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Reg. No. : .....

Name : .....

Sixth Semester B.Sc. Degree Examination, March 2020

First Degree Programme under CBCSS

Botany

Core Course X

BO 1642 – MOLECULAR BIOLOGY, GENERAL INFORMATICS AND BIOINFORMATICS

(2014 Admission Onwards)

Time : 3 Hours Max. Marks : 80

SECTION – A

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

1. Chargaff's rule
2. Photoreactivation
3. Reverse transcriptase
4. Anticodon.
5. Cistron
6. NICENET
7. Open access initiative

P.T.O.

8. Proteome

9. BLAST

10. Rooted tree

(10 × 1 = 10 Marks)

SECTION – B

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

11. Meselson and Stahl experiment

12. RNA splicing

13. Overlapping genes

14. Griffith's effect

15. Cellular oncogenes

16. Operating systems

17. Use of IT in teaching and learning

18. Cyber world and ethical issues

19. Sequence alignment

20. Protein sequence databases

21. Wet lab and web lab

22. Plagiarism

(8 × 2 = 16 Marks)

SECTION – C

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

23. Molecular visualisation tool and its applications.

24. What is genomics? Explain.

25. Scope and importance of bioinformatics.

26. Digital divide.

27. IPR and patents.

28. Briefly explain any one major application software used in word processing.

29. Hershey and Chase experiment

30. Compare different forms of DNA.

31. Explain the structure and function of tRNA.

(6 × 4 = 24 Marks)

SECTION-D

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

32. Write an essay on regulation of gene expression in prokaryotes using lac operon as an example.

33. Describe the semiconservative mode of DNA replication.

34. Explain the features of a modern personal computer and its peripherals

35. Give an account on molecular phylogeny and its advantages

(2 × 15 = 30 Marks)