

SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, MARCH/APRIL 2015

(U.G–CCSS)

Elective Course

Microbiology

MB 6B 21 (E2)—CELL AND TISSUE CULTURE

Time : Three Hours

Maximum : 30 Weightage

Part A*Answer **all** questions.*

1. Who is the father of tissue culture ?
 - (a) Bonner.
 - (b) Haberlandt
 - (c) Laibach.
 - (d) Gautheret
2. Synthetic seed is produced by encapsulating somatic embryo with :
 - (a) Sodium chloride.
 - (b) Sodium alginate.
 - (c) Sodium acetate.
 - (d) Sodium nitrate.
3. Chloroplast DNA is :
 - (a) Circular double stranded.
 - (b) Linear double stranded.
 - (c) Circular single stranded.
 - (d) Linear single stranded.
4. Hormone pair required for callus differentiation is _____
5. The first vaccine developed from animal cell culture was _____
6. The most commonly used fusogen is _____
7. An unorganized actively dividing mass of cells is _____
8. The cell wall of plant cell is made up of _____
9. Double helical structure of DNA was discovered by _____
10. Restriction enzymes are also called _____
11. Dye exclusion method is used for _____
12. Expand DMSO.

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

Part B

Comment on the following :

13. Gibberellins.
14. Cell lines.
15. Cell markers.
16. Explant selection.
17. Haploid production.
18. Stem cell.
19. Cybrids.
20. Auxins.
21. Suspension culture.



(9 x 1 = 9 weighta

Part C

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

22. Importance of sterilization in tissue culture.
23. Production of seedless plants.
24. Genetics of Somaclonal variation.
25. Media for plant cell culture.
26. Protoplast fusion.
27. Somatic embryogenesis.
28. Basic lab requirements in tissue culture.

(5 x 2 = 10 weightage)

Part D

*Write briefly on any **two** of the following.*

29. Different types of plant cell cultures and their applications.
30. Animal cell culture and testing viability.
31. Stem cell culture and applications.

(2 x 4 = 8 weightage)