

Rajiv Gandhi University of Health Sciences, Karnataka
VII Semester B. Pharm Degree Examination – 15-Nov-2022

Max. Marks: 75 Marks

Time: Three Hours

INSTRUMENTAL METHODS OF ANALYSIS
Q.P. CODE: 5029

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. Explain the principle, instrumentation and applications of UV-Visible spectroscopy.
OR
What are the different vibrational modes of polyatomic molecules upon IR absorption? Write in brief on the various detectors used in IR Spectroscopy.
2. Describe the principle, instrumentation and applications of HPLC.

7 x 5 = 35 Marks

SHORT ESSAYS

- Write the statement and derive the equation for Beer's – Lambert's law.
OR
Explain in brief the effect of solvent on absorption UV-Visible radiation by the molecules.
4. Explain the instrumentation and working of flame emission spectrometry.
OR
Explain the various methods of preparation of TLC plates.
 5. Briefly explain the operational techniques of column chromatography.
 6. Add a note on gel electrophoresis.
 7. Explain the concept of plate theory and rate theory for increasing the efficiency of column in chromatography.
 8. What are ion exchange resins and explain the operational techniques of ion exchange chromatography.
 9. Write the practical steps involved in size exclusion chromatography gel chromatography.

10 x 2 = 20 Marks

SHORT ANSWERS

10. Define Fluorescence and Phosphorescence.
11. Write the importance of color wheel.
12. Write the vibrational frequency of alcohol, aldehyde and amide in IR spectrum
13. Write the block diagram of Nephelometry.
14. Enlist different types of interferences in flame photometry?
15. Define R_f and R_m value.
16. What is electrophoresis?
17. What is programmed temperature in gas chromatography? Write its importance
18. Give the example for anion and cation exchange resins.
19. Write the principle of affinity chromatography.
