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L – 1630

Reg. No. : .....

Name : .....

**Sixth Semester B.Sc. Degree Examination, March 2021**

**First Degree Programme under CBCSS**

**Botany**

**Elective Course**

**BO 1661 – BIOTECHNOLOGY AND NANO BIOTECHNOLOGY**

**(2015-17 Admission)**

Time : 3 Hours

Max. Marks : 80

**SECTION – A**

I. Write a short note on the following. **All questions are compulsory.**

1. Totipotency
2. Cosmid
3. RFLP
4. GM foods
5. Pure culture
6. Quantum dots
7. Fermentation

P.T.O.

8. Synthetic seeds

9. Synkaryon

10. Gene therapy

(10 × 1 = 10 Marks)

### SECTION – B

II. Answer any **eight** questions. **Each** question carries **2** marks.

11. What is micro injection?

12. Oil eating bacteria

13. Gene library

14. Cell suspension culture

15. Palindromes

16. T-DNA

17. Bio safely Issues

18. Culture of Microorganisms

19. Composition of LB medium

- 20. Microbes in Dairy industry
- 21. Application of nanotechnology in life science
- 22. Biotechnology and IPR

(8 × 2 = 16 Marks)

SECTION – C

III. Answer any **six** of the following. Each question carries 4 marks.

- 23. Preparation and sterilization of MS medium.
- 24. Organogenesis in tissue cultures.
- 25. Gene transfer mechanism mediated by Agrobacterium.
- 26. Recombinant microbes.
- 27. Comment on nanoparticles.
- 28. Production of single cell proteins.
- 29. Southern blotting.
- 30. PCR mixture.
- 31. Meristem culture.

(6 × 4 = 24 Marks)



SECTION – D

IV. Answer any **two** of the following. **Each** question carries **15** marks.

32. Write an essay on various stages in plant tissue culture.

33. Write an essay on microbes in biotechnology.

34. Give an account on cloning vehicles.

35. Explain various gene transfer techniques.

(2 × 15 = 30 Marks)