

Rajiv Gandhi University of Health Sciences, Karnataka

Fourth year B.Pharm Degree Examination – August 2010

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. Define and derive an expression for Beer-Lambert's law. Give its limitations.
2. Describe the construction, working and applications of Standard Hydrogen Electrode.
3. Discuss in detail the various detectors used in Gas chromatography.

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

4. Discuss the sample handling techniques in I.R. Spectroscopy.
5. Explain the various detectors used in UV-Visible Spectrophotometers.
6. Write the general principle involved in the Nephelo-Turbidometric analysis.
7. Discuss the concept of Electrophoresis and its importance in separation of biological constituents.
8. Explain the various derivatisation techniques employed in the G.C.
9. Define and distinguish between fluorescence and phosphorescence. Write the various factors affecting the phenomenon of fluorescence.
10. Discuss the importance of composition of glass in the construction of glass membrane electrode.
11. Write the theory and principle of Flame Atomic Emission Spectroscopy.
12. Write in brief the importance of radio chemical methods of analysis.
13. Discuss in brief construction and working of electrochemical cell.

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

14. Define extinction coefficient and molar extinction coefficient.
15. Define with examples (a) Chromophores (b) Auxochromes.
16. Enumerate various sources of IR radiation.
17. What are mulling agents? Give examples.
18. Write Van Deemter equation and give its importance.
19. Differentiate between adsorption chromatography and partition chromatography.
20. Name the various adsorbents and visualizing agents used in TLC.
21. Mention the various factors affecting electrophoretic mobility of ions.
22. What are "reference" and "indicator" electrodes? Give examples for each.
23. What is null-point potentiometry?
