

Jamia Hamdard (Deemed to be University)
Examination: M.Sc. Clinical Research Semester I 2023

GENERAL PHARMACOLOGY

Paper Code- MCR DCC 101

Time: 2 Hours 30 minutes

Maximum marks: 60

Instructions: 1. All questions are compulsory
2. Assume missing data suitably, if any.

SECTION-A		(10×2=20 Marks)
All Questions are Compulsory:		
1.	Differentiate between competitive and non-competitive antagonists with suitable examples	
2.	Define tachyphylaxis with suitable examples	
3.	Differentiate between agonists, partial agonists and inverse agonists	
4.	Name the factors affecting oral bioavailability of drugs	
5.	Define Vd and its significance.	
6.	Name the processes involved in transport of drugs across the cell membrane	
7.	Drug 'X' was given in 20 mg Bolus Dose. Plasma concentration at Time Zero (C ₀) was found to be 5 mg/L. What is the Vd (Volume of Distribution) for Drug 'X'?	
8.	Ciprofloxacin (T _{1/2} = 4.1 hr) is to be given for few days to a patient. How much time will be needed for ciprofloxacin to reach the Steady State Concentration (C _{ss})?	
9.	Define pharmacokinetic and its significance.	
10.	Define bioequivalence and its significance.	
SECTION-B		(5×4=20 Marks)
All Questions are Compulsory:		
11.	(a) Write in details about historical landmarks and scope of pharmacology. ---- OR ---- (b) Write in details about various routes of drug administration.	
12.	(a) Differentiate between simple, facilitated and active transport of drugs across the cell membrane. ---- OR ---- (b) Write in details about first order and zero order kinetics of drugs.	
13.	(a) Write in details about GPCR along with its agonists and antagonists ---- OR ---- (b) Write in details about drug-drug interactions with suitable examples.	
14.	(a) What are neurotransmitters. Name few of them. Write their role and mechanism of action. ---- OR ---- (b) Classify direct and indirect cholinergic drugs. Write the mechanism of action, uses, ADRs and contraindication of neostigmine.	
SECTION-C		(2×10=20 Marks)
All Questions are Compulsory:		
16.	(a) Describe about drug receptor interactions. Explain about enzyme linked receptors with suitable examples ---- OR ---- (b) Define ADR. Classify various ADRs with suitable examples.	
17.	(a) Classify anti-adrenergic drugs. Write the mechanism of action and uses of propranolol. ---- OR ---- (b) Write the mechanism of action, uses, ADRs and contraindication of atropine.	