gracilaria
3. Fairy rings are formed by  
a) Mycorrhiza      b) Agaricus      c) Penicillium      d) Saccharomyces
4. All forms of matter derived from biological activities present in soil and water is  
a) Biomass      b) Bioremediation      c) Biofertilizers      d) Biofuel
5. Penicillin was first isolated from the fungus  
a) Penicillium Chrysogenum      b) P. notatum      c) P. griseofulvum      d) Agaricus bisporus

**II FILL IN THE BLANKS (5x1=5)**

6. Irish Moss is the common name for \_\_\_\_\_.
7. \_\_\_\_\_ is known as paddy straw Mushroom.
8. The fruiting body of Agaricus is \_\_\_\_\_.
9. Citric acid is produced commercially by strains of \_\_\_\_\_.
10. Mycorrhiza is an association between the \_\_\_\_\_ and a fungus.

**III STATE WHETHER THE FOLLOWING STATEMENTS ARE TRUE OR FALSE**

**(4X1=4)**

11. Spirulina are found as Suspension in Fresh water.
12. Agar is soluble only in cold water.
13. Blue green algae converts Usar soil into fertile soil.
14. Mycorrhiza is universally present in all orchids.

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

- |                         |   |              |
|-------------------------|---|--------------|
| 15. Algal fuel          | - | Toad stools  |
| 16. Algin               | - | Hartig net   |
| 17. Poisonous mushrooms | - | Botryococcus |
| 18. Mycorrhiza          | - | Laminaria    |

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

19. Single cell Protein.
20. Agar
21. Poisonous mushrooms
22. Algal fertilizers
23. Bioremediation
24. VAM
25. Oxidation Pond
26. Alexander Fleming
27. Nutritive value of mushrooms

**SECTION – B**

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

28. What are the requirements for the growth of Spirulina cultivation? Write its nutritive and medicinal values.
29. Mention the sources of Algin and its application in industries.
30. Algae is an alternate source for crude oil? Justify.
31. Describe spawn production for cultivation of mushrooms
32. Comment on the role of algae in the treatment of industrial effluents.
33. Describe the production and uses of Citric acid.

**SECTION – C**

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

34. Describe the steps adopted in the cultivation of any edible mushroom.
35. Bring out the methodology for extraction of Liquid seaweed fertilizers. Add a note on its applications.
36. Give a detailed account on Mycorrhiza and its benefits to plants.
37. Write short notes on the following with reference to Penicillin production.
 

a) Strain improvement	b) Medium	c) Fermentation Process
d) Harvest & Recovery	e) Applications	

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