

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2018
(Second Semester)

Branch – **APPLIED MICROBIOLOGY**

MOLECULAR BIOLOGY

Time: Three Hours

Maximum: 75 Marks

SECTION -A (30 Marks)

Answer **ALL** questions

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

- 1 a How the structure and function of chromatin is modified by methylation of Histone? Explain the mechanism in detail.
OR
b Write the basic structure and formation of super family.
- 2 a Write a brief note on the Meselson Stahl and autoradiographic experiments to prove DNA replication is semi conservative.
OR
b Give an account on the Autonomous replication sequences of Yeast.
- 3 a Give an account on the RNA editing mechanism.
OR
b Write a short notes on the processing of mRNA.
- 4 a What is meant by protein modification? Explain the process in detail.
OR
b Briefly illustrate the process of protein degradation.
- 5 a Write a short notes on the Gene regulation process of Bacteriophages.
OR
b Give a brief note on the structure and regulation of Lac operon.

SECTION -B (45 Marks)

Answer any **THREE** questions

ALL questions carry **EQUAL** Marks (3 x 15 = 45)

- 6 Explain the structural organization of microbial genome and add a note on the specialized features of microbes.
- 7 Give a detailed account on the process of Eukaryotic DNA replication with it's enzymology.
- 8 Write in detail about the Transcription mechanism of prokaryotes with suitable diagram.
- 9 Give an account on the mechanism of Translation in eukaryotes with its' regulation.
- 10 What is meant by Genetic code? Elaborate it's properties and add a note on codon assignments.