PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2017
(Fifth Semester)

Branch - **MICROBIOLOGY**

PRINCIPLES OF GENETIC ENGINEERING

Time : Three Hours . Maximum : 75 Marks

SECTION-A (20 Marks)
Answer **ALL** questions
ALL questions cam'**EQUAL** marks (10x2 = 20)

1 Cosmids.
2 ' DNA gyrase.
3 Shuttle vectors.
4 Genomic DNA.
5 YEP.
6 Methylase.
7 Ri plasmid.
8 Probe.
9 Isocaudomers.
10 MCS.

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

11 a Explain the types and nomenclature of Restriction enzymes.
OR
b Discuss on significance of ligase enzyme in rDNA technology.

12 a Write about general characteristics of Cloning.
OR
b Differentiate between Phagemid and Cosmid.

13 a Explain about the construction of Baculo viral vectors.
OR
b Write a note on shuttle vector with examples.

14 a Write a note on chemical method of DNA sequencing.
OR
b Write in detail the principle and applications of Northern Blotting.

15 a Write about the construction of Genomic Library.
OR
b Explain about the natural methods of gene transfer.

SECTION - C (30 Marks)
Answer any **THREE** Questions
ALL Questions Carry **EQUAL** Marks (3 x 1 0 = 30)

16 Give a detailed account on various types of plasmid vectors and their applications.

17 Write the principle, process and applications of Western Blotting technique.

18 Write in detail about the various screening techniques employed in rDNA technology.

19 Write in detail about yeast based eukaryotic vectors and their applications.

20 . Write the principle, process, types and applications of PCR.

Z-Z-Z END