



# SHIKSHA CLASSES

Subject : Chemistry

Question Paper

Total Marks :20

Class : XI

3 : Some Analytical Techniques

Time : 45 min.

## SECTION A

**Q.1 : Choose the correct option :** 4

i) Which technique is widely used in industry to separate components of the mixture and also to purify them?

- a) Steam distillation  
b) Chromatography  
c) Solvent extraction      d) Filtration

ii) Which of the following solvents is most commonly used for the crystallization of copper sulphate?

- a) Water                      b) Acetone  
c) Ether                      d) Methanol

iii) Colourless components on chromatogram can not be observed by the following :

- a) Using UV light  
b) Using iodine chamber  
c) Using the spraying reagent  
d) Using infrared light

iv) Paper chromatography is based on the principle of .....

- a) adsorption              b) partition  
c) solubility              d) volatility

**Q.2 : Answer the following :** 2

- i) What is filtrate?  
ii) Define : Saturated Solution.

## SECTION B

**: Answer the following : (ANY 2)** 4

**Q.3 :** State the principle involved and describe the process to separate acetone and water

from their mixture.

**Q.4 :** Define solvent extraction? Which properties of solvents are useful for solvent extraction.

**Q.5 :** Describe the process of paper chromatography (TLC)

## SECTION C

**: Answer the following : (ANY 2)** 6

**Q.6 :** Give a brief description of the principle of fractional crystallization.

**Q.7 :** Describe the process of filtration under suction with a neat and labelled diagram.

**Q.8 : Define :** i) Distillation    ii) Stationary phase  
iii) Residue

## SECTION D

**: Answer the following : (ANY 1)** 4

**Q.9 :** Explain the following steps with respect to the process of crystallization.

**Q.10 : Preparation of a saturated solution :**

- i) Hot filtration  
ii) Cooling of the filtrate  
iii) Filtrate

3) Give a brief description of column chromatography with an illustration.

\* \* \*

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