

B.Pharm II Year II Semester (R19) Regular & Supplementary Examinations September 2022

MEDICINAL CHEMISTRY – I

Time: 3 hours

Max. Marks: 75

PART – A

(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- Discuss geometrical isomerism in drugs with suitable examples.
 - Discuss the partition coefficient and its significance.
 - Write physiological role of adrenalin.
 - Write structure and biological significance of dopamine.
 - Write chemical structure of four cholinesterase inhibitors and their medicinal uses.
 - Write the structure of two tropane alkaloid and their medicinal uses.
 - Write chemical synthesis of phenobarbitone.
 - Write the chemical synthesis of promazine and its medicinal uses.
 - Write chemical structure and medicinal uses of morphine, codeine, meperidine and anileridine.
 - Discuss the anti-inflammatory mechanism of NSAIDS and give two examples.

PART – B**(Answer any two questions: 02 X 10 = 20 Marks)**

- Discuss in detail the drug metabolism principles Phase 1 and Phase 2 with suitable examples.
 - Classify & discuss the mechanism of action and SAR of the sympathomimetic drugs with examples.
- Classify & discuss the mechanism of action and SAR of the parasympathomimetic agents.
 - Classify the sedative and hypnotics with suitable examples and discuss the mechanism of action and chemical synthesis of diazepam.
- Classify with examples, discuss the mechanism of action and SAR of the anticonvulsant agents.
 - Classify analgesics with examples, discuss the SAR of the morphine analogues and chemical synthesis of methadone.

PART – C**(Answer any seven questions: 07 X 05 = 35 Marks)**

- Discuss the significance of drug protein binding in drug distribution.
 - Discuss bioisosterism with examples in detail.
- Discuss the biosynthesis and catabolism of dopamine.
 - Write the chemical synthesis of phenylephrine.
- Discuss the biosynthesis and catabolism of acetylcholine.
 - Discuss the structures, medicinal uses, and biological sources of analogs alkaloids and their analogues.

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- 8 (a) Discuss the SAR of phenothiazines.
(b) Write chemical synthesis and medicinal uses of ethosuximide.
- 9 (a) Write chemical synthesis and medicinal uses of ketamine.
(b) Write chemical synthesis and medicinal uses of mefenamic acid.
- 10 (a) Write chemical synthesis and medicinal uses of phenytoin.
(b) Write chemical synthesis and medicinal uses of carbamazepine.
- 11 (a) Write chemical synthesis and medicinal uses of tolazoline.
(b) Write chemical synthesis and medicinal uses of salbutamol.
- 12 (a) Discuss the SAR of beta blockers.
(b) Discuss the clinical uses of cholinesterase reactivators.
- 13 (a) Write a note on history and development of medicinal chemistry.
(b) Discuss the drug ionization and its impact on biological system.

B.Pharm II Year II Semester (R19) Supplementary Examinations March 2022

MEDICINAL CHEMISTRY – I

Time: 3 hours

Max. Marks: 75

PART – A

(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- Define hydrogen bonding.
 - What are bioisosters and give two examples of non-classical bioisosters?
 - Mention the name of enzymes that cause catabolism of catecholamines.
 - Write few examples of mixed action sympathetic drugs.
 - Define cholinergic system and its functions.
 - Write two examples of synthetic amino-alcohol esters drugs.
 - Write few examples of short acting barbiturates.
 - What are antipsychotics? Classify them.
 - Write the structure and uses of halothane.
 - Give few examples of narcotic antagonists.

PART – B**(Answer any two questions: 02 X 10 = 20 Marks)**

- 2 Describe various physiochemical properties involved in drug action. Give the importance of solubility in drug action.
- 3 Define adrenergic blockers. Discuss the chemistry and SAR of B-adrenergic blocking agents with examples.
- 4 Classify parasympathomimetic agents. Explain the SAR of parasympathomimetic agents.

PART – C**(Answer any seven questions: 07 X 05 = 35 Marks)**

- 5 Explain phase II and phase I reactions in drug metabolism.
- 6 Write the synthesis and uses of phenylephrine.
- 7 Explain the chemical uses of anticholinergic drugs. Give the synthesis of dicyclomine hydrochloride.
- 8 What are sedative and hypnotic drugs? Classify them.
- 9 Write the synthesis of diazepam drug in detail.
- 10 Explain the drug methohexital with chemical structure, mode of action and their synthesis.
- 11 Write the mechanical uses and synthesis of methadone hydrochloride drugs.
- 12 Explain the SAR of benzodiazepines.
- 13 Write the synthesis and uses of salbutamol.

B.Pharm II Year II Semester (R19) Regular Examinations September 2021

MEDICINAL CHEMISTRY – I

Time: 3 hours

Max. Marks: 75

PART – A

(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- (a) What are functionalization reactions?
 - (b) Define phase II reactions.
 - (c) Give the structure and IUPAC name of phenylephrine.
 - (d) Write the name of COMT and MOA.
 - (e) Write any two anticholinesterase drugs.
 - (f) Mention the structure and uses of carbachol.
 - (g) Write the structure and uses of diazepam.
 - (h) Write few examples of phenothiazines and their uses.
 - (i) Mention the clinical uses of thiamylal sodium.
 - (j) Write the uses of naproxen, phenacetin and sulindac.

PART – B**(Answer any two questions: 02 X 10 = 20 Marks)**

- 2 Explain G-protein couple of receptors and their mechanism.
- 3 Explain SAR of sympathomimetic agents with examples.
- 4 Elaborate chemical reaction of synthesis and uses of neostigmine and ipratropium bromide.

PART – C**(Answer any seven questions: 07 X 05 = 35 Marks)**

- 5 Explain various enzymes involved in drug metabolism and their importance.
- 6 Give a detailed account on the synthesis and uses of tolazoline.
- 7 Give a comprehensive account on SAR of cholinolytic agents.
- 8 Write the uses and structure of the following drugs: (i) Ethosuximide. (ii) Carbamazepine. (iii) Diazepam.
- 9 Explain SAR of anticonvulsants with examples.
- 10 Write the uses and synthesis of methohexital sodium.
- 11 Explain the difference between narcotic and non-narcotic analgesics with examples.
- 12 Give the synthesis of propranolol.
- 13 Write the synthesis of the following drugs Fentanyl citrate.
