E 1831 (Pages : 4) Reg. No. 1.215.2814

Name. Neethumol. Jose

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 × 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 × 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 × 2 = 8)

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 × 4 = 8)