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Rajiv Gandhi University of Health Sciences, Karnataka

IV Year B.Pharm Degree Examination – Sep 2012

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. Describe the instrumentation of UV-visible spectrophotometer.
2. Write the construction and working of a glass electrode. Add a note on merits and demerits of glass electrode.
3. Explain the principle, instrumentation and important applications of Nephelometry and Turbidometry.

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

4. Derive a mathematical expression for beer-Lambert's law.
5. Explain the principle of Ion exchange chromatography.
6. Explain the principle involved in mass spectroscopy.
7. Write a note on grating monochromators. Mention their advantages.
8. Explain the conductometric titration curve for a strong acid against a weak base.
9. Write the principle for atomic absorbance spectroscopy.
10. Derive an expression for half wave potential. What is its application in polarographic analysis?
11. Define validation. Explain types of process validation.
12. Discuss the effects of various region of electromagnetic spectrum upon molecule.
13. Write the various development techniques used in paper chromatography.

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

14. Explain the different solvents used in UV-spectroscopy.
15. Enumerate four adsorbent used in TLC.
16. What is lambda max? Write its significance.
17. Define chromophore and auxochrome with one example each.
18. Write the applications of polarimetry.
19. Enumerate the various carrier gases used in gas chromatography.
20. Give reasons for Beer's law deviation.
21. Write on molar absorptivity.
22. Enumerate the various sources of IR radiation.
23. Explain the working of Golay cell.

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