

## Table of Specification for JCAT Paper II (Medicine & Allied)

JCAT for Medicine and Allied include General Medicine, Pediatrics, Pulmonology, Oncology, Gastroenterology, Nephrology, Cardiology, Rheumatology, Neurology, Dermatology, and Endocrinology.

Curriculum of JCAT Paper II includes contents of MBBS Medicine curriculum and its clinical application covered during house job.

Sr.#	SUBJECT	TOPIC	SUBTOPIC	MCC
1.	CARDIOVASCULAR SYSTEM	Acute Chest Pain	<ul style="list-style-type: none"> <li>• History and presentation</li> <li>• Investigations</li> <li>• Differential diagnosis of acute chest pain: (aortic dissection, pericarditis, GERD, myocardial infarction)</li> </ul>	<b>12</b>
		Angina	<ul style="list-style-type: none"> <li>• Stable angina</li> <li>• Unstable angina</li> <li>• Diagnosis</li> <li>• Tests                             <ul style="list-style-type: none"> <li>➤ Exercise Stress Test</li> <li>➤ Chemical Stress Test (Dobutamine)</li> <li>➤ Nuclear Test (Thallium uptake)</li> </ul> </li> <li>• Management</li> </ul>	
		Acute Coronary Syndrome	<ul style="list-style-type: none"> <li>• STEMI</li> <li>• NSTEMI</li> <li>• Risk factors</li> <li>• ECG leads correlation with heart walls</li> <li>• Initial management</li> <li>• Percutaneous Intervention</li> <li>• Discharge medications</li> </ul>	
		Congestive heart failure	<ul style="list-style-type: none"> <li>• Systolic dysfunction                             <ul style="list-style-type: none"> <li>Signs and Symptoms</li> <li>Acute management</li> <li>Chronic management</li> <li>Diagnosis (Radiological and Lab findings)</li> </ul> </li> <li>• Diastolic dysfunction                             <ul style="list-style-type: none"> <li>Signs and symptoms</li> <li>Diagnosis</li> <li>Management</li> </ul> </li> </ul>	
		Valvular heart diseases	<ul style="list-style-type: none"> <li>• Mitral stenosis                             <ul style="list-style-type: none"> <li>Clinical symptoms</li> <li>Physical signs</li> <li>Diagnosis (Auscultatory, ECG and Radiological findings)</li> <li>Management and Treatment</li> </ul> </li> </ul>	

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			<ul style="list-style-type: none"> <li>• Mitral regurgitation <ul style="list-style-type: none"> <li>Etiology</li> <li>Physical Signs</li> <li>Diagnosis (Auscultatory, ECG and Radiological findings)</li> <li>Treatment</li> </ul> </li> <li>• Aortic stenosis <ul style="list-style-type: none"> <li>Physical signs (Carotid thrill, Narrow pulse pressure)</li> <li>Diagnosis (Auscultatory, ECG and Radiological findings)</li> </ul> </li> <li>• Aortic regurgitation <ul style="list-style-type: none"> <li>Physical signs (Collapsing pulse, Large volume pulse, Wide pulse pressure)</li> <li>Diagnosis (Auscultatory, ECG and Radiological findings)</li> <li>Treatment</li> </ul> </li> </ul>
		Misc	<ul style="list-style-type: none"> <li>• Infective Endocarditis <ul style="list-style-type: none"> <li>Etiology</li> <li>Presentation</li> <li>Clinical Findings</li> <li>Risk Factors</li> <li>Management</li> </ul> </li> <li>• Rheumatic Fever <ul style="list-style-type: none"> <li>Etiology</li> <li>Diagnosis</li> <li>Management</li> </ul> </li> <li>• Congenital Heart Diseases</li> </ul>
		Cardiogenic Shock	<ul style="list-style-type: none"> <li>• Etiology</li> <li>• Clinical features, signs and symptoms</li> <li>• Emergency management</li> <li>• Complications</li> <li>• Multi Organ Failure</li> </ul>
		Pericardial disease	<ul style="list-style-type: none"> <li>• Acute pericarditis <ol style="list-style-type: none"> <li>i. Etiology</li> <li>ii. Clinical findings</li> <li>iii. Diagnosis</li> <li>iv. Management</li> </ol> </li> <li>• Pericardial effusion <ol style="list-style-type: none"> <li>i. Acute vs chronic</li> <li>ii. Diagnosis</li> <li>iii. Acute management</li> <li>iv. Cardiac tamponade <ul style="list-style-type: none"> <li>Signs and Symptoms</li> <li>Treatment</li> </ul> </li> </ol> </li> <li>• Constrictive pericarditis</li> </ul>

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		Heart block	<ul style="list-style-type: none"> <li>• First degree</li> <li>• Second degree</li> <li>• Third degree</li> </ul> <p>ECG findings, Diagnosis, management</p>	
		Arrhythmias	<ul style="list-style-type: none"> <li>• Atrial <ul style="list-style-type: none"> <li>i. Atrial flutter</li> <li>ii. Atrial fibrillation</li> </ul> <p>ECG Findings Complications Management</p> </li> <li>• Ventricular <ul style="list-style-type: none"> <li>i. Ventricular tachycardia</li> <li>ii. Supraventricular tachycardia</li> <li>iii. Ventricular fibrillation</li> <li>iv. Torsades de pointes</li> </ul> </li> <li>• Shockable vs non shockable: management and treatment</li> <li>• Cardioversion vs defibrillation</li> <li>• Pharmacological management of arrhythmias</li> </ul>	
2.	HAEMATOLOGY	Anemias	<ul style="list-style-type: none"> <li>• Microcytic anemia <ul style="list-style-type: none"> <li>i. Iron Deficiency <ul style="list-style-type: none"> <li>a. Clinical presentation</li> <li>b. Etiology</li> <li>c. Investigations</li> <li>d. Diagnosis</li> <li>e. Treatment</li> </ul> </li> <li>ii. Anemia of Chronic Disease <ul style="list-style-type: none"> <li>a. Etiology</li> <li>b. Investigations</li> <li>c. Role of hepcidin</li> <li>d. Treatment</li> </ul> </li> <li>iii. Sideroblastic anemia</li> <li>iv. Thalassemia <ul style="list-style-type: none"> <li>a. Types</li> <li>b. Etiology</li> <li>c. Lab investigations</li> <li>d. Clinical presentation</li> <li>e. Diagnosis, RDW</li> <li>f. Physical signs</li> <li>g. Complications</li> <li>h. Management</li> </ul> </li> </ul> </li> <li>• Macrocytic anemia <ul style="list-style-type: none"> <li>i. Vit. B12 Deficiency <ul style="list-style-type: none"> <li>a. Microscopic findings</li> <li>b. Etiology and risk factors</li> </ul> </li> </ul> </li> </ul>	08

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			<ul style="list-style-type: none"> <li>c. Lab investigations</li> <li>d. Confirmatory tests</li> <li>e. Treatment</li> <li>ii. Folic acid deficiency <ul style="list-style-type: none"> <li>a. Role of folic acid</li> <li>b. Etiology and risk factors</li> <li>c. Management</li> <li>d. Role in pregnancy</li> </ul> </li> <li>• Hemolytic anemias <ul style="list-style-type: none"> <li>i. Acute vs chronic causes</li> <li>ii. Presentation</li> <li>iii. Lab investigations</li> <li>iv. Confirmatory tests</li> <li>v. Autoimmune, drug induced hemolytic anemias</li> <li>vi. Cold agglutinin disease</li> </ul> </li> <li>• Hereditary spherocytosis <ul style="list-style-type: none"> <li>i. Role of spectrin</li> <li>ii. Clinical findings</li> <li>iii. Management</li> </ul> </li> <li>• G6PD Deficiency <ul style="list-style-type: none"> <li>i. Clinical findings</li> <li>ii. Precipitating factors</li> <li>iii. Lab findings</li> <li>iv. Microscopic picture</li> <li>v. Management</li> </ul> </li> <li>• Sickle cell anemia <ul style="list-style-type: none"> <li>i. Etiology</li> <li>ii. Precipitating factors</li> <li>iii. Complications</li> <li>iv. Sickle cell crisis</li> <li>v. Parvo virus B19 infection in sickle cell anemic patients</li> <li>vi. Treatment</li> <li>vii. Role of hydroxyurea</li> </ul> </li> <li>• Aplastic anemias</li> </ul>
		Neoplasia	<ul style="list-style-type: none"> <li>• Acute leukemia <ul style="list-style-type: none"> <li>i. Presentation</li> <li>ii. Microscopic picture</li> <li>iii. Lab investigations</li> <li>iv. Role of leukocyte ALP score</li> <li>v. Complications</li> <li>vi. Confirmatory diagnosis</li> <li>vii. Treatment</li> </ul> </li> <li>• Chronic leukemia <ul style="list-style-type: none"> <li>i. Chronic myelogenous leukemia <ul style="list-style-type: none"> <li>a. Etiology</li> </ul> </li> </ul> </li> </ul>

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			<ul style="list-style-type: none"> <li>b. Diagnosis</li> <li>c. Treatment</li> <li>ii. Chronic lymphocytic leukemia</li> <li>• Multiple myeloma <ul style="list-style-type: none"> <li>i. Presentation</li> <li>ii. Labs</li> <li>iii. Treatment</li> </ul> </li> <li>• Lymphoma <ul style="list-style-type: none"> <li>i. Hodgkins <ul style="list-style-type: none"> <li>a. Presentation</li> <li>b. B symptoms</li> <li>c. Stages</li> <li>d. Treatment</li> </ul> </li> <li>ii. Non-Hodgkin's <ul style="list-style-type: none"> <li>a. Presentation</li> <li>b. Diagnosis</li> <li>c. Management</li> </ul> </li> </ul> </li> <li>• Tumor lysis syndrome</li> </ul>
		Platelet disorders	<ul style="list-style-type: none"> <li>• Immune thrombocytopenia purpura <ul style="list-style-type: none"> <li>i. Etiology</li> <li>ii. Presentation</li> <li>iii. Diagnosis</li> <li>iv. Treatment</li> </ul> </li> <li>• Von Willebrand Disease <ul style="list-style-type: none"> <li>i. Presentation</li> <li>ii. Tests for diagnosis</li> <li>iii. Treatment</li> <li>iv. Rationale for use of Desmopressin, Factor 8 replacement, FFP</li> </ul> </li> </ul>
		Coagulopathies	<ul style="list-style-type: none"> <li>• Hemophilia <ul style="list-style-type: none"> <li>i. A &amp; B</li> <li>ii. Differences</li> <li>iii. Presentation</li> <li>iv. Management</li> </ul> </li> <li>• Vitamin K deficiency <ul style="list-style-type: none"> <li>i. Etiology</li> <li>ii. Management</li> </ul> </li> <li>• DIC <ul style="list-style-type: none"> <li>i. etiology</li> <li>ii. diagnosis</li> <li>iii. Lab investigations and abnormalities</li> <li>iv. Management</li> </ul> </li> <li>• TTP &amp; HUS <ul style="list-style-type: none"> <li>i. Pentad and Triad</li> <li>ii. Etiology</li> </ul> </li> </ul>

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			iii. Management	
3.	NEPHROLOGY	Acute renal failure	<ul style="list-style-type: none"> <li>• Pre renal azotemia <ul style="list-style-type: none"> <li>i. Etiology</li> <li>ii. Lab investigations</li> <li>iii. Clinical presentation</li> <li>iv. Hepatorenal syndrome</li> </ul> </li> <li>• Post renal azotemia <ul style="list-style-type: none"> <li>i. Etiology</li> <li>ii. Lab findings</li> <li>iii. Presentation</li> <li>iv. Diagnosis</li> <li>v. Management</li> </ul> </li> <li>• Intra renal azotemia <ul style="list-style-type: none"> <li>i. Acute tubular necrosis <ul style="list-style-type: none"> <li>a. Etiology</li> <li>b. Diagnosis</li> <li>c. Risk factors</li> <li>d. Management</li> </ul> </li> <li>ii. Allergic interstitial nephritis <ul style="list-style-type: none"> <li>a. Diagnosis</li> <li>b. Specific lab findings</li> <li>c. Etiology</li> <li>d. Management</li> </ul> </li> </ul> </li> </ul>	08
		Glomerulonephritis	<ul style="list-style-type: none"> <li>• Nephrotic vs Nephritic syndrome <ul style="list-style-type: none"> <li>i. Clinical presentation</li> <li>ii. Distinguishing features</li> <li>iii. Lab abnormalities</li> </ul> </li> <li>• Nephritic syndrome <ul style="list-style-type: none"> <li>i. RPGN <ul style="list-style-type: none"> <li>a. Etiology</li> <li>b. Confirmatory tests</li> <li>c. Management</li> </ul> </li> <li>ii. IgA Nephropathy <ul style="list-style-type: none"> <li>a. Etiology</li> <li>b. Confirmatory tests</li> <li>c. Management</li> </ul> </li> <li>iii. Alport syndrome <ul style="list-style-type: none"> <li>a. Etiology</li> <li>b. Associated symptoms</li> </ul> </li> </ul> </li> <li>• Nephrotic syndrome <ul style="list-style-type: none"> <li>i. Etiology</li> <li>ii. Lab findings</li> <li>iii. Management</li> </ul> </li> </ul>	
		Chronic Renal Failure	<ul style="list-style-type: none"> <li>• Stages</li> <li>• Etiology</li> </ul>	

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			<ul style="list-style-type: none"> <li>• Presentation</li> <li>• Management</li> <li>• Complications</li> <li>• End stage renal disease</li> </ul>	
		Renal Replacement Therapy	<ul style="list-style-type: none"> <li>• Endocrine and non-endocrine functions</li> <li>• Management of symptoms caused by CKD</li> </ul>	
		Dialysis	<ul style="list-style-type: none"> <li>• Rationale of use</li> <li>• Indications (A, E, I, O, U)</li> <li>• Frequency</li> </ul>	
4.	PULMONOLOGY	Tuberculosis	Diagnosis of MDR Tuberculosis Complications and Drug Interactions of ATT	11
		Asthma	Treatment of Status Asthmaticus/Acute Asthma	
		Chronic Obstructive Airway Disease	Step Wise Management & Treatment	
		Respiratory Failure	Recognition of Complications and their Management	
		Pneumonia other Lung Infections	Recognition, Diagnosis and Management of Atypical pneumonia, Etiology, Diagnosis, & Treatment of Lung abscess	
		Pulmonary Embolism	Etiology, Diagnosis, Role of DOACS	
		Sarcoidosis	Recognition of extra pulmonary manifestations, Investigations, Management & Treatment	
		Pulmonary Hypertension	Etiology ECG Findings Treatment	
		Interstitial Lung Disease	Occupational Lung disease Diagnosis & Management	
5.	ENDOCRINOLOGY	Diabetes Mellitus	<p>The diagnostic criteria for diabetes mellitus; identify the different types</p> <ul style="list-style-type: none"> <li>-Diabetes management (range of OHDs and insulins available and their appropriate use in clinical setting)</li> <li>-Blood glucose monitoring techniques including CGMS</li> <li>-Diabetic emergencies (HHS, DKA, DM Management during surgery)</li> <li>-Complications of DM (Screening, referral and management)</li> <li>-Diabetes in pregnancy</li> </ul>	10
		Thyroid	<p>Interpreting thyroid function to diagnose thyroid disease</p> <ul style="list-style-type: none"> <li>-Diagnosis and management of Graves' Disease, thyroid</li> </ul>	

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			eye disease (TED), hypothyroidism -Thyroid nodule evaluation	
		Reproductive Endocrinology	-Polycystic ovarian syndrome -Hypogonadism; primary and secondary; Turner's / Klinefelter's syndromes) -Infertility (causes, evaluation, management) -Interpretation of tests of hypothalamic-pituitary gonadal axis	
		Hypothalamus & Pituitary	-Pituitary tumors (diagnosis & management) -Interpreting basal and dynamic tests of pituitary function (Insulin tolerance test, water deprivation test) -Diagnosis & management of hypopituitarism -SIADH -Diagnosis & management of endocrine growth disorders -Assessment of normal growth and pubertal stages by relevant charts	
		Adrenal	-Interpret adrenal function tests (Synacthen test) -Diagnosis & management of Cushing's / Addison's disease -Investigate suspected Endocrine Hypertension (Pheochromocytoma) -Emergency management of acute adrenal crisis -Congenital adrenal hyperplasia	
		Parathyroid & Calcium	-Hyper and hypocalcemia (causes & treatment) -Osteoporosis (screening & treatment) -Evaluation of Renal stones (endocrine causes)	
		Others	-Obesity (pathophysiology, complications, management strategies) -Lipid disorders (types, screening, management) -Neuro-endocrine tumors -Multiple endocrine neoplasia -Electrolyte disturbances	
6.	<b>INFECTIOUS DISEASES</b>	COVID-19	Pathophysiology, Diagnosis, lab investigations & management	<b>08</b>
		Dengue, Measles, Malaria	Pathophysiology, Differential Diagnosis & Management	
		Crimean Congo Hemorrhagic Fever	Etiology, Differential Diagnosis + management	
		HIV	Diagnosis, Recognition of Associated Opportunistic Infection + Management	
		Enteric fever	Differential, Treatment of XDR + MDR Enteric Fever	
		Leptospirosis	Epidemiology, Clinical Presentation and Diagnosis	

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		Febrile Neutropenia	Differential Diagnosis & Management	
		Pyrexia of unknown origin	Etiology, Diagnosis & Management	
7.	RHEUMATOLOGY	Bone & Joint disorders	To describe common clinical manifestations, differential diagnosis, diagnostic workup and management plan for <ul style="list-style-type: none"> <li>• Osteoarthritis</li> <li>• Osteoporosis</li> <li>• Rheumatoid arthritis and related arthropathies</li> <li>• Paget's disease of the bone.</li> <li>• Osteopetrosis (marble bone disease).</li> <li>• Multiple myeloma</li> </ul>	07
		Multi-system Immunological diseases	To describe clinical presentation, differential diagnosis, laboratory workup and management plan for <ul style="list-style-type: none"> <li>• Systemic lupus erythematosus (SLE)</li> <li>• Serum sickness</li> <li>• Systemic sclerosis (scleroderma).</li> <li>• Mixed connective tissue diseases (brief).</li> </ul> Sjogren's syndrome (brief).	
			<ul style="list-style-type: none"> <li>• Ankylosing spondylitis.</li> <li>• Bechet's syndrome (brief).</li> <li>• Vasculitis syndromes (brief).</li> <li>• Anaphylactoid purpura</li> <li>• Polyarteritis nodosa</li> <li>• Hypersensitivity vasculitis</li> <li>• Wegner's granulomatosis</li> <li>• Temporal arteritis</li> <li>• Takayasu's arteritis</li> <li>• Thromboangitis obliterans (Burger's disease)</li> </ul> Sarcoidosis (brief).	
8.	DERMATOLOGY	Anatomy & Physiology of Skin	To describe Anatomy, physiology of skin related to clinical dermatology	05
		Infestations & Infections	To approach for diagnosis and management of patients with Infestations/infections: <ul style="list-style-type: none"> <li>• Scabies</li> <li>• Pediculosis.</li> </ul>	

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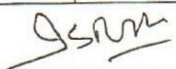
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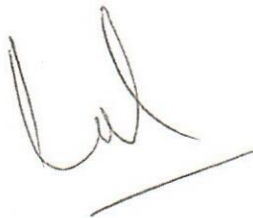
			<ul style="list-style-type: none"> <li>• Bacterial and mycobacterial infections</li> <li>• Fungal and viral diseases.</li> </ul>	
		Skin Diseases	<p>To describe skin manifestations, differential diagnosis and management of</p> <ul style="list-style-type: none"> <li>• Acne vulgaris</li> <li>• Eczemas.</li> <li>• Psoriasis</li> <li>• Lichen planus</li> <li>• Bullous disorders.</li> <li>• Pigmentary disorders</li> <li>• Disorders of nails.</li> <li>• Disorders of hairs.</li> </ul> <p>Sexually transmitted diseases.</p>	
9.	HEPATOLOGY	Jaundice	<p>Approach for diagnosis and management of patients with</p> <ul style="list-style-type: none"> <li>• Congenital hyperbilirubinemia</li> <li>• Gilbert syndrome</li> <li>• Dubin Johnson syndrome</li> <li>• Rotor syndromes</li> <li>• Hemolytic jaundice</li> </ul> <p>Obstructive jaundice</p>	09
		Hepatitis	<p>To diagnose and manage patients of acute and chronic Hepatitis due to</p> <ul style="list-style-type: none"> <li>• Hepatitis A, B, C, D,</li> <li>• Toxins</li> <li>• Drugs</li> <li>• Auto immune hepatitis.</li> <li>• Wilson's disease</li> <li>• Hemochromatosis</li> </ul>	
		Liver Cirrhosis	<p>To describe clinical manifestations, differential diagnosis and management of patients with</p> <ul style="list-style-type: none"> <li>• Cirrhosis of liver.</li> <li>• Hepatic encephalopathy</li> <li>• Ascites</li> <li>• Carcinoma liver and transplant.</li> <li>• Upper GI bleeding, lower GI bleeding</li> </ul> <p>To describe Drugs contraindicated in liver</p>	
		Pancreas	<p>Diseases</p> <p>To describe etiology, pathophysiology, clinical manifestations, diagnostic work up and management plan for patients of</p>	

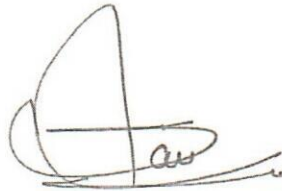
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			<ul style="list-style-type: none"> <li>• Acute pancreatitis</li> </ul> Chronic pancreatitis	
10.	GASTROENTEROLOGY	Oral cavity & Esophagus	Oral cavity To approach with differential diagnosis and management plan for common oral cavity related <ul style="list-style-type: none"> <li>• Infections and inflammatory disorders</li> </ul> Benign and malignant diseases	12
			Esophagus To diagnose and manage Dysphagia with special reference to <ul style="list-style-type: none"> <li>• Ca esophagus</li> <li>• GERD</li> <li>• Achalasia</li> </ul> Candidiasis of oral cavity and esophagus	
		Stomach, Small Intestine & Large intestine	Stomach To diagnose and manage <ul style="list-style-type: none"> <li>• Gastritis</li> </ul> Peptic ulcer	
			<ul style="list-style-type: none"> <li>• Intestinal and peritoneal tuberculosis</li> <li>• Inflammatory bowel diseases.</li> <li>• Ulcerative colitis</li> <li>• Crohn's disease</li> </ul> Irritable bowel syndrome (IBS).	
11.	CENTRAL NERVOUS SYSTEM	Headache	<ul style="list-style-type: none"> <li>• Headache syndrome</li> <li>• Migraine headache</li> <li>• Tension band headache</li> <li>• Cluster headache</li> <li>• Acute and prophylactic management of headaches</li> <li>• Role of ergotamine derivatives in Migraine</li> <li>• First Line, Second line treatments for migraine</li> </ul>	10
		Degenerative and Dementing disorders	<ul style="list-style-type: none"> <li>• Parkinsonism</li> <li>• ALS/MND</li> <li>• Alzheimer Disease</li> <li>• Wilson Disease</li> <li>• Vitamin B12 deficiency</li> <li>• Alcohol Abuse               <ul style="list-style-type: none"> <li>➤ Wernicke Encephalopathy</li> <li>➤ Korsakoff Psychosis</li> </ul> </li> </ul>	
		Infections of CNS	<ul style="list-style-type: none"> <li>• Meningitis               <ul style="list-style-type: none"> <li>➤ Acute aseptic (viral)</li> <li>➤ Acute purulent (bacterial)</li> <li>➤ Sequalae</li> <li>➤ Diagnosis</li> </ul> </li> </ul>	

		<ul style="list-style-type: none"> <li>➤ Clinical signs</li> <li>➤ Radiological findings</li> <li>➤ CSF analysis</li> <li>➤ Management</li> </ul> <ul style="list-style-type: none"> <li>• Toxoplasmosis <ul style="list-style-type: none"> <li>➤ Mode of transmission\</li> <li>➤ Diagnosis</li> <li>➤ Management</li> </ul> </li> <li>• Cerebral Abscess <ul style="list-style-type: none"> <li>➤ Etiologies</li> <li>➤ Radiological Findings</li> <li>➤ Clinical manifestations</li> <li>➤ Management</li> </ul> </li> </ul>
	Intracranial mass, lesions and raised Intracranial Pressure (ICP)	<ul style="list-style-type: none"> <li>• Raised intracranial pressure</li> <li>• Brain tumors</li> <li>• Paraneoplastic neurological disease</li> <li>• Hydrocephalus</li> <li>• Idiopathic intracranial hypertension</li> <li>• Head injury</li> </ul>
	Diseases of Peripheral Nerves	<ul style="list-style-type: none"> <li>• Entrapment neuropathy</li> <li>• Multifocal neuropathy</li> <li>• Guillain-Barre syndrome</li> </ul>
	Diseases of Neuromuscular Junction	<ul style="list-style-type: none"> <li>• Myasthenic Syndromes <ul style="list-style-type: none"> <li>➤ Myasthenia Gravis</li> <li>➤ Lambert-Eaton myasthenic syndrome</li> </ul> </li> </ul>
	Diseases of muscles	<ul style="list-style-type: none"> <li>• Muscular dystrophies</li> <li>• Inherited metabolic myopathies</li> <li>• Acquired myopathies</li> </ul>
	Disorders of Spine and spinal cord	<ul style="list-style-type: none"> <li>• Cervical spondylosis</li> <li>• Lumbar spondylosis</li> <li>• Spinal cord compression</li> <li>• Intrinsic diseases of the spinal cord</li> </ul>

  
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**Table of Specification for JCAT Paper II (Surgery & Allied)**

**Preamble**

- JCAT for Surgery and Allied include General Surgery, Urology, Orthopedics, Neurosurgery, Plastic Surgery, Cardiac Surgery, Thoracic Surgery and Pediatric Surgery
- TOS of JCAT Paper II includes contents of MBBS Surgery syllabus and its clinical application covered till completion of house job.
- It must be emphasized that it is an entrance examination of surgery and allied fields. It is a dynamic document which can be revised by Faculty from time to time.
- Amendments to this TOS document can be made by SAC after every two years if needed.

No.	Subject(s)	Topic	Subtopics	No. of MCQs (For topics not for sub-topics)
1	<b>General Surgery (50 Single best MCQ as per UHS Guidelines)</b>	Basic principles of surgery Investigations and diagnosis of surgical pathologies Perioperative care of surgical patients	<ol style="list-style-type: none"> <li>1. Metabolic response to injury</li> <li>2. Shock, Blood transfusion and Components therapy</li> <li>3. Wound healing and tissue repair</li> <li>4. Surgical infection</li> <li>5. Topical infection and infestation</li> <li>6. Basic surgical skills and anastomosis</li> <li>7. Principles of laparoscopic and robotic surgery</li> <li>8. Surgical audit and research</li> <li>9. Surgical ethics and law</li> <li>10. Human factors, patient safety and quality improvement</li> <li>11. Principles of oncology</li> <li>12. Diagnostic imaging</li> <li>13. Gastrointestinal surgery</li> <li>14. Tissue and molecular diagnosis</li> <li>15. Perioperative care including fluid electrolyte balance and critical care</li> <li>16. Anesthesia and pain relief</li> <li>17. Nutrition and fluid therapy</li> <li>18. Postoperative care and perioperative optimization</li> <li>19. Day-case surgery</li> </ol>	12 MCQs  (preferably one MCQ should be taken from one subtopic) (One MCQ should be essentially taken each from shock, hemorrhage and blood transfusion and fluid electrolyte balance)
		Trauma	<ol style="list-style-type: none"> <li>1. Initial assessment and management of trauma</li> <li>2. Torso trauma</li> <li>3. Neck and Spine</li> <li>4. Maxillofacial trauma</li> <li>5. Disaster and conflict surgery</li> </ol>	12 MCQs  (02 MCQs from each subtopic) 03 from Initial assessment and 03 from torso trauma
		Abdomen and Abdominal wall		15 MCQs

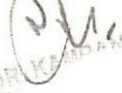
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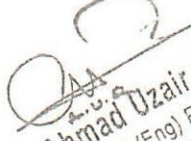
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PROF. DR. AMRAN KHAN  
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			<ol style="list-style-type: none"> <li>1. Abdominal wall, Hernia and umbilicus</li> <li>2. Peritoneum, omentum, mesentery and retroperitoneal space</li> <li>3. Esophagus</li> <li>4. Stomach and duodenum</li> <li>5. Liver</li> <li>6. Spleen</li> <li>7. Gall bladder and Bile duct</li> <li>8. Pancreas</li> <li>9. Small intestine</li> <li>10. Large intestine</li> <li>11. Appendix</li> <li>12. Rectum</li> <li>13. Pelvic, PID, Ectopic Pregnancy</li> <li>14. Anus and Anal canal</li> <li>15. Inguinoscrotal pathologies</li> </ol>	(Maximum one MCQ from one subtopic)
		Breast and endocrine	<ol style="list-style-type: none"> <li>1. Thyroid gland</li> <li>2. Parathyroid gland</li> <li>3. Adrenal and other endocrine disorders</li> <li>4. Breast (Triple assessment, staging and investigation)</li> </ol>	05 MCQs (two MCQs from breast and one each from other subtopics)
		Head and neck	<ol style="list-style-type: none"> <li>1. Oral cavity malignancy</li> <li>2. Disorders of salivary glands</li> </ol>	03 MCQs 02 from salivary gland and 01 from oral cavity
		Vascular pathologies	<ol style="list-style-type: none"> <li>1. Arterial disorders</li> <li>2. Venous disorders</li> <li>3. Lymphatic disorders</li> </ol>	03 MCQs (01 MCQ each from three subtopics)
2	Orthopaedics 10 (Single best MCQ as per UHS Guidelines)	Elective orthopedics	Infective conditions in bones and joints Musculoskeletal tumors	05 MCQs  01 MCQs
		Trauma	Extremity and pelvic trauma	04 MCQs
3.	Cardio-thoracic Surgery 07 (Single best MCQ as per UHS Guidelines)	Cardiac surgery	Investigation and preoperative assessment in planning cardiac surgery Principles of Cardiopulmonary bypass Incision, conduits and valve options in cardiac surgery Principles of cardiopulmonary resuscitation after cardiac surgery The role surgery in mediastinal, pleural, lung and cardiac diseases	01 MCQ  01 MCQ 01 MCQ 01 MCQ 01 MCQ
		Thoracic surgery	Chest wall disorders	02

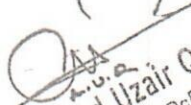
  
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4.	Neurosurgery 10 (Single best MCQ as per UHS Guidelines)	Raised intracranial pressure	Raised intracranial pressure, Cerebrospinal fluid circulation and Intracranial blood flow	03 MCQs
		Intracranial Infection	Managing Intracranial infection	03 MCQs
		Intracranial bleed and tumors	Initial management of various intracranial bleed and tumors	02 MCQs
		Spine and peripheral nerves	Trauma to vertebral column and spine and peripheral nerves	02 MCQs
<b>Comment for paper setter: (Preference should be given to emergency Neurosurgery )</b>				
5	Genito-urinary 10 (Single best MCQ as per UHS Guidelines)	Kidney and ureter Urinary bladder	<ul style="list-style-type: none"> <li>• Appropriate tests for urinary tract pathology</li> <li>• Classification, definition pathogenesis and management of UTI</li> <li>• Pathophysiology and management of renal and ureteric disease</li> <li>• Presentation and management of renal neoplasm</li> <li>• Principles and management of acute and chronic retention of urine</li> <li>• Indication and technique of urethral and suprapubic catheterization</li> <li>• Causes, investigation and principles of management of bladder stones</li> <li>• Principles, clinical features, investigations of urinary tract infection and chronic inflammatory bowel diseases</li> <li>• Causes, investigation and principles of hematuria</li> </ul>	07 MCQs (One MCQ from each subtopic)
		Prostate and seminal vesicles	<ul style="list-style-type: none"> <li>• Terminology used to describe urinary tract symptoms and their causes as well as treatment options available</li> <li>• Investigations appropriate for benign conditions of prostate</li> </ul>	01 MCQ

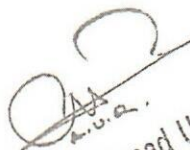
  
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		Testes, scrotum and urethra	<ul style="list-style-type: none"> <li>- Diagnosis and treatment of urethral stricture</li> <li>- Testicular mal descent</li> <li>- Testicular torsion</li> <li>- Common scrotal swellings (varicocele, hydrocele and epididymis cyst)</li> <li>- Testicular tumors</li> <li>- Testicular and scrotal infections</li> </ul>	02 MCQs (Maximum one MCQ from one subtopic )
6	Skin, plastic and reconstructive surgery 06 (Single best MCQ as per UHS Guidelines)	Skin and subcutaneous	<ul style="list-style-type: none"> <li>- Cutaneous manifestation of generalized disease as related to surgery</li> <li>- Classification of benign skin tumors</li> <li>- The diagnostic criteria of malignant skin tumors</li> </ul>	02 MCQs (Maximum one MCQ from one subtopic )
		Burn	<ul style="list-style-type: none"> <li>- area and depth of burns in adults and children</li> <li>- requirement for transfer to a specialist burn unit</li> <li>- pathophysiology of burn injury and systemic effect</li> <li>- methods for calculating the fluids required</li> <li>- principle techniques for treating burn and patient</li> <li>- pathophysiology of electrical and chemical burn</li> </ul>	03 MCQs (Maximum one MCQ from one subtopic )
		Plastic & Reconstructive surgery	<ul style="list-style-type: none"> <li>- different types of skin grafts</li> <li>- principles and use of flaps</li> </ul>	01 MCQ
7	Paediatric Surgery 07 (Single best MCQ as per UHS Guidelines)	Pediatric surgery	<ul style="list-style-type: none"> <li>- perioperative fluids in children</li> <li>- inguinal hernias and hydrocele</li> <li>- causes and management of acute scrotum</li> <li>- presentation and resuscitation of pyloric stenosis</li> <li>- intestinal obstruction (intussusception, imperforate anus, mal rotation, necrotizing enterocolitis)</li> <li>- causes and management of abdominal pain in children of different ages</li> </ul>	03 MCQs (Maximum one MCQ from one subtopic )

  
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		Neonatal surgery	<ul style="list-style-type: none"> <li>- neonatal physiology and anatomy influence surgical care</li> <li>- 7 congenital anomalies managed by neonatal surgeons (congenital atresia/tracheoesophageal fistula, duodenal atresia, anorectal malformations, Hirschsprung disease, exomphalos major and minor, congenital diaphragmatic hernia, gastroschisis)</li> <li>- 2 newborn tumors</li> </ul>	02 MCQs (Maximum one MCQ from one subtopic)
		Pediatric urology	<ul style="list-style-type: none"> <li>- circumcision in childhood and list the complications</li> <li>- three levels of urinary tract obstruction and outline management</li> <li>- the anomalies of hypospadias and epispadias</li> </ul>	02 MCQs
<b>Total</b>	<b>100 MCQs</b>			<b>100 MCQs</b>

Recommended book: Bailey & Love's Short Practice of Surgery (Latest edition)

  
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# UNIVERSITY OF HEALTH SCIENCES, LAHORE

## PAPER-II OBSTETRICS AND GYNAECOLOGY JCAT TOS

Sr.#	SUBJECT	TOPIC	SUBTOPIC	MCQs
1.	ANATOMY OF REPRODUCTIVE AND GENITAL TRACT	Detailed anatomy of female reproductive system	<ul style="list-style-type: none"> <li>Female anatomy (external genitalia, internal reproductive organs, ligaments, fascia, blood supply, lymphatics, nerve supply)</li> </ul>	02
		Detailed anatomy of male and female pelvis	<ul style="list-style-type: none"> <li>Bones, muscles, pelvic floor, rectouterine and rectovesical pouches and viscera with vasculature and lymphatic drainage, nerve supplies and anatomical relations</li> <li>Foetal skull</li> </ul>	05
		Embryology	<ul style="list-style-type: none"> <li>Abdomen</li> <li>Pelvis</li> </ul>	04
		Histology	Female and male reproductive organs and genital urinary tract	04
		Developmental defects in the female genitourinary tract.	Structural problems of pelvic organs	03
		Breast	<ul style="list-style-type: none"> <li>Anatomy</li> <li>embryology</li> <li>histology</li> <li>developmental defects</li> </ul>	02

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		Placenta	<ul style="list-style-type: none"> <li>• function</li> <li>• structure</li> <li>• development</li> </ul>	02
2.	REPRODUCTIVE PHYSIOLOGY	Endocrine	<ul style="list-style-type: none"> <li>• Production, regulation</li> <li>• feedback loops of various endocrine hormones including thyroid, parathyroid, pituitary, gonadotrophic hormones, gonadal hormones.</li> <li>• Prolactin hormone production and regulation.</li> <li>• Prolactin-Mechanism and regulation of lactation.</li> </ul>	06
		Menstrual cycle/ Ovarian cycle	<ul style="list-style-type: none"> <li>• Hypothalamic-pituitary-ovarian axis</li> <li>• Puberty and menarche mechanism and hormonal contribution and regulation</li> <li>• Disorders of menstrual irregularity</li> <li>• disorders of menstrual bleeding (HMB, IMB, PCB, PMB)</li> <li>• Female Fertility</li> </ul>	06
		Disorders of gonadal hormone production	<ul style="list-style-type: none"> <li>• Gonadal steroidogenesis and its aberrations</li> <li>• precocious puberty, delayed puberty, pseudo and true hermaphroditism, ambiguous genitalia</li> </ul>	04
		Menopause	<ul style="list-style-type: none"> <li>• Physiological and non-physiological menopause</li> <li>• HRT</li> </ul>	02
		Maternal physiological changes in normal pregnancy.	<ul style="list-style-type: none"> <li>• Hormonal factors in pregnancy</li> <li>• Physiological changes</li> <li>• Fetal physiology</li> </ul>	08

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		Placental hormones	<ul style="list-style-type: none"> <li>• Functions of placenta</li> <li>• Role of placental hormones in pregnancy.</li> <li>• Anomalies</li> </ul>	04
3.	<b>BIOCHEMISTRY</b>	Metabolic pathways	<ul style="list-style-type: none"> <li>• Role of insulin in metabolism</li> <li>• Various metabolic pathways</li> <li>• Gonadal steroidogenesis and its aberrations.</li> </ul>	04
4.	<b>MATERNAL PHARMACOLOGY</b>	Teratogenic drugs	Teratogenesis and teratogenic drugs and their safe alternatives in pregnancy.	03
		Drugs in breast milk	Presence of drugs in breast milk and their effect on baby.	02
		Anesthetics	Local and general anesthesia and epidural analgesia.	02
		Tocolytics	Tocolytic drugs and their mechanisms of action (beta agonist, calcium channel blockers, NSAIDS, magnesium sulphate etc.)	02
		Drugs for labor induction	Drugs for labor induction and augmentation (oxytocin, prostaglandins, hormones etc.)	02
		Hormonal treatments and Contraceptives	Hormonal treatments for menstrual disorders.	02
		Miscellaneous	<ul style="list-style-type: none"> <li>• Antihypertensive drugs.</li> <li>• Oral hypoglycemic drugs</li> <li>• Insulin</li> <li>• Antibiotics</li> <li>• Analgesics</li> </ul>	07
5.	<b>ANTENATAL AND NATAL CARE</b>	Overview	<ul style="list-style-type: none"> <li>• calculation of LMP, EDD</li> <li>• booking investigations</li> <li>• infection screening</li> </ul>	01

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		Labour and Puerperium	<ul style="list-style-type: none"> <li>• Physiology of labour (1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> Stage)</li> <li>• Physiology of Puerperium</li> </ul>	07
		Assessment of fetal well being	<ul style="list-style-type: none"> <li>• CTG</li> </ul>	01
6.	PATHOLOGY IN RELATION TO OBSTETRICS AND GYNECOLOGY	Malignancies	Gynecological malignancies and staging.	02
		Implantation and early pregnancy	<ul style="list-style-type: none"> <li>• Miscarriage</li> <li>• Ectopic Pregnancy</li> <li>• Gestational Trophoblastic disease</li> <li>• Intrauterine death</li> <li>• IUGR</li> </ul>	02
		Obstetric Complications	<ul style="list-style-type: none"> <li>• Obstetrics hemorrhage</li> <li>• Multiple Pregnancy</li> <li>• Preterm labour</li> </ul>	03
		Diabetes Hypertension Autoimmune diseases	Diabetes & Hypertension in relation to pregnancy Autoimmune diseases affecting female fertility and pregnancy. APLS	01
7.	COMMON CONGENITAL ANOMALIES	Blood disorders	<ul style="list-style-type: none"> <li>• Blood disorders (thalassemia, hemophilia, various anemias, coagulation disorders and its types.)</li> <li>• Jaundice and its various causes and mechanisms during pregnancy.</li> </ul>	02
8.	INFECTIONS	Modes of transmission, management, complications	<ul style="list-style-type: none"> <li>• Perinatal and post operative infections.</li> <li>• Infectious and communicable diseases (HBV, HCV, HIV, HAV, HEV, HSV, HPV, STI, Parvo virus B-19, TORCH infection and syndrome etc.)</li> <li>• Covid, Dengue, Malaria</li> </ul>	04

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9.	BIOSTATISTIC AND RESEARCH AND BIOPHYSICS		Essential epidemiological data in obstetrics and gynecology especially for Pakistan.	01
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## JCAT PAPER II (Anesthesia)

### Table of Specification

- Questions from basic subjects shall not be more than 20%, all other questions shall be from clinical subject(s)

Sr. No.	Subject	Topic	Sub-Topics	No of MCQs
1	Anatomy 20	Anatomy for anesthesia	<ol style="list-style-type: none"> <li>1. Anatomy of spine 04</li> <li>2. Larynx, trachea and lungs 03</li> <li>3. Heart 03</li> <li>4. Peripheral Nerves system 04</li> <li>5. CNS 03</li> <li>6. ANS 03</li> </ol>	20
2	Physiology 35	Physiology for anesthesia	<ol style="list-style-type: none"> <li>1. Respiratory System 04</li> <li>2. CNS 02</li> <li>3. CVS 05</li> <li>4. Neuromuscular physiology 02</li> <li>5. Kidney/Liver 02</li> <li>6. Fluids, electrolytes 05</li> <li>7. Acid base balance 03</li> <li>8. Blood and components 02</li> <li>9. Endocrinology 05</li> </ol>	30
3	Pharmacology 25	Pharmacology for anesthesia	<ol style="list-style-type: none"> <li>1. Muscle relaxants 04</li> <li>2. IV anesthetics 04</li> <li>3. Inhalational anesthetic agents 04</li> <li>4. Analgesics 04</li> <li>5. Local anesthetics 04</li> <li>6. Drugs acting on Autonomic nervous system 05</li> </ol>	25
4	Physics 10	Physics for anesthesia	<ol style="list-style-type: none"> <li>1. Gas Laws 02</li> <li>2. Equipment (Pipe lines, Cylinder) 02</li> <li>3. Monitoring 02</li> <li>4. Gases (NO<sub>2</sub>, O<sub>2</sub>) 02</li> <li>5. Vaporizers 02</li> </ol>	10
5	Pathophysiology	Pathophysiology for anesthesia	<ol style="list-style-type: none"> <li>1. Liver 02</li> <li>2. Kidney 02</li> <li>3. Respiratory pathophysiology 02</li> </ol>	15

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			4. Types of shocks 02	
			5. Anaphylaxis 02	
			6. Trauma 05	

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## JCAT PAPER II (Ophthalmology)

### Table of Specification

No.	Subject(s)	Topic(s)	Subtopic(s)	No. of MCQs (For topics not for sub-topics)
1	Basic sciences related to ophthalmology (20)	Ocular Anatomy (06)	<ol style="list-style-type: none"> <li>1. Cornea</li> <li>2. Conjunctiva</li> <li>3. Sclera</li> <li>4. Retina</li> <li>5. Lens</li> <li>6. Uveal tract</li> <li>7. Optic nerve</li> <li>8. Visual pathway</li> </ol>	06
		Ocular Physiology (07)	<ol style="list-style-type: none"> <li>1. Nature and formation of intra ocular fluid</li> <li>2. Circulation of aqueous humor</li> <li>3. Neurology of vision</li> <li>4. Physiology of vision</li> </ol>	07
		Ocular Pathology (04)	<ol style="list-style-type: none"> <li>1. Tumors</li> <li>2. Inflammations</li> </ol>	04
		Ocular pharmacology (03)	<ol style="list-style-type: none"> <li>1. Ocular Therapeutics</li> </ol>	03
2	Optics and refraction (10)	Principles of optical physics	<ol style="list-style-type: none"> <li>1. Concave lenses/ mirrors</li> <li>2. Convex lenses/ mirrors</li> <li>3. Cylindrical lenses / mirrors</li> <li>4. Prism</li> </ol>	04
		Principles of refraction	<ol style="list-style-type: none"> <li>1. Laws of refraction and reflection</li> <li>2. Refractive errors</li> </ol>	03
		Principles of ophthalmic instruments	<ol style="list-style-type: none"> <li>1. Retinoscope</li> <li>2. Direct Ophthalmoscope</li> <li>3. Indirect Ophthalmoscope</li> <li>4. Slit lamp microscope</li> </ol>	03



3.	<b>Clinical Ophthalmology (70)</b>	<b>Vitreo-retina 10</b>	<ol style="list-style-type: none"> <li>1. Retinal vascular disorder</li> <li>2. Acquired macular disorder</li> <li>3. Hereditary fundal dystrophy</li> <li>4. Retinal detachment</li> <li>5. Retinal Tumor</li> </ol>	10
		<b>Glaucoma 10</b>	<ol style="list-style-type: none"> <li>1. Open angle glaucoma</li> <li>2. Close angle glaucoma</li> <li>3. Congenital glaucoma</li> <li>4. Investigations</li> </ol>	10
		<b>Lens 10</b>	<ol style="list-style-type: none"> <li>1. Cataract</li> <li>2. Ectopia lentis</li> </ol>	10
		<b>Cornea 08</b>	<ol style="list-style-type: none"> <li>1. Cornea ulcers</li> <li>2. Corneal dystrophy and degenerations</li> <li>3. Ectasia</li> <li>4. corneal and refractive surgery</li> <li>5. Investigations</li> </ol>	08
		<b>Uveal tract 06</b>	<ol style="list-style-type: none"> <li>1. Uveitis</li> <li>2. Uveitis in systemic diseases</li> <li>3. Uveal tumors</li> </ol>	06
		<b>Neuro-ophthalmology 06</b>	<ol style="list-style-type: none"> <li>1. Cranial nerve palsies</li> <li>2. Optic neuritis</li> <li>3. Papilledema</li> <li>4. Tumors</li> <li>5. Neuroimaging</li> </ol>	06
		<b>Eye lid 04</b>	<ol style="list-style-type: none"> <li>1. Tumors</li> <li>2. Entropion and ectropion</li> <li>3. Ptosis</li> <li>4. Benign lesions</li> </ol>	04
		<b>Conjunctiva 04</b>	<ol style="list-style-type: none"> <li>1. Conjunctivitis</li> <li>2. Degenerations</li> <li>3. Tumors</li> </ol>	04
		<b>Orbit 03</b>	<ol style="list-style-type: none"> <li>1. Orbital cellulitis</li> <li>2. Orbital tumors</li> <li>3. Thyroid eye disease</li> <li>4. Proptosis</li> </ol>	03

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		<b>Squint 03</b>	1. Esotropia 2. Exotropia 3. Investigations 4. Clinical examination	03
		<b>Lacrimal apparatus 02</b>	1. Dacryocystitis 2. NLD blockage	02
		<b>Sclera 01</b>	1. Scleritis	01
		<b>Ocular Trauma 03</b>	1. Chemical / thermal injuries 2. Blunt and Penetrating trauma	03

- Questions from basic subjects shall not be more than 20%, all other questions shall be from clinical subject(s)

Reference books: Kanski and Parson.

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## JCAT Paper II (Radiology)

### Table of Specification

Curriculum of JCAT Paper II includes contents of MBBS Medicine curriculum and its clinical application covered during house job.

Sr. No#	Subject	Modalities	Sub topics	Total no. of MCQ (For Subject)
1	CNS (Brain + Spine)	X ray CT MRI	<ul style="list-style-type: none"><li>• Congenital</li><li>• Trauma</li><li>• Infections</li><li>• Vascular</li><li>• Tumors</li></ul>	10
2	Respiratory and CVS	X ray CT USG Angiography	<ul style="list-style-type: none"><li>• Congenital</li><li>• Trauma</li><li>• Infection + Inflammatory</li><li>• Vascular diseases</li><li>• Tumors</li><li>• Interstitium</li><li>• Mediastinum</li><li>• Pleura</li><li>• Heart</li></ul>	18

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3	<b>GIT, Hepatobiliary and Pancreas</b>	Xray Contrast study CT USG MRI	<ul style="list-style-type: none"> <li>• Esophagus</li> <li>• Stomach + Duodenum</li> <li>• Small gut</li> <li>• Large gut</li> <li>• Hepatobiliary</li> <li>• Pancreas</li> </ul>	<b>20</b>
4	<b>Urinary and Adrenal</b>	Plain X Ray Contrast study CT USG	<ul style="list-style-type: none"> <li>• Kidneys</li> <li>• Ureter</li> <li>• Bladder</li> <li>• Male urethra</li> <li>• Adrenal gland</li> </ul>	<b>8</b>
5	<b>Pediatrics</b>	X Ray CT Contrast study USG	<ul style="list-style-type: none"> <li>• Congenital</li> <li>• Trauma</li> <li>• Infection</li> <li>• Vascular</li> <li>• Tumor</li> </ul>	<b>5</b>
6	<b>MSK (Bones, joints and soft tissue)</b>	X Ray CT MRI USG	<ul style="list-style-type: none"> <li>• Congenital</li> <li>• Trauma</li> <li>• Infection</li> <li>• Inflammatory</li> <li>• Metabolic</li> <li>• Tumor</li> </ul>	<b>15</b>

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7	Head and Neck (ENT, Eye, Neck)	CT MRI USG Contrast study	<ul style="list-style-type: none"> <li>• Congenital</li> <li>• Trauma</li> <li>• Infection</li> <li>• Vascular</li> <li>• Tumor</li> </ul>	8
8	Woman Imaging	USG Contrast study MRI Mammography	<ul style="list-style-type: none"> <li>• Breast</li> <li>• Female pelvis</li> <li>• Obstetrics</li> </ul>	10
9	Male Pelvis	USG CT MRI Contrast study	<ul style="list-style-type: none"> <li>• Prostate External genitalia</li> </ul>	4
10	Nuclear Imaging		<ul style="list-style-type: none"> <li>• Thyroid</li> <li>• Parathyroid</li> <li>• Bone</li> <li>• Liver</li> <li>• GIT</li> </ul>	2
			<b>TOTAL</b>	<b>100</b>

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JCAT PAPER II (Psychiatry)

Table of Specification

No.	Subject(s)	Topic(s)	Subtopic(s)	No. of MCQs
1	Neurology (15)	Delirium and its management (3)	<ul style="list-style-type: none"> <li>• Causes</li> <li>• Signs &amp; symptoms</li> <li>• Management</li> </ul>	At least One each
		Dementia and Amnesic syndrome (4)	<ul style="list-style-type: none"> <li>• Types and classification</li> <li>• Alzheimer's disease- pathophysiology, etiology, symptomology</li> <li>• Vascular dementia- Pathophysiology, etiology, Symptomatology</li> </ul>	One MCQ from each topic
		Epilepsy (2)	<ul style="list-style-type: none"> <li>• Classification/symptomatology</li> <li>• Management</li> </ul>	One each
		Headache (2)	<ul style="list-style-type: none"> <li>• Types and symptomatology</li> <li>• General Management</li> </ul>	One each
		Stroke (2)	<ul style="list-style-type: none"> <li>• Types and symptomatology</li> <li>• Diagnosis &amp; management</li> </ul>	One each
		Other Neurological Disorders (2)	<ul style="list-style-type: none"> <li>• Parkinsonism- Pathophysiology, etiology, Symptomatology</li> <li>• Motor Neuron Diseases- Pathophysiology, etiology, Symptomatology</li> <li>• Multiple Sclerosis- Pathophysiology, etiology, Symptomatology</li> <li>• Wilsons Disease/Huntington's Disease- Pathophysiology, etiology, Symptomatology</li> </ul>	Any two
2	Psychiatry (55)	Phenomenology and Assessment of Psychiatric illnesses (10)	<ul style="list-style-type: none"> <li>• Hallucination, following types excluding subtypes and differentials (visual, auditory, gustatory, olfactory, proprioceptive, sensory)</li> <li>• Delusions (def, types)</li> </ul>	10

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*Yusuf Farooq*

*Nazish Amman*

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			<ul style="list-style-type: none"> <li>• Obsessions &amp; compulsions</li> <li>• Disturbances of emotion and Mood</li> <li>• Risk assessment</li> </ul>	
		Psychotic Disorders (6)	<ul style="list-style-type: none"> <li>• Signs and symptoms of psychosis</li> <li>• Schizophrenia (Symptomology and basic management of schizophrenia)</li> </ul>	03 each topic
		Mood Disorders (6)	<ul style="list-style-type: none"> <li>• Symptomatology and basic management of the following:               <ul style="list-style-type: none"> <li>- Bipolar affective disorder (mania, depression)</li> <li>- Major depressive disorder</li> </ul> </li> </ul>	03 each
		Anxiety Disorders (8)	<ul style="list-style-type: none"> <li>• Symptoms and basic management of the following:               <ul style="list-style-type: none"> <li>- Generalized anxiety disorder</li> <li>- Phobic anxiety disorder (general)</li> <li>- Panic disorder</li> <li>- Obsessive Compulsive Disorder (OCD)</li> </ul> </li> </ul>	02 each
		Substance Abuse Disorders (5)	<ul style="list-style-type: none"> <li>• Alcohol misuse and dependence</li> <li>• Cannabinoids</li> <li>• Opioids</li> <li>• Stimulants (methamphetamines)</li> </ul>	01 01 02 01
		Neurobiological Basis of Psychiatric Illnesses (4)	<ul style="list-style-type: none"> <li>• Functional Neuroanatomy (lobe functions)</li> <li>• Neurotransmitter</li> </ul>	02 02
		Psychopharmacology (6)	<ul style="list-style-type: none"> <li>• Classification of psychotropic drugs</li> <li>• Mechanism of psychotropics</li> <li>• Extrapyramidal side effects</li> <li>• Serotonin syndrome</li> <li>• Neuroleptic malignant syndrome</li> </ul>	01 02 01 01 01
		Suicide and Deliberate Self Harm (4)	<ul style="list-style-type: none"> <li>• Suicide</li> <li>• Deliberate self-harm</li> </ul>	02 02
		Somatoform Disorders (6)	Symptomatology of the following: <ul style="list-style-type: none"> <li>• Dissociative disorders</li> <li>• Somatisation disorder</li> <li>• Somatoform pain disorders</li> </ul>	02 each
3.	Neurosurgery (3)	Head Injury (2)	<ul style="list-style-type: none"> <li>• Symptomatology of head injury- closed and open</li> <li>• Basic Management</li> </ul>	01 each

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		Brain Tumors (1)	<ul style="list-style-type: none"> <li>• Symptomatology</li> <li>• Investigation</li> </ul>	01
4.	Medicine (14)	Psycho-Endocrinology (6)	To understand dysfunction of: <ul style="list-style-type: none"> <li>• Thyroid</li> <li>• Adrenal disorders</li> <li>• Parathyroid disorders</li> <li>• Diabetes mellitus</li> <li>• Hypothalamic-pituitary-adrenal axis</li> <li>• Metabolic syndromes</li> </ul>	01 from each
		Eating Disorders (2)	Signs symptoms of the following: <ul style="list-style-type: none"> <li>• Anorexia nervosa</li> <li>• Bulimia nervosa</li> </ul>	01 each
		Cardiopulmonary (2)	(major presenting problems of cardiopulmonary diseases like asthma, MI, pulmonary tuberculosis, angina correlating with psychiatry)	
		Psychiatric Disorders related to reproductive health (4)	<ul style="list-style-type: none"> <li>• Post-partum psychosis</li> <li>• Post partum depression</li> <li>• Post-partum blues</li> <li>• PCOS &amp; PMS</li> </ul>	One each
5	Child Psychiatry (3)	Intellectual Disorders and Child Psychiatry (mental retardation) (3)	<ul style="list-style-type: none"> <li>• Intellectual disabilities</li> <li>• ADHD</li> <li>• Cerebral palsy</li> </ul>	01 each
6	Behavioral Sciences and Psychology (10)	Theories of Learning and development (8)	<ul style="list-style-type: none"> <li>• Conditioning (2)</li> <li>• Cognitive (2)</li> <li>• Psychoanalysis (2)</li> <li>• Psychosocial theory of Erikson of development (1)</li> <li>• Social learning theory (1)</li> </ul>	
		Non-Pharmacological Interventions in Clinical Practice (2)	<ul style="list-style-type: none"> <li>• Communication Skills &amp; informational care</li> <li>• Counselling and Breaking Bad News</li> </ul>	01 each

Recommended Books:

- Latest edition of Davidsons's Principles and Practice of Medicine
- Latest Edition of Shorter Oxford Textbook of Psychiatry (Chapter 1 & 3)

*[Signature]*  
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## JCAT PAPER II (ENT)

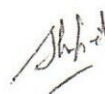
### Table of Specification


- Questions from basic subjects shall not be more than 20% in Paper II

No.	Subject(s)	Topic(s)	Subtopic(s)	No. of MCQs (For topics not for sub-topics)
1	Ear	External Ear	<ul style="list-style-type: none"> <li>• Surgical Anatomy and Physiology</li> <li>• Pinna</li> <li>• External Auditory Canal</li> <li>• Tympanic Membrane</li> <li>• Tumours of External Ear</li> </ul>	05
		Middle Ear	<ul style="list-style-type: none"> <li>• Surgical Anatomy and Physiology</li> <li>• Infections</li> <li>• Conductive Hearing Loss</li> <li>• Otosclerosis</li> <li>• Eustachian Tube</li> <li>• Facial Nerve</li> </ul>	12
		Inner Ear	<ul style="list-style-type: none"> <li>• Surgical Anatomy and Physiology</li> <li>• Menier's disease</li> <li>• Sensoryneural Hearing Loss</li> <li>• CP Angle Tumours</li> <li>• Deafness in Children</li> </ul>	08
2	Nose	External Nose and Nasal Vestibule	<ul style="list-style-type: none"> <li>• Surgical Anatomy and Physiology</li> <li>• Deformities of Nose</li> <li>• Trauma</li> <li>• Infections</li> <li>• Tumour</li> </ul>	03
		Nasal Cavity	<ul style="list-style-type: none"> <li>• Surgical Anatomy and Physiology</li> <li>• Specific and Non Specific Infections</li> <li>• Allergic and Non Allergic Rhinitis</li> <li>• Polyps</li> <li>• Epistaxis</li> </ul>	05
		Paranasal Sinuses	<ul style="list-style-type: none"> <li>• Surgical Anatomy</li> </ul>	07


  
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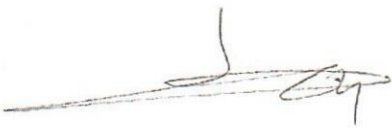
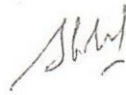
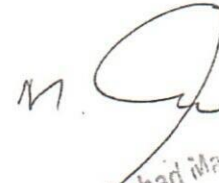
  
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			<ul style="list-style-type: none"> <li>and Physiology</li> <li>• Acute and Chronic Sinusitis</li> <li>• Neoplasms</li> <li>• Proptosis</li> <li>• CSF Leak</li> </ul>	
3.	Throat	Oral Cavity	<ul style="list-style-type: none"> <li>• Surgical Anatomy and Physiology</li> <li>• Infections</li> <li>• Ulcers</li> <li>• Tumours</li> </ul>	05
		Oropharynx	<ul style="list-style-type: none"> <li>• Surgical Anatomy and Physiology</li> <li>• Infections</li> <li>• Tumours</li> </ul>	05
		Nasopharynx	<ul style="list-style-type: none"> <li>• Surgical Anatomy and Physiology</li> <li>• Adenoid</li> <li>• Tumours</li> </ul>	05
		Hypopharynx	<ul style="list-style-type: none"> <li>• Surgical Anatomy and Physiology</li> <li>• Tumours</li> <li>• Dysphagia</li> </ul>	05
4.	Head and Neck	Face	<ul style="list-style-type: none"> <li>• Surgical Anatomy and Physiology of Face</li> <li>• Benign Disorders</li> <li>• Malignant Disorders</li> </ul>	02
		Neck	<ul style="list-style-type: none"> <li>• Surgical Anatomy and Physiology of Neck</li> <li>• Benign Disorders</li> <li>• Malignant Disorders</li> </ul>	10
		Thyroid	<ul style="list-style-type: none"> <li>• Surgical Anatomy and Physiology</li> <li>• Malignant Disorders</li> <li>• Non Malignant Disorders</li> </ul>	03
		Salivary Glands	<ul style="list-style-type: none"> <li>• Surgical Anatomy and Physiology</li> <li>• Infections</li> <li>• Tumours</li> </ul>	03
		Congenital Lesion in Neck	<ul style="list-style-type: none"> <li>• Surgical Anatomy and Physiology</li> <li>• Thyroglossal Cyst</li> <li>• Branchial Cyst and Fistula</li> <li>• Cystic Hygroma</li> </ul>	03


  
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		Neck Spaces	<ul style="list-style-type: none"> <li>• Surgical Anatomy and Physiology</li> <li>• Infections</li> <li>• Tumours</li> </ul>	04
5	Larynx and Oesophagus	Larynx	<ul style="list-style-type: none"> <li>• Surgical Anatomy and Physiology</li> <li>• Trauma</li> <li>• Congenital Lesions</li> <li>• Hoarseness</li> <li>• Tumours</li> <li>• Speech Disorders</li> <li>• Tracheostomy</li> </ul>	10
		Oesophagus	<ul style="list-style-type: none"> <li>• Surgical Anatomy and Physiology</li> <li>• Dysphagia</li> <li>• Foreign Bodies</li> <li>• Disorders of Oesophagus</li> </ul>	05

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Table of Specification (TOS)

MDS JCAT Paper-II

Basic and Clinical Dental Sciences

Sr.#	Subject	Topic	Subtopic	MCQs
<b>Basic Dental Sciences</b>				
1.	Community Dentistry (5)	Oral Epidemiology	Prevalence and incidence of oral diseases, Risk factors for oral diseases, Methods of data collection and analysis	01
		Prevention and Control of Oral Diseases	Fluoride applications (systemic and topical), Community Water Fluoridation, Dental sealants, Education and behavior change methods	01
		Oral Health Promotion, Surveys and Indices	Community-based oral health programs, Role of diet and nutrition in oral health, Strategies for promoting oral hygiene, Planning and Conducting Surveys, Oral Health Indices	02
		Nutrition and Oral Health	Basic Principles of Nutrition, Diet and Dental Caries, Nutritional Deficiencies and Oral Health, Community Nutrition Programs	01
2.	Oral Biology and Tooth Morphology (23)	Craniofacial Development	Pharyngeal Arches and Pouches Development of Maxilla, Mandible, Tongue, Palate and face, Stages of Tooth development	03
		Enamel	Structure of Enamel, Amelogenesis, Clinical considerations & Age changes	03
		Dentin & Pulp	Structure of Dentin, Dentinogenesis & Zones of pulp, Clinical considerations & Age changes of dentin and pulp	03
		Oral Mucosa	Types of oral mucosa with clinical considerations & Non-keratinocytes, Lamina propria, Junctions of mucosa, Development and age changes of oral mucosa	02
		Salivary Glands	Development and structure of salivary glands, Ductal modification of saliva, Clinical considerations & Age changes of salivary glands	02
		Tooth Morphology	Introduction and Nomenclature, Anatomical & Physiological considerations of form and function, Anatomical characteristics of maxillary and mandibular permanent dentition	10
3.	Science of Dental Materials (22)	Properties of Dental Materials	Physical, Chemical, Mechanical and surface Properties of Dental Materials	03

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		Direct restorative materials	Resin based composites & bonding agents Glass Ionomer and Dental cements Dental Amalgam	06
		In Direct Restorative Materials	Metals & Ceramic-Based Materials Prosthetic polymers and resins Wrought Alloys & Dental implants	06
		Fabrication of Prostheses	<b>Auxiliary Materials:</b> Impression materials Dental waxes Gypsum products Finishing & Polishing Materials Emerging Technologies	07

Sr.#	Subject	Topic	Subtopic	MCQs
<b>Clinical Dental Sciences</b>				
4.	Oral & Maxillofacial Surgery (06)	Principles of Surgery	Principles of Surgery, Wound Repair, Infection Control in Surgical Practice	01
		Principles of Exodontia	Instrumentation for Basic Oral Surgery, Medicolegal Considerations, Postoperative Patient Management & Prevention, Management of Surgical Complications	02
		Infections	Principles of Management & Prevention of Odontogenic Infections	01
		Local Anesthesia	Techniques of Maxillary Anesthesia & Techniques of Mandibular Anesthesia	02
5.	Oral Medicine (05)	Management of Oral lesions	Infections Vesiculobullous lesions Orofacial granulomas Oral ulceration, White lesions Orofacial pain, Systemic diseases with oral manifestations	05
6.	Orthodontics (06)	Growth and development	Importance of studying growth, Various aspects and definitions of growth and development (e.g. growth, development, hypertrophy, hyperplasia, extracellular matrix, deposition, differentiation, translocation, displacement, drift, growth pattern, differential growth, cephalocaudal gradient of growth and biological maturity indicators etc.) Various types of bone growth (intra membranous, endochondral), Process of growth in different areas of craniofacial complex, Theories of growth of the craniofacial region, Growth sites and centers in the craniofacial complex and their clinical relevance & Different methods of studying physical growth	02

		Development of dentition and occlusion.	Early and late fetal development and impact of birth on growth of neonate, Maturation of oral functions, Features of primary dentition years, Timing of eruption of primary teeth, Occlusal features of primary dentition, Features of mixed dentition years, Timing and eruption sequence of permanent teeth, Process of physical development in late childhood Chronological, biological and other ages, Skeletal age assessment by using various methods including hand & wrist radiographs and cervical vertebral maturation stages, Space relationship during replacement of incisors, canines and primary molars, Characteristics of the early permanent dentition years, Initiation of adolescence and the timing of puberty, Maturation and aging changes in facial soft tissues, teeth and their alignment & Ideal occlusion including Andrew's six keys of occlusion	02
		Normal occlusion, Malocclusion Classification of malocclusion	Role of various specific causes, including teratogens, in aetiology of malocclusion Role of genetic influences in aetiology of malocclusion, Role of environmental factors in aetiology of malocclusion	02
7.	Prosthodontics (06)	Partial Denture	History and examination & Classification of partial denture Parts of partial denture (Retainers, Connectors, Guide planes, Occlusal rest & Delivery and maintenance of partial dentures)	02
		Complete Denture	Preparation of mouth with complete denture, History taking and examination of edentulous jaw & Impression procedures Jaw relationships, Occlusion & Delivery of prosthesis	02
		Dental Implant	Osseointegration, Implant success criteria Surgical and prosthodontic steps of dental implant prosthesis & Examination and evaluation for implant patient	02
8.	Operative Dentistry (06)	Dental Caries	Tooth Anatomy, Etiology, Pathogenesis, Classifications, Risk Factors, Investigations/Diagnosis & Management	01
	Restorative Dentistry	Intracoronal Restorations	Dental Amalgam Restorations, Dental Composites Restorations, Pulp Protection, liners and bases & Instruments and equipment	01

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	Endodontics	Diseases of Dental Pulp and Periapical Tissues & Dental Trauma/Tooth Injuries	Pulp Anatomy, Histology of Dental Pulp, Etiology, Pathogenesis, Classification of Pulpitis, Investigations/Diagnosis, Management, Procedural Accidents and Complications & Classification tooth injuries, Investigations, Diagnosis, Management, Apexification, Apexogenesis, Root Resorption, etiology, pathogenesis and management, MTA & BioCeramics	01
		Perio-Endo Lesions & Longitudinal Tooth Injuries/VRF	Etiology, Pathogenesis, Investigations/Diagnosis/ Management & Etiology, Pathogenesis, Risk Factors Investigations/Diagnosis/ Management	01
	Crown and Bridge	Planning and Preparation	Principals of Occlusion, Investigations, Planning	01
		Clinical Procedures	Classification of crowns and Bridges, Components of Bridges, Tooth Preparations of various crown types, Restoration of endodontically treated teeth, Temporization, Tissue Management and Impression &Material Science	01
9.	Periodontology (06)	Normal Periodontium	Varieties and structure of cementum Principal and gingival ligament fibers Structure of Alveolar Bone & Age changes	03
		Periodontal Pathology	Etiology & Pathogenesis Classifications & Risk Factors Investigations/Diagnosis & Management	03
10.	Oral Pathology (15)	Abnormalities of the teeth & Developmental alterations of teeth	Environmental effects on development of tooth structure, Post developmental loss of tooth, discoloration of teeth & Localized disturbances in eruption Developmental alterations in the number of teeth, size of teeth, shape of teeth & structure of teeth	02
		Pulpal Pathology & Periodontal Diseases	Pulpitis, Secondary Dentin, Periapical Granuloma, Periapical Cyst, Periapical Abscess, Cellulitis, Osteomyelitis, Gingivitis, Necrotizing Ulcerative Gingivitis, Plasma Cell Gingivitis, Granulomatous Gingivitis, Drug-Related Gingival Hyperplasia & Periodontitis	02
		Odontogenic cysts and Tumours	Dentigerous Cyst, Eruption Cyst, Primordial Cyst, Odontogenic Keratocyst, Orthokeratinized Odontogenic Cyst & Nevoid Basal Cell Carcinoma Syndrome, Ameloblastoma, Malignant, Ameloblastoma and Ameloblastic Carcinoma, Adenomatoid Odontogenic Tumor, Calcifying Epithelial Odontogenic Tumor	02

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		Central Odontogenic Fibroma, Peripheral Odontogenic Fibroma, Granular Cell Odontogenic Tumor & Odontogenic Myxoma	
	Bone pathology	Osteopetrosis, Fibrous Dysplasia, Ossifying Fibroma, Osteosarcoma & Chondrosarcoma	02
	Epithelial Pathology	Squamous Papilloma, Verruca Vulgaris, Condyloma Acuminatum, Leukoplakia Erythroplakia, Oral Submucous Fibrosis, Nicotine Stomatitis, Actinic Keratosis Squamous Cell Carcinoma, Verrucous Carcinoma, Basal Cell Carcinoma	02 <i>gr</i>
	Salivary Gland Pathology	Mucocele, Ranula, Sialolithiasis, and Sialadenitis, Sjogren Syndrome & Pleomorphic Adenoma	02
	Immune Mediated Disorders	Aphthous Minor, Aphthous Major, Lichen Planus, Lupus Erythematosus, Pemphigus Vulgaris, Angiodema	02
	Infectious diseases (bacterial, viral, fungal)	Herpes Simplex Virus, Varicella, Herpes Zoster, Human Immunodeficiency Virus Sinusitis, Actinomycosis & Candida Albicans	01 <i>gr</i>

#### Recommended Text Books

- Textbook of Preventive and Community Dentistry. Joseph John, 3<sup>rd</sup> Edition
- TenCate's Oral Histology, Development, Structure & Function, Antonio Nanci 9<sup>th</sup> Edition
- Concise Dental Anatomy and Morphology, Fuller's, 5<sup>th</sup> Edition
- Philips Science of Dental Materials, Kenneth J. Anusavice 12<sup>th</sup> Edition
- Contemporary Oral & Maxillofacial Surgery, Hupp, Ellis & Tucker, 7<sup>th</sup> Edition
- Handbook of Local Anesthesia, Stanley Malamed, 7<sup>th</sup> Edition
- Tyldesley's Oral Medicine, Field and Longman, 5<sup>th</sup> Edition
- Contemporary Orthodontics, William R. Proffit, 6<sup>th</sup> Edition
- McCracken's Removable Partial Prosthodontics, Alen Car and Brown, 13<sup>th</sup> Edition
- Boucher's Prosthodontic Treatment for Edentulous Patients, George, Gunar and Bolendar, 11<sup>th</sup> Edition
- Sturdevant's Art and Science of Operative Dentistry, Andre Ritter, 7<sup>th</sup> Edition
- Endodontics Principals and Practice, Torabinjad, 6<sup>th</sup> Edition
- Contemporary Fixed Partial Dentures, Rosensteel, Land and Walter, 6<sup>th</sup> Edition
- Newman and Carranza's Clinical Periodontology and Implantology, Newman, Klokkevold, Elangovan, Kapila, Carranza, Takei, 14<sup>th</sup> Edition
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