

Table of Specification –PhD Pharmacology - Spring 2026

NUMS Entry Test

S. No	Topic	MCQs
	Level of difficulty	Application
1	<p>General pharmacology</p> <ul style="list-style-type: none"> • Interpret the different pharmacokinetic patterns, their clinical significance and factors affecting these parameters. • Correlate the concept of molecular mechanistic to the therapeutics. • Identify the genetic principles in drug disposition 	8
2	<p>Autonomic Nervous System (ANS)</p> <ul style="list-style-type: none"> • Correlate the physiology of autonomic receptors with the therapeutic application 	8
3	<p>Central Nervous System (CNS)</p> <ul style="list-style-type: none"> • Correlate the patho-physiology of psychiatric illnesses to their management • Differentiate between different pharmacological agents (LA, GA, opioids, NSAIDs) used in the pain management • Justify the use of antiparkinsonian drugs correlating it to the underlying pathophysiology of the disease • Analyze the effects of anti-epileptic drugs in relation to neuro-excitatory illnesses • Strategize the management of migraine in accordance with the underlying disease mechanism • Correlate the effects of substances of abuse (alcohol, opioids, heroin) on body to its plan for aversion therapy • Critique on the pharmacological Effects of sedative/Hypnotics 	13
4	<p>Cardiovascular System (CVS)/Diuretics</p> <ul style="list-style-type: none"> • Relate the pathophysiology of heart and vessels to its treatment modalities • Recollect the anatomical physiological basis of renal system. Differentiate therapeutic application of different diuretics 	18

5	<p>Chemotherapy</p> <ul style="list-style-type: none"> Justify the treatment modalities for various microbes (bacteria, viruses, helminths, parasites) according to mode of action, resistance patterns and regional current practices Appraise the principles of cancer chemotherapy in relation to its current therapeutic modalities 	13
6	<p>Endocrinology</p> <ul style="list-style-type: none"> Correlate the pathophysiological basis of pituitary, thyroid and adrenal hormones with their therapeutics. Correlate types of diabetes mellitus to their different treatment modalities Justify the clinical use of sex hormones in relation to reproductive physiology Correlate the patho-physiological basis of osteoporosis to its pharmacological management. 	7
7	<p>Blood</p> <p>Justify the management plan of anemia, coagulation disorders and dyslipidemias by correlating it to the patho-physiological basis of disease</p>	6
8	<p>Respiration</p> <p>Justify the management plan of obstructive pulmonary disorders (Asthma, COPD).</p>	5
9	<p>Gastrointestinal System (GIT)</p> <p>Justify the management plan of common disorders of gastrointestinal tract (peptic ulcer, vomiting, constipation, gastropathies, diarrhea).</p>	6
10	<p>Misc topics</p> <p>Outline the essential pharmacological principles of toxicology.</p>	1
11	<ul style="list-style-type: none"> Research Methodology Biostatistics/Analytical Medical Writing/ Bioethics 	15
	Total	100 marks