

PSG COLLEGE OF ARTS & SCIENCE  
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2022  
(Second Semester)

Branch – BIOTECHNOLOGY

INTRODUCTION TO BIO-INFORMATICS

Maximum: 50 Marks

Time: Three Hours

SECTION-A (5 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(5 x 1 = 5)

1. HTML is the standard \_\_\_\_\_ language for creating web pages.  
(i) Scripting (ii) Programming  
(iii) Markup (iv) Styling
2. Clustal W program accepts the input sequences only in the \_\_\_\_\_ format.  
(i) Gene Bank (ii) EMBL  
(iii) PDB (iv) FASTA
3. The process of finding the relative location of genes on a chromosome is called \_\_\_\_\_  
(i) Gene tracking (ii) Genome walking  
(iii) Genome mapping (iv) Chromosome walking
4. What is meant by docking?  
(i) The process by which a lead compound is simplified by removing excess functional groups  
(ii) Drugs are fitted into their target binding sites using molecular modeling  
(iii) Both a & b  
(iv) None of these
5. Identify the animal model particularly useful for studying embryology?  
(i) Zebrafish (ii) Mice  
(iii) *C.elegans* (iv) *Drosophila*

SECTION - B (15 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks (5 x 3 = 15)

6. a) State a brief note on EST.  
(OR)  
b) Discuss the markup and scripting languages.
7. a) Explain the details of PAM matrix.  
(OR)  
b) Give an account on PAUP.
8. a) Analyse the concept of genome annotation.  
(OR)  
b) Determine the concept of vector screening.
9. a) Differentiate homology modelling and threading.  
(OR)  
b) Discuss briefly about the CATH.

Cont...

10. a) Sketch the significance of SNP's.

(OR)

b) Summarize the details about Medline.

**SECTION -C (30 Marks)**

Answer ALL questions

ALL questions carry EQUAL Marks (5 x 6 = 30)

11. a) Elucidate the concept and applications of RDBMS.

(OR)

b) Explain in detail about sequence submission and file formats.

12. a) Elucidate the concept of BLAST? And write its uses.

(OR)

b) Analyse the details about the UPGMA.

13. a) Categorize the types of micro-array and write its applications.

(OR)

b) Compare the difference between probe and primer.

14. a) Interpret the concept and applications of RasMol.

(OR)

b) Describe in detail about Swiss - PDB Viewer.

15. a) Illustrate the trends of metabolomics in biological science.

(OR)

b) How model organisms used in bio-informatics – Justify.

Z-Z-Z END