Registration no: | | | | | | | | | | |

Total Number of Pages: 01 **M.Sc.I**

FCYE504

5th Semester Back Examination 2017-18
Instrumental Methods of Chemical Analysis-I
BRANCH: M.Sc.I (AC)
Time: 3 Hours
Max Marks: 70
Q.CODE: B615
Question No.1 which is compulsory and any five from the rest.
The figures in the right hand margin indicate marks.

Q1 **Answer the following questions:** **(2 x 10)**

a) Explain the terms, precession and accuracy.
b) Write the expression for distribution co-efficient and distribution ratio.
c) What are the principles of solvent extraction?
d) Explain the terms sorption, desorption and development.
e) Discuss the principle of gas chromatography.
f) Arrange the following radiations in the order of their increasing wavelength, IR, UV, microwave, visible and radio-waves.
g) Explain gradient elution.
h) Explain the Interaction of EMR with matter.
i) Describe the classification of chromatography.
j) Explain the absorption and emission of radiation.

Q2 Describe types of errors. Explain propagation errors. **(6+4)**

Q3 Explain different extraction techniques; mention the applications of solvent extraction with reference to a metal. **(5+5)**

Q4 Give an account of TLC and its application. **(10)**

Q5 Discuss the principle of Paper chromatography. Describe one- dimensional paper chromatography. **(3+7)**

Q6 **Write notes on any TWO :** **(5+5)**

a) Column chromatography
b) Theory of chromatographic separation
c) Absorption spectrometry
d) Partition chromatography

Q7 Describe the principle of Gas chromatography. Briefly explain the instrumentation of gas chromatography with a neat diagram. **(2+8)**

Q8 **a)** From the following set of values; 3.86, 4.02, 3.96, 4.12, 3.78, and 4.09, find out the average and standard deviation. **(3)**
b) Explain frontal analysis **(3)**
c) Explain significant figures and confidence limit **(4)**