

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION DECEMBER 2018
(Second Semester)

Branch - **BIOCHEMISTRY**

MOLECULAR GENETICS

Time: Three Hours

Maximum: 75 Marks

SECTION -A (30 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** Marks (5 x 6 = 30)

- 1 a Explain Bacterial transposons.
OR
b Write a note on Mutagenesis.
- 2 a Discuss mitochondrial DNA replication with neat sketches.
OR .
b Describe the types of Recombination.
- 3 a Give short note on structure and functions of common DNA binding motifs.
OR
b Write a note on various structural motifs of RNA.
- 4 a Explain POU class 1 and POU class 2 transcription factor.
OR
b Discuss the role of c-Jun in Brain function.
- 5 a Write a note on strategies for viral gene expression.
OR
b Describe the molecular biology of AIDS.

SECTION -B (45 Marks)

Answer any **THREE** questions

ALL questions carry **EQUAL** Marks (3 x15 = 45)

- 6 Discuss in detail about Multigene families.
- 7 Explain cytoplasmic inheritance with suitable example.
- 8 Discuss the various binding techniques with suitable diagram.
- 9 Describe the calcineurin / NFAT signaling in development and functions of nervous system.
- 10 Discuss the Baltimore classification of replication.