14BOP06

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION DECEMBER 2018
(Second Semester)

Branch **-BOTANY**

ADVANCED 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 Explain the pattern of polypeptide backbone folding.

OR

b Enumerate the bonds that stabilize the secondary and tertiary structures of protein.

2 a Describe the nucleosome configuration of chromatin.

OR

b Differentiate between RNA and DNA.

3 a How does the primary transcript RNA undergo post-transcriptional changes?

OR

b Differentiate between the roles of :
(i) DNA - dependent DNA polymerase ; (ii) DNA dependent RNA polymerase
(iii) RNA - dependent DNA polymerase; (iv) RNA - dependent RNA polymerase

4 a Compare the organization of bacterials mRNA with that of eukaryote.

OR

b Elucidate the configuration of the 80S ribosome.

5 a Compare the molecular mechanism of Negative Regulation and Positive Regulation.

OR

b Explain the phenomenon Of catabolic repression with an example.

SECTION -B (45 Marks)

Answer any **THREE** questions
ALL questions carry **EQUAL** Marks (3 x 1 5 = 45)

6 What are chaperons? Discuss their configuration and role in protein targeting.

7 Draw the replication fork. Explain the events and the role of the enzymesTound thereof.

8 Discuss the molecular mechanism of DNA repair in *E. Coli.*

9 Elucidate the process of translation in *E. Coli.*

10 How do eukaryotes regulate the expression of their genes?

Z-Z-Z END