

SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, MARCH 2013

(CCSS)

Microbiology

MB 6B 21 (E2)—CELL AND TISSUE CULTURE

Time : Three Hours

Maximum : 30 Weightage

Part A*Answer all questions.*

1. The most commonly used carbon source in plant tissue culture media is :
 - (a) Glucose.
 - (b) Sucrose.
 - (c) Agar.
 - (d) Starch.
2. Which of the following is not a cytokinin ?
 - (a) Isopentyladenine.
 - (b) zeatin.
 - (c) BAP.
 - (d) Picloram.
3. The part of plant used in plant tissue culture is _____
4. Growth hormones are sterilised by _____
5. The formation of **embryoids** from somatic cell is known as :
 - (a) **Embryogenesis.**
 - (b) Somatic **embryogenesis.**
 - (c) Suspension culture.
 - (d) Embryo culture.
6. The portion of the Ti **plasmid** integrated in to plant cell chromosome is _____
7. The chemical used to **diploidize haploids** is _____
8. The type of culture used for the production of secondary metabolites is _____
9. The enzymes used in **protoplast** isolation is _____
10. _____ is used to produce virus free plants.

Expand the following :-

11. IAA.
12. MSA.

(12 x $\frac{1}{4}$ = 3 weightage)

Turn over

Part B

Comment on :

13. Auxins.
14. Haploid production.
15. Totipotency.
16. Attachment dependent cells.
17. Callus culture.
18. Sterilization.
19. Media used for plant cell.
20. Protoplast.
21. Abscissic acid.

(9 x 1 = 9 weightage)

Part C

*Write notes on any **five** of the following.
Answer not to exceed **one** page.*

22. Explant Selection.
23. Media formulations.
24. Androgenesis.
25. Protoplast fusion.
26. Testing viability of cells.
27. Direct gene transfer.
28. Cell marker.

(5 x 2 = 10 weightage)

Part D

*Answer any **two** of the following.*

29. Cultivation of plant and animal cell.
30. Somatic embryogenesis and its applications.
31. Stem cell culture and its applications.

(2 x 4 = 8 weightage)