

PARUL UNIVERSITY
FACULTY OF PHARMACY
B.Pharm. Summer 2018-19 Examination

Semester: 7**Subject Code: 08101402****Subject Name: Pharmaceutical Analysis III****Date: 06/05/2019****Time: 02:00pm To 05:00pm****Total Marks: 75****Instructions:**

1. Figures to the right indicate full marks.
2. Make suitable assumptions wherever necessary.

Q.1 Essay type Questions. (Any 2 out of 3) (10 marks each) (20)

1. What is chemical shift? Explain in detail factors affecting chemical shift.
2. Write a note on Calibration of UV – VIS spectrophotometer with explanation.
3. Write a detailed note on FTIR.

Q.2 Short Essay type Questions. (Any 7 out of 9) (5 marks each) (35)

1. Write about types of vibrations in IR spectroscopy.
2. Derive simultaneous equation for simultaneous estimation of combined binary dosage form in UV.
3. Write difference between UV and IR spectroscopy.
4. Write a note on monochromators used in UV VIS spectrophotometer.
5. Draw neat and labeled diagram of Mass spectrometer and explain it's working principle.
6. Write a short note on Isotopic dilution method.
7. What is Beer's Lambert's law? Derive the equation $A = abc$.
8. Write a note on Hollow cathode lamp.
9. Enumerate Ionization techniques in Mass spectrometry. Differentiate EI (Electron Impact) and CI (Chemical Ionization) techniques.

Q.3 Answer in short. (2 marks each) (20)

1. Define Bathochromic shift and Hypsochromic shift.
2. Comment: TMS is used as reference compound in NMR.
3. Define: (i) line spectra (ii) band spectra
4. Enumerate sampling techniques in IR.
5. Draw labeled diagram of Photomultiplier Tube.
6. What is Mc.Lafferty Rearrangement?
7. Colorimeter measures the visible range, Comment.
8. Define: (i) EMR (ii), λ_{\max}
9. What is Coupling constant J?
10. Comment: Base peak in mass spectra is peak of highest mass.