

**Hemchandracharya North Gujarat University, Patan**  
**Bachelor of Vocation**  
**Pharmaceutical Chemistry Semester - IV**  
**END TERM Examination April, 2018**

**Subject: Advanced Analytical Chemistry - II (PC-413)**

**Time: 2 hrs**

**Date: 25/04/2018**

**Maximum marks: 50**

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**Q.1 Answer any 9 questions. Each question carries 1 mark**

**(9\*1=9 Marks)**

1. Give the formula of Resolution.
2. Define Retention time.
3. In normal phase chromatography Mobile phase is \_\_\_\_\_.  
(a) Polar (b) Non-polar (c) Acidic (d) none of these
4. Define Accuracy.
5. PDA stands for \_\_\_\_\_.
6. GC is Applicable for \_\_\_\_\_.  
(a) Volatile compound (b) Non volatile compound  
(c) a & b both (d) none of these
7. Write names of detectors used in HPLC.
8. An isocratic system in HPLC one in which the temperature of the column  
(a) Remains constant (b) increases  
(c) Decreases (d) none of these
9. Full form of HPLC.
10. Types of Column used in GC.

**Q. 2 Answer any 5 questions. Each question carries 4 marks**

**(5\*4=20 Marks)**

1. Derive the equation for theoretical plates.
2. Explain non-ideal behavior of Chromatogram.
3. Applications of HPLC.
4. Compare the HPTLC and HPLC.
5. Explain TCD and FID – detectors of GC in detail
6. Which gases are used as carrier gas in GC? Explain selecting criteria for carrier gas.

**Q.3 Answer any 3 question. The question carries 07 marks**

**(3\*7=21 Marks)**

1. Write down the applications of HPTLC.
2. Types of GC – Column in detail.
3. Discuss about the relationship of capacity factor, selectivity factor & Column efficiency consult with optimization condition.
4. Discuss all the validation parameters of method validation.