

C 1852

(Pages : 2)

Name

Reg. No.....

SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, MARCH/APRIL 2016

(UG-CCSS)

Elective Course—Microbiology

MB 6B 21 (E2)—CELL AND TISSUE CULTURE

Time : Three Hours

Maximum : 30 Weightage

Part A

Answer all questions.

Each question carries weightage 'A'.

1. Electroporation is a technique with _____
(a) Pollen. (b) Callus.
(c) Cell suspension. (d) Protoplast.
2. To produce homozygous plants for all the traits the best method is _____
(a) Callus culture. (b) Anther/Pollen culture.
(c) Protoplast culture. (d) Organ culture.
3. Pores in the protoplast may be opened to DNA by the application of _____
4. In a callus culture :
 - (a) Increasing the level of cytokinin induce shoot formation.
 - (b) Increasing the level of cytokinin induce root formation.
 - (c) Increasing the level of auxin induce shoot formation.
 - (d) None of these.
5. The ability of a cell to produce the whole plant is called _____
6. Filtration is used for _____
7. An example for a vector is _____
8. MS medium is a medium used for _____ tissue culture.
9. An organism containing only one set of chromosomes is called _____
10. Electroporation is used for _____

Expand the following :

11. ABA.
12. cDNA.

(12 x ¼ = 3 weightage)

Turn over

Part B

*Comment on the following.
Each question carries 1 weightage.*

- | | |
|-----------------|----------------------------|
| 13. Explant. | 14. Seedless plants. |
| 15. Protoplast. | 16. Surface sterilization. |
| 17. Callus. | 18. Androgenesis. |
| 19. Cytokinin. | 20. Cell markers. |
| 21. Cell lines. | |

(9 x 1 = 9 weightage)

Part C

*Write notes on any **five** of the following not to exceed **one page**.
Each question carries 2 weightage.*

- 22. Anther culture.
- 23. Applications of stem cell culture.
- 24. Role of different hormones in cell culture.
- 25. Production of secondary metabolites.
- 26. Identification and characterization of somatic hybrids.
- 27. Testing the viability of cells.
- 28. Organ culture.

(5 x 2 = 10 weightage)

Part D

*Write in detail about any **two** of the following.
Each question carries 4 weightage.*

- 29. Stem cell culture and stem cell characterisation.
- 30. Specific gene transfer methods.
- 31. Basic lab requirements and applications of tissue culture.

(2 x 4 = 8 weightage)