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.

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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

K17U 0395

Reg. No. : .....

Name : .....

VI Semester B.Sc. Degree (CBCSS – Regular) Examination, May 2017
CORE COURSE IN ZOOLOGY
6B10ZLG : Molecular Biology and Bioinformatics
(2014 Admn.)

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** : **(1×8=8)**

1) Explain the operon concept with reference to Lac operon.
2) Describe the process of DNA replication and DNA repair.

II. Answer **any one** : **(1×4=4)**

3) Explain genetic code.
4) Make a note on Griffith transformation experiments.

III. Answer **any three** : **(3×2=6)**

5) One gene one enzyme hypothesis.
6) What is the role of molecular chaperons ?
7) Make a note on tRNA.
8) Differentiate between Plasmid and Cosmids.
9) Note on central dogma.

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

10) Which of the following is an Initiation Codon ?
a) AUG b) UUU c) UAA d) UUC

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

12) Which of the following is not a restriction endonuclease ?
a) Eco RI b) Hind III c) DNA Helicase d) Pvu II

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

P.T.O.

K17U 0395

SECTION – B

(Informatics and Bio Informatics)

V. Answer **any one** : (1×8=8)

14) Explain DNA sequencing and its applications.

15) Make a note on various primary databases.

VI. Answer **any one** : (1×4=4)

16) Give a brief account on Gel Electrophoresis.

17) Mention about INFLIBNET.

VII. Answer **any three** : (3×2=6)

18) Write any four applications of Bioinformatics.

19) Mention about Swiss Port.

20) Note on digital libraries.

21) What is multiple sequence alignment ?

22) What is micro array ? Mention its uses.

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

23) Which of the following is a protein sequence database ?

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 BLAST.

27) Match the following :

	A	B
a	Secondary database	Mass spectroscopy
b	Metabolite database	Archival Databanks
c	Metabolomics	Blocks
d	Primary database	KEGG