

**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 ove**

**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)