

Exam Date & Time: 25-Mar-2021 (01:30 PM - 04:30 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

Manipal Academy of Higher Education, Manipal MPharm Theory End-Semester Examinations.

Modern Pharmaceutical Analytical Techniques [PQA-MIP101T - S2]

Marks: 75

Duration: 180 mins.

SECTION - A

Answer all the questions.

Answer the following (10 marks x 5 = 50 marks)

- 1) a) List the advantages and disadvantages of Hollow Cathode Lamp
b) List the qualitative applications of UV-Visible spectroscopy. (5+5 marks) (10)
- 2) a) Explain the working of UV- Visible detector for low intense radiation.
b) Write the structure, mark the functional groups, and their wave numbers of aspirin and paracetamol. (5+5 marks) (10)
- 3) How many different chemical shifts can be expected for H nuclei in the following molecules and what will the intensity ratio of peaks?
a. CH₄
b. CH₃CH₃
c. CH₃CH₂CH₃
d. H₂C=CH₂
e. H₂C=CHBr (10)
- 4) What is the basis of sorting ions in an analyser for mass spectrometer? Name and describe any one analyser that uses energy and momentum and any one that uses energy and velocity. (10)
- 5) List and explain the working of any one each bulk property detector for HPLC and GC. (10)

SECTION - B

Answer all the questions.

Answer the following (5 marks x 5 = 25 marks)

- 6) Why HPTLC is more sensitive and reproducible analytical technique than TLC, but still not a better technique than TLC in all cases. (5)
- 7) Write a note on differential scanning calorimetry. (5)
- 8) When and how the glass electrode is to be rejuvenated? (5)
- 9) Compare the principle and applications of capillary zone electrophoresis and micellar electro kinetic capillary chromatography. (5)

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10) Differentiate ELISA and Radio Immuno Assay.

(5)

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