Roll Number ---------- (Total Number of Questions 13) (Total number of Printed Pages 01)

Programme	B. Pharmacy
Semester	4th
Subject	Medicinal Chemistry-I
Subject Code	BP402T
Paper ID	75844
Time	3Hours
Maximum Marks	75

Instructions to Candidates: *No supplementary/continuation sheet will be issued to the candidates. Answer the questions precisely.*
Section A consists of Ten parts of 2 marks each (Objective Type); Attempt **ALL.*
***Section B consists of Three questions carrying 10 marks each (Long Answer); attempt any **TWO**.*
**** Section C consists of Nine questions carrying 5 marks each (Short Answer); attempt any **SEVEN**.*

Section A **(10 X2 = 20)**

1. Give very short answers to the followings (2 marks each):

i.	What is ring equivalent bio Isosterism?
ii.	Classify cholinesterase inhibitors.
iii.	Write the synthetic route of halothane.
iv.	Write the mode of action of methyldopa.
v.	Write the differences between Narcotic and Non-Narcotic analgesics.
vi.	Compare benzodiazepines and barbiturates?
vii.	Name any two NSAIDS. Give their MOA.
viii.	What are dissociative anesthetics.
ix.	Write a note on catabolism of acetylcholine.
x.	Give the structure of any urea derivative acting anticonvulsant agent.

Section B **(2 X 10 = 20)**

2.	Discuss the SAR of Beta blocker and write the mode of action, synthesis of propranolol.
3.	Write the classification, mechanism of action and SAR of anti-Psychotics with suitable examples?
4.	Write the classification, MOA, SAR of NSAIDS with suitable examples.

Section C **(7 X 5 = 35)**

5.	Write the synthesis, mechanism of action of: (a) Ipratropium Bromide (b) Tolazoline
6.	Write a note on chemistry of Barbiturates.
7.	Write the classification of Parasympathomimetic with examples and chemical structure. Write synthesis of carbachol.
8.	Write the chemical structure, mode of action and uses of Procyclidine.
9.	Discuss the SAR of morphine analogues. Write the mechanism of action and synthesis of Fentanyl.
10.	Describe the geometrical isomerism in relation to affect biological activity.
11.	Discuss the SAR of Benzodiazepines activity.
12.	Write a short note on dissociative anaesthetics.
13.	Define Biotransformation. Explain principles of drug metabolism including phase 1 and phase 2 pathways.

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22/8/2022

Roll Number ---------- **(Total Number of Questions 13)** **(Total number of Printed Pages 02)**

Programme	B. Pharmacy
Semester	4th
Subject	Medicinal Chemistry-I
Subject Code	BP402T
Paper ID	75844
Time	3Hours
Maximum Marks	75

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Section A consists of Ten parts of 2 marks each (Objective Type); Attempt **ALL.*
***Section B consists of Three questions carrying 10 marks each (Long Answer); attempt any **TWO**.*
**** Section C consists of Nine questions carrying 5 marks each (Short Answer); attempt any **SEVEN**.*

Section A (10 X2 = 20)

1. Give very short answers to the followings (2 marks each):

i.	Explain relation of hydrogen bonding property with biological action?
ii.	Write distribution of Adrenergic receptors.
iii.	Draw structure and medicinal use of any one drug related to alpha adrenergic blocker.
iv.	Outline the synthesis of Barbital.
v.	Write synthesis of drug used as dissociative anesthetics.
vi.	Discuss chemistry of Benzodiazepines.
vii.	Mention the name and structure of any one drug containing oxazolidinediones moiety that used as anticonvulsant agent.
viii.	Draw structure and medicinal use of Clidinium bromide.
ix.	Write MOA of anti-inflammatory drugs.
x.	Outline the synthesis of Dicyclomine hydrochloride.

Section B (2 X 10 = 20)

2.	Differentiate narcotic and non-narcotic analgesics. Write SAR of morphine analogues with example. Write synthesis of Methadone hydrochloride.
3.	What are antipsychotics agents? Classify them with example. Write MOA and synthesis of chlorpromazine hydrochloride.
4.	Write in detail about the following physiochemical properties in relation to biological action: a) Chelation b) Bioisosterism c) Partition coefficient.

Section C (7 X 5 = 35)

5.	Add a note about medicinal chemistry of solanaceous alkaloids and their analogues.
6.	Briefly explain SAR of sympathomimetic agents.
7.	Write Phase I drug metabolism in detail.
8.	Outline the synthesis of Phenylephrine and Tolazoline.
9.	Classify anticonvulsant drugs. Outline the synthesis of Phenytoin.
10.	Explain the medicinal chemistry of ultra short acting barbiturates.
11.	Write structure for the following drugs: a) Ephedrine b) Atenolol c) Aetylcholine d) Thiothixene e) Clonazepam
12.	Differentiate sedative and hypnotics drugs with example. Write synthesis of diazepam.
13.	Write the synthesis of carbachol and Procyclidine.

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Roll Number ---------- (Total Number of Questions 13) (Total number of Printed Pages 01)

Programme	B. Pharmacy
Semester	4th
Subject	Medicinal Chemistry-I
Subject Code	BP402T
Paper ID	75844
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**** Section C consists of Nine questions carrying 5 marks each (Short Answer); attempt any **SEVEN**.*

Section- A (10X2=20)

1.	Give very short answers to the followings:
i.	Define partition coefficient.
ii.	Explain catabolism of catecholamine.
iii.	Write structure and medicinal uses of salbutamol.
iv.	Write structure and uses of ephedrine.
v.	Write structure and medicinal uses of prazosin.
vi.	Define alpha blockers with examples.
vii.	Write structure and medicinal uses of edrophonium chloride.
viii.	Write structure and uses of atropine sulphate.
ix.	Write structure and medicinal uses of sulpieride.
x.	Write structure and uses of felbamate.

Section- B (2X10=20)

2.	Define sympathomimetic agents and its types. Explain brief about SAR of these agents. Write short note on epinephrine and hydroxyamphetamine.
3.	Define antipsychotics and its types. Explain brief about SAR of phenothiazeines. Write short note on haloperidol and molindone HCl.
4.	Define narcotics and nor- narcotic analgesics. Explain brief about SAR of morphine analogues. Write short note on nalopine HCl and pentazocine.

Section- C (7X5=35)

5.	Write about history and development of medicinal chemistry.
6.	Write a short note on optical and geometrical isomerism.
7.	Explain in brief adrenergic antagonists with examples.
8.	Explain the biosynthesis and catabolism of acetylcholine.
9.	Write SAR of benzodiazepines.
10.	Write structure and medicinal uses of primidone, phensuximide and phenobarbitone.
11.	Write a short note on ultra short acting barbiturates.
12.	Write structure and medicinal uses of aspirin, ibuprofen and acetaminophen..
13.	Write a short note on amides and imides.

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Roll Number ---------- (Total Number of Questions 13) (Total number of Printed Pages 01)

Programme	B. Pharmacy
Semester	4th
Subject	Medicinal Chemistry-I
Subject Code	BP402T
Paper ID	75844
Time	3Hours
Maximum Marks	75

Instructions to Candidates: *No supplementary/continuation sheet will be issued to the candidates. Answer the questions precisely.*
Section A consists of Ten parts of 2 marks each (Objective Type); Attempt **ALL.*
***Section B consists of Three questions carrying 10 marks each (Long Answer); attempt any **TWO**.*
**** Section C consists of Nine questions carrying 5 marks each (Short Answer); attempt any **SEVEN**.*

Section- A (10 X2 = 20)

1.	Give very short answers to the followings:
i.	What is ring equivalent bio Isosterism?
ii.	Classify cholinesterase inhibitors.
iii.	Write the synthetic route of halothane.
iv.	Write the mode of action of methyldopa.
v.	Write the differences between narcotic and non-narcotic analgesics.
vi.	Compare benzodiazepines and barbiturates?
vii.	Name any two NSAIDS. Give their MOA.
viii.	What are inhalational anesthetics?
ix.	Write a note on catabolism of acetylcholine.
x.	Give the structure of any urea derivative acting anticonvulsant agent.

Section- B (2 X 10 = 20)

2.	Discuss the SAR of beta blocker, write the mode of action and synthesis of propranolol.
3.	Write the classification, mechanism of action and SAR of Anti-Psychotics with suitable examples?
4.	Write the classification, MOA, SAR of NSAIDS with suitable examples.

Section- C (7 X 5 = 35)

5.	Write the synthesis, mechanism of action of: (a) Ipratropium Bromide (b) Tolazoline
6.	Write a note on chemistry of Barbiturates.
7.	Write the classification of Parasympathomimetic with examples and chemical structure. Write synthesis of carbachol.
8.	Write the chemical structure, mode of action and uses of Procyclidine.
9.	Discuss the SAR of morphine analogues. Write the mechanism of action and synthesis of Fentanyl.
10.	Describe the geometrical isomerism in relation to affect biological activity.
11.	Discuss the SAR of Benzodiazepines activity.
12.	Write a short note on dissociative anaesthetics.
13.	Define Biotransformation. Explain principles of drug metabolism including phase 1 and phase 2 pathways.

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211123
(Morning)

Roll Number ---------- (Total Number of Questions 13) (Total number of Printed Pages 01)

Programme	B. Pharmacy
Semester	4th
Subject	Medicinal Chemistry-I
Subject Code	BP402T
Paper ID	75844
Time	3Hours
Maximum Marks	75

Instructions to Candidates: *No supplementary/continuation sheet will be issued to the candidates. Answer the questions precisely.*
Section A consists of Ten parts of 2 marks each (Objective Type); Attempt **ALL.*
***Section B consists of Three questions carrying 10 marks each (Long Answer); attempt any **TWO**.*
**** Section C consists of Nine questions carrying 5 marks each (Short Answer); attempt any **SEVEN**.*

Section- A (10 X2 = 20)

1.	Give very short answers to the followings:
i.	Give two examples of non classical bioisosters.
ii.	Define Phase II reactions?
iii.	Write few examples of mixed- action sympathetic drugs with structure?
iv.	What are cholinergic receptors? Classify them.
v.	Write mechanism of action and uses of Ipratropium Bromide.
vi.	Write chemical synthesis of Methadone.
vii.	Classify cholinesterase inhibitors.
viii.	Give structure and uses of Haloperidol.
ix.	Define Inhalation anaesthetics.
x.	What happens if both hydrogen atoms at the 5th Position replaced by alkyl aryl group in Barbiturates.

Section- B (2 X 10 = 20)

2.	Write an explanatory note on chemical classification of NSAIDS.
3.	Write a note on chemistry of Morphine.
4.	Explain Structure- Activity relationship of Sympathomimetic agents.

Section- C (7 X 5 = 35)

5.	Enumerate the biosynthesis of Noradrenaline and write the uses of sympathomimetics?
6.	Write a note on biosynthesis and storage of Acetylcholine.
7.	Write in detail structure activity relationship of Barbiturates.
8.	Write a note on Phenothiazines.
9.	Classify narcotic analgesics.
10.	Write a note on Nalorphine and Naloxone.
11.	Write note on structure,MOA and properties of Sulindac and Phenylbutazone.
12.	Explain acetylation reactions with examples.
13.	Give a detailed account on synthesis and uses of Tolazoline and Propanolol.

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(Morning)

28 03 24

Roll Number ---------- (Total Number of Questions 13) (Total number of Printed Pages 01)

Programme	B. Pharmacy
Semester	4th Sem
Subject	Medicinal Chemistry-I
Subject Code	BP402T
Paper ID	75844
Time	3Hours
Maximum Marks	75

Instructions to Candidates: *No supplementary/continuation sheet will be issued to the candidates. Answer the questions precisely.*
Section A consists of Ten parts of 2 marks each (Objective Type); Attempt **ALL.*
***Section B consists of Three questions carrying 10 marks each (Long Answer); attempt any **TWO**.*
**** Section C consists of Nine questions carrying 5 marks each (Short Answer); attempt any **SEVEN**.*

Section- A (10X2=20)

1.	Give very short answers to the followings:
i.	Define narcotics with examples.
ii.	Differentiate in between sedative and hypnotics.
iii.	Define geometrical isomerism.
iv.	Illustrate the structure and uses of salbutamol.
v.	Define hydrogen bonding.
vi.	Classify sympathomimetic agents with examples.
vii.	Give mechanism of action of methyldopa.
viii.	Define inhalation anesthetics.
ix.	What are adrenergic receptors?
x.	Mention the synthesis of dicyclomine hydrochloride.

Section- B (2X10=20)

2.	Give a detailed account of the mechanism of action (MOA) and structure-activity relationship (SAR) of barbiturates.
3.	Describe in detail the physicochemical properties of drugs in relation to their biological action.
4.	Define anti-inflammatory agents. Write a classification of anti-inflammatory agents with the structure and mechanism of action (MOA) of ibuprofen.

Section- C (7X5=35)

5.	Provide the structure-activity relationship (SAR) of morphine analogues.
6.	Enlist the structure and uses of following: a) Terbutaline b) Phenytoin
7.	Explain Phase II reactions in drug metabolism.
8.	Elaborate on the structure-activity relationship (SAR) of cholinolytic agents.
9.	Provide the biosynthesis of acetylcholine.
10.	Give structure-activity relationship (SAR) of benzodiazepines.
11.	Classify Anticonvulsant agents with suitable examples.
12.	Give structure and uses of ephedrine.
13.	Write short note on dissociative anaesthetics.

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(Morning)

211124

Roll Number ---------- (Total Number of Questions 13) (Total number of Printed Pages 02)

Programme	B. Pharmacy
Semester	4th
Subject	Medicinal Chemistry-I
Subject Code	BP402T
Paper ID	75844
Time	3Hours
Maximum Marks	75

Instructions to Candidates: *No supplementary/continuation sheet will be issued to the candidates. Answer the questions precisely.*

Section A consists of Ten parts of 2 marks each (Very Short Answer); Attempt **ALL.*

***Section B consists of Three questions carrying 10 marks each (Long Answer); attempt any **TWO**.*

**** Section C consists of Nine questions carrying 5 marks each (Short Answer); attempt any **SEVEN**.*

Section- A (10 X2 = 20)

1.	Give very short answers to the followings:
i.	How solubility physiological property has relation to biological action?
ii.	Write structure and medicinal uses of any one sympathomimetic agents have mixed mechanism.
iii.	Draw structure and medicinal uses of phenylephrine.
iv.	Briefly explain the cholinergic receptors.
v.	List out the structure and names of two antipsychotic drugs with a phenothiazine moiety.
vi.	Write MOA of anti-inflammatory agents.
vii.	Draw structure and medicinal uses of drug belonging to cholinesterase reactivator.
viii.	Write synthesis of mefenamic acid.
ix.	Mention the name and structure of any two drugs containing hydantoin heterocyclic moiety.
x.	Outline the biosynthesis of acetylcholine.

Section- B (2 X 10 = 20)

2.	What are general anesthetics? Classify them with examples and provide the synthesis of halothane and methohexital sodium.
3.	Differentiate between sedatives and hypnotics, classify them with examples, and outline the synthesis and mechanism of action of barbital.
4.	Classify sympathomimetic agents with example. Write SAR and mechanism of action of sympathomimetic agents. Outline the synthesis of salbutamol.

Section- C (7 X 5 = 35)

5.	Discuss SAR of beta blockers with example.
6.	Add a note on narcotic antagonists.
7.	Write note on synthetic cholinergic blocking agents.
8.	Describe optical and geometrical isomerism in relation to biological action with suitable example.
9.	Outline the synthesis of neostigmine and propranolol.
10.	Write various methods in Phase II drug metabolism pathways.
11.	Discuss SAR and MOA of anticonvulsant agents.
12.	Write synthesis of diazepam and chloropromazine.
13.	Write structure for the following drugs: A) Haloperidol B) Molindone hydrochloride C) Indomethacin D) Valproic acid E) Atropine sulphate

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(Morning)
100625

Roll Number ---------- (Total Number of Questions 13) (Total number of Printed Pages 01)

Programme	B. Pharmacy
Semester	4th
Subject	Medicinal Chemistry-I
Subject Code	BP402T
Paper ID	75844
Time	3Hours
Maximum Marks	75

Instructions to Candidates: *No supplementary/continuation sheet will be issued to the candidates. Answer the questions precisely.*
Section- A consists of **ten questions, each carrying **2 marks** (Very Short Answer Type); **Attempt all.***
Section- B consists of **three questions**, each carrying **10 marks** (Long Answer Type); **Attempt any two.
****Section- C consists of **nine questions**, each carrying **5 marks** (Short Answer Type); **Attempt any seven.***

Section- A **(10X2=20)**

1.	Give very short answers to the followings:
i.	Define optical isomerism.
ii.	How is acetylcholine catabolized in the body?
iii.	Enlist the types of Phase II metabolic reactions.
iv.	Write the biosynthesis pathway of catecholamines.
v.	Define inhalational anesthetics with suitable examples.
vi.	Explain the mechanism of action and uses of dicyclomine.
vii.	Write the structure and uses of thiopental sodium.
viii.	Define cholinolytic agents. Mention the uses of scopolamine hydrobromide.
ix.	Write the structures and uses of any two α-adrenergic blockers.
x.	What is the mechanism of action of diazepam?

Section- B **(2X10=20)**

2.	Discuss the classification, mode of action, and SAR of anticonvulsant agents.
3.	Define sympathomimetic agents. Discuss the SAR of direct- and indirect-acting sympathomimetics. Write the synthesis of salbutamol.
4.	Explain the effect of physicochemical properties on biological action with suitable examples.

Section- C **(7X5=35)**

5.	Define biotransformation. Write briefly about Phase-I metabolic reactions.
6.	Write the SAR of barbiturates.
7.	Classify parasympathomimetics with examples. Write the synthesis of carbachol.
8.	Briefly discuss the SAR of phenothiazines.
9.	Write a short note on dissociative anesthetics.
10.	Briefly write about the β-adrenergic blockers with examples.
11.	Classify NSAIDs with examples.
12.	Write the SAR of cholinergic blocking agents.
13.	Write about narcotic analgesics with examples. Write the synthesis of Fentanyl citrate.

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***Section- B consists of Three questions carrying 10 marks each (Long Answer); attempt any TWO.*
**** Section -C consists of Nine questions carrying 5 marks each (Short Answer); attempt any SEVEN.*

Section- A **(10X2=20)**

1.	Give very short answers to the followings:
i.	Write the chemical structure and therapeutic uses of salbutamol.
ii.	Define α-blockers and give suitable examples.
iii.	Classify cholinesterase inhibitors?
iv.	What are inhalational anesthetics?
v.	Define geometrical isomerism?
vi.	What are cholinergic receptors?
vii.	Give mechanism of action of methyldopa?
viii.	Draw the structure and write the medicinal uses of any one adrenergic blocker.
ix.	Outline the synthesis of barbital?
x.	Define partition coefficient?

Section- B **(2X10=20)**

2.	Define narcotics and non- narcotic analgesics. Explain brief about SAR of morphine analogues. Write short note on nalopine HCl and pentazocine?
3.	Write a detailed account on Phase I metabolic reactions with appropriate examples.
4.	Classify sympathomimetic agents with examples. Give mechanism of action of methyldopa.

Section- C **(7X5=35)**

5.	Write structure and medical uses of aspirin, ibuprofen and acetaminophen?
6.	Discuss in detail on anti-inflammatory agents.
7.	Write a note on chemistry of barbiturates?
8.	Classify Anticonvulsant agents with suitable examples?
9.	Write a short note on optical and geometrical isomerism?
10.	Differentiate sedative and hypnotics drugs with example. Write synthesis of diazepam.
11.	Write structure for the given drugs Ephedrine, Atenolol, Acetylcholine, Thiothixene and Clonazepam.
12.	Define Sympathomimetic agents and its types. Explain brief about SAR of these agents. Write short note on epinephrine and hydroxyl amphetamine.
13.	Explain Phase II reactions in drug metabolism?

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