

# C.U.SHAH UNIVERSITY

## Summer Examination-2017

**Subject Name :** Instrumental Methods of Analysis- II

**Subject Code:** 4SC04IMA1                      **Branch :** B.Sc.(Microbiology)

**Semester: 4    Date :18/04/2017            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) Proteins are amphoteric compounds, that is, they contain both acidic and basic residues. True/ False                      1
  - b) DNA has net positive charge. True/ False                      1
  - c) Write full form of GC.                      1
  - d) Silver staining is used to stain proteins. True/ False                      1
  - e) Write full form of HPLC.                      1
  - f) What is Chromatography?                      1
  - g) Chromatography is a technique for the separation of a mixture by passing it in solution or suspension through a medium in which the components move at different rates. True/ False                      1
  - h) Write full form of DNA.                      1
  - i) Write the formula of a typical amino acid.                      1
  - j) Peptide bond is present in nucleotide chain. True/ False                      1
  - k) Write full form of PAGE.                      1
  - l) Write the function of comb in gel electrophoresis.                      1
  - m) Write full form of TLC.                      1
  - n) RNA is not a type of Nucleic acids. True/ False                      1

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

- Q-2                      Attempt all questions                      (14)**
- A**                      What is principle of Thin layer chromatography? Explain the applications of TLC.                      7
  - B**                      Briefly explain paper chromatography with suitable diagram.                      7
- Q-3                      Attempt all questions                      (14)**
- A**                      What do you mean by gel filtration chromatography? Explain it with suitable diagram.                      7
  - B**                      Explain types of chromatography.                      7



<b>Q-4</b>	What is Gel electrophoresis? Explain agarose gel electrophoresis with suitable diagram.	<b>(14)</b>
<b>Q-5</b>	<b>Write short notes on-</b>	<b>(14)</b>
<b>A</b>	Explain Ion Exchange chromatography	<b>7</b>
<b>B</b>	SDS-PAGE	<b>7</b>
<b>Q-6</b>	<b>Attempt all questions</b>	<b>(14)</b>
<b>A</b>	Explain main components of HPLC.	<b>7</b>
<b>B</b>	Write a note on Gas chromatography.	<b>7</b>
<b>Q-7</b>	<b>Attempt all questions</b>	<b>(14)</b>
<b>A</b>	What is SDS? Explain its role and importance in poly acrylamide gel electrophoresis.	<b>7</b>
<b>B</b>	What is isoelectric point? Explain isoelectric focusing.	<b>7</b>
<b>Q-8</b>	<b>Write short notes on-</b>	<b>(14)</b>
<b>A</b>	Paper Chromatography	<b>7</b>
<b>B</b>	Blotting	<b>7</b>

