Rajiv Gandhi University of Health Sciences, Karnataka

IV Year B.Pharm Degree Examination – 07-Jan-2020

Time: Three Hours **Max. Marks: 80 Marks**

INSTRUMENTAL AND BIO-MEDICAL ANALYSIS
(Revised Scheme - 2)
Q.P. CODE: 1967

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. Explain the basic principles and different components of infrared spectroscopy.
2. Discuss briefly working of glass electrode with neat diagram.
3. Give the theory, development techniques, absorbents, mobile phases and detectors of paper chromatography.

SHORT ESSAYS (Answer any Eight) **8 x 5 = 40 Marks**

4. How will you carry out acid – base titration by potentiometry?
5. Write a note on two - dimensional chromatography.
6. Explain different types of transitions in organic molecules.
7. Outline the factors affecting fluorescence and phosphorescence.
8. Write a short note on burners used in flame photometry.
9. Discuss the advantages of TLC over paper chromatography.
10. Mention different types of monochromators and their functions used in spectrophotometer.
11. Write a note on detectors used in HPLC.
12. Define absorption maxima. How you will determine absorption maxima of a compound?
13. What is meant by validation? Explain types of process validation.

SHORT ANSWERS **10 x 2 = 20 Marks**

14. Define electromagnetic radiation and wave numbers.
15. Mention the types of molecular energies.
16. What is meant by monochromatic and polychromatic light?
17. Define chromophores and auxochromes with examples?
18. Define IR active molecules with examples.
19. Give the significance of UV – spectroscopy.
20. Define molecular conductance and equivalent conductance.
21. Write the ideal properties of carrier gases used in gas chromatography.
22. What is chemical shift and coupling constant?
23. What is meant by R_f and R_m?

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