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Reg. No. : .....

Name : .....

Sixth Semester B.Sc. Degree Examination, April 2023

First Degree Programme under CBCSS

Botany

Core Course

BO 1642 : MOLECULAR BIOLOGY, GENERAL INFORMATICS AND BIOINFORMATICS

(2019 Admission Onwards)

Time : 3 Hours Max. Marks : 80

SECTION – A

I. Answer **all** questions in a word, **one** or **two** sentences. Each question carries **1** mark

Write short notes on

1. Satellite DNA.
2. Topoisomerases.
3. Spliceosomes.
4. Recon
5. Linux
6. Patents

7. Digital divide

8. BRNET

9. EMBL

10. RasMol

(10 × 1 = 10 Marks)

SECTION – B

II. Answer any **eight** of the following. Each question carries **2** marks.

11. What is a leading strand?

12. Comment on Ligases.

13. Give a brief account on Overlapping genes.

14. Name the enzymes operating during DNA replication?

15. What are Application softwares? How does it work in a computer?

16. What do you mean by Information overload?

17. Comment on Spliceosomes

18. What is MS Power point?

19. What is DDBJ?

20. How is Molecular visualization useful in the field of Bioinformatics?

21. Briefly describe Pair wise sequence alignment.

22. Explain Griffith's experiment.

(8 × 2 = 16 Marks)

SECTION – C

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

23. Briefly explain the significance on double helical structure of DNA.

24. Describe how Lac operon works.

25. Describe MS Excel format.

26. Write short notes on Cyber addiction.

27. Give an account of SWISSPROT and PIR.

28. Briefly explain Proteomics.

29. Describe Comparative genomics.

30. Write notes on GenBank.

31. Describe Molecular visualization and its use in the field of Biology.

(6 × 4 = 24 Marks)

SECTION – D

IV. Write an essay on any **two** of the following. Each question carries **15** marks.

32. Explain the mechanism of gene regulation in prokaryotes?

33. "Internet is a knowledge repository" Explain.

34. Describe how gene expression occurs in Eukaryotes.

35. What is Nucleic acid databases? Explain Nucleic acid databases you have studied.

(2 × 15 = 30 Marks)