

## QUIZ-I

1. Separation of individual components from a multi-component mixture can best be carried by  
a) Solvent extraction, b) Chromatography, c) Fractional distillation d) all the three methods
2. The distribution of the solute in two immiscible solvent phases depends on the  
a) Relative solubility in the two solvents b) physical constants c) immiscibilities d) polarity of the solvent
3. Solvent extraction is a technique applicable to only extraction of large amounts of materials (True/false)
4. In countercurrent extraction method , both phases of solvent move continually with each other in the same direction (true/false).
5. Multiple extraction is not good as it requires more steps(true/false)
6. TLC and HPTLC mean the same(true /false)
7. GC is meant for non-volatile components(true /false)
8. Colorless compounds on a TLC plate can be detected by the use of  
a) Iodine vapor b) UV light, c) coloration reagents d) all the three methods
9. Reversed phase HPLC has stationary phase  
a) non-polar, b) highly polar, c) intermediate polar d) all the three types
10. Types of detectors in GC are  
a) ECD b) UV c) RI d) FID
11. What is the formula for determining extraction efficiency E ?
12. How is solid phase microextraction different from SPE?
13. How would you separate vitamin and sugar ?
14. What are the range of precision for Gravimetric and Volumetric analysis?
15. How is acid digestion different from ashing? Give two points

## **QUIZ II**

- 1. Which Chromatographic technique is rapid and cheap.**
- 2. What is used for calibration of a sample ?**
- 3. How will you explain the R<sub>f</sub> factor in TLC?**
- 4. Cellulose and Kieselguhr are used for which technique?**
- 5. What is SP extraction?**
- 6. SFC extraction is used for which type of samples ?**
- 7. Draw a block diagram of HPLC machine.**
- 8. Can Microcolumn LC be applicable for enantiomeric separations**
- 9. What are the different types of detector used in HPLC? .**
- 10. Analysis of condensed and hydrolysable tannins from commercial plant extracts is done by which method?**

## **Quiz—III**

- 1. Processes like vapor distillation and simultaneous distillation-extraction are used for which type of compounds?**
- 2. What are POPs notorious properties?**
- 3. Which parameters affect the separation in HPLC?**
- 4. Porous octadecyl silica (ODS) sorbent is it better than C-18?**
- 5. Write two main advantages and two disadvantages of SFE.**
- 6. What is GC-O and where is it used?**

7. What is LPME-HFM?
8. Write two Application of SCFE in industrial processes.
9. What is meant by two-dimensional gas chromatography–time-of-flight mass spectrometry ?
10. Which Chemical extractant is used in the analysis of POPs?
11. Write the names of two classical and two modern methods of sample preparation
12. Name 5 PAH which are very dangerous.
13. Dramatic enhancement of the activity of is shown by which type of enzymes?
14. A specialized technique has been developed for metal /metalloid analysis, what is that?
15. What is the advantage of using ozonation over chlorination ?

## **QUIZ- IV**

1. Water and Wastewater works utilizes which chromatographic techniques?
2. Which reagents are used in AOP?
3. Phytoanalysis makes use of a specialized technique called CEC, what is it?
4. How is tocopherol analysed?
5. What all can SEM do?
6. Why is Quality assurance mandatory for Laboratories?
7. What are POPs? Name 3 types
8. What is meant by MA—AD and MA---AL?

- 9. What are the benefits of EPS?**
- 10. What is the main instrument used in drug analysis?**
- 11. Antibiotics are analyzed by which method?**
- 12. What is meant by multi-mode and single mode systems?**
- 13. name two equipment which are microwave integrated?**
- 14. What are the regions of  $^{13}\text{C}$  NMR for unsaturated carbons and ketones?**
- 15. What are pre-concentration methods adopted in perfumery analysis?**