

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2017
(Third Semester)

Branch ~ **MICROBIOLOGY**

MOLECULAR BIOLOGY

Time : Three Hours

Maximum : 75 Marks

SECTION-A (20 Marks)

Answer **ALL** questions

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

- 1 Write a hint on DNA polymerase.
- 2 Define : DNA Replication.
- 3 What are promoters of transcription?
- 4 Name any two inhibitors of transcription.
- 5 What are start codons?
- 6 What is Genetic code?
- 7 Name the structural genes of trp operon.
- 8 Define : repressor. Give one example.
- 9 What are Exons?
- 10 What is DNA looping?

SECTION - B (25 Marks)

Answer **ALL** Questions

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

- 11 a Explain the structure of DNA double helix with a neat diagram.
OR
b What is Meselson & Stahl experiment? How is it useful in molecular biology?
- 12 a Brief out the Rho dependent and independent inhibition of transcription.
OR
b Give the structure and functions of RNA Pol.
- 13 a What are Ribosomes? Explain their structure.
OR
b How aminoacids are activated for translation?
- 14 a Explain the positive and negative control of gene expression.
OR
b How attenuation works on Trp operon?
- 15 a Explain the interaction with histones.
OR
b Write about promoters and enhancers.

SECTION - C (30 Marks)

Answer any **THREE** Questions

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

- 16 Explain the enzymes involved in DNA replication.
- 17 Explain the methodology of transcription.
- 18 What are the post translational modifications?
- 19 Give a detailed account on Lac operon.
- 20 Write about mRNA - splicing.