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Name.....

Reg. No.....

**THIRD SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2013**

(UG-CCSS)

Zoology—Core Course

ZO 3B 05—GENERAL INFORMATICS AND BIOINFORMATICS

Time : Three Hours

Maximum : 30 Weightage

I. Answer all *twelve* questions. Each question carries 0.25 weightage :

A. Objective type questions :

1 Which among the following is a free software ?

(a) MS-Office.

(b) C++.

(c) Tally.

(d) LINUX.

2 You can protect your computer from unauthorised entry by installing a :

(a) Malware.

(b) Hacking software.

(c) Firewall.

(d) Trojan Horse.

3 An encoding scheme that represents character symbols for the alphabets of regional languages is :

(a) Unicode.

(b) LINUX.

(c) MS-Word.

(d) Red-Hat.

4 Sanger's method of DNA sequencing uses.

(a) De-oxynucleotides.

(b) Ribonucleotides.

(c) Di-de-oxynucleotides.

(d) Ligases.

B. Match the following :

5 CLUSTAL

(a) e-Governance.

6 NEGP

(b) Metabolic database.

7 KEGG

(c) protein database.

8 Proteomics

(d) Alignment of sequences.

(e) Microarray.

(f) Open Access Initiative.

Turn over

## C Fill up the blanks :

- 9 A computer connected to the internet is identified by its \_\_\_\_\_.
- 10 The expansion of 'SIM' in mobile phone technology is \_\_\_\_\_.
- 11 The undertaking given by a company to replace or repair without charge any of its products is called \_\_\_\_\_.
- 12 The INFLIBNET is maintained by \_\_\_\_\_.

(12 × ¼ = 3 weightage)

II. Short answer questions. Answer all *nine* questions :

- 13 What is an IP address ?
- 14 What is an Operating system ?
- 15 What are the drawbacks of a Dial-up internet connection ?
- 16 What is a Database ?
- 17 What is free software ? What are its advantages ?
- 18 Distinguish between RAM and ROM.
- 19 Define the term 'Proteome'.
- 20 What is a Microarray ?
- 21 Write a short note on the FASTA format.

(9 × 1 = 9 weightage)

III. Short answer questions. Answer *five* questions :

- 22 Distinguish between Hardware and Software.
- 23 Differentiate between Internet and Intranet.
- 24 How is a Patent different from a Copyright ?
- 25 What is a Machine language ? How does it differ from Programming language ?
- 26 Write a short note on GenBank.
- 27 Differentiate between Pair-wise and Multiple sequence alignment and describe their use in phylogenetic analysis.
- 28 What are the special features of the EMBL database ?

(5 × 2 = 10 weightage)

IV. Essay questions. Answer any *two* questions :

- 29 Write an essay on the role of the Internet in informatics with reference to exchange and processing of information.
- 30 Write an essay on primary and secondary biological database. Give *two* examples for each.
- 31 Compare, contrast and highlight the role of Proteomics and Metabolomics in Medicine.

(2 × 4 = 8 Weightage)