

18U617

(Pages: 2)

Name:

Reg. No.....

SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, APRIL 2021

(CUCBCSS-UG)

(Regular/Supplementary/Improvement)

CC15U ZO6 B12 - MOLECULAR BIOLOGY AND BIOINFORMATICS

(Zoology - Core Course)

(2015 Admission onwards)

Time: Three Hours

Maximum: 80 Marks

A. Answer *all* questions. Each question carries 1 mark.

1. What are ribozymes?
2. Idea of genetic code was proposed by _____.
3. Explain the term cistron.
4. What is prophage?
5. What are pseudogenes?
6. Name, the father of Bioinformatics.
7. An example for Metabolite database is _____.
8. Write a note on PROSITE.
9. Give a note on STAG.
10. What is GenBank?

(10 x 1 = 10 Marks)

B. Answer any *ten* questions. Each question carries 2 marks.

11. What are termination codons?
12. Explain constitutive genes with one example.?
13. What is reverse transcription?
14. Write a note on Wobble hypothesis.
15. Explain capping and tailing of mRNA.
16. What is heterochromatin?
17. What is selfish DNA?
18. Explain bacterial transformation.
19. Write a note on FASTA.
20. What are the protein sequence databases?
21. Give a note on database search engines.
22. Explain lytic cycle of viruses.

(10 x 2 = 20 Marks)

C. Answer any *five* questions. Each question carries 6 marks.

23. Write a note on features of genetic code?
24. What is gene switching or gene modulation?
25. Explain the concept of central dogma of molecular biology.
26. Explain the process of translation in prokaryotes.
27. Explain data analysis tools.
28. Explain the following.
 - a. DDBJ
 - b. KEGG
29. What are the ethical issues in bioinformatics?
30. Give a short account on BLAST.

(5 x 6 = 30 Marks)

D. Write essays on any *two* of the following. Each question carries 10 marks.

31. Explain operon concept with special reference to Lac operon.
32. Explain Hershey- Chase experiment.
33. Explain different types of primary databases.
34. What are the tools and applications of proteomics and metabolomics?

(2 x 10 = 20 Marks)
