

Rajiv Gandhi University of Health Sciences, Karnataka
VIII Semester B. Pharm Degree Examination – 30-Jun-2022

Time: Three Hours

Max. Marks: 75 Marks

ADVANCED INSTRUMENTATION TECHNIQUES

Q.P. CODE: 5043

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary
All the Questions are compulsory

LONG ESSAYS

2 x 10 = 20 Marks

1. Explain the principle involved in the Electron impact of MALDI ionization techniques. Write its merits and demerits. Explain the Quadra pole mass analyzer.

OR

Define and derive the Braggs law and explain rotating crystal technique. Chemical ionization.

2. Discuss in detail the validation parameter for bio-analytical methods as per USFDA guidelines.

SHORT ESSAYS

7 x 5 = 35 Marks

3. Define Chemical shift. Explain nuclear Over Hauser effect.

OR

Discuss the principle of NMR Spectroscopy.

4. How are X-ray produced? What are modifications of X-ray tube?

OR

Explain the principle and procedure involved in the liquid-liquid extraction.

5. Explain the methodology involved in the qualification of GC.

6. Describe the Radio Immunological assays and bioluminescence assay.

7. Classify chromatographic methods and explain the instrumentation of HPLC

8. What is theoretical plate, HETP, retention and asymmetry factor?

9. Discuss the concept X-ray Crystallography.

SHORT ANSWERS

10 x 2 = 20 Marks

10. Factors influencing on Chemical Shift.
11. Write the concept of Miller indices.
12. Differentiate powder & crystal x-ray diffraction.
13. Name the detector used in Flame Photometer.
14. Qualification of IR Spectrophotometer.
15. Define ELISA and its uses.
16. Important feature of qualification of UV-Visible.
17. Application of GC.
18. Detection methods in HPTLC.
19. Detectors used in HPLC.
