



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions. (15x2=30)

- i) Define electroosmotic flow? Write down its mathematical formula?
- ii) Why it is not suitable to pack the column with dry gel in Gel chromatography?
- iii) How does ion exchange chromatography help in softening of hard water?
- iv) What is the difference between distribution coefficient and distribution ratio in solvent extraction?
- v) Why gel chromatography is also known as size exclusion chromatography?
- vi) What are ion exchangers? Give examples of their various types?
- vii) What are the limitations of flame photometry?
- viii) What is the difference between atomic absorption and flame emission spectroscopy?
- ix) How is a suitable solvent selected in solvent extraction?
- x) What is the principle of gel chromatography?
- xi) Differentiate between simple and multiple extraction system?
- xii) Define counter current extraction?
- xiii) What are the limitations of distribution law in solvent extraction?
- xiv) What is meant by the capacity of ion exchange resin? How is it expressed?
- xv) What is the basic difference between moving boundary and capillary zone electrophoresis?

Q.2 Answer the following questions. (6x5=30)

- 1). Explain Zeta potential in detail on the basis of electroosmotic flow?
- 2). Give the principle and applications of Gel chromatography?
- 3). Discuss different events occurring in flame in flame emission spectroscopy with the help of a diagram?
- 4). Discuss Hydride generation method in detail specially emphasizing on its principle?
- 5). Give a detailed account on solid phase extraction.
- 6). Write down the applications of flame emission spectroscopy?