

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI 600 086  
(For candidates admitted during the academic year 2015 – 2016 & thereafter)

SUBJECT CODE: 15BT/MC/PB14

B.Sc. DEGREE EXAMINATION NOVEMBER 2016  
BRANCH V.A.PLANT BIOLOGY AND PLANT BIOTECHNOLOGY  
FIRST SEMESTER

COURSE : CORE  
PAPER : PRINCIPLES OF APPLIED BIOTECHNOLOGY  
TIME : 3 HOURS MAX. MARKS: 100

SECTION A

(18 X 1 Mark=18)

I. Choose the correct answer

(5 marks)

- Spirulina belongs to \_\_\_\_\_ family.  
a. Cyanophyceac    b. Chlorophyceae    c. Rhodophyceae    d. Pheophyceae
- In Bread making \_\_\_\_\_ fungus is used.  
a. *Agaricus*    b. yeast    c. *Penicilium*    d. *Aspergillus*
- Pleurotus* sps is commonly called as \_\_\_\_\_ mushroom.  
a. Button    b. Oyster    c. Rose comb    d. Yellow blotch
- Cheese is formed when the \_\_\_\_\_ in milk is coagulated.  
a. lactose    b. peptides    c. casein    d. renin
- A suspension culture in which cells grow in a finite volume of nutrient medium and follow a sigmoid pattern of growth is \_\_\_\_\_ culture.  
a. Batch    b. continuous stirred    c. fed-batch    d. air lift

II. Fill in the blanks

(5 marks)

- Any fluid medium supporting the growth of micro-organisms is called \_\_\_\_\_.
- The fungus \_\_\_\_\_ is commercially used to produce citric acid.
- The soft cheese, camembert is formed by growing the fungus \_\_\_\_\_ on the surface of curd cake.
- Yogurt is made from milk by \_\_\_\_\_ bacteria.
- \_\_\_\_\_ is called the Baker's yeast.

III. State whether the sentence is True /False

(4 marks)

- The high nucleic acid content of SCP leads to kidney stone formation and gout in man.
- An antibiotic is a substance which is produced by living organisms and has the capacity to inhibit the growth of other living organisms.
- While making cheddar cheese an additional unique type of knitting of curd is done.
- Volvariella* is a mushroom with deep salmon pink gills.

**IV. Match the following****(4 marks)**

- |                |   |                 |
|----------------|---|-----------------|
| 15. Spirulina  | - | <i>Agaricus</i> |
| 16. Gills      | - | Fermentor       |
| 17. Yeast      | - | SCP             |
| 18. Bioreactor | - | Bakery          |

**(b) Answer any six in 50 words****(6 x3 = 18 marks)**

19. Nutraceutical.
20. Define Biotechnology.
21. Ripening of cheese.
22. Yeast enzymes.
23. Nutritive value of a mushroom.
24. Mention some equipments used for fermentation technology.
25. Spawn.
26. Mention some edible and poisonous mushrooms.
27. What is a media? Mention it's utility in industrial fermentation.

**SECTION-B****Answer any four questions in 200 words****(4x6=24marks)**

28. List out the scope of Biotechnology in various fields.
29. Briefly explain the structure of *Agaricus*.
30. Write notes on the types of cheese.
31. How is the Yoghurt manufactured?
32. Write a brief note on Algal Biofertilizers.
33. Explain briefly how the antibiotic Penicillin is produced industrially.

**SECTION-C****Answer any TWO question in 1000 words****(2x20=40marks)**

34. Describe the mass cultivation in *Spirulina* and mention its applications.
35. What are the forms of Yeast and how it is utilized in bread making?
36. Explain the cultivation process of *Pleurotus* sps. Add a note on its uses.
37. Describe the production, recovery and uses of citric acid.

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