

M.Sc.(Chem.) Semester - 3 (CBCS) Examination
Oct/Nov-2022 (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 04**
(1) Discuss the term: (a) Drug (b) Lead compound (c) Serendipity (4) Therapeutic index
- Q.1 (b) Answer any two questions out of three. 10**
(1) Discuss the structure-based drug design approach for drug discovery.
(2) Explain the following approaches for drug discovery with example:
(a) Me-too analogues (b) SOSA approach
(3) What is invitro and invivo analysis? Discuss measurement of bioactivity.
- Q.2 (a) Answer the following 04**
(1) What is QSAR? Discuss various parameters.
- Q.2 (b) Answer any two questions out of three. 10**
(1) Discuss craig's plot and its application in detail.
(2) Explain the following lead modification strategies with examples:
(a) Homologation (b) Ring transformation
(3) What is Bioisosterism? Discuss classical and non-classical bioisosters.
- Q.3 (a) Answer the following 04**
(1) Discuss the following terms:
1. Pharmacokinetic 2. Polymorphism
- Q.3 (b) Answer any two questions out of three. 10**
(1) What is drug absorption? Discuss following mechanism of drug absorption:
(a) Active transport (b) Ion-pair transport
(2) Enlist various factors affecting Renal excretion of the drug and discuss any two of them.
(3) What is drug distribution? Discuss the role of following for drug distribution:
(a) Physicochemical properties of drug (b) Physiological barriers
- Q.4 (a) Answer the following 04**
(1) Explain the following term:
(a) Drug affinity (c) Agonist
(b) Drug efficacy (d) Antagonist
- Q.4 (b) Answer any two questions out of three. 10**
(1) What is biotransformation of drug? Discuss any five oxidative reactions with examples for Phase-I biotransformation.
(2) Discuss any three examples of Phase-II biotransformation reactions.
(3) What is receptor? Explain G-protein coupled receptor in detail
- Q.5 (a) Answer the following 04**
(1) What is combinatorial chemistry? Discuss types of solid phase resin linker.
- Q.5 (b) Answer any two questions out of three. 10**
(1) Discuss parallel synthesis of hydantoins.
(2) Give examples of prodrug for following:
(a) Improvement in the bioavailability
(b) Site specific delivery
(3) Describe Fodor's method for parallel synthesis.
