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Total No. of Pages : 01

Total No. of Questions : 06

**M.Pharmacy(Pharmaceutical Analysis) (2017 Batch) (Sem.-2)****ADVANCED INSTRUMENTAL ANALYSIS**

Subject Code : MPA-201T

M.Code : 74925

Time : 3 Hrs.

Max. Marks : 75

**INSTRUCTIONS TO CANDIDATES :**

1. Attempt any FIVE questions out of SIX questions.
2. Each question carries FIFTEEN marks.

Q1. Write a note on :

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|--|---|
| A. Ion exchange chromatography.                | 5 |
| B. HPLC in chiral analysis of pharmaceuticals. | 5 |
| C. Capillary Electrophoresis.                  | 5 |

Q2. A. Discuss principle, instrumentation and solvent requirement in NMR. 8

B. Discuss briefly about FAB and chemical ionization mass spectrometry. 7

Q3. A. Write about general principles of affinity chromatography. Write a note on stationary and mobile phases used in affinity chromatography. 8

B. Write a note on detectors used in HPLC. 7

Q4. A. Elaborate on different mass analyzers. 8

B. Write briefly about principle of FT-NMR with reference to  $^{13}\text{C}$ -NMR. 7

Q5. Write a note on following :

A. Coupling constant. 5

B. Matrix Assisted Laser Desorption (MALD) 5

C. Applications of NMR spectroscopy. 5

Q6. A. Write a note on CE-MS hyphenation. 8

B. Discuss principle and application of super critical fluid chromatography. 7

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**

