



Faculty of Pharmacy

End Semester Examination May 2025

PY3CO14 Medicinal Chemistry -I

Programme	: B.Pharm.	Branch/Specialisation	: -
Duration	: 3 hours	Maximum Marks	: 75

Note: All questions are compulsory. Internal choices, if any, are indicated. Assume suitable data if necessary. Notations and symbols have their usual meaning.

Section 1 (Answer all question(s))

Marks CO BL

Q1. Define Chelation with respect to biological action.

2 1 1

Rubric	Marks
Define Chelation. 1 Mark relation with activity 1 Mark	2

Q2. What is Geometrical isomerism?

2 1 1

Rubric	Marks
Definition	2

Q3. What are direct and indirect acting sympathomimetic agents?

2 2 1

Rubric	Marks
Direct acting sympathomimetic agents	1
Indirect acting sympathomimetic agents	1

Q4. Draw the structure and use of Tolazoline.

2 2 1

Rubric	Marks
Structure	1
Uses	1

Q5. What are cholinolytic agents? Give example.

2 3 1

Rubric	Marks
Definition	1
Example	1

Q6. Draw the structure and write uses of Carbachol.

2 3 1

Rubric	Marks
Structure	2

Q7. Define Sedatives and Hypnotics with example.

2 4 1

Rubric	Marks
Sedatives with example. 0.5 Mark + 0.5 Mark	1
Hypnotic with example. 0.5 Mark +0.5 Mark	1

Q8. Enlist targets for the antipsychotic agents.

2 4 2

Rubric	Marks
any four	2

Q9. What is the role of COX in NSAIDs.

2 5 1

Rubric	Marks
Pathway of cox 2 Marks	2

Q10. Give one example of narcotic and non-narcotic analgesics.

2 5 1

Rubric	Marks
Example of Narcotic analgesics.	1
Example of non-narcotic analgesics.	1

Section 2 (Answer any 2 question(s))

Marks CO BL

Q11. Write a detailed note on history and development of medicinal chemistry. Write factors affecting biotransformation.

10 1 1

Rubric	Marks
History and development of Medicinal Chemistry	5
factors affecting biotransformation.	5

Q12. Define, classify and give SAR of Adrenergic Agonist. Give the synthesis of Salbutamol.

10 2 1

Rubric	Marks
Definition	1
Classification	3
SAR	3
Synthesis	3

Q13. (i) Write a note on Protein Binding and Bioisosterism.
(ii) Explain SAR of beta adrenergic blockers. Write synthesis of tolazoline.

10 1 1

Rubric	Marks
Protein Binding	3
Bioisosterism.	2
SAR OF BA dr. blocker	3
Syn. of tolazoline	2

Section 3 (Answer any 2 question(s))

Marks CO BL

Q14. Describe biosynthesis, uses and catabolism of Acetylcholine.

5 3 2

Rubric	Marks
Biosynthesis	2.5
Catabolism 1.5 Marks Uses 1 Mark	2.5

Q15. Write the synthesis of Neostigmine and Procyclidine hydrochloride.

5 3 2

Rubric	Marks
Synthesis of Neostigmine	2.5
Synthesis of Procyclidine hydrochloride.	2.5

Q16. Write a note on the SAR of Parasympatholytic agents.

5 3 1

Rubric	Marks
SAR 3 Marks sr. 1 Mark Example 1 Mark	5

Section 4 (Answer any 2 question(s))

Marks CO BL

Q17. Explain SAR of Benzodiazepine's with examples.

5 4 2

Rubric	Marks
SAR 3 Marks sr. 1 Mark Example 1 Mark	5

Q18. What are Antipsychotic. Give the synthesis and uses of Chlorpromazine hydrochloride.

5 4 2

Rubric	Marks
Definition	1
Synthesis	2
Uses	2

Q19. Describe MOA and SAR of Phenytoin.

5 4 2

Rubric	Marks
SAR	3
MOA	2

Section 5 (Answer all question(s))

Marks CO BL

Q20. Define and classify General anesthetics with chemical structure.

5 5 2

Rubric	Marks
Definition	1
Classification	4

Q21. Write a note on the SAR of morphine analogues.

5 5 2

Rubric	Marks
SAR	5

Q22. Write classification of NSAIDs. Write the synthesis of Mefenamic acid.

5 5 2

Rubric	Marks
Synthesis of Mefenamic acid	2.5
Synthesis of Ibuprofen	2.5
