E 1831　　　　　　　　　(Pages : 4)　　　　　Reg. No................................

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B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, MARCH 2015

Sixth Semester

Core Course—GENERAL INFORMATICS, BIO-INFORMATICS AND BIOSTATISTICS

(Common for B.Sc. Zoology, Model I, Model II, B.Sc. Industrial Microbiology and Zoology
and B.Sc. Biological Techniques and Specimen Preparation)

(2012 Admissions)

Time : Three Hours　　　　　　　　　　　　　　　　　　Maximum Weight : 25

Part A (Objective Type Questions)

Answer **all** *questions.*
Each Bunch of **four** *questions carries a weight of* 1.

Bunch I

1. A free software :

    (a) MS Office.　　　　　　　　　(b) C++.

    (c) Tally.　　　　　　　　　　　(d) Linux.

2. Sanger's method of DNA sequencing uses :

    (a) Ribonucleotides.　　　　　　(b) Di-de-oxynucleotides.

    (c) De- oxynucleotides.　　　　　(d) Ligases.

3. A Secondary database :

    (a) KEGG.　　　　　　　　　　(b) PROSITE.

    (c) EMBL.　　　　　　　　　　(d) PIR.

4. ISDN :

    (a) Integrated Service Dial-up Network.

    (b) Integrated Subscriber Digital Service.

    (c) Integrated Service Digital Network.

    (d) Integrated Subscriber Dial-up Network.

Bunch II

5. When two sequences are descended from a common ancestor, they share :

    (a) Similarity.　　　　　　　　(b) Homology.

    (c) Heterology.　　　　　　　　(d) Identity.

Turn over

6. Computer with artificial intelligence appeared in :

    (a) Computer Generation V.   (b) Computer Generation III.

    (c) Computer Generation II.   (d) Computer Generation I.

7. NIC stands for :

    (a) Network Interface Card.   (b) Network Interface Centre.

    (c) Network Interface Column.   (d) None of these.

8. Currently the world's best selling digital audio player :

    (a) iPod.   (b) Pen drive.

    (c) Memory card.   (d) CD.

BUNCH III

9. Computer was invented by :

    (a) Charles Dickens.   (b) Charles Babbage.

    (c) Bill Gates.   (d) Gilbert and Sanger.

10. RAM is :

    (a) Input device.   (b) Output device.

    (c) Form of data Storage.   (d) Software.

11. IP address is related to :

    (a) Artificial Intelligence.   (b) IT language.

    (c) Internet.   (d) Visual reality.

12. NCBI is a :

    (a) Primary database.   (b) Secondary database.

    (c) Composite database.   (d) None of these.

BUNCH IV

13. Continuous variables are represented by :

    (a) Histogram.   (b) Line diagram.

    (c) Bar diagram.   (d) Pie chart.

14. The sum of deviations of individual items from arithmetic mean is always :

    (a) Negative.   (b) Positive.

    (c) One.   (d) Zero.

15. An average is a measure of :

   (a) Dispersion.   (b) Deviation.

   (c) Central Tendency.   (d) None of these.

16. The positional average is :

   (a) Mean.   (b) Standard deviation.

   (c) Mode.   (d) Harmonic mean.

$(4 \times 1 = 4)$

Part B (Short Answer Questions)

Answer any five questions.
Each question carries a weight of 1.

17. What do you mean by PHYLIP ?

18. What is WAN ?

19. Define biological database.

20. What does BLAST stands for ? What is it used for ?

21. What is RAM ?

22. What are genome projects ?

23. What is class width ?

24. What is histogram ?

$(5 \times 1 = 5)$

Part C (Short Essays/Problem Solving Type)

Answer any four questions.
Each question carries a weight of 2.

25. What is proteomics ? Explain.

26. What is bioinformatics ? Mention the applications of bioinformatics.

27. What are the basic features of RasMol ?

28. What is meant by operating system ? Give *two* examples.

29. Give the formula for calculating mean, median and mode and describe the relationship between them.

30. Find the mean from the following data :

Mark	5	10	15	20	25	30	35	40
No. of students	5	7	9	10	8	6	3	2

$(4 \times 2 = 8)$

Turn over

Part D (Essay Type)

Answer any **two** *questions.*
Each question carries a weight of 4.

31. Describe any *four* popular databases in Molecular Biology.

32. Give an account of DNA sequencing.

33. Define mean deviation and standard deviation. Calculate the standard deviation from the following data :—

Mark	5	10	7	8	10	15	20	10
No. of students	20	30	40	10	80	90	70	50

$(2 \times 4 = 8)$