

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BSc DEGREE EXAMINATION MAY 2019
(Third Semester)

Branch - **MICROBIOLOGY**

MOLECULAR BIOLOGY

Time : Three Hours

Maximum : 75 Marks

SECTION-A (20 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** marks (10x2 = 20)

- 1 SSB proteins.
- 2 Chargaff's rules.
- 3 Inhibitors.
- 4 Pribnow box.
- 5 Central Dogma.
- 6 Wobble hypothesis.
- 7 Define operon.
- 8 Repression.
- 9 Promoters.
- 10 Exons.

SECTION - B (25 Marks)

Answer **ALL** Questions

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

- 11 a Describe the double helical structure of DNA.
OR
b Explain the Meselson and Stahl's experiment.
- 12 a Give a short note on post transcriptional modification process of tRNA.
OR
b Write about structure and function of RNA polymerase enzyme.
- 13 a List out the properties of genetic code.
OR
b Explain the inhibitor of translation.
- 14 a Write about operon concept.
OR
b Briefly explain about positive and negative control of Lac operon.
- 15 a Explain about mRNA splicing.
OR
b Discuss the intron & exons concept.

SECTION - C (30 Marks)

Answer any **THREE** Questions

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

- 16 Give a detailed note on prokaryotic DNA replication.
- 17 Explain in detailed about mechanism of transcription.
- 18 . Explain the translation process.
- 19 Write an account on regulation of gene expression in prokaryotes.
- 20 Discuss the hormonal control of gene expression.