MAR IVANIOS COLLEGE (AUTONOMOUS)
THIRUVANANTHAPURAM

Reg. No. :…… **Name :……**

Fifth Semester Career Related B.Sc. Degree Examination, November 2016
First Degree Programme under CBCSS
Vocational Course – VIII: (for Botany and Biotechnology)
AUBB552: Plant Biotechnology

Time: **3** Hours Max. Marks : **80**

SECTION – A

*Answer **ALL** the following in a word or one or two sentences.*

1. Cybrid
2. Two chemical surface sterilants
3. Electroporation
4. Auxins
5. Edible vaccines
6. Somaclones
7. Haploids
8. Cell immobilisation
9. Synthetic seeds
10. Totipotency

(10 × 1 = 10 Marks)

SECTION – B

*Answer any **EIGHT** questions, not exceeding one paragraph.*

11. Write a note on cell suspension culture
12. Differentiate between differentiation and dedifferentiation.
13. What is meristem culture ?
14. Define somaclonal variation. Mention its applications.

15. What are solidifying agents ? Give examples.
16. Comment on hairy root culture.
17. What are microprojectiles ?
18. How are protoplasts isolated ?
19. What is activated charcoal ? Where is it used ?
20. Macro nutrients and micro nutrients.
21. What is T-DNA ?
22. Maintaining suitable P^H is important in tissue culture. Why ?

(8 × 2 = 16 Marks)

SECTION – C

*Short essay type : Answer any **SIX** questions.*

23. What is MS medium ? Write a note on preparation of MS medium
24. Give an outline of metabolic engineering of plants for various products.
25. Explain Agrobacterium mediated gene transfer in plants.
26. What are GM crops ? What are the environmental concerns regarding GM crops ?
27. Define callus culture. Mention its applications.
28. Explain briefly somatic embryogenesis.
29. Describe different types of suspension cultures.
30. Write a note on the surface sterilisation of explants.
31. Comment on growth regulators.

(6 × 4 = 24 Marks)

SECTION – D

*Long essay type : Answer any **TWO** questions.*

32. Enumerate various stages in micropropagation and discuss its advantages and disadvantages.
33. Discuss the various methods of the production of Haploid plants. Add note on its applications.
34. What is somatic hybridization ? What is its significance ? Explain the steps involved in somatic hybridization.
35. Briefly explain various methods of direct gene transfer in plants.

(2 × 15 = 30 Marks)

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