

Roll No.....

Jamia Hamdard
Department of Chemistry
School of Chemical & Life Sciences
BSc. Hons. Chemistry (FYUP), Chemistry/Semester-II
Paper Title: Pharmaceutical Chemistry
Paper Code: BCH-MIC 201

Time: 2 ½ hours

Maximum Marks: 60

Abbreviations Used: CLO- Course Outcome, PLO- Program Outcome, BTL- Bloom Taxonomy Level:
 BT level 1-Remember; BT level 2-Understand; BT level 3-Apply; BT level 4-Analyse; BT level 5-Evaluate, BT level 6-Create.

Q. No.		BTL	CLO	PLO
SECTION A				
Very Short Type Questions (Attempt any ten):		(1.5x10=15 marks)		
A1	Define drug discovery.	2	2	1-2
A2	Name and draw any two analgesic agents.	2	2	1-2
A3	What is the primary use of antipyretic agents?	1	2	2
A4	Give the chemical name of Aspirin and Ibuprofen.	2	2	3
A5	Which natural product played an important role in anti-malarial drug discovery?	1	1-2	1-2
A6	Define Lipinski's Rule of five.	2	3	3
A7	What is the function of anti-inflammatory drugs?	1	2	2
A8	Write the name of one synthetic anti-malarial drug.	1	2	3
A9	Which drug among the following is a platinum-based anti-cancer agent: (a) Melphalan (b) Cisplatin (c) Ibuprofen?	1	1-2	1-2
A10	What is retrosynthetic analysis in drug design?	2	2-3	2-3
A11	Which hypoglycemic agent is a peptide hormone?	2	2-3	3
A12	Which class of antibiotics does Streptomycin belong to?	2	3	2-3
SECTION B				
Long Type Questions (Attempt any two out of four):		(10x2=20 marks)		
B1	Discuss the synthesis, mechanism of action, and therapeutic applications of (a) Sulphonamides and (b) Antiviral agents (Acyclovir and Zidovudine).	3	1-3	1-3
B2	Write the synthesis, mechanism of action, and therapeutic uses of any three of the following drugs: (a) Aspirin, (b) Paracetamol, (c) Ibuprofen, (d) Cisplatin.	4-6	2-6	4-6
B3	Discuss the synthesis and therapeutic applications of cardiovascular agents including (a) Glyceryl trinitrate, (b) Clonidine, and (c) Captopril.	3-4	3-5	3-5

B4	Describe the fermentation process for the production of any two of the following: (a) Penicillin, (b) Streptomycin, (c) Lysine, (d) Cephalosporin.	4-5	3-6	3-6
SECTION C				
Short Type Questions (Attempt all Questions):		(5x5=25 marks)		
C1	Explain the synthesis, mechanism of action, and therapeutic importance of Chloramphenicol. Or Discuss the synthesis and therapeutic uses of any one antihelminthic agent (Albendazole/Mebendazole).	3-5	4-5	4-5
C2	Classify antimalarial drugs with examples. Discuss the role of Quinine in the history of antimalarial therapy. Or Explain the principle of retrosynthetic analysis in organic synthesis and its application in pharmaceutical chemistry.	3	4	3-4
C3	Differentiate between aerobic and anaerobic fermentation processes, citing suitable industrial examples. Or Classify CNS agents and describe in detail the synthesis, mechanism of action, and uses of any two agents from (a) Pentobarbitone, (b) Diazepam, (c) Lignocaine, and (d) Thiopental Sodium.	4-6	4	4-5
C4	Discuss the role of Penicillin binding protein and β -lactamase in development of Drug Resistance against Penicillin Or Discuss the role of Folic Acid synthase in development of sulphonamide-based antibiotic	3-4	2-3	3-5
C5	Write a short note on the following: (a) Dopaminergic Receptors (b) GABA Or Write a short note on any two of the following (a) Cyclo-oxygenase enzyme (b) Therapeutic Index	4-5	5	4-6