

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2026
(Sixth Semester)

Branch – BIOCHEMISTRY

MAJOR ELECTIVE COURSE – II : PHARMACOKINETICS AND CLINICAL TRIALS

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions
ALL questions carry EQUAL marks (10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	Which drug is obtained from plant source? (i) Morphine (ii) Insulin (iii) Penicillin (iv) Streptomycin	K1	CO1
	2	Which receptor type is involved in neurotransmission? (i) Nuclear receptor (ii) Ion channel receptor (iii) Enzyme receptor (iv) Carrier protein	K2	CO1
2	3	Which route of administration avoids first-pass metabolism? (i) Oral (ii) Intravenous (iii) Rectal (iv) Sublingual	K1	CO2
	4	Which is a minor route of drug excretion? (i) Kidney (ii) Liver (iii) Sweat (iv) Urine	K2	CO2
3	5	Which drug is used in Parkinson's disease? (i) Aspirin (ii) L-Dopa (iii) Nifedipine (iv) Ciprofloxacin	K1	CO3
	6	Which method is commonly used for antibiotic sensitivity testing? (i) Disk diffusion method (ii) Chromatography (iii) Centrifugation (iv) Filtration	K2	CO3
4	7	Which organ is most commonly affected by drug toxicity? (i) Liver (ii) Hair (iii) Nails (iv) Teeth	K1	CO4
	8	What is drug toxicity? (i) Beneficial drug effect (ii) Harmful effect of drugs on the body (iii) Drug metabolism (iv) Drug distribution	K2	CO4
5	9	Which organization provides guidelines for quality of herbal formulations? (i) WHO (ii) UNESCO (iii) FAO (iv) UNICEF	K1	CO5
	10	Which clinical trial aims to prevent disease occurrence? (i) Therapeutic trial (ii) Diagnostic trial (iii) Preventive trial (iv) Quality of life trial	K2	CO5

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SECTION - B (35 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks (5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Illustrate the requirement of an ideal drug.	K2	CO1
		(OR)		
	11.b.	Infer on the nomenclature and classification of drug.		
2	12.a.	Outline the route of drug administration.	K2	CO2
		(OR)		
	12.b.	Summarize the factors affecting drug absorption.		
3	13.a.	Construct the Structure Activity Relationship of drugs acting on the Central Nervous System (CNS) with examples.	K3	CO3
		(OR)		
	13.b.	Identify the structure and mode of action of Quinine.		
4	14.a.	Develop the metabolism of lipid-soluble drugs.	K3	CO4
		(OR)		
	14.b.	Organize the drug toxicity in humans.		
5	15.a.	Analyze the natural drugs and their significance.	K4	CO5
		(OR)		
	15.b.	Examine the study design of clinical trials.		

SECTION - C (30 Marks)

Answer ANY THREE questions

ALL questions carry EQUAL Marks (3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Interpret the types of drug receptors.	K2	CO1
2	17	Explain the major and minor route of drug excretion.	K2	CO2
3	18	Identify the structure and pharmacological action of Nifedipine and Salbutamol.	K3	CO3
4	19	Analyze the Phase I reactions of drug metabolism including oxidation, reduction and hydrolysis reactions with examples.	K4	CO4
5	20	Elaborate the regulations for the use of animals in scientific research according to CCSEA guidelines.	K6	CO5

Z-Z-Z

END