



MAL-003-0047601 Seat No. _____

**B. Voc. – Pharm. Analysis & QA
(Sem. VI) (CBCS) Examination**

March / April - 2018

BVPAQA-601 : Chromatographic Techniques

Faculty Code : 003

Subject Code : 0047601

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

1 (a) Answer the following questions : 10

- (1) Define partition phenomenon in chromatography.
- (2) Which sample can be separated in GC ?
- (3) Define Retention time.
- (4) Define elution.
- (5) Define distribution coefficient.
- (6) Enlist properties of gas that can be used as mobile phase in GC.
- (7) Which spraying agent is used for metal ion visualization like Ni and Co ?
- (8) Define isocratic development.
- (9) Define Dead peak in GC.
- (10) Define R_f value.

(b) Answer the following questions : 20

- (1) Enlist different hyphenated techniques of chromatography.
- (2) Why it is necessary to activate TLC plate ?
- (3) Why TLC is superior to other chromatographic techniques ?
- (4) Why degassing is important in HPLC ?
- (5) Discuss silica as an inorganic absorbent in chromatography.

- (6) Give rate theory equation.
- (7) Give factors affecting selection of solvent in liquid chromatography.
- (8) Give classification of chromatography on the basis of physical state of stationary and mobile phase.
- (9) Why heating above 200°C destroys chromatographic properties of silica.
- (10) Enlist the types of column used in GC.

2 Answer the following questions : (any **four**) **20**

- (1) Describe column chromatographic technique as a separation method.
- (2) Discuss separation of metal ion by paper chromatography.
- (3) Describe gradient elution and continuous development in TLC.
- (4) Discuss types of ion exchange resins in ion exchange chromatography and its synthesis.
- (5) Explain different methods of preparation of TLC plate.
- (6) Describe instrumentation of GC.

3 Answer the following questions : (any **four**) **20**

- (1) Write a short note on edge effect in TLC and chamber saturation.
- (2) Give classification and different types of chromatographic techniques.
- (3) Discuss plate theory in GC.
- (4) Enlist application of HPLC.
- (5) Describe separation of amino acid on ascending paper chromatography.
- (6) Describe gradient elution and continuous development in TLC.