LOYOLA COLLEGE (AUTONOMOUS) CHENNAI – 600 034

B.Sc. DEGREE EXAMINATION – **CHEMISTRY**

FIFTH SEMESTER – **APRIL 2025**

UCH 5602 – MEDICINAL AND PHARMACEUTICAL CHEMISTRY

Date: 08-05-2025 Dept. No. Max. : 100 Marks

Time: 01:00 PM - 04:00 PM

	SECTION A - K1 (CO1)	
	Answer ALL the Questions	**(10 x 1 = 10)**
1.	**Match the following**	
a)	Transfer of blood - Cardiovascular drugs	
b)	Bacteria - Blood transfusion	
c)	Hypertension - Single-celled organism	
d)	Hesperdin - Molecular structure	
e)	QSPR - Citrus Fruits	
2.	**True or False**	
a)	A universal blood donor is someone whose blood type is O-negative.	
b)	Pharmacodynamics is studying the effect of the organism on the drug.	
c)	Pharmacopoeia is a book describing chemicals, drugs, and other substances and how they are used as medicines.	
d)	Taxanes are chemotherapy drugs that stops cancer cells from replicating.	
e)	QSAR analysis is a ligand-based drug design method.	
	SECTION A - K2 (CO1)	
	Answer ALL the Questions	**(10 x 1 = 10)**
3.	**Answer the following**	
a)	What is coagulation of blood?	
b)	Mention a treatment for acid poisoning.	
c)	What are antibiotics?	
d)	What is drug latentiation?	
e)	Define hypnotics.	
4.	**Define the following**	
a)	Arteriosclerosis	
b)	Pharmacognosy	
c)	Therapeutic index	
d)	Serendipity	
e)	Molecular modelling	
	SECTION B - K3 (CO2)	
Answer any TWO of the following		**(2 x 10 = 20)**
5.	(a) Mention any five characteristics of an ideal disinfectant. (b) What is blood pressure? Explain its classification.	(5) (5)
6.	(a) Write a note on nomenclature of drugs. (b) Draw the structure of chloramphenicol and mention its uses.	(5) (5)
7.	(a) Write a short note on stent. (b) Explain the mechanism of action and therapeutic uses of camptothecin.	(5) (5)
8.	(a) Describe the molecular modification of morphine drugs. (b) Explain the pharmacological action of barbiturates.	(5) (5)

SECTION C – K4 (CO3)		
Answer any TWO of the following		**(2 x 10 = 20)**
9.	(a) Describe the clinical importance of FOBT.	(5)
	(b) What is anemia? Explain its types.	(5)
10.	(a) Describe the biological, chemical and immunology assay.	(5)
	(b) Write short notes on the dosage and storage of drugs.	(5)
11.	Explain the following cardiovascular drugs: (i) nitrates and (ii) beta blockers.	
12.	Explain the QSAR models of Hansch and Free Wilson Analyses.	
SECTION D – K5 (CO4)		
Answer any ONE of the following		**(1 x 20 = 20)**
13.	(a) Explain the different methods used in the sterilization of surgical instruments.	(10)
	(b) Briefly explain the metabolism of drug.	(10)
14.	(a) Draw the structure of penicillin and explain its uses.	(5)
	(b) Explain the synthesis of barbital and diazepam.	(5)
	(c) How is CADD used in creating a molecular model?	(10)
SECTION E – K6 (CO5)		
Answer any ONE of the following		**(1 x 20 = 20)**
15.	(a) How is urine sugar determined by Benedict's method?	(10)
	(b) Briefly describe the components of blood.	(10)
16.	(a) Explain the structure and functions of reserpine.	(5)
	(b) Discuss the structure activity relationship of streptomycin.	(5)
	(c) Describe any three QSAR parameters.	(10)
