MPC 101T

Roll No. | | | | | | | | | | |

ODD SEMESTER EXAMINATION , 2022-23

COURSE NAME :- M.PHARM

SEMESTER- IST

SUBJECT :- MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUES

TIME: 3 HOURS **MAX MARKS:75**

NOTE: Attempt all questions. **(2x10)**

PART A

Multiple choices Question (Answer all Question) Tick the correct option.

1) In a magnetic analyzer ions are separated on the basis of …….values.
   a) Atomic number b) m/z
   b) c) Atomic mass d) None of these
2) Which of the following wavelength ranges is associated with UV spectroscopy?
   a) 0.8 - 500µm b) 400- 100 nm
   b) c) 380-750nm d) 0.01-10nm
3) Which of the following is not a source used in Mid Infrared spectroscopy?
   a) Nernst glower b) High pressure mercury arc lamp
   c) Glober d) Nichrome wire
4) Which of the following techniques would be most useful to identify and quantify the presence of a known impurity in a drug substance?
   a) NMR b) MS
   b) c) IR d) HPLC
5) The distance between the centers of the peeks of doublets is called as?
   a) Coupling constant b) spin constant
   c) spin- spin constant d) chemical shift
6) Beer Lambert's law gives the relation between which of the following?
   a) Reflected radiation and concentration b) Scattered radiation and concentration
   c) Energy absorption and concentration d) Energy absorption and reflected radiation

7) In mass spectrometer, the sample that has to be analyzed is bombarded with which of the Following?

a) Protons b) electrons
b) c) neutrons d) alpha particles

8) Mass spectrometer separates ions on the basis of which of the following?

a) Mass b) charge

c) Molecular weight d) mass of charge ratio

9) Accuracy of a potentiometric DVM is

a) Zero b) medium

c) Low d) high

10) Which technique separates charged particles using electric field?

a) Hydrolysis b) electrophoresis

c) protein synthesis d) protein denaturing

PART B

Long answer type question (Answer any Two Questions) (10X2)

11) Explain principle instrumentation and application of NMR.

12) Role of HPLC in Pharmaceutical field.

13) Existence of beer's - Lambert law in pharmaceutical analysis.

PART C

Short Answer Question (Answer any seven question) (7X5)

14) Discuss nitrogen rule and its applications in mass spectrometry.

15) Explain shielding- Deshielding effect with one example of each.

16) Express chemical shift with its factor.

17) Explain principle and application of flame emission spectroscopy.

18) Summarize short note on thin layer chromatography.

19) Explain Instrumentation and application of application of mass spectroscopy.

20) Describe principle and application of column chromatography.

21) Utility of Derivative differential thermal analysis (DDTA).

22) Bragg's law and its rotating crystal technique.