

**PSG COLLEGE OF ARTS & SCIENCE**  
(AUTONOMOUS)  
**BSc DEGREE EXAMINATION MAY 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 (10x2 = 20)

- 1 Left-handed DNA.'
- 2 Primases.
- 3 Polycistronic m RNA.
- 4 Actinomycin D.
- 5 Wobble hypothesis.
- 6 70 S ribosome .
- 7 Regulatory proteins.
- 8 Attenuation.
- 9 Enhancers.
- 10 Cliromatin.

**SECTION - B (25 Marks!)**

Answer **ALL** Questions

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

- 11 a Write a note on the structural features of A-, B- and Z DNA.  
**OR ; .**  
b Explain on the experiment that proved semi-conservative moe of DNA replication.
- 12 a Brief on the role of termination proteins in transcription.  
**OR**  
b Brief on the post transcriptional modification of r RNA.
- 13 a Explain the structure of t-RNA.  
**OR**  
b Give a note on the inhibitors of translation in prokaryotes.
- 14 a Explain on operon concept. Write a note on the types of control of operons.  
**OR**  
b Explain positive regulation of Lac operon.
- 15 a Define RNA splicing. Brief on the mechanism of m-RNA splicing.  
**OR**  
b What are Histones? Elaborate on the functions of histones.

**SECTION - C (30 Marks)**

Answer any **THREE** Questions

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

- 16 Give an account on DNA polymerases and their functions.
- 17 ' Explain the structure of RNA polymerase and the binding of the enzyme to the DNA template.
- 18 Explain on the process of translation with neat labeled diagram.
- 19 Trp operon is an example for negatively controlled repre\$\$sible operon - Discuss.
- 20 Explain on the Hormonal control of gene expression with suitable examples.