

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 2010
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 (6x1=6)

- SCP stands for:
a) Single cell product b) *Spirulina, Chlorella, Phormidium*
b) Single cell protein d) Somatic cell protein
- Major form used in Agar-Agar industry is:
a) *Gelidium* b) *Gymnodinium* c) *Geotrichum* d) *Gomphrena*
- Fungal growth medium with mycelial fragments of mushroom serving as inoculum for mushroom cultivation is called:
a) manure b) spawn c) compost d) mash
- The lower stalk-like part of mushroom is called:
a) Pileus b) Columella c) Stipe d) Rhizome
- The concentration of Penicillin is described in _____ units.
a) Micron b) ml c) Svedberg d) Oxford
- Citric acid is produced during:
a) Trophophase b) Idiophase c) Lag phase d) Decline phase

II State whether the following statements true or false (3x1=3)

- Spirulina* is a green algal member used in SCP.
- Volvariella* is commonly known as paddy straw mushroom.
- The fungus *P. notatum* was originally used by Fleming for penicillin production.

III Match the following (3x1=3)

- Anabaena* - a. mushroom
- Amanita* - b. citric acid
- Aspergillus* - c. alginate
d. biofertilizer

IV Complete the following (6x1=6)

- Carrageenan is obtained from the members of _____ algae.
- Microbial inoculants is an appropriate term for _____.
- White button mushroom is the common name for _____ *bisporus*.
- The umbrella-shaped upper part of a mushroom is called _____.
- _____ metabolites are the microbial products which are produced during idiophase of microbial growth.
- _____ culture fermentation process is one of the methods of commercial production of citric acid.

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

19. Write about the importance of algin.
20. What is algalization? Name the Indian algologist who coined this term.
21. How would you differentiate between an edible and poisonous mushroom? Give an example each.
22. What do you mean by the term 'spawn running'?
23. Write down any three points about strain selection in the production of Penicillin.
24. Enumerate the industrial uses of citric acid.
25. Write about industrial applications of carrageenan.
26. List the nutritive value of edible mushrooms.
27. What are the uses of Biofertilisers.

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

28. Write about the production of Agar-Agar.
29. Discuss the salient aspects of liquid seaweed fertilizer.
30. Write the production of Carrageenan.
31. Give an account of the different types of mushrooms.
32. What are the steps involved in citric acid production.
33. Describe the harvest and recovery of Penicillin.

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

34. Give an account of mass cultivation of *Spirulina*. Add a note on its nutritive value.
35. Describe the cultivation of mushrooms in detail.
36. Discuss the media, fermentation and uses of Penicillin.
37. Write short notes on: (4X5=20)
 - a) Alginophytes
 - b) spawn preparation
 - c) recovery of citric acid
 - d) chemical structure of penicillin
