

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086  
(For candidates admitted from the academic year 2008 - 2009)

SUBJECT CODE: BT/MC/AB64

B.Sc. DEGREE EXAMINATION, APRIL 2011  
BRANCH V(a) – PLANT BIOLOGY AND PLANT BIOTECHNOLOGY  
SIXTH SEMESTER

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

SECTION – A (18 x 1 = 18 Marks)

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

- Hormone that induce shoot in PTC is  
a. Auxin    b. Cytokinin    c. Gibberellins    d. Ethylene
- Which one of the following mutagen is used in seed treatment in general?  
a. UV    b. Acrydine    c. Gamma    d. Colchicine
- Find out the odd one from the following.  
a. *Rhizobium*    b. *Azospirillum*    c. *Azotobacter*  
d. Phosphobacteria
- Microbe used in ethanol production is  
a. *E. coli*    b. *Saccharomyces*    c. *Bacillus*    d. *Spirullina*
- Raw material used for amylase production is of  
a. Cellulose    b. Lignin    c. Starch    d. Glucose

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

- Haploids are produced from ----- cultures.
- Removal of anther from bisexual flowers is known as -----.
- Marker enzyme used in the development of fungal resistance in crop plant is -----.
- Petroplant used in large scale production of biodiesel is -----.
- Softness of bread is due to ----- production of yeast.

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

- Explants must have cambial cells for multiplications.
- Inbreds are the product of continuous vegetative reproduction.
- Formulation of media for fermentation process is known as upstream process.
- Botrydiococcus* are commonly used in the production of algal hydrocarbon.

**IV. MATCH THE FOLLOWING.****(4 X 1 = 4 MARKS)**

- |  |                               |
|--|-------------------------------|
| 15. <i>Lactobacillus</i>               | (i) Beer                      |
| 16. <i>Saccharomyces</i>               | (ii) Cheese                   |
| 17. <i>Bacillus amyloliquifaeciens</i> | (iii) Vitamin B <sub>12</sub> |
| 18. <i>Citrobacter freundii</i>        | (iv) Amylase                  |

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

19. Moist heat sterilization
20. Whites medium
21. Continuous culture technique
22. RAPD
23. Clone
24. Diazotrophs
25. Gobar gas
26. Down stream process
27. Baffles and sparger

**SECTION – B****ANSWER ANY FOUR OF THE FOLLOWING EACH IN ABOUT 200 WORDS.****(4 x 6 = 24 Marks)**

28. Write notes on MS media composition. Give the role of each mineral ions.
29. Describe the procedure of pure line selection in crop plants.
30. Briefly explain edible vaccines.
31. Illustrate and explain about the production of biogas.
32. How are beer produced large scale in industries.
33. Write notes on the protocol and applications of root culture.

**SECTION – C****ANSWER ANY TWO OF THE FOLLOWING EACH IN ABOUT 1000 WORDS.****(2 x 20 = 40 Marks)**

34. Write details on somatic hybridization with suitable illustrations.
35. Describe the hybridization technique followed in crop plants.
36. Write in detail about the transgenic plants for herbicide and insect resistance.
37. Explain the procedure for cheese production. Add notes on its different types.

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