

Enrollment No: _____ Exam Seat No: _____

C.U.SHAH UNIVERSITY

Summer Examination-2018

Subject Name: Instrumental Methods of Analysis I

Subject Code: 4LS03IMA1

Branch: B.Sc. (Microbiology)

Semester: 3

Date: 26/03/2018

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.

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- Q-1 Attempt the following questions: (14)**
- a) Infrared spectroscopy can be analyzed in three ways by measuring absorption, emission and reflection. True/False 1
 - b) Write full form of AAS. 1
 - c) What is absorbance? 1
 - d) Infrared radiation sometimes referred to simply as infrared. True/False 1
 - e) Write full form of NMR. 1
 - f) Infrared lies between microwaves and visible light. True/False 1
 - g) What is path length? 1
 - h) Write full form of FAS. 1
 - i) Radio waves have the longest wavelengths of all the electromagnetic waves. True/False 1
 - j) is the science of the measurement of light. 1
 - k) In NMR spectroscopy, the chemical shift is the resonant frequency of a nucleus relative to a standard in a magnetic field. True/False 1
 - l) Fluorescence is a form of luminescence. True/False 1
 - m) A physical phenomenon in which nuclei in a magnetic field absorb and re-emit electromagnetic radiation is known as..... 1
 - n) Spectroscopy is the study of the interaction between matter and electromagnetic radiation. True/False 1
- Q-2 Attempt all questions (14)**
- A What do you mean by filter? Explain its role in UV Visible Spectroscopy. 7
 - B Explain the principle of Atomic absorption spectroscopy. 7



Q-3	Attempt all questions	(14)
A	What do you mean by spin-spin coupling? Explain it with suitable example.	7
B	Explain applications of UV Visible spectroscopy	7
Q-4	Attempt all questions	(14)
A	Explain working of Double Beam in UV-VIS spectroscope.	7
B	Draw the ray diagram of instrumental setup of AAS.	7
Q-5	Attempt all questions	(14)
A	What do you mean by Infrared rays? Explain the basic principle of IR spectroscopy.	7
B	Explain applications of NMR.	7
Q-6	Write short notes on-	(14)
A	Lambert-Beer law	7
B	Fluorescence	7
Q-7	Write short notes on-	(14)
A	Electromagnetic radiation spectrum	7
B	Raman spectroscopy	7
Q-8	Attempt all questions	(14)
A	Write properties of Electromagnetic radiations.	7
B	Write application of IR spectroscopy	7

