11BTU19

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION JUNE 2014
(Fifth Semester)

Branch – **BIOTECHNOLOGY**

GENOMICS AND PROTEOMICS

Time : Three Hours Maximum : 75 Marks

SECTION-A (20 Marks)
Answer **ALL** questions
ALL questions carry **EQUAL** marks (10 x 2 = 20)

1 Give the structure and any two functions of telomeres.
2 What is RH mapping?
3 Illustrate shot gun sequencing.
4 Write the significance of DNA testing in diagnosis of Huntington's disease.
5 Define orthologs and paralogs.
6 Give a short note on transcriptomics.
7 Write short note on genome-proteome relationship.
8 What is the principle of 2D PAGE?
9 Define the term proteomics.
10 Write note on phage display.

SECTION - B (25 Marks)
Answer **ALL** Questions
ALL Questions Carry **EQUAL** Marks (5 x 5 = 25)

11 a Illustrate mapping of genome using pedigree analysis using one suitable example.

OR

b Write the fundamental structural components that are necessary for BAC.

12 a What is human genome project and give its significances?

OR

b Write a short account on genotypic arrays of hemophilia.

13 a Give a note on comparative genomics of eukaryotes.

OR

b Define the term pharmacogenomics and give its advantages.

14 a Give the various strategies in proteomics.

OR

b Write the principle and technique of isoelectric focussing.

15 a What are protein microarray? Give any three of its applications.

OR

b Explain yeast two hybrid system.

SECTION - C (30 Marks)
Answer any **THREE** Questions
ALL Questions Carry **EQUAL** Marks (3 x 10 = 30)

16 Elaborate on organization of nuclear DNA in eukaryotes.

17 Write short note on: (i) Hierachial sequencing
(ii) Pathogenesis and disease spectrum of cystic fibrosis.

18 Explain expression profiling and analysis of microarray data.

19 Give a detailed account on protein sequencing and peptide finger printing.

20 Write an account on Metabolite analysis and an outline on metabolomics.

Z-Z-Z END