



Faisalabad Medical University

BLOCK K

4th Year MBBS

Approval Statement

Study Guide – BLOCK K

The undersigned subject heads, hereby approve the study guides for undergraduate MBBS students, having thoroughly reviewed and validated the content for accuracy, relevance, and alignment with the curriculum. We confirm that the study guides have undergone rigorous evaluation and have met the standards set by PMDC and our institution.

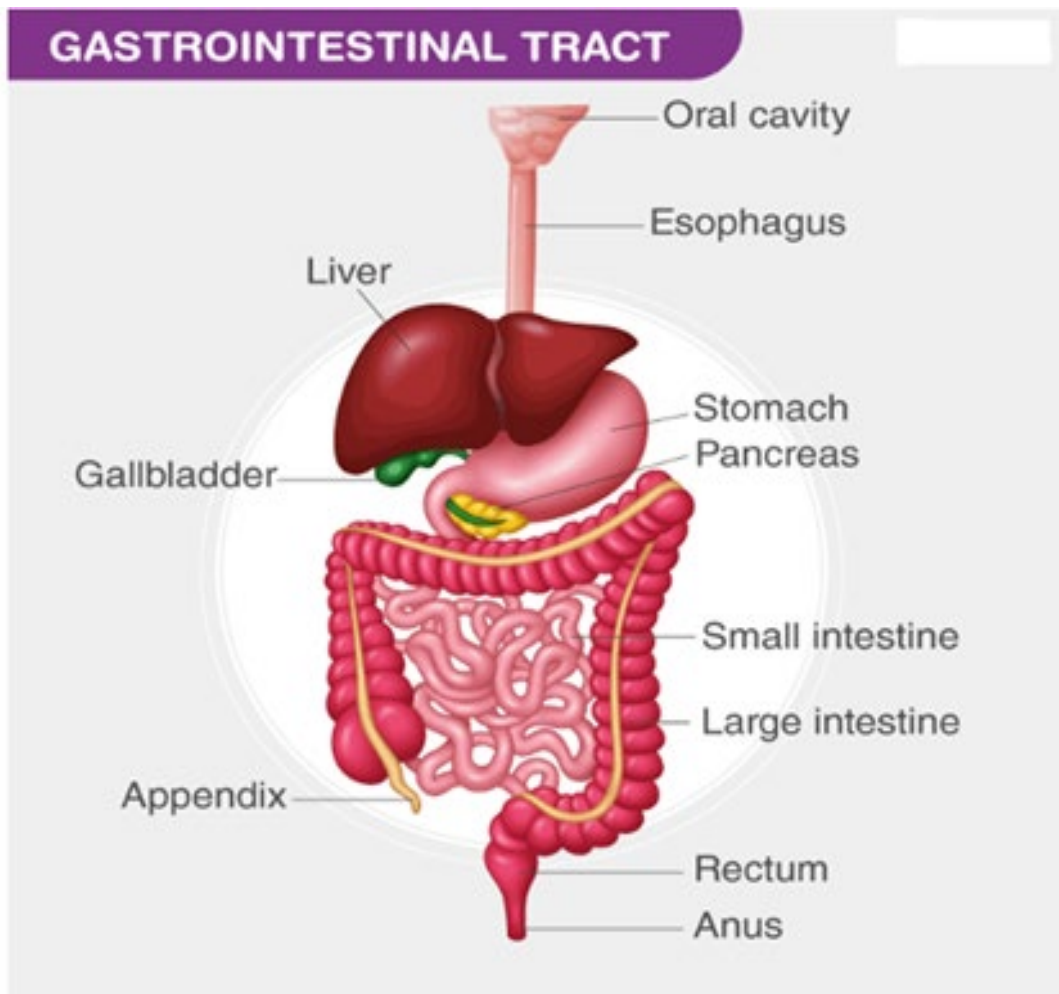
By signing below, we endorse these study guides as a valuable resource for our students, ensuring they receive comprehensive and high-quality educational materials to support their academic success.

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GIT & Hepatobiliary II Module



Module Committee

Name of Department	Name	Designation	Signatures
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Introduction of Module

Gastro-intestinal-II and Hepatobiliary-II Module is designed to provide both basic, clinical knowledge and skills to the medical students. The modules include sessions on important pathological diseases of gastrointestinal system and hepatobiliary system. The relevant clinical subjects are also taught under the shared themes with pharmacological explanation. The medical and surgical management and preventive aspect of the diseases are also addressed.

Teaching Hours Allocation

Sr. No	Subject	Hours Needed
1	Pathology	49
2	Pharmacology	21
3	Forensic medicine	22
4	Community medicine	24
5	Medicine	15
6	Surgery	14
7	Pediatrics	4
8	Anatomy	1
9	Family Medicine	2
10	Research	16

List of Themes

Sr. No	Themes	Duration Weeks
1	Difficulty in swallowing	1
2	Pain epigastrium	1
3	Pain right upper abdomen	2
4	Diarrhea and constipation	3
5	Bleeding Per Rectum	1

General Learning Objectives

By the end of Module,4th year MBBS students will be able to:

1. Describe etiology, pathogenesis, morphology, clinical features, laboratory diagnosis, medical and surgical management of diseases of GIT & hepatobiliary system.
2. Interpret the liver function tests in different hepatic diseases.
3. Describe the basic and clinical pharmacology of drugs used in GIT & hepatobiliary diseases.
4. Write prescriptions for common GIT & hepatobiliary disorders.
5. Describe legal aspects of abdominal trauma.
6. Describe medico legal aspects of vegetable acid, corrosive and irritants poisoning.
7. Describe the epidemiology and prevention of malnutrition and viral hepatitis.
8. Analyze demographic processes in context of public health care.

Specific Learning Objectives

Theme-1

Difficulty In Swallowing

Sr.#	Subject	Topic	Learning objectives	Teaching Strategies	Duration (Hour)	Assessment
1	Pathology	Salivary Gland disorders	<ul style="list-style-type: none"> Classify the inflammatory and neoplastic diseases of salivary gland. Describe the etiology, morphology, pathogenesis and clinical presentation of inflammatory and neoplastic diseases of salivary gland. 	Interactive Lecture	1	MCQs
		Esophageal diseases	<ul style="list-style-type: none"> Classify and describe the etiology, pathophysiology, morphology, clinical presentation, and complications of esophagitis and esophageal tumors. 	Interactive Lecture	1	MCQs
		Ascaris Lumbricoides	<ul style="list-style-type: none"> Discuss the life cycle and pathogenesis, of Ascaris lumbricoides 	SGD	2	MCQ
		Cholangiocarcinoma	Describe the etiology, morphology, pathophysiology gross and microscopic features	Skill lab	2	OSPE

			of cholangiocarcinoma			
2	Medicine	Oral Cavity	<ul style="list-style-type: none"> • Discuss the etiology of stomatitis and Aphthous ulcers. • Discuss the clinical features of stomatitis and Aphthous ulcers. • Discuss the investigations of stomatitis and Aphthous ulcers. • Discuss management plan for stomatitis and Aphthous ulcers 	Interactive Lecture	1	MCQs
		Esophagus	<ul style="list-style-type: none"> • Discuss the causes of esophageal motility disorders. • Discuss the clinical features of esophageal motility disorders. • Discuss the relevant investigations of esophageal motility disorders. • Discuss management plan of esophageal motility disorders. 	Interactive Lecture	1	MCQs

			<ul style="list-style-type: none"> • Discuss the etiology, clinical features, investigations, and management of Cardia achalasia. 			
		Esophagitis	<ul style="list-style-type: none"> • Define esophagitis and explain its clinical relevance in gastrointestinal disorders. • Classify the types of esophagitis, including: <ul style="list-style-type: none"> ○ Reflux esophagitis ○ Infectious esophagitis (e.g., Candida, HSV, CMV) ○ Eosinophilic esophagitis ○ Drug-induced esophagitis ○ Radiation-induced esophagitis • Discuss the risk factors and predisposing conditions 	Interactive Lecture	1	MCQs

			<p>associated with esophagitis.</p> <ul style="list-style-type: none"> • Recognize the clinical features of esophagitis: • Describe the clinical symptoms (e.g., dysphagia, odynophagia, retrosternal pain) <ul style="list-style-type: none"> ○ Atypical or systemic manifestations ○ Indications for upper GI endoscopy and biopsy ○ Ancillary investigations (e.g., barium swallow, esophageal pH monitoring) • Differentiate esophagitis from other causes of chest pain, dysphagia, or upper GI symptoms. • Discuss the principles of 			
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			<p>management for diverse types of esophagitis, including:</p> <ul style="list-style-type: none"> ○ Pharmacologic therapy (e.g., PPIs, antifungals, antivirals, steroids) ● Describe potential complications such as ulceration, stricture, bleeding, and perforation. 			
		Esophageal CA	<ul style="list-style-type: none"> ● Recognize the clinical presentation of esophageal cancer, including: <ul style="list-style-type: none"> ○ Progressive dysphagia ○ Weight loss ○ Odynophagia ○ Hoarseness and other late symptoms ● Outline the diagnostic approach, including: <ul style="list-style-type: none"> ○ Endoscopy with biopsy ○ Imaging for staging (CT, PET-CT, EUS) ● Describe the TNM staging system and its implications for 	Interactive Lecture	1	MCQs

			<p>prognosis and treatment.</p> <ul style="list-style-type: none"> • Discuss treatment modalities based on stage, including: <ul style="list-style-type: none"> ○ Surgery (esophagectomy) ○ Chemotherapy and radiotherapy ○ Palliative care in advanced disease • Explain potential complications, including local invasion, metastasis, and treatment-related effects. • Discuss the prognosis and factors influencing survival. 			
		Gastro Esophageal Reflux Disease (GERD)	<ul style="list-style-type: none"> • Define GERD and differentiate it from physiological gastroesophageal reflux. • Describe the epidemiology and risk factors of GERD. • Explain the pathophysiology of GERD, including lower esophageal sphincter dysfunction, 	Interactive Lecture	1	MCQs

			<p>transient LES relaxations, and role of hiatal hernia.</p> <ul style="list-style-type: none"> • Discuss the typical and atypical clinical manifestations of GERD (e.g., heartburn, regurgitation, chronic cough, laryngitis). • Enlist the complications of GERD including erosive esophagitis, Barrett's esophagus, and esophageal stricture. • Outline the diagnostic approach to GERD Clinical diagnosis <ul style="list-style-type: none"> ○ Indications for endoscopy ○ Role of pH monitoring and manometry • Discuss the management of GERD, including: 			
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			<ul style="list-style-type: none"> ○ Lifestyle and dietary modifications ○ Pharmacologic therapy (e.g., PPIs, H2 blockers) ○ Indications for surgical interventions like fundoplication ● Discuss basic endoscopic findings related to GERD and its complications. ● Recognize red flag symptoms that warrant further investigation (e.g., dysphagia, weight loss, anemia, bleeding). 			
3	Surgery	Benign And Malignant Strictures of Esophagus Para-Esophageal Hiatus Hernia	<ul style="list-style-type: none"> ● Discuss the classification, etiology, clinical features, investigations, staging, and management of Esophageal cancers. 	Interactive Lecture	1	MCQs

			<ul style="list-style-type: none"> • Explain the etiology, clinical features, investigations, and management of Para-esophageal hiatus hernia 			
4	Community Medicine	Protein Calorie Malnutrition	<ul style="list-style-type: none"> • Differentiate between the clinical features of types of PEM • Discuss its public health importance. • Discuss the concept of food fortification and food adulteration. 	Skill lab	2	OSPE

Theme-2

Epigastric Pain

Sr. #	Subject	Topic	Learning objectives	Teaching Strategies	Duration (Hour)	Assessment
1	Pathology	Gastritis	<ul style="list-style-type: none"> Explain the types, etiology, morphology, microscopic and clinical features and complications of Gastritis 	Interactive Lecture	1	MCQs
		Peptic ulcer	<ul style="list-style-type: none"> Discuss etiology, morphology, complications, and lab. Diagnosis of peptic ulcer disease, Discuss the role of H. Pylori & campylobacter in the causation of Peptic ulcer disease, 			
		Gastric polyps and tumors	<ul style="list-style-type: none"> Classify gastric polyps and tumors. Describe the pathogenesis, morphology, lab diagnosis and complications of gastric polyps and tumors. 	Interactive Lecture	1	MCQs
		Strongylida e's	Describe the important properties, pathophysiology, clinical features and lab diagnosis of Strongylidaes	SGD	2	MCQ

		Gastric Adenocarcinoma	Describe the etiology, morphology, pathophysiology gross and microscopic features of Adenocarcinoma of stomach	Skill lab	2	OSPE
2	Pharmacology	Anti-emetic	<ul style="list-style-type: none"> • Classify anti-emetic drugs. • Describe the mechanism of serotonin antagonists as antiemetic agents. • Enlist the clinical uses (anti-emetic) and adverse effects of serotonin antagonists. • Describe the pharmacological basis of serotonin antagonists in chemotherapy induced vomiting. • Describe the mechanism of H1-antagonists as anti-emetic agents. • Enlist the clinical uses (anti-emetic) of H1-antagonists. • Describe the mechanism of anticholinergic drugs as antiemetic agents. • Enlist the clinical uses (anti-emetic) of anticholinergic drugs. • Describe the pharmacological basis of scopolamine in motion sickness. 	Interactive Lecture	1	MCQs
		Anti-emetic	<ul style="list-style-type: none"> • Describe the anti-emetic mechanism of D2-receptor 	Interactive Lecture	1	MCQs

			<p>blockers (Metoclopramide & Domperidone).</p> <ul style="list-style-type: none"> • Enlist the clinical uses (anti-emetic) and adverse effects of D2- receptor blockers. • Compare the pharmacological features of metoclopramide & Domperidone. • Describe the drug interaction of metoclopramide with levodopa. • Describe the mechanism of neuroleptics as anti-emetic agent. • Enumerate the clinical uses (anti-emetic) of neuroleptic drugs. • Describe the antiemetic mechanism of benzodiazepines. • Describe the antiemetic mechanism of glucocorticoids. • Enumerate the indications (anti-emetic) of glucocorticoids. • Enlist anti-emetic drugs used in morning sickness. • Enlist anti-emetic drugs used in chemotherapy induced vomiting. 			
		Drugs used in the treatment of	<ul style="list-style-type: none"> • Enlist the drugs used in variceal hemorrhage. • Describe the mechanism of 	Interactive Lecture	1	MCQs

	variceal bleeding	<p>somatostatin and octreotide in variceal hemorrhage.</p> <ul style="list-style-type: none"> • Describe the mechanism of Vasopressin & Terlipressin in variceal hemorrhage. • Describe the mechanism of beta-blockers in variceal hemorrhage. 			
	Drugs used in the treatment of Peptic ulcer disease and Gastritis	<ul style="list-style-type: none"> • Classify the drugs used in Peptic ulcer disease. • Describe the pharmacokinetics of sucralfate with special emphasis on time of administration. • Describe the mechanism of sucralfate in the treatment of peptic ulcers. • Discuss the drug interaction of sucralfate. • Describe the mechanism, indications, and adverse effects of bismuth compounds. • Describe the role of anticholinergic drugs in peptic ulcer. • Role of anticholinergic drugs in peptic ulcer 	Interactive Lecture	1	MCQs

			<ul style="list-style-type: none"> • Discuss the pharmacological basis for the use of prostaglandin analogues (Misoprostol) in the treatment of peptic ulcer. • List the contraindications of misoprostol. • Describe triple therapy for the eradication of H. pylori infection. • Describe quadruple therapy for the eradication of H. pylori infection. 			
		Drugs used in the treatment of Peptic ulcer disease and Gastritis	<ul style="list-style-type: none"> • Describe the pharmacokinetics of PPIs with special emphasis on time of administration • Describe the mechanism of action, indications, and adverse effects of proton pump inhibitors (PPIs). • Describe the drug interaction of Omeprazole with other drugs. • Describe the mechanism of action, indications, and adverse effects of H-2 blockers. • Compare and contrast H2-blockers in terms of bioavailability 	Interactive Lecture	1	MCQs

			<p>and involvement in drug interactions.</p> <ul style="list-style-type: none"> • Describe the pharmacokinetics of antacids with special emphasis on time of administration. • Describe the mechanism of action, indications, and adverse effects of Antacids. • Enumerate the properties of an ideal antacid. 			
		Peptic ulcer disease	<ul style="list-style-type: none"> • Construct prescription for Helicobacter-associated peptic ulcer disease (Triple therapy & Quadruple therapy) 	Skill lab	2	OSPE
		Anti-emetics	<ul style="list-style-type: none"> • Construct prescriptions for motion sickness, morning sickness, post-operative patient. • Construct prescriptions for cancer chemotherapy-induced vomiting. 	Skill lab	2	OSPE
3	Medicine	Gastritis	<ul style="list-style-type: none"> • Define esophagitis and explain its clinical significance. • Classify the different types of esophagitis (e.g., reflux, infectious, drug-induced, eosinophilic, radiation-induced). 	Interactive Lecture	1	MCQs

			<ul style="list-style-type: none"> • Recognize the clinical features of esophagitis, including typical and atypical symptoms. • Discuss risk factors and predisposing conditions for different types of esophagitis. • Discuss the diagnostic approach <ul style="list-style-type: none"> ○ Indications for endoscopy and biopsy ○ Role of imaging and laboratory tests • Differentiate esophagitis from other causes of chest pain and dysphagia. • Discuss the management principles for each type of esophagitis, including: <ul style="list-style-type: none"> ○ Pharmacological treatment ○ Lifestyle and dietary modifications ○ Treatment of underlying or associated conditions • Explain potential complications, such as strictures, bleeding, Barrett's esophagus, and perforation. 			
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	Peptic ulcer disease	<ul style="list-style-type: none"> • Define peptic ulcer disease and explain its clinical significance. • Differentiate peptic ulcer from gastritis in terms of pathology and clinical presentation. • Classify peptic ulcers (gastric vs. duodenal; uncomplicated vs. complicated). • Describe the etiology and risk factors: <ul style="list-style-type: none"> ○ <i>Helicobacter pylori</i> infection ○ NSAID/aspirin use ○ Smoking, alcohol, stress, Zollinger–Ellison syndrome, other rare causes. • Recognize the clinical features: • Epigastric pain (gastric vs. duodenal differences) <ul style="list-style-type: none"> ○ Dyspepsia, nausea, vomiting, bloating ○ Alarm features (bleeding, anemia, weight loss, obstruction). • Outline the diagnostic approach <ul style="list-style-type: none"> ○ Laboratory tests (CBC, stool for occult blood, H. pylori testing – urea breath test, stool antigen, biopsy urease test) ○ Endoscopy and biopsy (for diagnosis and to 	Interactive Lecture	1	MCQs
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			<p>rule out malignancy in gastric ulcers)</p> <ul style="list-style-type: none"> ○ Imaging when complications are suspected. • Discuss management principles: <ul style="list-style-type: none"> ○ General: lifestyle and dietary modifications, avoidance of NSAIDs ○ Pharmacological: PPIs, H2 blockers, antacids, cytoprotective agents ○ <i>H. pylori</i> eradication therapy • Describe complications of PUD: <ul style="list-style-type: none"> ○ Hemorrhage (hematemesis, melena) ○ Perforation (peritonitis) ○ Gastric Outlet Obstruction ○ Malignant transformation in chronic gastric ulcer. 			
4	Forensic medicine	Common household poisons	<ul style="list-style-type: none"> • Enlist commonly used domestic, medicinal, and garden poisons. • Enlist commonly used mineral acids • Describe mechanism of action, clinical features, management, PM findings and M/L importance of 	Interactive Lecture	1	MCQs

			Sulphur acid poisoning			
	Corrosives: Mineral acids	<ul style="list-style-type: none"> Describe mechanism of action, clinical features, management, postmortem findings and M/L importance of nitric acid poisoning Discuss salient features of hydrochloric acid poisoning 	Interactive lecture	1	MCQs	
	Corrosives: Alkali	<ul style="list-style-type: none"> Enlist commonly used alkali. Describe mechanism of action, clinical features, management, PM findings and M/L importance of alkali poisoning 	Interactive Lecture	1	MCQs	
	Corrosives: organic acid	<ul style="list-style-type: none"> Enlist commonly used organic acids. Describe mechanism of action, clinical features, management, PM findings and M/L importance of carbolic acid poisoning. Describe mechanism of action, clinical features, management, PM findings and M/L importance of oxalic acid poisoning 	Interactive Lecture	1	MCQs	

		Corrosives: vegetable Acid Poisons	<ul style="list-style-type: none"> Describe mechanism of action, clinical features and management of cyanide poisoning. Describe postmortem appearance and M/L importance of cyanide poisoning. 	Interactive Lecture	1	MCQs
		Poisons	<ul style="list-style-type: none"> Identify various corrosives (Mineral, organic and vegetable acids and alkalis) 	Skill lab	2	OSPE
		Corrosives	<ul style="list-style-type: none"> Identify cases of Vitriolage Identify cases of Cyanide poisoning 	Skill lab	2	OSPE
5	Surgery	Gastric cancer	<ul style="list-style-type: none"> Describe the types, etiology, risk factors, lab diagnosis and management of a patient with gastric cancer. 	Interactive Lecture	1	MCQs
		Gastric outlet obstruction	<ul style="list-style-type: none"> Explain the etiology, clinical features, investigations, and management of Para-esophageal hiatus hernia. 	Interactive Lecture	1	MCQs
6	Community medicine and public health	Health system of Pakistan: Introduction	<ul style="list-style-type: none"> Describe health care system of Pakistan using WHO Health system framework. 	Interactive Lecture	1	MCQs
		Primary health care (PHC)	<ul style="list-style-type: none"> Define PHC. Describe the history of development of PHC. Describe comprehensive & selective PHC. Describe reasons 	Interactive Lecture	1	MCQs

			<ul style="list-style-type: none"> for failure of PHC. Describe Health Systems before & after PHC. Describe district health care system. Enumerate indicators for assessing PHC. 			
	Health education		<ul style="list-style-type: none"> Define health education. Describe objectives and functions of health education. Describe the components of health education. Describe the methods and constraints of health education. Describe classification of theories of health education. Describe the stages and principles in health education. Describe the strategies for an effective health education program. 	Interactive Lecture	1	MCQs OSPE
	Health management information system (HMIS)		<ul style="list-style-type: none"> Define concept of HMIS. Enumerate the components of HMIS. Describe its importance in health care delivery system. Enumerate the principles of HMIS. Give the causes of failure of HMIS. 	Interactive Lecture	2	MCQs

	Hospital administration	<ul style="list-style-type: none"> • Define health care delivery system. • Describe the need of specialized hospital administration. • Describe the attributes of a good hospital administrator. 	Interactive Lecture	1	MCQs
	Current Health plans Pakistan	<ul style="list-style-type: none"> • Describe different health plans in Pakistan. • Describe short /long term plans in Pakistan. 	Interactive Lecture	1	MCQs
	MDGs	<ul style="list-style-type: none"> • Enumerate MDGs. • Describe targets & indicators of various health related MDGs. • Describe reasons for failure to achieve MDGS. 	Interactive Lecture	1	MCQs
	SDGs	<ul style="list-style-type: none"> • Enumerate SDGs related to health. • Describe targets & indicators of various health related SDGs. • Describe Pakistan progress on set targets. • Enumerate SDGs related to health. 	Interactive Lecture	1	MCQs
	Health planning	<ul style="list-style-type: none"> • Define health planning. • Describe importance & use of planning in health. • Explain the reasons for ineffective health planning in Pakistan • Describe health planning cycle. 	Interactive Lecture	1	MCQs

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	Health economics		<ul style="list-style-type: none"> • Define health economics. • Discuss economic evaluation. • Compare cost benefit and cost-effective analysis. • Define cost accounting • Discuss health financing in Pakistan • Define zero based budgeting • Define health care quality. • Explain the importance of economic studies in health • Describe different tools used in economic evaluations. 	Interactive Lecture	1	MCQs
	Health policy		<ul style="list-style-type: none"> • Define health policy. • Describe its role in health system. • Describe different stages in policy making. • Describe the different types of policies. • Describe the constraints in policy making. • Describe health policy of Pakistan. 	Interactive Lecture	1	MCQs
	Role of international health agencies in public health		<ul style="list-style-type: none"> • Enumerate international health agencies working in health sector. • Discuss structure and function of WHO & UNICEF. • Explain the roles of WHO & 	Interactive Lecture	1	MCQs

			UNICEF in Pakistan			
		My food plate/ The pyramid	<ul style="list-style-type: none"> • Identify & describe different components of the Food pyramid. • Identify & describe different parts of the balanced food Plate. 	Skill lab	2	OSPE

Theme-3

Pain Upper Right Abdomen

Sr. #	Subject	Topic	Learning objectives	Teaching Strategies	Duration (Hour)	Assessment
1	Anatomy	Gross anatomy Liver histology	<ul style="list-style-type: none"> • Explain the lobes and segments of the liver. • Discuss the gross structure of gall bladder and biliary channels. • Explain the gross and microscopic structure of the pancreas. • Explain the microscopic structure of the liver and gall bladder 	Interactive Lecture	1	MCQs
2	Pathology	Mechanisms of liver injury and repair & Acute Liver failure	<ul style="list-style-type: none"> • Explain the mechanism and responses of liver injury and repair. • Describe the etiology, pathogenesis, morphology and clinical features of acute liver failure. 	Interactive Lecture	1	MCQs
		Chronic Liver disease and liver cirrhosis	<ul style="list-style-type: none"> • Describe the etiology, pathogenesis, morphology and clinical features of chronic liver disease and cirrhosis 	Interactive Lecture	1	MCQs
		Portal hypertension	<ul style="list-style-type: none"> • Describe the etiology, pathogenesis, clinical features and complication of portal hypertension. 			
		Viral hepatitis A,,D,E and B	<ul style="list-style-type: none"> • Explain the Etiology, risk factors, pathogenesis, morphology and clinical features of Acute and chronic viral hepatitis A,D,E &B infection • Discuss the stages, complications and serological markers of hepatitis B Virus infection 	Interactive Lecture	1	MCQs

	Viral Hepatitis C	<ul style="list-style-type: none"> Explain the Etiology, risk factors, pathogenesis, morphology and clinical features and complications of chronic Hepatitis C virus infection. 	Interactive Lecture	1	MCQs
	Autoimmune hepatitis	<ul style="list-style-type: none"> Define autoimmune hepatitis Explain the etiology pathogenesis, morphology and clinical features of autoimmune hepatitis. 	Interactive Lecture	1	MCQs
	Toxin and Drug induced hepatitis	<ul style="list-style-type: none"> Explain the etiology, morphology, pathogenesis and clinical features of toxins and drug induced hepatitis. 			
	Alcoholic liver disease	<ul style="list-style-type: none"> Discuss the etiology morphology, pathogenesis and complications of Alcoholic liver disease 	Interactive Lecture	1	MCQs
	Metabolic liver diseases Non-Alcoholic liver disease (NAFLD) Hemochromatosis Wilson's disease Alpha-1 antitrypsin deficiency	<ul style="list-style-type: none"> Describe the etiology, pathogenesis, morphology, clinical features and complications of NAFLD, Hemochromatosis, Wilson's disease and Alpha-1 Anti-Trypsin deficiency 	Interactive Lecture	1	MCQs
	Liver abscess	<ul style="list-style-type: none"> Describe the etiology, pathogenesis, morphology, clinical presentation, complications and lab diagnosis of Liver abscess. 	Interactive Lecture	1	MCQs
	Tumors of the liver	<ul style="list-style-type: none"> Classify liver tumors Explain the benign and malignant tumors of the liver Discuss the risk factors, etiology, morphology, clinical features, staging and complications of hepatocellular carcinoma. 			

	Diseases of Gall bladder	<ul style="list-style-type: none"> Discuss the types, risk factors, etiology, morphology, clinical features and complications of cholelithiasis, acute and chronic cholecystitis 	Interactive Lecture	1	MCQs
	Gall bladder cancer	<ul style="list-style-type: none"> Discuss the risk factors, etiology, morphology, clinical features, staging and complications of carcinoma gall bladder. 	Interactive Lecture	1	MCQs
	Diseases of Pancreas	<ul style="list-style-type: none"> Discuss the risk factors, etiology, morphology, clinical features and complications of acute and chronic pancreatitis Describe the pathogenesis and complications of pancreatic pseudocyst Discuss the risk factors, etiology, morphology, clinical features, staging and complications of carcinoma of pancreas. 	Interactive Lecture	1	MCQs
	Autoimmune hepatitis	<ul style="list-style-type: none"> Define autoimmune hepatitis. Explain the serological and morphological features of Autoimmune hepatitis 	SGD	2	MCQ
	Alcoholic and Non-Alcoholic fatty liver disease	<ul style="list-style-type: none"> Explain the etiology, morphology and microscopic features of Alcoholic and non-alcoholic fatty liver diseases 	Skill lab	2	MCQ
	Cholestatic disease and Cholangiopathies	<ul style="list-style-type: none"> Discuss the risk factors, etiology, morphology, clinical features of Cholestatic disease and Cholangiopathies 	SGD	2	OSPE

		Liver Profile Tests	<ul style="list-style-type: none"> To interpret normal and abnormal liver function tests in different clinical scenarios 	Skill lab	2	OSPE
3	Pharmacology	Hepatotoxic drugs	<ul style="list-style-type: none"> Describe first pass hepatic metabolism. Enlist common hepatotoxic drugs Explain the drug treatment of paracetamol poisoning 	Interactive Lecture	1	MCQs
		Drugs used in the treatment of hepatitis B	<ul style="list-style-type: none"> Classify the drugs for hepatitis B virus infection Describe the duration and adverse effects of drugs used in the treatment of chronic hepatitis B. 	Interactive Lecture	1	MCQs
		Drugs used in the treatment of hepatitis C	<ul style="list-style-type: none"> Classify the drugs for hepatitis C virus infection. 	Interactive Lecture	1	MCQs
4	Community medicine	Viral Hepatitis	<ul style="list-style-type: none"> Describe the epidemiological determinants of viral Hepatitis . Describe the prevalence and incidence with reference to local Context. 	SGD	2	MCQs
5	Medicine	Hepatitis B virus infection	<ul style="list-style-type: none"> Define acute HBV and modes of transmission. Recognize clinical features: prodrome → icteric → recovery/fulminant. Enlist investigations: LFTs, HBV serology (HBsAg, HBeAg, anti-HBc IgM), HBV DNA. Outline treatment: supportive; antivirals only in fulminant/severe cases; transplant if failure. Define chronic HBV (HBsAg > 6 months). Explain pathogenesis (persistent infection → inflammation → fibrosis → cirrhosis/HCC). Recognize features: often asymptomatic, signs of 	Interactive Lecture	1	MCQs

			<p>chronic liver disease, complications.</p> <ul style="list-style-type: none"> • Enlist investigations: LFTs, HBV serology (HBsAg, HBeAg, anti-HBe, anti-HBc IgG), HBV DNA, imaging, fibrosis assessment. • Outline treatment: antivirals (tenofovir, entecavir), interferon in selected; monitor viral load, fibrosis, and HCC. • Discuss prognosis of acute and chronic hepatitis B <p>Virus infection prognosis: variable</p>			
		Hepatitis C virus infection	<ul style="list-style-type: none"> • Describe the virology and genotypes of the Hepatitis C virus and their clinical relevance. • Explain the modes of transmission and identify risk factors for HCV infection. • Discuss the natural history of HCV infection, including acute infection, chronic hepatitis, cirrhosis, and hepatocellular carcinoma. • Recognize the clinical features and extra-hepatic manifestations of Hepatitis C. • Outline the diagnostic approach to HCV infection, including serological and molecular tests. • Interpret HCV investigations such as anti-HCV antibodies, HCV RNA, and liver function tests. • Describe current treatment options for Hepatitis C, with emphasis on direct- 	Interactive Lecture	1	MCQs

		<p>acting antiviral agents (DAAs).</p> <ul style="list-style-type: none"> • Discuss treatment outcomes, sustained virologic response (SVR), and factors affecting prognosis. • Explain strategies for prevention, screening, and control of HCV infection, particularly in high-risk populations. • Highlight the public health importance of Hepatitis C and its role in global and national disease burden 			
	Metabolic and Immune related liver diseases (Wilson’s Disease/Hemochromatosis/Primary Biliary Cirrhosis)	<ul style="list-style-type: none"> • Define these conditions • Enumerate history and examination findings for each condition • Enlist the diagnostic criteria for each condition • Enlist important diagnostic and monitoring investigations • Delineate the management plan • Discuss prognosis and follow up • Recognize complications, provide supportive care, and identify when referral for liver transplantation is required. 	Interactive Lecture	1	MCQs
	Hepatic vein obstruction	<ul style="list-style-type: none"> • Discuss the etiology, clinical features, investigations and management of a patient with hepatic vein obstruction 	Interactive Lecture	1	MCQs
	Hepatocellular carcinoma of the pancreas	<ul style="list-style-type: none"> • Explain the etiology, clinical features, investigations, treatment and complications of hepatocellular carcinoma • Discuss the risk factors, etiology, clinical features, staging and complications 	Interactive Lecture	1	MCQs

			of carcinoma of pancreas			
	Family Medicine	Acute & chronic viral hepatitis	<ul style="list-style-type: none"> • Explain the etiology and clinical features of acute hepatitis • Explain the management strategies of acute hepatitis in family practice • Explain the etiology, clinical features, and complications of Chronic hepatitis • Explain the management strategies of chronic hepatitis in family practice • Describe the red flags in a patient with acute and chronic hepatitis for referral to specialty care. 	Interactive Lecture	1	MCQs
6	Surgery	Gall bladder	<ul style="list-style-type: none"> • Explain the etiology, clinical features, investigations, treatment and complications of gall stones. • Explain the etiology, clinical features, investigations, treatment and complications of acute and chronic cholecystitis. 	Interactive Lecture	1	MCQs
		Pancreas	<ul style="list-style-type: none"> • Explain the etiology, clinical features, investigations, treatment and complications of acute and chronic pancreatitis. 	Interactive Lecture	1	MCQs
		Carcinoma of the gall bladder Liver abscess Hydatid liver cyst	<ul style="list-style-type: none"> • Discuss the risk factors, etiology, clinical features, staging and complications of carcinoma of gall bladder. • Explain the etiology, clinical features, investigations, treatment, and complications of liver abscesses. • Explain the etiology, clinical features, investigations, treatment, 	Interactive Lecture	1	MCQs

			and complications of Hydatid liver cysts			
7	Pediatric Medicine	Hereditary hyperbilirubinemias	<ul style="list-style-type: none"> Classify hereditary hyperbilirubinemias Explain the types, clinical features, investigations, and management of different hereditary hyperbilirubinemias 	Interactive Lecture	1	MCQs
		Acute hepatitis A	<ul style="list-style-type: none"> Explain the Etiology, pathogenesis, clinical features, investigations, and treatment of Acute viral hepatitis A infection 	Interactive Lecture	1	MCQs

Theme-4

DIARRAHEA AND CONSTIPATION

Sr. #	Subject	Topic	Learning objectives	Teaching Strategies	Duration (Hour)	Assessment
1	Community Medicine.	Intestinal worms infestation and their Control Vector borne disease.	<ul style="list-style-type: none"> Describe the epidemiology of common worm infestation with reference to local context. Classify parasites of human importance. Clinical manifestation, diagnosis and treatment for common worm infestation. Describe the preventive & control measures for common worms and vector borne diseases. Discuss mosquito, louse, tick and flea-borne diseases. Enlist anti-rodent measures 	Interactive Lecture	1	MCQs
		House fly /arthropods/ Aedes Egypti	<ul style="list-style-type: none"> Identify the models of house fly, aedes egypti. Explain the diseases caused by these vectors and their control. 	Skill lab	2	OSPE
		Autoclave	<ul style="list-style-type: none"> Describe the mechanism of action of autoclave. Explain the types of items for which 	Skill lab	2	OSPE

			<p>autoclaves are used.</p> <ul style="list-style-type: none"> • Explain the steps of instruments sterilization. 			
2	Pathology	Ischemic bowel disease	<ul style="list-style-type: none"> • Define hernia, adhesions, volvulus, and intussusception. • Describe the etiology, pathogenesis, morphology, and complications of small bowel ischemia. 	Interactive Lecture	1	MCQs
		Celiac Disease	<ul style="list-style-type: none"> • Define malabsorption syndrome • Classify diarrhea • Explain the etiology, morphology, clinical features and complications of Celiac disease 	Interactive Lecture	1	MCQs
		Bacterial enterocolitis	<ul style="list-style-type: none"> • Explain the etiology, pathogenesis, and clinical features of bacterial enterocolitis • Explain the etiology, pathogenesis, morphology and clinical features of Salmonellosis 	Interactive Lecture	1	MCQs
		Parasitic enterocolitis	<ul style="list-style-type: none"> • Classify the parasites invading the small gut. 	Interactive Lecture		MCQs
		Ent amoeba histolytica Giardia lamblia	<ul style="list-style-type: none"> • Discuss the life cycle, morphology, pathogenesis, clinical features, and complications of Amebiasis, Giardia sis 	Interactive Lecture	1	MCQs
		Hymenolepis nana	<ul style="list-style-type: none"> • Discuss the life cycle, morphology, 	Interactive Lecture		MCQs

	Diphyllobothrium latum	pathogenesis, clinical features, and complications of H. nana and Diphyllobothrium latum.			
	Schistosoma haematobium, mansoni and japonicum	<ul style="list-style-type: none"> • Enlist physical characteristics of Trematodes. • Classify Schistosoma based on organ systems affected. • Describe the routes of infection, pathophysiology life cycle, clinical features, and lab diagnosis of Schistosoma haematobium, mansoni and japonicum. • Compare the morphological characteristics of eggs of distinct species of Schistosoma. 	Interactive Lecture	1	MCQs
	Ancylostoma Duodenale, Enterobius vermicularis	<ul style="list-style-type: none"> • Discuss the life cycle, morphology, pathogenesis, clinical features, and complications of Ancylostoma duodenale & Enterobius vermicularis. 	SGD	2	MCQ
	Cystic Fibrosis	<ul style="list-style-type: none"> • Explain pathogenesis. • Describe the gross and microscopic features. • Identify and describe histological slides. 	SGD	2	MCQ
	Hepatocellular carcinoma,	<ul style="list-style-type: none"> • Describe the etiology, morphology , 	Skill lab	2	OSPE

			pathophysiology gross and microscopic features of Hepatocellular carcinoma.			
3	Pharmacology	Antidiarrheal agents (Opioids, Colloidal bismuth compounds, Kaolin & Pectin, etc.	<ul style="list-style-type: none"> Define and classify anti-diarrheal agents. Describe the mechanism of action of different anti-diarrheal agents. 	Interactive Lecture	1	MCQs
		Laxatives (Bulk forming, stool softeners, osmotic laxatives, stimulant laxatives, etc.	<ul style="list-style-type: none"> Define and classify laxative drugs. Describe the mechanism of action of different laxatives. Describe the pharmacological basis of Lactulose in the treatment of hepatic encephalopathy. 	Interactive Lecture	1	MCQs
		Anti-amoebic drugs	<ul style="list-style-type: none"> Classify anti-amoebic drugs. Describe mechanism of actions of Metronidazole & Diloxanide Furoate. Enlist indications and adverse effect of Metronidazole & Diloxanide Furoate. Describe the drug interaction of Metronidazole with Alcohol 	Interactive Lecture	1	MCQs
		Anthelmintics	<ul style="list-style-type: none"> Classify Anti-Helminthic drugs. Describe mechanism of action of Albendazole, Mebendazole, Pyrantel Pamoate, Ivermectin, 	Interactive Lecture	1	MCQs

			Praziquantel & Nicodamids <ul style="list-style-type: none"> Enumerate clinical use(s), adverse effects and contraindications of Albendazole, Mebendazole, Pyrantel Pamoate, Ivermectin, Praziquantel & Nicodamids.. 			
		Anti-Salmonellosis drugs	<ul style="list-style-type: none"> List the drugs used in enteric fever. Describe the clinical applications of fluoroquinolones and macrolides in the treatment of gastrointestinal disorders Describe the basis for selection of antibiotics in enteric fever based on age, pregnancy, and resistance. 	Interactive Lecture	1	MCQs
		Enteric Fever	<ul style="list-style-type: none"> Construct a prescription for a patient suffering from enteric fever. Write a prescription for a patient suffering from ascariasis. 	Skill lab	2	OSPE
4	Forensic medicine	Irritants: Metallic poisons	<ul style="list-style-type: none"> Enlist common metallic irritant poisons. Describe mechanism of action, signs and symptoms, management, postmortem appearance and M/L importance of copper and mercury poisoning 	Interactive Lecture	1	MCQs

			<ul style="list-style-type: none"> Describe signs and symptoms, management postmortem appearance and M/L importance of acute and chronic Arsenic poisoning 	Interactive lecture	1	MCQs
			<ul style="list-style-type: none"> Describe the signs and symptoms, management, postmortem appearance and M/L importance of acute and chronic Lead poisoning. 	Interactive lecture	1	MCQs
		Irritants: Nonmetallic poisons	<ul style="list-style-type: none"> Enlist commonly encountered Nonmetallic poisons. Describe mechanism of action, clinical features and management of phosphorus poisoning. Describe postmortem appearance and M/L importance of phosphorus poisoning. 	Interactive Lecture	1	MCQs

		<ul style="list-style-type: none"> Describe mechanism of action, clinical features, management postmortem appearance and M/L importance of aluminum phosphide poisoning 	Interactive lecture	1	MCQs
	Irritants: vegetable poisons	<ul style="list-style-type: none"> Describe characteristics, active principles, and clinical features of vegetable poisons. 	Interactive Lecture	1	MCQs
		<ul style="list-style-type: none"> Describe treatment, postmortem appearance, and M/L importance of vegetable poisons. 	Interactive lecture	1	MCQs
	Irritants: Animal poisons	<ul style="list-style-type: none"> Differentiate between poisonous and non-poisonous snakes. Classify venoms. Describe steps of management of snake bite. 	Interactive Lecture	1	MCQs

			<ul style="list-style-type: none"> Describe postmortem appearance and medico legal aspects of venomous snake bite. Describe sign and symptoms of scorpion bite. 	Interactive lecture	1	MCQs
		Irritants	<ul style="list-style-type: none"> Identify common irritant poisons(metallic, nonmetallic) 	Skill lab	2	OSPE
		Vegetable and Animal poisons	<ul style="list-style-type: none"> Identify common vegetable and animal poisons 	Skill lab	2	OSPE
5	Medicine	Intestinal tuberculosis	<ul style="list-style-type: none"> Discuss the etiology, pathogenesis, clinical features, investigations, treatment, and complications of intestinal tuberculosis. 	Interactive Lecture	1	MCQs
		Irritable bowel syndrome	<ul style="list-style-type: none"> Explain the risk factors, clinical features, and management of irritable bowel syndrome. 	Interactive Lecture	1	MCQs
		Ulcerative colitis	<ul style="list-style-type: none"> Explain the etiology, pathogenesis, clinical features, complications, and surgical management of UC 	Interactive Lecture	1	MCQs
	Family Medicine	Enteric Infections	<ul style="list-style-type: none"> Classify enteric infections Describe the etiology, clinical features, investigations, and management of Salmonellosis 	Interactive Lecture	1	MCQs

			<ul style="list-style-type: none"> • Describe the red flags in a patient with Salmonella infections for referral to specialty care • Explain the etiology, and management of acute gastroenteritis • Discuss the primary and secondary prevention of acute gastroenteritis in a primary healthcare setting • Describe the red flags in a patient with acute gastroenteritis for referral to specialty care 			
6	Surgery	Acute appendicitis	<ul style="list-style-type: none"> • Discuss etiology, risk factors, pathogenesis, clinical features, differential diagnosis, investigations, treatment, and complications of acute appendicitis. 	Interactive Lecture	1	MCQs
		Intestinal obstruction	<ul style="list-style-type: none"> • Discuss the etiology, clinical features, investigations, management, and complications of intestinal obstruction. 	Interactive Lecture	1	MCQs

7	Pediatric Medicine	Lactase deficiency Infectious diarrhea	<ul style="list-style-type: none"> • Explain the Etiology, pathogenesis, clinical features, investigations, and treatment of Acute viral hepatitis A infection. • Describe the clinical features, investigations, complications and management of Lactase deficiencies. • Describe the etiology, clinical features, investigations, complications, and management of infectious diarrhea in children. 	Interactive Lecture	1	MCQs
		Celiac disease	<ul style="list-style-type: none"> • Describe the etiology, clinical features, investigations complications, and management of Celiac disease. 	Interactive Lecture	1	MCQs

Theme-5

Bleeding Per Rectum

Sr. #	Subject	Topic	Learning objectives	Teaching Strategies	Duration (Hour)	Assessment
1	Pathology	Inflammatory bowel disease (IBD)	<ul style="list-style-type: none"> Classify IBD Discuss the risk factors, etiology, pathogenesis, clinical presentation of IBD Differentiate between Ulcerative colitis and Crohn's disease Discuss the investigations, management and complications of IBDs. . 	Interactive Lecture	1	MCQs
		Diverticular disease	<ul style="list-style-type: none"> Explain the etiology, pathogenesis, morphology, and clinical features of Colonic diverticulosis. 	Interactive Lecture		MCQs
		Colonic polyps	<ul style="list-style-type: none"> Classify colonic polyps. Describe the pathogenesis, morphology, clinical presentation, complications, and diagnosis of different types of colonic polyps 	Interactive Lecture	1	MCQs
		Hemorrhoids	<ul style="list-style-type: none"> Define and Explain the morphology, pathogenesis, and clinical features of Hemorrhoids 	Interactive Lecture		MCQs
		Colorectal carcinoma	<ul style="list-style-type: none"> Describe the adenoma carcinoma sequence Describe the pathogenesis, morphology, clinical 	Interactive Lecture	1	MCQs

			presentation, complications and staging of colorectal Carcinoma			
		Whipple disease	<ul style="list-style-type: none"> Describe etiology, Pathogenesis, gross and microscopic features of whipple disease. 	SGD	2	MCQ
	Pathology	colorectal carcinoma	<ul style="list-style-type: none"> Describe the etiology, morphology, pathophysiology gross and microscopic features of colorectal carcinoma 	Skill lab	2	
2	Pharmacology	Drugs used in the treatment of irritable bowel syndrome (IBS)	<ul style="list-style-type: none"> Enlist the drugs used in IBS Describe the mechanism of action of antispasmodics (anticholinergics), 5-HT receptor antagonist (Alosterone) in IBS. 	Interactive Lecture	1	MCQs
		Drugs used in the treatment of Inflammatory bowel disease	<ul style="list-style-type: none"> Classify the drugs used in IBD. Describe the mechanism of actions of amino salicylates, glucocorticoids, purine analogues, methotrexate, monoclonal antibodies, and anti-integrin in IBDs Explain the adverse effects of drugs used in the treatment of IBD. 	Interactive Lecture	1	MCQs
3	Surgery	Ulcerative colitis	<ul style="list-style-type: none"> Explain the etiology, pathogenesis, clinical features, complications, and surgical management of Ulcerative colitis. 	Interactive Lecture	1	MCQs
		Crohn's disease	<ul style="list-style-type: none"> Explain the etiology, pathogenesis, clinical features, complications, and surgical management 	Interactive Lecture	1	MCQs

			of Crohn`s disease.			
		Diverticular disease	<ul style="list-style-type: none"> Explain the etiology, pathogenesis, clinical features, complications and management of Diverticulosis and Diverticulitis. 	Interactive Lecture	1	MCQs
		Anal diseases: <ul style="list-style-type: none"> fistula fissure hemorrhoids 	<ul style="list-style-type: none"> Define perianal fistula and anal fissure. Explain the risk factors and management of anal fistula and anal fissures. Explain the risk factors and management of hemorrhoids 	Interactive Lecture	1	MCQs
		Colorectal cancers	<ul style="list-style-type: none"> Classify colorectal cancers. Describe the staging of colorectal cancers. Explain the pathogenesis, risk factors and clinical features of colorectal cancers. Explain the complications, management, and prognosis of colorectal cancers. 	Interactive Lecture	1	MCQs
		Ischemic Colitis	<ul style="list-style-type: none"> Explain the etiology, pathogenesis, clinical features, complications, and management of Ischemic colitis 	Interactive Lecture	1	MCQs

Learning Resources

Sr. #	Subjects	Resources
1.	Anatomy	A. Gross Anatomy 1. K.L. Moore, Clinically Oriented Anatomy B. Embryology 1. Keith L. Moore. The Developing Human 2. Langman's Medical Embryology
2.	Community Medicine	1. Community Medicine by 3Parikh 2. Community Medicine by M Ilyas 3. Basic Statistics for the Health Sciences by Jan W Kuzma
3.	Pathology	1. Robbins & Cotran, Pathologic Basis of Disease, 9 th edition. Rapid Review Pathology, 4 th edition by Edward F. Goljan MD
4.	Pediatrics	Basis of Pediatrics (8th Edition Pervez Akbar)

5.	Pharmacology	1. Lippincott Illustrated Pharmacology 2. Basic and Clinical Pharmacology by Katzung
6	Forensic medicine	1. Nasib R. Awan. Principles and practice of Forensic Medicine 1st ed. 2002. 2. Parikh, C.K. Parikh's Textbook of Medical Jurisprudence, Forensic Medicine and Toxicology. 7th ed.2005.
7	medicine	Davidson's principles and practice of medicine 24 edition Kumar and clark clinical medicine 11 th Edition.
8	Surgery	Bailey & Love Short Practice of Surgery.

Paper-K (GIT and Hepatobiliary II)

Subject	Total MCQs
Pharmacology	25
Pathology	33
Forensic Medicine	16
Community Medicine	18
Medicine	13
Surgery	12
Pediatrics	03
Total	120

Table-2 OSPE

OSPE/OSCE			
Subject	Viva stations	OSPE/OSCE stations	Total
Pharmacology	2	2	4
Pathology	2	2	4
Forensic medicine	2	2	4
Community medicine	2	4	6
Surgery Allied (neurosurgery/urology)	x	1	1
paediatric medicine	x	1	1
Total	8	12	20

Internal Assessment Pattern for Integrated Modular Curriculum

Theory		
Sr. no	Criteria	Numbers
1.	Attendance ($>90\%=3.80-89=2.70-79\%=1, <70\%=0$)	3
2.	Creative work/assignments/task	2
3.	Continue assessment throughout block (Formative assessment, viva voce, departmental activities)	2
4.	Block examination theory	4
5.	Send Up Examination	3
Total		14
OSPE		
Sr. No	Criteria	Numbers
1.	Attendance ($>90\%=3.80-89=2.70-79\%=1, <70\%=0$)	3
2.	Log book/practical copy	3
3.	Discipline, responsibility and team work	1
4.	Block examination OSPE	3
Total		10

