Rajiv Gandhi University of Health Sciences, Karnataka

IV Year B.Pharm Degree Examination – NOV 2017

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

INSTRUMENTAL & 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. Discuss the different filters and monochromators used in UV and visible spectrophotometers.
2. Describe the different techniques used in paper chromatography.
3. Explain the different methods of determination of end-point in potentiometric titrations with suitable examples.

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

4. Explain the construction and working of glass membrane electrode.
5. Why and how, dissolved oxygen has to be removed from a polarographic cell?
6. Discuss the electronic transitions that occur in UV spectroscopy.
7. Explain the solid sample handling methods in IR spectrophotometry.
8. Outline the principle involved in the x-ray crystallography and list out its applications.
9. What is quenching of fluorescence? List any four factors responsible for quenching.
10. What are the scales of measurement of ^{1}HNMR signals? With reference to which substance the scales are fixed.
11. Explain the principle of chromatographic separation based on the concept of theoretical plates.
12. Outline the advantages and disadvantages of TLC over paper chromatography.
13. Discuss the construction and working of Flame ionization detector and electron capture detector.

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

14. Draw a typical conductometric titration curve for HCl versus NaOH and explain.
15. Differentiate between Silica gel G, Silica gel GF and Silica gel H.
16. Draw a neat, labeled diagram of calomel electrode.
17. What are complimentary colours and what is their importance in colourimetry?
18. Explain the principle involved in flame photometry.
19. Differentiate between frontal and elution analysis in column chromatography.
20. Give the relationship between absorbance, transmittance and intensity of light.
21. Differentiate between normal phase and reverse phase chromatography.
22. Draw a schematic labeled diagram of a photofluorimeter.
23. Name any four IR radiation sources.

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