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Reg. No. : .....

Name : .....

Sixth Semester B.Sc. Degree Examination, March 2021

First Degree Programme under CBCSS

Botany

Core Course

BO 1642 : MOLECULAR BIOLOGY, GENERAL INFORMATICS AND BIOINFORMATICS

(2018 Admission Regular)

Time : 3 Hours

Max. Marks : 80

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

1. Name any two purines.
2. Who proposed the double helical model of DNA?
3. What will be the percentage of Adenine in a DNA double helix molecule containing 30% Guanine?
4. Which experiment proved the semi-conservative replication of DNA?
5. Who discovered reverse transcriptase enzyme?
6. How many different types of RNA polymerases are there in prokaryotes?
7. Expand DOS.

8. What is INFLIBNET?

9. Name a protein database.

10. Expand BLAST.

(10 × 1 = 10 Mark

II. Answer **any eight** of the following.

11. What are the components of nucleotide?

12. What is repressor?

13. Define transformation.

14. What is photoreactivation?

15. What is Promoter?

16. Define Chargaff's rule.

17. Describe repetitive DNA.

18. What are introns?

19. Define plastome.

20. What is meant by recon?

21. Comment on Cyber ethics.

22. Describe open access publications

23. Name a word processing software package.

24. What is GUI?

25. What is DDBJ?

26. Name any two model organism.

(8 × 2 = 16 Marks)

III. Answer **any six** of the following

27. Give a brief note on housekeeping genes.

28. Compare A and B forms of DNA.

29. Describe the structure of tRNA.

30. Comment on genomics.

31. What is molecular phylogenetics?

32. Give a brief note on computer pheripherals.

33. Describe the different types of online academic services.

34. Comment on the importance of bioinformatics?

35. Give brief note on biodiversity databases.

36. What are the features of modern computers?

37. Describe comparative genomics.

38. Comment on web-lab.

(6 × 4 = 24 M

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IV. Answer **any two** of the following.

39. Write an essay on Griffith's experiment and its significance.

40. Briefly explain the semi-conservative model of DNA replication.

41. Write an essay on different types of RNAs in the cells.

42. Briefly describe the transcription process in prokaryotes.

43. Write an essay on operon concept with *lac* operon as an example.

44. What are the health issues in students with the over use of computers?

(2 × 15 = 30 Marks)
