Name: Enrolment No:	

UPES

End Semester Examination, May 2025

Course: Pharmacology **Semester: VI**

Program: BT-Biotechnology **Time: 03 hrs.**

Course Code: HSFN3008P **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**	**CO2**
Q 3	Give application of plasma protein binding.	**1.5**	**CO2**
Q 4	Arrange the following terms in correct order – Absorption, metabolism, excretion, and distribution.	**1.5**	**CO2**
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 (t½) 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**	**CO1**
Q 15	Show the effects of sedative and hypnotic on a graph.	**1.5**	**CO1**
Q 16	Write steps involved in general anaesthesia.	**1.5**	**CO2**
Q 17	Differentiate analgesic and antipyretic.	**1.5**	**CO1**
Q 18	Give one example of drug use in glaucoma.	**1.5**	**CO1**
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	Classify local anaesthetics and write their mechanism of actions.	**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 anyone mechanism in detail.	**10+5**	**CO3**
Q 2	Discuss drug distribution and its application. Explain how drug distribution and plasma protein binding affect drug action.	**10+5**	**CO5**
Section D (2Qx10M=20 Marks)			
Q 1	Write a note on neurotransmitters pharmacology.	**10**	**CO5**
Q 2	Explain the pharmacology of antiparkinsonian drugs.	**10**	**CO3**