

- Q.26 Write a note on ultra filtration with its application.
- Q.27 Draw a well labelled diagram of sieve tray distillation column.
- Q.28 Describe the different types of nucleation.
- Q.29 Explain dialysis process in brief.
- Q.30 Define the term Adsorption and also explain its working.
- Q.31 Describe the spray tower used in extraction process.
- Q.32 Explain in brief on membrane separation process.
- Q.33 Explain procedure of MC. Cabe Theile method.
- Q.34 Explain optimum reflux ratio with a graph.
- Q.35 Write a note on rectification and stripping section.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

- Q.36 Explain construction and working of Boll man's extractor with a neat diagram.
- Q.37 Explain construction and working of draft tube baffle crystallizer with neat diagram.
- Q.38 Write short note on any two.
- Selection of solvent for extractor
 - Reverse Osmosis
 - Mier's saturation theory

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SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

- Q.1 The top product of distillation column is known as
- Bottom product
 - Distillate
 - Crystals
 - Solvent
- Q.2 The process of distillation is used for the liquids having_____.
- Difference in their boiling point
 - Difference in their melting point
 - Difference in their solubility
 - None of the above
- Q.3 Solvent extraction is _____ analytical technique.
- Separating
 - Qualitative
 - Quantitative
 - Identification
- Q.4 Solution which is obtained after filtration is _____.
- Suspended solution
 - Clear solution
 - Colloidal solution
 - None of above

Q.5 Crystal phases can be inter converted by varying _____.

- a) Temperature b) Pressure
- c) Size d) Viscosity

Q.6 Which of the following is known as mother liquor_____.

- a) Solvent b) Solute
- c) Solution d) Filtrate

Q.7 Adsorption of gas on solid surface depends upon

- a) Nature of gas
- b) Surface areas of adsorbent
- c) Temperature and pressure
- d) All above

Q.8 What are the application of membrane

- a) Nano filtration b) Micro filtration
- c) Ultra Filtration d) All above

Q.9 What are the driving forces in membrane separation

- a) Osmotic pressure
- b) Concentration difference
- c) Partial pressure
- d) All above

Q.10 Extraction is a _____ operation.

- a) Solid-Liquid b) Gas-Liquid
- c) Liquid-Liquid d) Gas-Gas

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

Q.11 Distillation process is used for the separation of _____.

Q.12 One example of crystallization process.

Q.13 Write an example of stage type extractor process.

Q.14 Nature of absorbent is _____.

Q.15 Physical adsorption is due to _____ force.

Q.16 Ultra filtration has pore size in _____ range.

Q.17 In osmosis direction of solvent is reversed by application of pressure greater than _____.

Q.18 Ion exchange is an application of _____.

Q.19 Crystallization is based on difference of _____.

Q.20 The partial pressure in solution is explained by _____ law.

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 Explain concept of Q-line.

Q.22 Discuss the extractive distillation with an example.

Q.23 Define the term Leaching and write its applications.

Q.24 Write industrial application of adsorption.

Q.25 Explain the mechanism of crystallization process.