

Contents

Competencies (Outcomes)

CORE (MUST KNOW)

NON-CORE (DESIRABLE TO KNOW)

INTEGRATION

ADDITIONAL

Section One: Basic Techniques in Pathology

Exercise 1	Microscopy	3
Exercise 2	Routine Histopathology Techniques and Staining	7
Exercise 3	Frozen Section and its Staining	12
Exercise 4	Special Stains and Immunohistochemistry	14
Exercise 5	Surgical Pathology Request Form	19

Section Two: General Principles of Pathology

Exercise 6	Cell Injury: Degenerations	23
Exercise 7	Cell Injury: Necrosis	26
Exercise 8	Gangrene and Pathologic Calcification	30
Exercise 9	Intracellular Accumulations	33
Exercise 10	Amyloidosis	36
Exercise 11	Acute and Chronic Inflammation	39
Exercise 12	Granulomatous Inflammation	42
Exercise 13	Actinomycosis and Common Tissue Parasitic Infections	46
Exercise 14	Chronic Venous Congestion	49
Exercise 15	Infarcts of Common Organs	52
Exercise 16	Cellular Adaptations	55
Exercise 17	Primary Epithelial Tumours	58
Exercise 18	Mesenchymal and Metastatic Tumours	62

Section Three: Basic Diagnostic Cytology

Exercise 19	Basic Cytopathologic Techniques and their Applications	69
Exercise 20	Interpretation of Pap Smear and Fluid Cytology	73
Exercise 21	Interpretation of FNA Smears	76

Section Four: Haematology, Lymphoid Tissues and Transfusion

Exercise 22	Types of Blood Samples, Anticoagulants and Blood Collection	81
Exercise 23	Haemoglobin Estimation	84
Exercise 24	Counting of Blood Cells	88
Exercise 25	Reticulocyte Count	93
Exercise 26	Preparation and Staining of Peripheral Blood Smear	95
Exercise 27	Differential Leucocyte Count	98
Exercise 28	ESR, PCV (Haematocrit) and Absolute Values	103
Exercise 29	Screening Tests for Haemostasis	108
Exercise 30	Blood Groups, Compatibility Testing and Transfusion	111
Exercise 31	Approach to Investigation in Anaemia	116
Exercise 32	Bone Marrow Examination	119

Competencies (Outcomes)

CORE (MUST KNOW)	NON-CORE (DESIRABLE TO KNOW)	INTEGRATION	ADDITIONAL
Exercise 33	Laboratory Work-up in Main Types of Anaemias		122
Exercise 34	Haemoparasites		127
Exercise 35	Haematolymphoid Malignancies: Leukaemias		130
Exercise 36	Haematolymphoid Malignancies: Lymphomas		135
Exercise 37	Multiple Myeloma		139
Exercise 38	Splenomegaly		142

Section Five: Clinical and Applied Pathology

Exercise 39	Physical and Chemical Examination of Urine	147
Exercise 40	Microscopic Examination of Urine	155
Exercise 41	Semen Analysis	162
Exercise 42	Thyroid Function Tests	165
Exercise 43	Renal Function Tests	168
Exercise 44	Laboratory Tests in Liver Disease	172
Exercise 45	Serum Cardiac Biomarkers in Acute Coronary Syndrome	180
Exercise 46	CSF Analysis	182

Section Six: Pathology of Systems

Exercise 47	Atherosclerosis and Vascular Tumours	187
Exercise 48	Diseases of the Heart	191
Exercise 49	Pneumonias	195
Exercise 50	Chronic Obstructive Pulmonary Disease and Lung Cancer	198
Exercise 51	Cysts and Tumours of the Jaws and Salivary Glands	202
Exercise 52	Diseases of the Gastrointestinal Tract	205
Exercise 53	Diseases of Hepatobiliary System	210
Exercise 54	Glomerular Diseases	215
Exercise 55	Tubulointerstitial Disease and Tumours of Renal System	219
Exercise 56	Testicular Tumours and Diseases of the Prostate	224
Exercise 57	Diseases of the Cervix, Endometrium and Placenta	227
Exercise 58	Ovarian Tumours	230
Exercise 59	Common Diseases of the Breast	234
Exercise 60	Diseases of the Thyroid	237
Exercise 61	Osteomyelitis and Bone Tumours	241
Exercise 62	Meningitis and Tumours of Nervous System	247

Section Seven: Basics of Autopsy Pathology

Exercise 63	Protocol for Request and Reporting of Pathologic Autopsy	253
Exercise 64	Online Learning Resource on Clinicopathological Conferences and Museum Review	258

Section Eight: Appendices

Appendix I	Common Instruments in Pathology	261
Appendix II	Common Similes in Pathology	266
Appendix III	Normal Values	271