

M.Sc.(Chem.) Semester - 3 (CBCS) Examination
Oct/Nov. -2019 - [NEW COURSE]
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) 4 Marks**
1. Why Lead Optimization is required?
 2. Define activity and Potency.
- Q.1 (b) Answer any two questions out of three. 10 Marks**
- (1) Discuss the discovery of Penicillins.
 - (2) Explain the drug discovery through Metabolism studies.
 - (3) Draw the flow chart of Drug discovery process.
- Q.2 (a) Answer the following question 4 Marks**
1. Discuss the electronic effects in QSAR studies.
- Q.2 (b) Answer any two questions out of three. 10 Marks**
- (1) What is the role of functional group modification to increase potency of the lead compound?
 - (2) Define the pharmacophore and auxophore. Identify pharmacophoric and auxophoric groups in Morphine structure.
 - (3) Explain Lipophilic parameters used in QSAR studies.
- Q.3 (a) Answer the following questions (2 Marks Each) 4 Marks**
1. Enlist the mechanism of Drug absorption.
 2. Excretion of Drug.
- Q.3 (b) Answer any two questions out of three. 10 Marks**
- (1) Discuss any two physiological barriers that affect drug distribution.
 - (2) How particle size and effective surface area affects drug absorption?
 - (3) Explain passive diffusion in Drug absorption.
- Q.4 (a) Answer the following questions (2 Marks Each) 4 Marks**
1. Enlist different type of receptors.
 2. Define MIC and ED₅₀.
- Q.4 (b) Answer any two questions out of three. 10 Marks**
- (1) Discuss full agonist, inverse agonist, Partial agonist, antagonist with diagram.
 - (2) Explain Ion-channel linked receptors in detail.
 - (3) Explain Phase-I reactions in biotransformation process.
- Q.5 (a) Answer the following questions (2 Marks Each) 4 Marks**
1. What is hard drug and soft drug?
 2. Define combinatorial library.
- Q.5 (b) Answer any two questions out of three. 10 Marks**
- (1) What is prodrug? How prodrug concept can be useful to improve taste?
 - (2) Write a note on Furka's mix and spit method.
 - (3) Classify the prodrug with examples.
