Enrollment No: _____ Exam Seat No:_____

C.U.SHAH UNIVERSITY

Summer Examination-2018

Subject Name: Instrumental Methods of Analysis- II
Subject Code: 4SC04IMA1 **Branch : B.Sc. (**Microbiology**)**

Semester: 4 Date : 03/05/2018 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: (14)

a)	Column chromatography is generally used as a purification technique. True/ False	1
b)	RNA has net positive charge. True/ False	1
c)	DNA has net -ve charge. True/ False	1
d)	Chromatography is a laboratory technique for the separation of a mixture. True/ False	1
e)	Partition chromatography is a type of ……chromatography. (liquid/solid)	1
f)	Write full form of GC.	1
g)	Adsorption chromatography uses a stationary phase in the solid state and a mobile phase in the liquid or gas state. True/ False	1
h)	What are non-essential amino acids?	1
i)	Peptide bond is present in nucleotides. True/ False	1
j)	Who is known as father of Chromatography?	1
k)	Gel electrophoresis can be used to separate the antibodies. True/ False	1
l)	Silver staining is used to stain proteins. True/ False	1
m)	Write full form of PAGE.	1
n)	Electrophoresis is a technique used in laboratories to separate macromolecules based on size. True/ False	1

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

Q-2 Attempt all questions (14)

A	Explain the process of DNA fragments separation.	**7**
B	Explain process of ion exchange chromatography.	**7**

Q-3 Attempt all questions (14)

A	Explain the process of protein fragments separation.	**7**
B	Briefly explain paper chromatography with suitable diagram.	**7**

Q-4		**Write notes on-**	**(14)**
	A	Gel filtration chromatography. Explain in brief.	**7**
	B	Applications of Chromatography	**7**
Q-5		**Attempt all questions**	**(14)**
	A	Column chromatography	**7**
	B	What is isoelectric point? Explain isoelectric focusing.	**7**
Q-6		**Attempt all questions**	**(14)**
	A	What is SDS? Explain its role and importance in poly acrylamide gel electrophoresis.	**7**
	B	What is isoelectric point? Explain isoelectric focusing.	**7**
Q-7		**Attempt all questions**	**(14)**
	A	Write a comparative note on RMA and DNA.	**7**
	B	What do you mean by ascending chromatography? Support your answer with suitable example.	**7**
Q-8		What is electrophoresis? Explain the principle and procedure of electrophoresis with suitable diagram.	**(4+10)**