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No. of Printed Pages: 2

[17/A-3]

() SARDAR PATEL UNIVERSITY
M. Sc. Integrated Biotechnology, Fourth Semester Examination
Day and Date: Thursday, 27-10-2016
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) dNTP addition b) rNTP addition c) both a and b d) None of these
- (3) The first mRNA codon to specify an amino acid is always
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 bind during translation by the
a) Codon b) Anticodon c) Template d) None
- (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 of the following is not an effect of a mutation?
a) prevents a protein from forming b) lowers the amount of a protein
c) adds a function to a protein d) any of the above can occur

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 promoter region?
- (5) Write a short note on tRNA.
- (6) Write a note on RNA polymerase.
- (7) Write a note on codon region of mRNA.
- (8) What do you mean by transposon?
- (9) Write a note on mutagen.

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- Q-3 (A) Discuss the process of Initiation of DNA replication in detail [06]
(B) Explain the elongation steps of DNA strands in prokaryotes. [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 the mechanism of 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 mutation in detail. [06]
(B) Discuss positive and negative regulation in detail. [06]

OR

- (B) Explain the mechanism of Lactose (lac) operon. [06]

****Best of luck*****

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