

16U617

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Name:

Reg. No.....

SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, APRIL 2019

(Regular/Supplementary/Improvement)

(CUCBCSS-UG)

CC15U ZO6 B12 - MOLECULAR BIOLOGY AND BIOINFORMATICS

Zoology - Core Course
(2015 Admission onwards)

Time: Three Hours

Maximum: 80 Marks

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

1. Expand DDBJ and EMBL.
2. Name any four different types of DNA.
3. Define proteomics.
4. What are Cryptic genes?
5. Give any one example of retrovirus.
6. Who made the first atlas of proteins?
7. One gene one enzyme hypothesis was proposed by_____.
8. Name any one termination codon.
9. Define xenologus sequence.
10. Give any one difference between CLUSTAL W and CLUSTAL X.

(10 x 1 = 10 Marks)

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

11. Define C value paradox.
12. What are House keeping genes?
13. Entrez.
14. Difference between si RNA and mi RNA
15. Difference between exons and introns
16. Write short notes on PRINTS.
17. Difference between genetic map and physical map.
18. What are the different types of sequencings possible in bioinformatics?
19. What is selfish DNA?
20. Define Wobble hypothesis.
21. Any two differences between the output of BLAST and FASTA.
22. Explain Central Dogma.

(10 x 2 = 20 Marks)

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

23. Differentiate between lysogenic and lytic cycle in phages.
24. Explain lac operon concept with suitable diagrams.
25. List the different applications of metabolomics.
26. Explain any three ethical issues which could arise due to the misuse of bioinformatics.
27. Explain in detail scoring matrices with any one example.
28. List out any two secondary databases and briefly explain them.
29. Elucidate post translational modifications that can affect protein synthesis.
30. What was the contribution of Nirenberg and Khorana to molecular biology?

(5 x 6 = 30 Marks)

IV. Answer any *two* questions. Each question carries 10 marks.

31. Elucidate Griffith's experiments with the help of diagrams.
32. Write an essay on MicroArray technique in bioinformatics and its applications.
33. Write an essay on metabolite databases of bioinformatics.
34. List the properties of the genetic code. Give suitable examples wherever needed.

(2 x 10 = 20 Marks)
