Total No. of Questions : 14]

MPA 201 T

[Total No.of Pages : 02

M. PHARMACY (Regular) DEGREE EXAMINATIONS, DECEMBER-2022

Second Semester

PHARMACEUTICAL ANALYSIS

ADVANCED INSTRUMENTAL ANALYSIS

Time : **Three Hours**

Maximum : 75 Marks

SECTION - A

Answer any FIVE Questions. **5x5 = 25 M**

1. Give an account on different types of Injectors and Pumps used in HPLC.
2. Write a short note on Affinity chromatography.
3. Explain the principle and characteristics of Capillary Electrophoresis.
4. What are Metastable ions and Isotopic peaks.
5. Write a short note on LC-NMR hyphenation Technique.
6. Give a brief outline on quantum numbers and their role in NMR.
7. Describe the principle and role of Ultra liquid chromatography in pharmaceutical sciences.

SECTION - B

Answer any FIVE Questions. **5x10 = 50 M**

8. Explain the principle and applications of HPLC with special emphasis on chiral analysis of pharmaceuticals.
9. Discuss the principle and instrumentation of Gas Chromatography.
10. Write a short note
    a) CE-MS hyphenation.
    b) Crown ethers as buffer additives in capillary electrophoresis.

[P.T.O.]

11. Describe different types of Ionization techniques employed in Mass Spectroscopy.

12. Define chemical shift and discuss the factors influencing chemical shift.

13. Give an account on

    a) NOESY and COSY Technique.

    b) Principle of BC NMR.

14. Write a short note on

    a) Solvents used in HPLC and Sample preparation in HPLC.

    b) Pharmaceutical applications of HPTLC.

Total No. of Questions : 14]

MPA 201 T

[Total No.of Pages : 01

M. PHARMACY DEGREE EXAMINATIONS, JULY - 2022

Second Semester

PHARMACEUTICAL ANALYSIS

ADVANCED INSTRUMENTAL ANALYSIS

Time : **Three Hours**

Maximum : **75** Marks

SECTION - A

Answer any FIVE Questions. **5x5 = 25 M**

1. Briefly outline the use of HPLC in chiral analysis of Pharmaceuticals.
2. Explain different types of resins used in Ion exchange chromatography.
3. Illustrate the principle and pharmaceutical applications of super critical fluid chromatography.
4. Write a note on FAB and MALDI.
5. Explain Spin - Spin Coupling and Coupling Constant.
6. Write the principles of FT-NMR and ^{13}C-NMR.
7. Briefly outline the instrumentation of HPTLC.

SECTION - B

Answer any FIVE Questions. **5x10 = 50 M**

8. Discuss different types of detectors, columns and column problems in HPLC.
9. Write a note on principle and pharmaceutical applications of Nano liquid chromatography.
10. Give an account on columns and detectors used in Gas Chromatography.
11. Discuss the general consideration and method development in Capillary Electrophoresis.
12. Explain different types of Mass Analyzers.
13. Define Chemical Shift. Discuss the factors affecting chemical shift.
14. Discuss the Fragmentation rules in Mass Spectroscopy.

Total No. of Questions : 14]

MPA 201 T

[Total No.of Pages : 02

M. PHARMACY (REGULAR) DEGREE EXAMINATIONS, JANUARY - 2022

Second Semester

PHARMACEUTICAL ANALYSIS

ADVANCED INSTRUMENTAL ANALYSIS

Time : **Three Hours**

Maximum : **75** Marks

SECTION - A

Answer any FIVE Questions. **5x5 = 25 M**

1. Explain the terms Capacity factor, Plate number and Plate height in HPLC.
2. Write the principles involved in Ultra and Nano liquid chromatography.
3. Explain the derivatization techniques of Gas Chromatography.
4. Write the applications and principle of super critical fluid chromatography.
5. Explain Quadropole and Time of flight.
6. Write a brief note on solvent requirement in NMR Spectroscopy.
7. What are Metastable ions and Isotopic peaks ?

SECTION - B

Answer any FIVE Questions. **5x10 = 50 M**

8. Write a note on
   a) HPLC in chiral analysis of pharmaceuticals.
   b) Pumps used in HPLC.
9. Discuss the principle and instrumentation of High Performance Thin Layer Chromatography.
10. Write a note on characteristics and principles of Capillary electrophoresis.
11. Give an account on
    a) DART MS analysis.
    b) FAB and MALDI.

[P.T.O.]

12. Describe the solvent requirement and Relaxation process in NMR Spectroscopy.

13. Write a note on

    a) NOESY and COSY Techniques.

    b) Applications of NMR Spectroscopy.

14. Give a brief outline on

    a) CE - Mshyphenation.

    b) Size exclusion chromatography.

MPA 201 T

Total No. of Questions :14]

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M.PHARMACY (Supple) DEGREE EXAMINATIONS, FEB/MAR-2020

Second Semester

M.PHARMACY

PHARMACEUTICAL ANALYSIS

ADVANCED INSTRUMENTAL ANALYSIS

Time: Three Hours **Maximum marks:75**

SECTION-A

Answer any FIVE Questions 5X5=25M

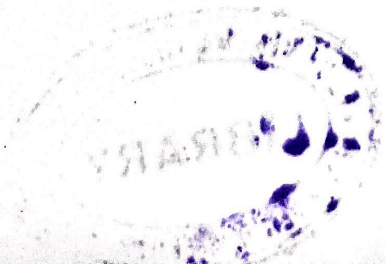
1. Write a short note on role of HPLC in chiral analysis of pharmaceuticals.
2. Give a note on plateheight, resolution and band broadening in HPLC.
3. Explain the principle and applications of size exclusion chromatography.
4. Outline the principle and applications of HPTLC.
5. Write a brief note on McLafferty rearrangement.
6. Write a short note on Quadrupole and orbitrap analyzer.
7. Give a short account on Lc-NMR hyphenated technique.

SECTION-B

Answer any FIVE Questions **5X10=50M**

8. Describe the principle and instrumentation of HPLC.
9. Discuss the role and principles of ultra and nano liquid chromatography in pharmaceutical analysis.
10. Write a detailed note on Ion exchange chromatography.
11. Write an account on Mass fragmentation and its rules.
12. Explain the principle, instrumentation and applications of NMR spectroscopy.

P.T.O



13. Discuss the principle and method development in capillary electrophoresis.

14. Write a note on NOESY and COSY techniques in NMR spectroscopy.