

Rajiv Gandhi University of Health Sciences, Karnataka

III Year Pharm-D Degree Examination – 04-Nov-2023

Time: Three Hours

Max. Marks: 70 Marks

PHARMACEUTICAL ANALYSIS (RS & RS2)

Q.P. CODE: 2862

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

LONG ESSAYS (answer any two)

2 x 10 = 20 Marks

1. What are the Ion-Exchange resins? Explain Mechanism of Ion-Exchange process and application of Ion-Exchange chromatography
2. State and derive the equation for Beer's-Lambert's law. Add a note on deviations and limitation of Beer's law.
3. a) Explain the principle involved in IR spectrophotometry.
b) Draw a neat labeled schematic diagram of IR spectrophotometry.

SHORT ESSAYS (answer any six)

6 x 5 = 30 Marks

1. Differentiate validation and calibration. Give a brief account of validation of analytical methods.
5. Explain the factors affecting efficiency of column in chromatography.
6. Discuss the fundamental theory of mass spectroscopy. What are the different ions produced in mass spectrum
7. Calculate (a) frequency (b) wave number) for the radiation of wavelength 530nm. ($c=3 \times 10^8$ m/s)
8. Explain the term a) HETP b) Retention time c) Theoretical plate d) Retention volume
9. Classify adsorbents used in column chromatography with examples.
10. Write a note on International conference on harmonization guidelines.
11. Compare the principle, technique and applications of Paper electrophoresis with Paper chromatography.

SHORT ANSWERS

10 x 2 = 20 Marks

12. Define with examples-Auxochromes and Chromophores
13. Give the applications of X-ray diffraction methods
14. Give mathematical formulae for absorbance and transmittance
15. Give the application of electron capture detector
16. What is shielding and deshielding?
17. What is $E^{1/2}$ potential (Half Wave potential)
18. What is Guard column? Write its significance.
19. Define the terms fluorescence and phosphorescence.
20. Define and explain "Quality Assurance"?
21. Give examples of carrier gas used in GLC.
