K18U 0150

Reg. No. : ....

Name : ....

VI Semester B.Sc. Degree (CBCSS – Reg./Supple./Imp.) Examination, May 2018
CORE COURSE IN ZOOLOGY
6B10ZLG : Molecular Biology and Bioinformatics
(2014 Admn. Onwards)

Time : 3 Hours

Max. Marks : 40

Instructions : 1) Answer may be written either in **English** or **Malayalam**.
2) Give illustrations **wherever** necessary.

SECTION – A
(Molecular Biology)

I. Answer **any one** :

8

1) Explain the process of Protein synthesis.
2) Describe the process of DNA replication and DNA repair.

II. Answer **any one** :

4

3) Explain the process of gene cloning.
4) Make a note on Hershey and Chase Experiment.

III. Answer **any three** :

(3×2=6)

5) One Gene one Enzyme hypothesis.
6) What is genetic code ? Write any two characteristics of genetic code.
7) Make a note on Lac Operon.
8) Cloning vectors.
9) Note on central dogma.

IV. Answer **two** of the following :

(2×1=2)

10) Which of the following is termination codon ?
    a) UAG   b) UGA   c) UAA   d) All these

11) No. of hydrogen bonds between Adenine and Thymine is
    a) 4   b) 3   c) 2   d) 1

12) Extra chromosomal bacterial DNA is called
    a) Cosmid   b) Plasmid   c) Muton   d) None of these

13) A segment of DNA coding for a polypeptide is called
    a) Muton   b) Recon   c) Cistron   d) Intron

P.T.O.

SECTION – B
(Informatics and Bio Informatics)

V. Answer **any one** :   8

14) Explain DNA sequencing and its applications.

15) Make a note on various metabolite and secondary databases.

VI. Answer **any one**.   4

16) Describe the role of internet in bioinformatics.

17) Make a brief note on metabolomics.

VII. Answer **any three**.   (3×2=6)

18) Write any four applications of bioinformatics.

19) Mention about EMBL.

20) Note on digital libraries.

21) Differentiate CLUSTAL W and CLUSTAL X.

22) Comment on INFLIBNET.

VIII. Answer **two** of the following :   (2×1=2)

23) Which of the following is a protein sequence data base ?
    a) PIR   b) NCBI
    c) PAGE   d) None of these

24) Which one of the following is not a tool in proteomics ?
    a) 2D PAGE   b) Mass Spectrometry
    c) Gel Electrophoresis   d) EcoCye

25) The entire protein complement of an organism is called

26) Expand NCBI.

27) Match the following :

A	B
a) Secondary data base	Mass spectroscopy
b) Metabolite data base	BLAST
c) Metabolomics	Blocks
d) Sequence alignment	KEGG