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(Pages : 2)

Name.....

Reg. No.....

SIXTH SEMESTER U.G. DEGREE EXAMINATION, MARCH 2024

(CBCSS—UG)

Biotechnology

BTY 6B 15—RECOMBINANT DNA TECHNOLOGY AND BIOINFORMATICS

(2019 Admission onwards)

Time : Two Hours

Maximum : 60 Marks

Draw diagrams wherever necessary.

Section A

Write briefly on the following.
Each question carries 2 marks.
Ceiling 20 marks.

1. What is alpha complementation ?
2. What is an expression vector ?
3. What is the role of T4 DNA ligase in cloning ?
4. What is GFP ?
5. Comment on plaque lift assay for library screening ?
6. What is colony PCR ?
7. Comment on SV 40 promoter ?
8. What is high fidelity *Taq* Polymerase ?
9. What are co integrate vectors of *Agrobacterium tumefaciens* ?
10. What is PDB ?
11. What is a primary sequence data base ?
12. Comment on Bt Cotton ?

Turn

Section B

Write **a paragraph** *on following.*
Each question carries 5 marks.
Ceiling 30 marks.

13. Explain the binary vector system of *Agrobacterium tumefaciens.*

14. What is Electroporation ? How is it advantageous in introducing foreign DNA cultures ?

15. Explain briefly the principle and procedure of Southern blotting and hybridisation.

16. What are the different variations in BLAST ? Comment on gap penalty.

17. Explain the procedure of Maxam and Gilberts sequencing ?

18. What is the principle and procedure of Northern bloting ?

19. Compare lambda replacement and insertion vectors. Why do we prefer Lambda vectors vectors in library construction ?

Section C

Write an essay on the following.
Each question carries 10 marks.
Ceiling 10 marks.

20. What are the applications of DNA finger printing ?

21. PCR has revolutionised life science research. Substantiate the statement.