

SARDAR PATEL UNIVERSITY
T.Y.B.Sc. V Semester EXAMINATION
Monday, 26th November 2012
2.30 p.m. to 5.30 p.m.

US05CBCH01 : Molecular Biology I (Biochemistry)

Total Marks : 70

Q. 1 Select proper option from following MCQs. (10)

- (1) Total length of DNA in an adult human body is approximately _____ km.
 (a) 1×10^{11} (b) 2×10^{11} (c) 3×10^{11} (d) 0.2×10^{11}
- (2) Which of the following gene has no permanent location?
 (a) Mobile (b) Homeatic (c) Pseudo (d) Oncogene
- (3) Which of the following DNA polymerase play important role in Nick translation?
 (a) I (b) II (c) III (d) IV
- (4) The E-coli replication origin Oric Consist of _____ b. p. long.
 (a) 9 bp (b) 13 bp (c) 245 bp (d) 246 bp
- (5) Which of the following group of Splicing require spliceosome?
 (a) Group I (b) Group II (c) Group III (d) Group IV
- (6) Name of the process by which parts of the coded genetic message in DNA are copied exact in the form of RNA.
 (a) DNA Replication (b) RNA Replication
 (c) Transcription (d) Reverse Transcription
- (7) Which of the following are self splicing?
 (a) Group I (b) Group II (c) Group III (d) Group I and II
- (8) In translation, Initiation Shine Dalgarno Sequence Interact with _____.
 (a) Ribosome (b) rRNA (c) mRNA (d) tRNA
- (9) Which of the following factors recognize UAA?
 (a) RF₁ (b) RF₂ (c) RF₃ (d) RF₁ and RF₂ both
- (10) Which of the following toxin present in castor bean?
 (a) Streptomycin (b) Diphtheria toxin (c) Ricin (d) none

Q. 2 Answer in very short. (Any 10) (20)

- (1) Comment on: "Mitochondria is known as Semi autonomous Organelle."
- (2) "DNA is considered as big boss of our body." Explain.
- (3) Explain in short : minichromosome.
- (4) What do you know about primosome and replisome?
- (5) Write function of helicase and gyrase.
- (6) Define Replication and Replication fork.
- (7) What do you know about spliceosome?
- (8) Explain "Frequent appearance of new strans of disease causing retroviruses".
- (9) "Reverse Transcription is important for us." Explain.
- (10) What do you know about Initiation codon?
- (11) Give reason : Ribosomes are complex molecular machine.
- (12) Give reason : tRNA acts as an adaptor for protein synthesis.

- Q. 3 Answer the following:
(A) Describe the concept of gene. (06)
(B) Write short note on Nucleosome (04)
- OR**
- Q. 3 Explain the following:
(A) Salient features of euk-genome (06)
(B) Chromatin is chemically compound protein. Explain. (04)
- Q. 4 Describe the following:
(A) Initiation of replication (06)
(B) Nick translation (04)
- OR**
- Q. 4 Answer the following:
(A) "DNA replication is semi conservative." Explain. (06)
(B) Write short note on D-loop. (04)
- Q. 5 Explain:
(A) RNA polymerase in Prok. (06)
(B) Promoters (04)
- OR**
- Q. 5 Describe:
(A) Termination of transcription (05)
(B) Generation of 5' cap (05)
- Q. 6 Explain in detail different properties of Genetic code. (10)
- OR**
- Q. 6 Explain in detail Inhibition of Protein Synthesis. (10)

