

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2019
(Third Semester)

Branch - **MICROBIOLOGY**

MOLECULAR BIOLOGY

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** marks (10 x 1 = 10)

- 1 Which of the following type of DNA has 12 base pair per fem.?
 (i) A form (ii) Form
 (iii) C form (iv) Z form
- 2 Which is of the following is called as komberg enzyme?
 (i) Helicare (ii) DNA polymerare I
 (iii) DNA polymerable II (iv) DNA polymerable III
- 3 -35 requence is also calaled as
 (i) Recogirition sequence (ii) Start sequence
 (iii) Temrination sequence (iv) None of the above
- 4 T-stem of t-RNA has _____ unpaired bares.
 (i) 3 (ii) 7
 (iii) 10 (iv) 12
- 5 Which of the following is the amber condon?
 (i) UAA (ii) UGA
 (iii) UAG (iv) GAO
- 6 Which of the following increases gere expression asmuch as 200-fold?
 (i) TATA box (ii) Insulator
 (iii) Enhancer (iv) CAAT box
- 7 B-galactosidare breaks lactose into
 (i) Glucose & galactore (ii) Glucose & glucose
 (iii) Glucose & malt ore (iv) Glucose & sucrose
- 8 The loc repressor has which of the following DNA-binding motif?
 (i) Helx-fum-helx (ii) Zinc finger
 (iii) Home domain (iv) Levicine Zippu
- 9 Who explained the wobble hypothesis?
 (i) Danvin (ii) Watson & crick
 (iii) Weiss (iv) Nivenberg
- 10 A polysome could be best described as
 (i) As active sit e of DNA synthesis
 (ii) An active site of protein synthesis
 (iii) An active site of lipid synthesis
 (iv) All the above

Cont...

SECTION - B (35 Marks)

Answer **ALL** Questions

ALL Questions Carry **EQUAL** Marks (5 x 7 = 35)

- 11 a Differentiate between B-form & Z-form of DNA.
OR
b Which experiment proved the semi-conservative replication of DNA.
- 12 a Explain the structure of function of RNA polymease.
OR
b What are the 3 steps of M-RNA processing?
- 13 a What are the characteristics of Genetic code?
OR
b How does amino acid bind to tRNA?
- 14 a What is attenuator control?
OR
b What is the difference between inducible & repressible operon?
- 15 a Explain the mechanism of M-RNA splicing.
OR
b How do histones interact with DNA?

SECTION - C (30 Marks)

Answer any **THREE** Questions

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

- 16 Give an account on enzymes involved in DNA replication.
- 17 How transcription is initiated in prokaryotes?
- 18 Why is post-translation modification important?
- 19 Explain Lac operon concept.
- 20 How does hormones control gene expression?

Z-Z-Z

END