



Sessional I (Even) Semester Examination March 2025

Roll no.....

Name of the Course: B. Pharma

Semester: IV

Name of the Paper: Pharmacology -I

Paper Code: BP404T

Time: 1.5 hour

Maximum Marks: 30

Note:

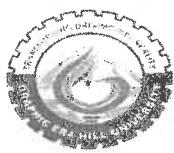
- (i) This question paper contains three sections
- (ii) All the sections are compulsory

Section-A

MULTIPLE CHOICE QUESTION

10 X 1 = 10 MARKS

S.NO.	CONTENTS	Cos
1.	The term "essential drugs" refers to: a) Expensive drugs b) Drugs for emergency use only c) Medicines that satisfy priority healthcare needs d) Herbal medications	CO-1
2.	A competitive antagonist: a) Binds irreversibly to the receptor b) Decreases the maximal response c) Competes with the agonist for the same binding site d) Activates the receptor partially	
3.	Tachyphylaxis refers to: a) A severe allergic reaction b) Rapid development of drug tolerance c) Slow drug metabolism d) Competitive inhibition	
4.	Which of the following describes first-order kinetics? a) Constant amount of drug eliminated per unit time b) Rate of elimination proportional to drug concentration c) Zero drug clearance d) Enzyme inhibition	
5.	Spare receptors are best identified when: a) A maximal response occurs without full receptor occupancy b) Competitive antagonists increase the EC ₅₀ c) The drug undergoes zero-order kinetics d) Irreversible antagonists shift the dose-response curve	
6.	In the JAK-STAT pathway, after ligand binding, the receptor activates JAK, which then phosphorylates: a) G-proteins b) STAT proteins c) Adenylate cyclase d) Protein kinase C	CO-2
7.	Which signal transduction mechanism is primarily used by G-protein-coupled receptors (GPCRs)? a) Direct ion channel opening b) Second messenger pathways c) Activation of nuclear transcription factors	



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	d) Autophosphorylation	
8.	When two drugs are administered together and one increases the plasma concentration of the other by inhibiting its metabolism, the interaction is: a) Pharmacodynamic synergism b) Pharmacokinetic inhibition c) Pharmacodynamic antagonism d) Pharmacokinetic induction	
9.	Post-marketing surveillance to monitor drug safety is known as: a) Phase I trial b) Phase II trial c) Pharmacovigilance d) Bioequivalence testing	
10.	Which phase of clinical trials involves the largest number of participants to confirm efficacy and monitor side effects? a) Phase I b) Phase II c) Phase III d) Phase IV	

Section B

Short Questions: Attempt any two

2x5 = 10

S.NO.	QUESTIONS	CO's
1.	Differentiate between competitive and non-competitive antagonism with the help of dose-response curves.	1
2.	Write short notes on addiction, tolerance, and dependence.	1
3.	Explain the JAK-STAT pathway and its role in drug action.	2

Section C

Long questions: Attempt any one

1x10 = 10

S.NO.	QUESTIONS	CO's
1.	Describe the process of drug absorption, distribution, metabolism, and excretion (ADME) in detail.	1
2.	Explain signal transduction mechanisms in pharmacodynamics with a focus on G-protein coupled receptors and ion channel receptors.	2