

PSG COLLEGE OF ARTS & SCIENCE (AUTONOMOUS)

MSc DEGREE EXAMINATION DECEMBER 2025
(Third Semester)

Branch – APPLIED MICROBIOLOGY

MAJOR ELECTIVE COURSE – I : PHARMACEUTICAL MICROBIOLOGY

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry **EQUAL** marks

$$(10 \times 1 = 10)$$

Module No.	Question No.	Question	K Level	CO
1	1	Which of the following blocks refers to the element with 29 atomic numbers? a) P-block b) F-block c) S-block d) D-block	K1	CO1
	2	Which one of them is the weakest bond? a) Ionic bond b) Covalent bond c) Metallic bond d) Van der waals force	K2	CO1
2	3	What type of side effect is most commonly observed in beta-lactam antibiotics? a) Hearing loss b) Aplastic anaemia c) Allergic reaction d) Yellowing of teeth	K1	CO2
	4	Which of the following culture medium is used to detect exclusively anaerobic bacteria in sterility testing? a) Stuart's medium b) Alternative Thioglycollate Medium (ATM) c) Fluid Thioglycollate Medium (FTM) d) Soybean Casein Digest Medium (SCDM)	K2	CO2
3	5	What does the term "bioavailability" mean? a) Plasma protein binding degree of substance b) Permeability through the brain-blood barrier c) Fraction of an uncharged drug reaching the systemic circulation following any route administration d) Amount of a substance in urine relative to the initial dose	K1	CO3
	6	Which process is used for extraction of drugs have a maximum therapeutic value? a) Percolation b) Decoction c) Infusion d) Maceration	K2	CO3
4	7	Which of the following two organ systems are the most frequent sites of adverse drug effects? a) Endocrine & Renal b) Endocrine & Respiratory c) CNS & Gastrointestinal d) CNS & Cardiovascular	K1	CO4
	8	Which of the following is an example of an Iatrogenic condition? a) Type 2 diabetes b) Chemotherapy-induced neutropenia c) Hypertension resulting from stress d) Sunburn	K2	CO4
5	9	The first step in the drug discovery process is a) Lead Identification b) Lead Modification c) Lead Validation d) Lead Optimization	K1	CO5
	10	What is the role of the <i>Limulus Amoebocyte Lysate</i> (LAL) test in pharmaceutical microbiology? a) To detect the presence of pyrogens b) To measure the total number of viable microorganisms c) To assess the chemical stability of a product d) To evaluate the physical properties of a product	K2	CO5

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SECTION - B (35 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

 $(5 \times 7 = 35)$

Module No.	Question No.	Question	K Level	CO
1	11.a.	Discuss the atomic structure of pharmachemistry. (OR)	K3	CO1
	11.b.	State about Stoichiometry.		
2	12.a.	Briefly explain about anti-viral agents. (OR)	K4	CO2
	12.b.	Enlighten the Indian Pharmacopoeia.		
3	13.a.	Write short notes on various routes of drug administrations. (OR)	K3	CO3
	13.b.	List out the medical importance of Magnesium.		
4	14.a.	Briefly explain the adverse drug reactions. (OR)	K3	CO4
	14.b.	Discuss about the drug regulation and development.		
5	15.a.	Brief about the ethical guideline in clinical research. (OR)	K3	CO5
	15.b.	Give a brief account on pyrogen testing.		

SECTION -C (30 Marks)

Answer ANY THREE questions

ALL questions carry EQUAL Marks

 $(3 \times 10 = 30)$

Module No.	Question No.	Question	K Level	CO
1	16	Explain various concepts of pharmachemistry.	K4	CO1
2	17	Write an essay on properties and drug action of Sulphonamides.	K4	CO2
3	18	Describe the key steps of drug interactions.	K4	CO3
4	19	Explain the process of novel drug development strategy.	K5	CO4
5	20	Briefly describe the various drug regulatory agencies.	K5	CO5