

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086
(For candidates admitted during the academic year 2008 – 09 & thereafter)
SUBJECT CODE: BT/MC/FB14
B. Sc. DEGREE EXAMINATION, NOVEMBER 2009
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 **(5 X 1 = 5)**

I **FILL IN THE BLANKS:**

1. Agar is a mixture of two polysaccharides _____ & _____
2. Naturally occurring penicillin is _____
3. _____ is a nitrogen fixing blue green algae.
4. _____ is used as nitrogen source in citric acid production.
5. Mushroom crop appears in a pattern known as _____

II. STATE WHETHER TRUE OR FALSE: **(5 X 1 = 5)**

6. Mushroom protein is comparable to muscle protein.
7. Spawn is generally supplied in glass bottles.
8. Penicillinase is an enzyme used in the production of penicillin
9. Blue green algae can be used to reclaim sterile alkaline soil.
10. Aeration is not required for citric acid production.

III ANSWER IN A SENTENCE: **(5 X 1 = 5)**

11. Casing
12. SCP
13. Pasteurisation
14. Agarophytes
15. Spawn

IV. MATCH THE FOLLOWING: **(1/2 X 6 = 3)**

- | | | |
|-----------------|---|--------------------------------|
| 16. Algin | - | Dhingri |
| 17. Agar- agar | - | <i>Aspergillus niger</i> |
| 18. Carrageenan | - | <i>Laminaria</i> (Kelps) |
| 19. Penicillin | - | <i>Gelidium</i> |
| 20. Citric acid | - | <i>Chondrus</i> |
| 21. Pleurotus | - | <i>Penicillium chrysogenum</i> |

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

- 22. Composting
- 23. Recovery & uses of Penicillin
- 24. Agarose
- 25. Casing
- 26. Fermentation
- 27. Alginic acid
- 28. Tray system
- 29. Three uses of *Spirulina*

SECTION – B**ANSWER ANY FOUR QUESTIONS. EACH ANSWER NOT TO EXCEED 200 WORDS: (4X6=24)**

- 30. Write a brief note on the nutritive value of Mushroom.
- 31. Draw and describe the morphology of mushroom.
- 32. Explain briefly algal biofertiliser.
- 33. Write a brief account on the extraction methods of carrageenan
- 34. Write short notes on (i) Uses of Carrageenan (ii) Draw flow chart
For penicillin production.
- 35. Write notes of interest on strain selection, media & fermentation processes
used in penicillin production.

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

- 36. Give a detailed account on cultivation of *Pleurotus*.
- 37. Explain in detail the extraction, chemistry & uses of Algin.
- 38. Explain the process of mass cultivation of *Spirulina*.
- 39. Explain in detail citric acid production and add a note on industrial applications.
