

SUBJECT: PHARMACEUTICAL ANALYSIS-IV

Day: Thursday  
Date: 25/04/2019

Time: 10.00 A.M. TO 01.00 P.M.  
Max. Marks: 60

S-2019-4401

**N.B:**

- 1) **Q. No. 1 and Q. No. 5 are COMPULSORY.** Out of remaining solve **ANY TWO** questions each from Section-I and Section-II.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answer to the both section should be written in **SEPARATE** answer book.

**SECTION-I**

- Q.1** Attempt **ANY FIVE** of the following: (10)
- a) What is the role of food analysis in food industry?
  - b) What factors does the R<sub>f</sub> value of a compound depends?
  - c) Compare between Spot and Band Application.
  - d) Why should a piece of filter paper inside the developing chamber be moistening with developing solvent before the plate is developed?
  - e) How to check adulterants are present in spices.
  - f) What are the advantages of TLC as compared to the column chromatography?
- Q.2** a) Explain the development techniques used in TLC. (07)  
b) Give the various tests for checking the adulterants present in turmeric powder. (03)
- Q.3** a) Discuss the various adsorbents used in TLC. (07)  
b) Give the advantages of HPTLC. (03)
- Q.4** Write short notes on **ANY TWO** of the following: (10)
- a) Applications of HPTLC
  - b) Analysis of milk and milk products
  - c) Prewashing and activation of plates

**SECTION-II**

- Q.5** Attempt **ANY FIVE** of the following: (10)
- a) Define the terms Retention time and capacity factor.
  - b) What do you mean by derivatization in chromatography?
  - c) How the SFC differ from HPLC.
  - d) Give the properties of supercritical fluids used in SFC.
  - e) Enlist the columns used in normal phase and reverse phase HPLC.
  - f) Why it is necessary to degas the mobile phase in HPLC?
- Q.6** a) Give the ideal properties of detectors used in HPLC. Discuss in detail the PDA detector and RI detector. (07)  
b) Compare between HPLC and HPTLC. (03)
- Q.7** a) Discuss in detail Pumps used in HPLC. (07)  
b) What do you understand by theoretical plate concept and HETP? (03)
- Q.8** Write short notes on **ANY TWO** of the following: (10)
- a) Applications of supercritical fluid chromatography
  - b) Sample injector system in HPLC
  - c) Instrumentation of SFC

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