

PSG COLLEGE OF ARTS & SCIENCE  
(AUTONOMOUS)

MSc DEGREE EXAMINATION DECEMBER 2018  
(Second Semester)

Branch **BIOTECHNOLOGY**

**BIOINFORMATICS**

Time: Three Hours

Maximum: 75 Marks

Answer **ALL** questions  
**ALL** questions carry **EQUAL** marks (2 + 5+ 8)

- 1 a What is RDBMS?  
b Comment on STS, GSS and PISS & their significance.  
c Elaborate in detail on genome databases,  
OR  
d What is EST?  
e Make a note on tools for data mining,  
f Describe in detail on protein Databases.
- 2 a What is PAM?  
b Give a short account on BLAST.  
c Exemplify phylogenetic analysis in detail.  
OR  
d What is PHI BLAST?  
e Give a short account on FASTA.  
f Explain in detail on PAM and BLOSUM.
- 3 a Define Genome annotation.  
b How to analyze regulatory regions in genome?  
c Write a detailed note on principle and applications of Microarray.  
OR  
d What is gene modeling?  
e Comment on ORF prediction.  
f Discuss in detail on tools for restriction mapping.
- 4 a What is CATH?  
b Give a short account on PDB.  
c Explain in detail on Molecular Visualization tools.  
OR  
d What is SCOP?  
e Write a short note on properties of protein sequence analysis,  
f Elaborate on structure prediction using homology modeling.
- 5 a What is docking?  
b Make a short note on E cell, V cell and M cell.  
c Explain in detail on genome databases of *Escherichia coli* and *Saccharomyces cerevisiae*.