

**G-4/408/21**

Roll No. ....

**M.Sc. IV Semester Examination, 2021****BIOTECHNOLOGY****Paper IV****(Genomics and Proteomics)**

Time : 3 Hours ]

[ Max. Marks : 80

**Note :** All questions are compulsory. Question Paper comprises of 3 sections. Section A is objective type/multiple choice questions with no internal choice. Section B is short answer type with internal choice. Section C is long answer type with internal choice.

**SECTION A****1×8=8****(Objective Type/Multiple Type Questions)**

Choose the correct answer :

1. Name the phenomenon which shows the lack of correlation in genome size and genetic complexity.  
(a) Histogram                      (b) Karyogram  
(c) Dendrogram                      (d) C-value paradox
2. Sequencing of genomic DNA is included in :  
(a) Phenotypic function  
(b) Cellular function

(c) Molecular function

(d) Structural genomics

3. HGP (human genome project) gave a new area in biology called as :  
(a) Bioscience                      (b) Bioinformatics  
(c) Biochemistry                      (d) Biological Sciences
4. The shotgun approach ..... sequences clones from ..... of cloned DNA.  
(a) randomly, one end  
(b) randomly, both end  
(c) specifically, both end  
(d) specifically, one end
5. .... is the large scale study of proteins.  
(a) Genomics                      (b) Proteomics  
(c) Both A and B                      (d) Bioinformatics
6. Which of the following is an example of homology and similarity tool ?  
(a) BLAST                      (b) Ras Mol  
(c) EMBOSS                      (d) PROSPECT
7. In which year did the SWISSPROT protein sequence database begin ?  
(a) 1988                      (b) 1985  
(c) 1986                      (d) 1987

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8. Which of the following compound has desired properties to become a drug ?

- (a) Fit drug                      (b) Lead  
(c) Fit compound              (d) All of the above

### SECTION B

6×4=24

(Short Answer Type Questions)

#### Unit-I

1. Explain comparative genomics.

*Or*

Discuss genome mapping.

#### Unit-II

2. Discuss about EST.

*Or*

Write note on genome prediction.

#### Unit-III

3. Discuss about protein chip.

*Or*

Write about system biology.

#### Unit-IV

4. Write about protein database.

*Or*

Discuss about expression analysis.

### SECTION C

12×4=48

(Long Answer Type Questions)

#### Unit-I

1. Discuss about types of genomics and future of genomics.

*Or*

Explain about functional genomics.

#### Unit-II

2. Discuss about human genome project.

*Or*

Explain single nucleotide polymorphism (SNPs).

#### Unit-III

3. Explain structural and functional proteomics.

*Or*

Discuss application of proteomics.

#### Unit-IV

4. Write note on protein-protein interactions.

*Or*

Discuss about global analysis of protein.

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