

Name:			
Enrolment No:			
UPES End Semester Examination, December 2025 Course: Pharmacology and Toxicology Program: B.Sc. Clinical Research Course Code: HSCR2028 Semester: III Time: 03 hrs. Max. Marks: 100 Instructions: Read the question paper carefully. Attempt the questions as mentioned.			
S. No.	Section A Short answer questions/ MCQ/T&F (20Qx1.5M= 30 Marks)	Marks	COs
Q 1	Write two aspects of pharmacology.	1.5	CO1
Q 2	Define ED ₅₀ .	1.5	CO1
Q 3	Give application of plasma protein binding.	1.5	CO1
Q 4	Arrange the following terms in correct order – Absorption, metabolism, excretion, and distribution.	1.5	CO1
Q 5	Define drug action and drug effects. A. Drug action is the observable result; drug effect is molecular interaction B. Drug action is molecular interaction; drug effect is the observable result C. Both refer to side effects only D. Drug action is long-term effect; drug effect is short-term only	1.5	CO1
Q 6	Mention one example of a drug with a narrow therapeutic index. A. Paracetamol B. Digoxin C. Ibuprofen D. Ranitidine	1.5	CO1
Q 7	Define half-life (t _{1/2}) of a drug. A. Time required for complete elimination of the drug B. Time taken to reach maximum effect C. Time required for plasma concentration to reduce by 50% D. Time taken for drug absorption	1.5	CO1
Q 8	State one function of the cytochrome P450 enzyme system. A. Enhancing drug absorption B. Inhibiting drug binding C. Metabolizing drugs in the liver D. Facilitating drug excretion by kidneys	1.5	CO1

Q 9	Define loading dose. A. The amount of drug excreted in one hour B. The dose given to maintain drug levels C. A higher initial dose to rapidly reach therapeutic concentration D. The amount of drug required to cause toxicity	1.5	CO2
Q 10	Define receptor. A. A blood protein that binds drugs B. A site where a drug binds to produce an effect C. A hormone that carries signals D. An enzyme that breaks down drugs	1.5	CO2
Q 11	Name any one factor that affects drug absorption.	1.5	CO2
Q 12	Write general characteristics of sympathetic nervous system.	1.5	CO2
Q 13	Parasympathetic nervous system causes increased heart rate. (True/False)	1.5	CO2
Q 14	Define neurotransmitters.	1.5	CO2
Q 15	Show the effects of sedative and hypnotic on a graph.	1.5	CO2
Q 16	Write steps involved in general anaesthesia.	1.5	CO2
Q 17	Differentiate analgesic and antipyretic.	1.5	CO2
Q 18	Give one example of drug use in glaucoma.	1.5	CO2
Q 19	Write about the effect of GABA.	1.5	CO2
Q 20	Abbreviate the term ADME.	1.5	CO2
Section B (4Qx5M=20 Marks)			
Q 1	Explain the pharmacology of antidepressant drugs.	5	CO2
Q 2	Discuss emesis. Classify antiemetic drugs.	5	CO3
Q 3	Define drug excretion. Write phases of drug metabolism.	5	CO2
Q 4	Define receptor. Explain their types.	5	CO3
Section C (2Qx15M=30 Marks)			
Q 1	Define transduction mechanisms with example. Explain any one mechanism in detail.	10+5	CO3
Q 2	Discuss drug metabolism and its application. Give clinical classification of anticholinergic drugs.	5+10	CO2
Section D (2Qx10M=20 Marks)			
Q 1	Write a note on different types of toxicants.	10	CO2
Q 2	Explain the pharmacology of antiepileptic drugs.	10	CO3