

C 80150

(Pages : 2)

Name.....

Reg. No.....

SIXTH SEMESTER B.A./B.Sc. DEGREE EXAMINATION, MARCH 2020

(CUCBCSS—UG)

Biotechnology

BTY 6B 15—RECOMBINANT DNA TECHNOLOGY AND BIOINFORMATICS

Time : Three Hours

Maximum : 80 Marks

Section A

Answer any two out of four questions in about 1,500 words.

Each question carries 10 marks.

1. Write down the principle, procedure and applications of Southern blotting.
2. What are the different classes of restriction endonucleases ? Write down the properties of Type II enzymes in detail ?
3. What are the applications of Polymerase Chain reaction ?
4. What are the different direct methods of introducing DNA into animal cells ?

(2 × 10 = 20 marks)

Section B

Answer any seven out of fourteen questions in about 750 words.

Each question carries 5 marks.

5. What are the different biological data bases ?
6. Write down briefly about pair wise alignment ? What is BLAST ?
7. Write down the significance of multiple sequence alignments ? What is CLUSTAL ?
8. What is molecular pharming ? Explain with suitable examples.
9. Narrate procedure and applications of colony hybridisation ?
10. What is YAC ? Narrate its usefulness ?
11. Compare and contrast binary and co integrate vector systems in *Agrobacterium tumefaciens*.
12. What are the applications of DNA fingerprinting ?
13. Narrate the principle and procedure of alkali lysis procedure of plasmid isolation.
14. What is the principle and procedure of Sanger's sequencing ?

Turn over

15. What are global and local alignment algorithms ?
16. What are the applications of Bioinformatics ?
17. What are the applications of transgenic plants ?
18. What is FISH? What are the applications of FISH ?

(7 × 5 = 35 marks)

Section C

*Answer all questions in about 300 words.
Each question carries 3 marks.*

19. Alpha complementation.
20. CaMV 35S promoter.
21. RAPD.
22. Cosmids.
23. DNA vaccines.

(5 × 3 = 15 marks)

Section D

*Answer all questions in about 200 words as brief notes.
Each question carries 2 marks.*

24. RTPCR.
25. MUSCLE.
26. PDB.
27. Golden rice.
28. Phagemids.

(5 × 2 = 10 marks)