MAR IVANIOS COLLEGE (AUTONOMOUS)
THIRUVANANTHAPURAM

Reg. No.:.…………………   Name:..……………….

Sixth Semester B.Sc. Degree Examination, April 2018

First Degree Programme under CBCSS

Core Course: Botany – VIII

AUBO642: Molecular Biology, General Informatics & Bioinformatics

(*Common for **Regular** – 2015 and **Reappearance** – 2014 Admn.*)

Time: 3 Hours   Max. Marks: 80

SECTION – A

*Write short notes on **ALL** the following.*

1. KEGG
2. Digital divide
3. DDBJ
4. Cistron
5. Oncogenes
6. B-DNA
7. Phishing
8. Okazaki fragments
9. INFLIBNET
10. Rasmol

(10 × 1 = 10 Marks)

SECTION – B

*Answer any **EIGHT** questions, not exceeding one paragraph.*

11. Differentiate A and Z DNA.
12. What is the difference between jumping genes and luxury genes?
13. Why DNA replication is semi-conservative?
14. What is the role of mRNA in transcription?
15. What is central dogma reverse?
16. Differentiate exons and introns.

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17. Differentiate Swissprot and Uniprot.
18. What is application software? Give one example.
19. What is plagiarism? How plagiarism is determined using computer?
20. Differentiate IPR and Trademark.
21. What is BLAST?
22. Differentiate wetlab and weblab.

$(8 \times 2 = 16 \text{ Marks})$

SECTION – C

*Short essay type: Answer any **SIX** questions.*

23. 'DNA as genetic material'. Give Hershey-Chase experimental evidence.
24. Briefly explain Phylip and Clustal X.
25. What are input and output devices? Give 2 examples for each.
26. Explain the structure and functions of tRNA.
27. Describe Lac operon.
28. Write four applications of Bioinformatics.
29. Write down on Phylogenetic tree.
30. What are the health issues related to computer usage?
31. Give an account on cyber crimes.

$(6 \times 4 = 24 \text{ Marks})$

SECTION – D

*Long essay type: Answer any **Two** questions.*

32. Explain in detail the mechanism of transcription and translation.
33. What is a database? Explain the different biological databases.
34. Explain in detail the process of DNA replication in prokaryotes.
35. Give an account on the software and hardware components of computer.

$(2 \times 15 = 30 \text{ Marks})$