

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086  
(For candidates admitted from the academic year 2010 – 2011)

SUBJECT CODE: BT/MC/AB64

B.Sc. DEGREE EXAMINATION, APRIL 2013  
BRANCH V(a) – PLANT BIOLOGY AND PLANT BIOTECHNOLOGY  
SIXTH SEMESTER

COURSE : MAJOR – CORE  
PAPER : APPLIED BIOTECHNOLOGY  
TIME : 3 HOURS  
MAX. MARKS: 100

SECTION – A (36 Marks)

ANSWER ALL QUESTIONS

I. CHOOSE THE CORRECT ANSWER (5 x 1 = 5)

1. Crosses made between plants of two different species of a single genus is referred as  
a) Inter specific hybridization                      b) Inter varietal hybridization  
c) Intra varietal hybridization                      d) Inter generic hybridization
2. The initial brief period of culturing after inoculation is known as  
a) Log phase      b) Lag phase      c) Stationary phase      d) acceleration phase
3. Which is not a bio-fertilizer?  
a) *Azotobacter*      b) *Azospirillum*      c) *Bacillus*                      d) *Rhizobium*
4. Which one of the following organism cannot generate molecular hydrogen?  
a) *Chlorella*                      b) *Anabaena*                      c) *Oscillatoria*                      d) *Caulerpa*
5. Cheddar is related to  
a) Milk                      b) Yoghurt                      c) Cheese                      d) Cocoa

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

6. The nutrient medium used in plant tissue culture is \_\_\_\_\_
7. The undifferentiated growth of plant cells *in vitro* in a culture medium is known as \_\_\_\_\_.
8. \_\_\_\_\_ is known as Brewer's yeast.
9. A micro organism that can grow in the absence of oxygen is \_\_\_\_\_.
10. The improvement in crop varieties and their management for increase in world's food supply is known as \_\_\_\_\_ revolution.

III. STATE WHETHER TRUE OR FALSE. (4 x 1 = 4)

11. Entrapment of cells or protoplast into a matrix is referred as immobilization.
12. Ethanol is a gaseous fuel.
13. Sugarcane can be propagated by stem cutting.
14. Diploid plants can be produced from immature pollen in pollen culture.

**IV. MATCH THE FOLLOWING.****(4 x 1 = 4)**

- |                      |                     |
|----------------------|---------------------|
| 15. MAS              | Single Cell Protein |
| 16. X – rays         | beverages           |
| 17. <i>Chlorella</i> | Breeding method     |
| 18. Beer             | Mutagen             |

**V. WRITE SHORT NOTES ON ANY SIX EACH IN ABOUT 50 WORDS. (6 x 3 = 18)**

19. Totipotency
20. Explant
21. Cybrid
22. Clonal propagation
23. Edible vaccine
24. Somaclonal variation
25. Biogas
26. Beer
27. Vitamins

**SECTION – B**

**ANSWER ANY FOUR OF THE FOLLOWING IN ABOUT 200 WORDS EACH. ALL ANSWERS CARRY EQUAL MARKS. DRAW DIAGRAMS WHEREVER NECESSARY.**

**(4 x 6 = 24)**

28. Describe briefly the production of enzyme Amylase.
29. Discuss the techniques of mutation breeding.
30. Explain about herbicide resistance of transgenic plants.
31. Write an account of pure line method of selection.
32. Write notes on fermentation media.
33. Give a brief account of Bio diesel.

**SECTION – C**

**ANSWER ANY TWO OF THE FOLLOWING IN ABOUT 1000 WORDS EACH. ALL ANSWERS CARRY EQUAL MARKS. DRAW DIAGRAMS WHEREVER NECESSARY.**

**(2 x 20 = 40)**

34. Describe the technique of protoplast isolation, culture and regeneration with the help of suitable diagrams.
35. Explain in detail the technique of hybridisation.
36. Write an essay on Blue green algae as biofertilizers.
37. Give a detailed account of downstream processing.

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