

**C 21148**

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Name.....

Reg. No.....

**SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, MARCH 2017**

(CUCBCSS—UG)

**Microbiology**

**MBY 6B 18 (E1)—CELL AND TISSUE CULTURE**

Time : Three Hours

Maximum : 80 Marks

**Section A**

*Answer all the twelve questions.*

1. A hybrid produced by introducing nuclear material into a cell is \_\_\_\_\_.
2. The plants exists in polyploidy state during meiosis are \_\_\_\_\_.
3. The ability of a plant cell to regenerate into whole plant is called \_\_\_\_\_.
4. The reversion of mature cells to the meristematic state is known as \_\_\_\_\_.
5. The process of elimination of all forms of life is called \_\_\_\_\_.
6. The preservation and storage of genetic resources are done in \_\_\_\_\_.
7. The unorganized proliferative mass of cells produced from plant cells is called \_\_\_\_\_.
8. The plant hormone, \_\_\_\_\_ regulate the growth and developmental processes.
9. The method of transferring genetic material into target is called \_\_\_\_\_.
10. The actively growing and dividing cells in a sample is called \_\_\_\_\_.
11. The technique of formation of haploid plants from isolated pollen grains are called \_\_\_\_\_.
12. The method of fusing two distinct species of plants to form new hybrids are called \_\_\_\_\_.

(12 × ½ = 6 marks)

**Section B**

*Answer all ten questions in one or two sentences.*

13. What is Somaclonal variation ?
14. Write notes on protoplast culture methods.
15. Comment on synthetic seed.
16. Importance of molecular markers in crop improvement.
17. What is organogenesis ?
18. What are the significance of anther culture ?
19. Comment on growth hormones.

**Turn over**

20. What is clonal propagation ?
21. Write on secondary metabolite of plants.
22. What are phytohormones ?

(10 × 2 = 20 marks)

### Section C

*Answer briefly any six questions.*

23. Give an account on growth regulators and control of growth of plant cells in culture.
24. Explain induction and development of somatic embryoids.
25. Describe the production of haploid plants.
26. Comment on endosperm culture.
27. Briefly discuss the ethical aspects of animal cloning.
28. Write the importance of meristem culture.
29. What is cell suspension culture ? Explain the growth phases of cells in cell suspension Culture.
30. Differentiate between primary cell lines and transformed cell lines.

(6 × 5 = 30 marks)

### Section D

*Answer any two questions in detail.*

31. Explain somatic hybridization and its applications.
32. Explain the steps involved in cryopreservation.
33. Describe the concept of cell lines. Discuss the various types of cell lines and its applications.

(2 × 12 = 24 marks)