Enrollment No: _____ Exam Seat No:_____

C.U.SHAH UNIVERSITY

Winter Examination-2018

Subject Name: Molecular Biology

Subject Code: 4SC02MOB1 **Branch: B.Sc (All, Microbiology)**

Semester: 2 **Date: 31/10/2018** **Time: 02:30 To 05:30** **Marks: 70**

Instructions:

(1) Use of Programmable calculator & any other electronic instrument is prohibited.
(2) Instructions written on main answer book are strictly to be obeyed.
(3) Draw neat diagrams and figures (if necessary) at right places.
(4) Assume suitable data if needed.

Q-1 **Attempt the following questions:** **(14)**

a) Name the sugar responsible for inducing lac operon
b) What is the function of enzyme Ligase?
c) Name the DNA Polymerase involved in replication of Mitochondrial DNA
d) Name the enzyme that helps in synthesis of DNA from RNA.
e) Name any two DNA polymerases involved in DNA Replication
f) What is the role enzyme Helicase?
g) Name different types of RNA polymerases in Eukaryotes
h) Replication occurs by Semi conservative Mode. **True/False**
i) Name the sugar present in DNA
j) Define Reverse Transcription
k) Define Translation
l) Name the any two nitrogenous bases present in DNA
m) Name the start codon in Translation
n) Define exon

Attempt any four questions from Q-2 to Q-8

Q-2 **Attempt all questions** **(14)**

a) Write a short note on Ribosome **(7)**
b) Explain the process of DNA replication in Prokaryotes. **(7)**

Q-3 **Attempt all questions** **(14)**

a) Explain the process of eukaryotic Transcription. **(7)**
b) Write a short note on t-RNA and describe the structure of t-RNA. **(7)**

Q-4 **Attempt all questions** **(14)**

a) Describe the process of Transcription Termination in Prokaryotes. **(7)**
b) Draw a labeled double helical structure of DNA and explain its major features. **(7)**

Q-5		**Attempt all questions**	**(14)**
	a)	Explain the semi conservative mode of DNA replication.	**(7)**
	b)	Explain the process of Translation Termination	**(7)**
Q-6		**Attempt all questions**	**(14)**
	a)	Explain Lac operon	**(7)**
	b)	What is mRNA splicing? Explain its mechanism in detail with the help of a diagram	**(7)**
Q-7		**Attempt all questions**	**(14)**
	a)	Explain the Mismatch repair mechanism of DNA	**(7)**
	b)	Explain Sporulation in Bacillus	**(7)**
Q-8		**Write short notes on:**	**(14)**
	a)	Telomeres.	**(7)**
	b)	siRNA, miRNA	**(7)**