# Rajiv Gandhi University of Health Sciences



**Second Semester M. Pharm Degree Examination - MAY 2018**

[Time: 3 Hours] [Max. Marks: 75]

## Advanced Spectral Analysis-II

## Q.P. CODE: 5157

Your answers should be specific to the questions asked.
Draw neat, labeled diagrams wherever necessary.

**LONG ESSAY (Answer any Three)** **3 X 10 = 30 Marks**

1. Explain the principle and working ATR-IR instrument.
2. Outline the theory of 2D NMR spectroscopy.
3. Explain the general fragmentation rules for organic compounds in mass spectroscopy.
4. Write the principles, instrumentation and applications of LC-MS with special emphasis on interface.

**SHORT ESSAY (Answer any Nine)** **9 X 5 = 45 Marks**

5. Explain Wood ward- Fieser rule for 1, 3-butadienes.
6. How will you identify the following functional groups in an organic compound (-OH-$NH_2$-COOH, C=C, -CHO) by IR spectroscopy.
7. Explain in detail Mc. Lafferty rearrangement.
8. Give brief account on NOESY.
9. Brief account on HPTLC.
10. Write the principle involved in TGA.
11. Give a brief account on Radio immuno assay of digitalis.
12. Explain the light sources and sample introduction system of AAS.
13. Write the principle involved in Raman spectroscopy.
14. How flash chromatography differ from traditional column chromatography.

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