

(59) Sardar Patel University

M. Sc. (Pharmaceutical Chemistry), Semester - II

Theory examination, April-2016

Saturday, 9th April, 2016; Time: 10:30 a.m. to 01:30 p.m.

Subject: PS02CPCH03- Separation Techniques

Total Marks: 70

- Notes: - 1) Figures to the right indicate marks.
2) Draw neat and labelled diagram, wherever necessary.

Q.1 Choose the Correct Answers of the Following.

[08]

- Soxhelt extraction is _____ type.
a) batch extraction b) stripping extraction c) continuous extraction d) counter-current extraction
- _____ procedure is applied to condense acetone extract of bark from *Neem*-tree.
a) distillation b) freezing c) autoclaving d) osmosis
- TLC is done on _____ substrate in routine practice.
a) Si-Plate b) Si-Column c) chromatographic paper d) activated charcoal
- _____ is utilized as carrier material for ion exchange chromatography.
a) Si-gel b) Sephadex c) Agarose gel d) Agar-agar
- _____ detector is not applied in GC.
a) Flame ionization b) Differential thermal conductivity c) Reflective index d) Electron capture
- Separation of protein is done by _____ technique.
a) HPLC b) GC c) agarose gel electrophoresis d) supercritical fluid chromatography
- Liquid CO₂ is utilized as carrier for _____ chromatography.
a) HPTLC b) SFC c) HPLC d) GC
- DNA is separated by _____ system.
a) electrophoresis b) GC c) TLC d) paper chromatography

Q.2 Answer the following in short. (Attempt Any Seven)

[14]

- What is elutrophic series of organic solvent?
- Explain advantage of synergistic extraction.
- Give difference between TLC and HPTLC.
- Explain principle of size exclusion chromatography.
- Give details for the GC type "Gas Solid Chromatography".
- Explain sample introduction method for HPLC.
- Give applications of HPLC.
- Give principle and application of reverse osmosis.
- Explain applications of electrophoresis.

Q.3

[06]

- (A) Explain technique of Separation by precipitation and distillation with examples.
(B) Classify different techniques of solvent extraction.

[06]

OR

- (B) Explain method of electrodeposition and membrane separation with applications.

[06]

- Q.4 [06]
(A) Explain manual procedure for preparing Si-plates for TLC.
(B) Explain method and application of each components of HPTLC. [06]
OR
(B) Explain the procedure to calculate R_f , R_x , R_M and R_c values. [06]
- Q.5 [06]
(A) Explain details of the different detectors in GC.
(B) Give applications of GC with specific examples. [06]
OR
(B) Explain different components and methodology of HPLC. [06]
- Q.6 [06]
(A) Give details for supercritical fluid chromatography.
(B) Explain experimental assembly with diagram for horizontal electrophoresis system. [06]
OR
(B) Give principle and experimental method for adsorption chromatography. [06]
