(Pages : 3)

C – 1444

Reg. No. : .....

Name : .....

Sixth Semester B.Sc. Degree Examination, April 2017
First Degree Programme Under CBCSS
BOTANY
Core Course – X
BO 1642 : Molecular Biology, General Informatics and Bioinformatics
(2014 Admission)

Time : 3 Hours

Max. Marks : 80

All Saints' College Trivandrum

SECTION – A

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

1. Name two academic service provider networks.
2. What is open source software ?
3. Name two model organisms.
4. What is a LAN ?
5. What is photo reactivation ?
6. What is Chargaff's rule ?
7. What is miRNAs ?
8. What are house-keeping genes ?
9. What are transposons ?
10. Name two molecular visualisation tools used in bioinformatics. **(1×10=10 Marks)**

P.T.O.

SECTION – B

Answer **any 8** questions. **Each** question carries **2** marks.

11. What is a database management system ?
12. What is BLAST ? What are the different types of BLAST ?
13. What is plagiarism ? How is it detected ?
14. Comment on PHYLIP.
15. What are the guidelines for proper use of computers and internet ?
16. What are Okazaki Fragments ?
17. What is splicing ?
18. Describe Wobble hypothesis.
19. What is RNA interference ?
20. Give an account on sequence alignment.
21. Name the three enzymes involved in *lac* operon.
22. What is the difference between major and minor grooves of double stranded DNA ?

(2×8=16 Marks)

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SECTION – C

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

23. List the major operating systems and list out their advantages and disadvantages .
24. Do you agree with the statement that internet is a knowledge repository. Why ?
25. Write an account on comparative genomics.
26. What is reverse genomics ? Give examples.
27. How a graph with Standard Deviation (SD) created in Excel ?

28. Describe the salient features of the double helical DNA.

29. Explain lac operon.

30. Describe the clover leaf model of tRNA.

31. Explain different classes of RNA. **(4×6=24 Marks)**

SECTION – D

Answer **any 2** questions. **Each** question carries **15** marks.

32. Explain the different techniques and experiments used to ascertain DNA as the genetic material.

33. Explain the process of transcription with emphasis on post transcriptional modifications.

34. Describe the pros and cons of cyber usage.

35. What are different biological databases? Classify the databases. **(15×2=30 Marks)**

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