



K20U 0156

Reg. No. : .....

Name : .....

VI Semester B.Sc. Degree (CBCSS – Reg./Supple./Improv.)

Examination, April 2020

(2014 Admission Onwards)

CORE COURSE IN ZOOLOGY

6B10 ZLG : Molecular Biology and Bioinformatics

Time : 3 Hours

Max. Marks : 40

**Instructions :** Answer may be written either **English** or **Malayalam**.

Give illustrations **wherever** necessary.

SECTION – A  
(Molecular Biology)

I. Answer **any one**.

- 1) Explain on regulation of gene action with respect to Lac operon.
- 2) Explain on DNA replication and mention the role of various Enzymes in DNA replication.

II. Answer **any one**.

- 3) Describe Griffith Experiments.
- 4) Make a note on any two Cloning Vectors.

III. Answer **any three**.

- 5) Explain Central Dogma.
- 6) Describe various characteristics of Genetic code.
- 7) Give an account on mitochondrial genome.
- 8) Differentiate between Split genes and Jumping genes.
- 9) Note on amino acid activation.

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

- 10) Initiation codon is  
a) UAA                      b) AUG                      c) UUU                      d) CGA
- 11) Which RNA is called soluble RNA ?  
a) t RNA                      b) m RNA                      c) r RNA                      d) Both a) and c)

P.T.O.



- 12) Extrachromosomal Bacterial DNA is called .....  
 a) Plasmid      b) Vector      c) Intron      d) All these
- 13) The term nucleic acid was coined by \_\_\_\_\_

SECTION – B  
 (Informatics and Bioinformatics)

V. Answer **any one**.

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- 14) Explain various types of Data base search engines.  
 15) Write a brief notes on major data bases in Bioinformatics.

VI. Answer **any one**.

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- 16) Explain on Gel electrophoresis and Mass spectrophotometry.  
 17) Write note on various application of Bioinformatics.

VII. Answer **any three**.

(3×2=6)

- 18) Genomics  
 19) FASTA  
 20) Metabolomics  
 21) Data analysis  
 22) Digital libraries.

VIII. Answer **any two** of the following :

(2×1=2)

- 23) Gene Bank is run by  
 a) NCBI      b) EBI      c) EMBL      d) DDBI
- 24) Which of the following is not a secondary Data Base ?  
 a) PROSITE      b) PRINTS      c) BLOCKS      d) DDBJ
- 25) KEGG is a \_\_\_\_\_
- 26) Expand NCBI.
- 27) Match the following :

A	B
a) Internet	Floppy disc
b) Secondary storage	Fire Fox
c) Web site	Key Board
d) Input Device	Printer
	Dial up