

Rajiv Gandhi University of Health Sciences, Karnataka
VII Semester B. Pharm Degree Examination – 29-May-2023

INSTRUMENTAL METHODS OF ANALYSIS
Q.P. CODE: 5029

CORRECTIONS

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

2 x 10 = 20 Marks

LONG ESSAYS

1. Draw a neat diagram of dispersive IR spectrophotometer. Explain various detectors used in IR spectrophotometer.

OR

Explain the construction and working of flame photometer and discuss the various types of interferences in atomic spectroscopy.

2. With a neat schematic diagram, explain the instrumentation of GC with special emphasis to columns and detectors used.

7 x 5 = 35 Marks

SHORT ESSAYS

3. Add a detail note on quenching in Fluorimetry.

OR

Define molar absorptivity, bathochromic shift, wave number, frequency and forbidden transitions.

4. Discuss construction and working of any two detectors used in UV-spectrophotometers.

OR

Explain the different development techniques of paper chromatography.

5. With a neat diagram explain the various steps in column chromatography.

6. What is zone electrophoresis? Add a detail note on vertical paper electrophoresis.

7. Describe the pumps and sample injection systems used in HPLC.

8. What are the different ion exchanger used in ion exchange chromatography and write the mechanism of separation.

9. Discuss the mechanism of separation of **biomolecules** using affinity chromatography.

10 x 2 = 20 Marks

SHORT ANSWERS

10. Mention the applications of fluorimetry.
11. Mention the absorptional IR frequency for OH and C=O groups.
12. Mention any four differences of Nephelo and Turbidometry techniques.
13. What are the thermal atomizers used in AAS?
14. What are the visualization reagents used in paper chromatography?
15. What is programmed temperature in gas chromatography?
16. Mention the gels used in gel chromatography.
17. What are the differences between gel electrophoresis and gel chromatography?
18. What is HETP? How it is related to column length?
19. Mention UV and visible wave length region in electromagnetic spectrum.