Enrollment No: _____ Exam Seat No:_____

C.U.SHAH UNIVERSITY

Summer Examination-2018

Subject Name: Biomolecular Engineering

Subject Code: 4SC05BME1 Branch: B.Sc. (Microbiology)

Semester: 5 Date : 19/03/2018 Time : 10:30 To 01:30 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:-** **(1x14=14)**

a) Plasmid is extra chromosomal double stranded DNA present in bacteria. True/False
b) EcoRI is a type of ligase enzyme. True/False
c) How many nucleotides are there in one turn of B-DNA ?
d) A biosensor is an analytical device. True/False
e) pBR 322 is a type of …….. (plasmid/cosmid/phasemid).
f) What is copy number of plasmid?
g) In plasmid MCS stands for……..
h) What is the net charge on DNA?
i) RDT stands for…….
j) During agarose gel electrophoresis DNA moves form +Ve to –Ve electrode. True/False
k) Microinjection is not a type of gene delivery system. True/False
l) Nanomedicine is the medical application of nanotechnology. True/False
m) What do you mean by recombinant DNA molecule?
n) Topoisomerase is a type of enzyme. True/False

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

Q-2 **Attempt all questions**

a What is DNA ligation? Comment on its role in genetics. **3+4**
b What do you mean by genetic engineering? Explain the role of genetic engineering in medical science. **2+5**

Q-3 **Write short notes on-**

a. Gel electrophoresis **7**
b. Restriction endonucleases **7**

Q-4 What is drug delivery system? Explain the role of Nanomedicine in treatment **(4+10)**

of disease.

Q-5		**Write short notes on-**	
	a.	Biosensors	**7**
	b.	DNA chips	**7**
Q-6		**Write short notes on-**	
	a.	Nano materials	**7**
	b.	Restriction digestion	**7**
Q-7		**Attempt all questions**	
	a.	What is bacteriophage? Draw its structure.	**2+5**
	b.	Explain the chemical methods used for synthesis for nano structures.	**7**
Q-8		**Attempt all questions**	
	a.	Briefly explain the process of Blue-White screening of positive clones.	**7**
	b.	Explain the process of insertion of DNA in to a vector.	**7**