

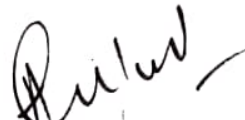


**Table of Specification (TOS) for Entrance Test-2025
Ph.D. Chemical and Molecular Pathology**

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Sr. No	Core Area	MCQs
1	Clinical Chemistry Pathophysiology- I including following topics: <ul style="list-style-type: none"> ○ Electrolytes ○ Acid Base Disorders ○ Liver Function Tests ○ Renal Function Tests 	10
2	Clinical Chemistry Pathophysiology- II including following topics: <ul style="list-style-type: none"> ○ Cardiac biomarkers ○ Lipid Disorders ○ Iron Disorders ○ Disorders of Bones 	10
3	Basic Laboratory Principles <ul style="list-style-type: none"> ○ Quality Management ○ Laboratory grade Water ○ Basic Instrument Handling <ul style="list-style-type: none"> ● Centrifuge ● Water Bath ● Pipettes ● Glass ware ● Refrigerators ● Osmometers ● Analytical Balance ● pH Meter 	10
4	Analytical Techniques /Lab instruments <ul style="list-style-type: none"> ○ Optical Techniques ○ Electrochemistry ○ Electrophoresis ○ Lab Automation ○ ELISA 	10
5	Special Clinical Chemistry Pathophysiology I including following topics: <ul style="list-style-type: none"> ○ Diabetes Mellitus ○ Thyroid Disorders ○ Parathyroid Disorders ○ Adrenal Disorder ○ Pituitary Disorders 	10
6	Special Clinical Chemistry Pathophysiology II including following topics: <ul style="list-style-type: none"> ○ Tumor Markers ○ Pediatric Metabolic Disorder 	05

7	Laboratory Management <ul style="list-style-type: none"> ○ Establishment and use of reference values ○ Pre analytical variables and biological variation ○ Laboratory Information System 	05
8	Molecular Pathology <ul style="list-style-type: none"> ○ DNA: Structure and Function ○ RNA: Structure and Function & Types ○ Protein: Structure and Function ○ DNA regulatory sequences and regulatory protein ○ DNA Replication, Damage and Repair ○ Transcription/ Translation in Prokaryotes & Eukaryotes 	05
9	Techniques in Molecular Pathology <ul style="list-style-type: none"> ○ PCR types and procedure ○ DNA/RNA Extractions ○ Restriction Endonuclease ○ Recombinant DNA technology 	05
10	Biostatistics/Analytical Reasoning	10
11	English	10
12	Mathematics	10
	Total	100


 for Prof. Dr. Wafa Omer
 Director
 PhD Chemical & Molecular Pathology

(Dr. Amna Naw).

30/1/25