

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2023
(Fifth Semester)

Branch – BIOTECHNOLOGY

GENOMICS AND PROTEOMICS

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

(5X 1=5)

Answer ALL Questions

ALL Questions carries EQUAL marks

1. The three-dimensional structure of DNA can be described by _____
(i) Vacuum filtration (ii) X-ray crystallography
(iii) Gel electrophoresis (iv) Mass spectroscopy
2. Which of the following methodology is used to identify all the genes that are expressed as RNA in Human Genome Project (HGP)?
(i) Sequence Annotation (ii) Expressed Sequence Tags
(iii) Karyotyping (iv) Ammonification
3. The study of the full complement of proteins expressed by a genome is called _____
(i) Proteome (ii) Proteomics
(iii) Genomics (iv) Protein formation
4. Drugs that block the binding site of an enzyme form a substrate are called _____
(i) Inhibitors (ii) poisons
(iii) messengers (iv) receptors
5. The PCR technique was developed by_____.
(i) Kohler (ii) Altman
(iii) Milstein (iv) Kary Mullis

SECTION - B

(5 X 3=15)

Answer any ALL Questions

ALL Questions carry EQUAL marks

6. (a) Explain about Structural genomics.
OR
(b) Explain gene duplication.
7. (a) Write notes on goals of the human genome project.
OR
(b) Explain about Exon shuffling.

Cont...

8. (a) Describe about LC-MS.
OR
(b) Explain Yeast Two Hybrid System.
9. (a) What is pharmacogenomics? State its importance.
OR
(b) Explain the role of High-Throughput Screening in Drug Discovery.
10. (a) Explain about Metabolomics.
OR
(b) Explain about Peptide microarray.

SECTION -C

(5 X 6 =30 Marks)

Answer any **ALL** Questions
ALL Questions carry **EQUAL** marks

11. (a) Explain with a diagram Genomic organization of prokaryotes.
OR
(b) Describe Genome annotation.
12. (a) Briefly explain shotgun sequencing.
OR
(b) Write in detail about Orthologue and Parologue.
13. (a) Briefly explain SAGE.
OR
(b) Give detailed account on MALDI-TOF Mass Spectrometry.
14. (a) Briefly explain genomic medicine and state its applications.
OR
(b) Give detail notes on schematics of Drug development process.
15. (a) Describe Microarray Technique and its applications.
OR
(b) Compare protein arrays and DNA micro arrays.

Z-Z-Z

END