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 ?

<div align="right">(7 × 5 = 35 marks)</div>

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.

<div align="right">(5 × 3 = 15 marks)</div>

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.

<div align="right">(5 × 2 = 10 marks)</div>