

E-7331

M.Sc. (IIIrd Semester) Examination, 2021

BIOTECHNOLOGY

(Bioinformatics)

Time Allowed : Three Hours

Maximum Marks : 70

SECTION - A

Note : Attempt any ten questions.

10×1=10

Q. 1. Objective type :

(i) The length of one turn of DNA is _____.

(a) 3.4 Å

(b) 34 Å

(ii) Only protein can be biological catalysts.

(True/False)

(iii) The term enzyme was coined by _____.

Grey Miller / Buchner

(iv) Deficiency of Insulin causes _____.

Diabetes incipidus / Diabetes mellitus

(2)

(v) The term genomics was coined by _____.

T.H. Morgan / Thomas Roder

Multiple choice type :

(vi) Instantaneous source of energy is :

(a) Glucose

(b) Fats

(c) Proteins

(d) Amino Acids

(vii) TEM is about magnification obtained by :

(a) 1-2 lac times

(b) 2-4 lac times

(c) 10000-20000 times

(d) None

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(3)

(viii) Each record in a database is called an :

- (a) Entry
- (b) File
- (c) Record
- (d) Ticket

(ix) S.A. Waksman was a well known :

- (a) Phycologist
- (b) Microbiologist
- (c) Bryologist
- (d) None of these

(x) Which of these is not an artificial chromosome :

- (a) YAC
- (b) BAC
- (c) PUC
- (d) HAC

(4)

(xi) Which technique is used to separate desired

m-RNA :

- (a) Southern Blotting
- (b) Northern Blotting
- (c) Western Blotting
- (d) Eastern Blotting

(xii) SV-40 is a :

- (a) Vector
- (b) Plasmid
- (c) Cosmid
- (d) Phagemid

SECTION - B

Note : Attempt any five questions.

2×5=10

Q. 2. Very short answer type :

(5)

- (i) What is Gen Bank ?
- (ii) Difference between of BLAST & FASTA.
- (iii) Write the short note Nucleic Acid.
- (iv) What is meant by Impact Factor.
- (v) What is Gene Map Maker ?
- (vi) What is EST sequencing strategies ?
- (vii) Functions of Protein.
- (viii) What is Red Data Book ?
- (ix) What are motor proteins ?
- (x) Explain the role of origin recognition complex in replication.

SECTION - C

Note : Attempt any five questions. **4×5=20**

Q. 3. Short answer type questions :

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(6)

- (i) Explain RNA editing.
- (ii) Explain molecular evolution.
- (iii) Describe DNA finger printing.
- (iv) Explain the protein engineering.
- (v) Discuss the clone contig approach of genome annotation.
- (vi) Briefly explain the human genome assembly.
- (vii) Discuss the importance of Biological databases in Bioinformatics.

SECTION - D

Note : Attempt any three questions. **10×3=30**

Q. 4. Essay type questions :

- (i) Describe of introduction to bioinformatics. Definition history and aims.

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(7)

- (ii) Give an account on the methods of submitting
DNA sequences to the databases.
- (iii) How do you analyze the gene prediction result
from Genscan, Genmark, Frame D and EST
search ?
- (iv) Describe the protein chip technology and
functional proteomics.
