D 40115 (Pages : 2) Name.....

Reg. No.....

SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, MARCH/APRIL 2018

(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. The ability of a plant cell to regenerate into whole plant is called ————————.
2. A medium composed of chemically known compound is called ————————.
3. The substance which induces callus formation is ————————.
4. The father of plant tissue culture is ————————.
5. The plants exists in polyploidy state during meiosis are called ————————.
6. The vector used in crop improvement is ————————.
7. The synthetic seed is produced by encapsulating somatic embryo with ————————.
8. The process of elimination of all forms of life is called ————————.
9. The culturing of cells in liquid agitated medium is called ————————.
10. The most commonly used culture medium for plant cells is ————————.
11. The development of embryo contains only paternal genes are called ————————.
12. The method of fusing two 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 are growth hormones.
14. What are the important of Stem cell culture.
15. What is organ culture.
16. Comment on synthetic seed.

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17. Comment on growth kinetics of cells in culture.

18. Explain gene transfer methods.

19. Comment on embryo culture.

20. What is Somatic embryogenesis.

21. What is somaclonal variation.

22. What is somatic hybrids.

(10 × 2 = 20 marks)

Section C

Answer briefly any **six** *questions.*

23. What are the components of plant tissue culture media ?

24. Comment on growth regulators and control of growth of plant cells in culture.

25. Describe the production of haploid plants.

26. What are cryopreservation and freeze drying.

27. Discuss the physico chemical properties of culture media.

28. Explain about meristem culture and its importance.

29. What is cell suspension culture ? Explain the growth phases of cells in cell suspension culture.

30. What is mean by organogenesis and its importance ?

(6 × 5 = 30 marks)

Section D

Answer any **two** *questions in detail.*

31. Explain different techniques and genetic basis of crop improvement.

32. Explain the process of protoplast isolation and culture for somatic hybridization.

33. What are growth factors? List the various growth factors promoting proliferation of animal cells in culture.

(2 × 12 = 24 marks)