

M.Sc.(Chem.) Semester - 3 (CBCS) Examination
OCT/NOV-2025 (AS PER SYLLABUS YEAR JUNE-2019)
Medicinal Chemistry (Elective-1(New))

Time: 2:30 Hours**Marks:70****Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate marks.

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- Q.1 (A) Answer the following questions (2 Marks Each) (04)**
(1) Explain various stages of drug discovery briefly.
- Q.1 (B) Answer any two questions out of three. (10)**
(1) Discuss various strategies for Lead Optimization is required? Explain with one example
(2) Explain following term: (a) HTS (b) Me too analogues
(3) Write a note on target based drug discovery.
- Q.2 (A) Answer the following question (04)**
(1) What is combinatorial chemistry? Write a note on Furka's mix and spit method.
- Q.2 (B) Answer any two questions out of three. (10)**
(1) Discuss the electronic effects in QSAR studies.
(2) Discuss Parallel synthesis with example.
(3) Write Hantzsch equation for QSAR and discuss application of Craig's plot with example.
- Q.3 (A) Answer the following questions (2 Marks Each) (04)**
(1) How particle size and effective surface area affects drug absorption?
- Q.3 (B) Answer any two questions out of three. (10)**
(1) Write a note on the physiological barriers that affect drug distribution.
(2) Enlist various mechanism of Drug Excretion.
(3) What is ADME? Discuss briefly.
- Q.4 (A) Answer the following questions (2 Marks Each) (04)**
(1) Explain the term (a) Receptors (b) MIC (c) ED₅₀.
- Q.4 (B) Answer any two questions out of three. (10)**
(1) Discuss Phase-I reactions in biotransformation process.
(2) Explain Ion-channel linked receptors in detail.
(3) Explain full agonist, inverse agonist, Partial agonist, antagonist with diagram.
- Q.5 (A) Answer the following questions (2 Marks Each) (04)**
(1) Classify the prodrug with examples.
- Q.5 (B) Answer any two questions out of three. (10)**
(1) What is hard drug and soft drug? Explain with examples.
(2) Discuss the role of prodrug to alter solubility and minimize pain at the site of injection.
(3) Explain therapeutic Index with respect to the safety of the drug.
