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24-PC-42

**M.Sc. IV SEMESTER [MAIN/ATKT] EXAMINATION
JUNE - JULY 2024**

PHARMACEUTICAL CHEMISTRY

Paper - II

[Modern Analytical Techniques]

[Max. Marks : 75]

[Time : 3:00 Hrs.]

[Min. Marks : 26]

Note : Candidate should write his/her Roll Number at the prescribed space on the question paper.
Student should not write anything on question paper.
Attempt five questions. Each question carries an internal choice.
Each question carries **15 marks**.

Q. 1 Discuss the theory, instrumentation and working of FT-IR (15 Marks)

OR

Discuss -

i) Chemical shift and factors affecting chemical shift in C^{13} NMR. (7½ Marks)

ii) Coupling and Decoupling in C^{13} NMR with its application. (7½ Marks)

Q. 2 Discuss the theory and instrumental technique of Mass - spectrometry. (15 Marks)

OR

Write notes on -

i) Types of Ions produce in Mass - Spectrometry. (7½ Marks)

ii) Important applications of GC-MASS in Pharmaceutical Chemistry. (7½ Marks)

Q. 3 Discuss in detail the theory, instrumentation and applications of Auto - Radiography. (15 Marks)

OR

Write about -

i) Comparison of fluorimetry and phosphorimetry. (7½ Marks)

ii) Application of Fluorimetry and phosphorimetry. (7½ Marks)

Q. 4 Discuss ELISA as immuno assay technique with its principle, types over procedures. (15 Marks)

P.T.O.

OR

Write about radio immuno assay technique with its theory, methodology and few important applications. (15 Marks)

- Q. 5** Discuss Thermogravimetry (TG) with its introduction, instrumentation and factor affecting TG curves. (15 Marks)

OR

What is Differential Thermal Analysis (DTA). Give its introduction, instrumentation arrangement. Also write about the factors affecting DTA curves. (15 Marks)

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