

# Faculty of Pharmacy

## End Semester Examination May 2025

### PY3CO14 Medicinal Chemistry -I

<b>Programme</b>	:	B.Pharm.	<b>Branch/Specialisation</b>	:	-
<b>Duration</b>	:	3 hours	<b>Maximum Marks</b>	:	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))

**Q1.** Define Chelation with respect to biological action.

**Marks CO BL**  
2    1    1

<b>Rubric</b>	<b>Marks</b>
Define Chelation. 1 Mark relation with activity 1 Mark	2

**Q2.** What is Geometrical isomerism?

2    1    1

<b>Rubric</b>	<b>Marks</b>
Definition	2

**Q3.** What are direct and indirect acting sympathomimetic agents?

2    2    1

<b>Rubric</b>	<b>Marks</b>
Direct acting sympathomimetic agents	1
Indirect acting sympathomimetic agents	1

**Q4.** Draw the structure and use of Tolazoline.

2    2    1

<b>Rubric</b>	<b>Marks</b>
Structure	1
Uses	1

**Q5.** What are cholinolytic agents? Give example.

2    3    1

<b>Rubric</b>	<b>Marks</b>
Definition	1
Example	1

**Q6.** Draw the structure and write uses of Carbachol.

2    3    1

<b>Rubric</b>	<b>Marks</b>
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.

10 1 1

(ii) Explain SAR of beta adrenergic blockers. Write synthesis of tolazoline.

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**

<b>Rubric</b>	<b>Marks</b>
SAR	5

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

**5 5 2**

<b>Rubric</b>	<b>Marks</b>
Synthesis of Mefenamic acid	2.5
Synthesis of Ibuprofen	2.5

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