

**PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)**

**BSc DEGREE EXAMINATION DECEMBER 2018
(Fifth Semester)**

Branch - **MICROBIOLOGY**

PRINCIPLES OF GENETIC ENGINEERING

Time : Three Hours

Maximum : 75 Marks

SECTION-A (20 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** marks (10 x 2 = 20)

- 1 PBR 332.
- 2 DNA ligase.
- 3 Baculo virus.
- 4 cDNA library.
- 5 YIP.
- 6 Taq polymerase.
- 7 Ti Plasmid.
- 8 Primer.
- 9 Transduction.
- 10 Marker genes.

SECTION - B (25 Marks)

Answer **ALL** Questions

ALL Questions Carry **EQUAL** Marks (5 x 5 = 25)

- 11 a Discuss about the significance of homopolymer tailing.
OR
b Write a note on host cell restriction modification .
- 12 a Explain construction of Lambda phage replacement vectors.
OR
b Discuss on Insertional inactivation with example.
- 13 a Explain about the construction of PBR³²² vector.
OR
b Write a note on significance of transfection in gene cloning.
- 14 a Explain Immunological screening of clones.
OR
b Explain the construction of genomic DNA.
- 15 a Write a note on enzymatic method of DNA sequencing.
OR
b Write the principle and application of PCR.

SECTION - C (30 Marks)

Answer any **THREE** Questions

ALL Questions Carry **EQUAL** Marks (3 x 10 = 30)

- 16 Explain in detail about the types, nomenclature, modification and applications of restriction enzymes.
- 17 Write in detail about M13 phage vector and its applications in recombinant technology.
- 18 Write in detail about cloning strategies and gene transfer methods.