

[110]

SEAT No. \_\_\_\_\_

No. of Printed Pages: 2

( ) SARDAR PATEL UNIVERSITY  
M. Sc. Integrated Biotechnology, Fourth Semester Examination  
Day and Date: Friday, 29-03-2019  
Time: 10:00 am to 1:00 pm  
Paper Code and Subject: PS04CIGB05, Molecular Biology-II

Total Marks: 70

Q-1 Multiple choice questions (All are compulsory).

[08]

- (1) The base found in DNA nucleotides but not in RNA is .....  
a) Uracil b) Adenine c) Guanine d) Thymine
- (2) The function of RNA polymerase is  
a) DNA synthesis b) RNA synthesis c) both a and b d) None of these
- (3) The amino acid methionine is always coded by  
a) TAC b) UAA c) UAG d) AUG
- (4) DNA polymerase I was discovered by  
a) Arthur Kornberg b) Watson c) Crick d) Griffith
- (5) Transfer RNA's during translation bind by the  
a) Amino acid b) mRNA c) Ribosomes d) All of the above
- (6) mRNA is in ..... form.  
a) Single stranded b) double stranded c) both a and b d) None of these
- (7) The process of translation is  
a) DNA synthesis b) RNA synthesis c) Protein synthesis d) All of these
- (8) Which strand below would make the sequence 5' AAACGCTT 3' a double stranded DNA molecule?  
a) 5' TTTGCGAA3' b) 5' UUUGCGUU 3' c) 5' AAGCGUUU 3' d) 5' AAGCGTTT 3'

Q-2 Answer the following questions in short. (Any Seven)

[14]

- (1) Write a note on proofreading activity.
- (2) Define semiconservative mode of replication.
- (3) What do you mean by polymerizing activity?
- (4) What do you mean by RNA?
- (5) Write a short note on DNA.
- (6) Write a note on RNA polymerase.
- (7) Write a note on triplet codon.
- (8) What do you mean by transposon?
- (9) Write a note on chemical mutagen.

(P.T.O)

①

- Q-3 (A) Discuss Initiation of DNA replication in detail [06]  
(B) Explain elongation of DNA stands in DNA replication. [06]

OR

- (B) Discuss the process of termination in prokaryotes. [06]  
Q-4 (A) Explain how the initiation process is carried out in transcription? [06]  
(B) Explain rho dependent and rho independent mechanism of transcription termination. [06]

OR

- (B) Explain elongation of transcription in detail. [06]  
Q-5 (A) Discuss initiation in prokaryotic translation? [06]  
(B) Explain the process of termination in prokaryotic Translation. [06]

OR

- (B) Explain the structure of ribosome and discuss the charging of tRNA. [06]  
Q-6 (A) Explain the mechanism of Lactose (lac) operon. [06]  
(B) Explain the mechanism of Tryptophan (trp) operon. [06]

OR

- (B) Explain mutation in detail. [06]

— X —  
(2)