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

Total Number of Pages: 2

M.PHARM
M.PH 1.1

First Semester Regular/Back Examination 2015-16

MODERN ANALYTICAL TECHNIQUES
BRANCH: M.PHARM

Time: 3 Hours

Max marks: 70
Q.CODE:T895

Answer 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) How the choice of solvent for proton NMR spectra is made? Give examples of such solvents.

b) What is chemical shift? And what is its significance?
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c) What is "finger print region"? What is its significance?

d) Write the applications of fluorescence in pharmacy.

e) How FT-IR is different and superior to dispersive infrared spectrometer?

f) Why TMS is the universally accepted reference for measurement of chemical shift for proton and 13C NMR?

g) What are the common sources of infrared radiation?

h) What are guard columns? What is their function?

i) What are Woodward rules?

j) How SOPs are to be written for analytical instruments and what information should be included?

Q2 Discuss how the analytical method is developed and validated for the estimation of a new drug by HPLC. Furnish ICH specifications wherever applicable. (10)

Q3 (a) Explain the phenomenon of NMR. (5+5)
(b) Explain the molecular vibrations involved in inflamed spectroscopy

Q4 (a) Discuss the sampling techniques used in IR spectrometer. (5+5)
(b) Write the application of UV spectroscopy.

Q5 Describe the instrumentation of a high resolution mass spectrometer. Explain the basic theoretic aspects. (10)

Q6 Write a note on the following: (5+5)
(a) Super critical fluid chromatography
(b) Radioimmuno assay.

Q7 Write the basic principle and advantages of (5+5)
a) GC-MS
b) Capillary electrophoresis

Q8 Discuss the applications of proton NMR and 13C NMR in structural elucidation. What are the advantages of 13C NMR? (10)