LOYOLA COLLEGE (AUTONOMOUS), CHENNAI - 600 034

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

FIFTH SEMESTER - **NOVEMBER 2023**

UCH 5602 - MEDICINAL AND PHARMACEUTICAL CHEMISTRY

Dept. No.

Date: 16-11-2023

Ti	me: 09:00 AM - 12:00 NOON			
	SECTION A - K1 (CO1)			
	Answer ALL the Questions - (10 x 1	= 10)		
1.	Choose the correct answer for the following			
a)	Which of the following blood group is considered a universal donor?			
	(i) A (ii) B (iii) AB (iv) O			
b)	In which of the following phases of clinical trial of drug, ethical clearance is not required?			
	(i) Phase I (ii) Phase II (iii) Phase III (iv) Phase IV			
c)	Chemically aspirin is			
	(i) Acetyl salicylic acid (ii) Sodium salicylate (iii) Methyl salicylate (iv) Ethyl salicy	/late		
d)	The study of absorption, distribution, metabolism and excretion of drug is known as			
	(i) Pharmacy (ii) Pharmacokinetics (iii) Pharmacodynamics (iv) Pharmacop			
e)	Which of the following solvents is the most suitable one for determining partition coefficients?			
	(i) Phenol (ii) Butanol (iii) Heptane (iv) Octanol			
2.	Fill in the blanks			
a)	When arteries grow thick and stiff and restrict blood flow to organs and tissues in the body, the	n the		
b)	disorder is called form of the drug has the highest bioavailability.			
c)	During angioplasty, doctors often place a inside the artery.			
d)	Taxanes are drugs that stop cancer cells from replicating.			
e)	character of compounds refers to its fat soluble and non-polar nature			
,	SECTION A - K2 (CO1)			
	Answer ALL the Questions (10 x 1	= 10)		
3.	Match the following			
a)	Morphine - Orange			
b)	Crude drugs - Penicillin			
c)	Dettol - Narcotic analgesic			
d)	Hesperidin - Pharmacognsy			
e)	Serendipity - Antiseptic			
4.	Define the follwing			
a)	Blood clotting			
b)	Pharmacophore			
c)	Therapeutic index			
d)	Drug Latentiation			
e)	Lead compound			
SECTION B - K3 (CO2)				
	wer any TWO of the following (2 x 10	= 20)		
5.	(a) What are the characteristics of an ideal disinfectant? (5)			
	(b) Discuss briefly the components of blood. (5)			

Max.: 100 Marks

6.	(a) Write short notes on storage of drugs.	(5)		
	(b) Differentiate sedatives from hypnotics with examples.	(5)		
7.	(a) Draw the structure of quinine and mention its uses.	(5)		
	(b) Distinguish between hard and soft drugs with suitable examples.	(5)		
8.	(a) Describe the stereochemical aspects of drug action.	(5)		
	(b) Discuss the computer aided drug design (CADD).	(5)		
SECTION C – K4 (CO3)				
Answer any TWO of the following				
9.	(a) What is anaemia? Explain its classification.	(5)		
	(b) Briefly explain the metabolism of drug.	(5)		
10.	(a) Mention the physiological effects of hydroxyl and carboxylic acid functional ground	ps. (5)		
	(b) Explain the structure and functions of reserpine.	(5)		
11.	(a) Discuss the serendipity in drug discovery citing a suitable example.	(5)		
	(b) Write the synthesis of diazepam and barbital.	(5)		
12.	(a) Write a note on molecular modelling of new drug design.	(5)		
	(b) Explain Hansch analysis and Free Wilson analysis.	(5)		
	SECTION D – K5 (CO4)			
Answer any ONE of the following		$(1 \times 20 = 20)$		
13.	(a) How do you determine urine sugar by Benedict's test?	(10)		
	(b) Explain the following cardiovascular drugs: nitrates and beta blockers.	(10)		
14.	(a) Write a note on nomenclature and code number of drugs.	(5)		
	(b) Brief the hesperidin extraction from orange peel.	(5)		
	(c) Illustrate the structure activity relationship (SAR) of penicillin and streptomycin.	(10)		
	SECTION E – K6 (CO5)			
Answer any ONE of the following		$(1 \times 20 = 20)$		
15.	(a)Explain the different methods used in the sterilization of surgical instruments.	(10)		
	(b)Describe the chemical, biological and immunological assay.	(10)		
16.	(a) Discuss the structure and functions of chloramphenicol and aspirin.	(10)		
	(b)Explain the electronic and steric parameters of drug design.	(5)		
	(c) Write a short note on the steps involved in the drug discovery process.	(5)		

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