Paper II: Technical Subject

1. Basic Sciences
   1.1 Embryology of the gut, liver, pancreas & congenital anomalies
   1.2 Immune system of the GIT and its importance in various G.I. disorder
   1.3 Molecular biology in relation to GIT
   1.4 Genetic diseases of GIT & liver
   1.5 Gene Therapy
   1.6 GI Tumors & Tumor biology
   1.7 Gastrointestinal hormones in health & diseases
   1.8 GI related microbiology, clinical chemistry & haematology

2. Problems related to GIT, Hepatobiliary and Pancreatic system
   2.1 Upper & lower G.I. bleeding
   2.2 Gastrointestinal tuberculosis
   2.3 HIV and the GIT, hepatobiliary and pancreatic system
   2.4 GIT & liver in systemic diseases
   2.5 Cutaneous manifestation of G.I. disease
   2.6 Gastrointestinal side effects of drugs especially NSAIDS
   2.7 Gastro-intestinal symptoms physiology and interpretation:
      2.7.1 Nausea, vomiting
      2.7.2 Pain abdomen
      2.7.3 Diarrhoea, constipation
      2.7.4 Dysphagia
      2.7.5 Jaundice

3. Nutrition
   3.1 Normal nutritional requirement
   3.2 Nutritional assessment and management
   3.3 Protein energy malnutrition
   3.4 Manifestations and management of nutritional deficiency & excess
   3.5 Nutritional support in various G.I.disorders (malabsorption, acute & chronic pancreatitis, IBD)

4. Esophagus
   4.1 Basic anatomy, histology & physiology
   4.2 Congenital anomalies
   4.3 Motor physiology and motor disorder of the esophagus, POEM (Per Oral Endoscopic Myotomy)
   4.4 GERD & its complication
   4.5 Esophageal disorders caused by infection, systemic illness, medication Radiation & Trauma
   4.6 Esophageal tumors

5. Stomach
   5.1 Anatomy, histology and functions
   5.2 Physiology of acid & bicarbonate secretion in health & diseases
   5.3 Defense mechanism against acid & pepsin
   5.4 Gastroduodenal motor function in health & diseases
   5.5 Gastritis (specific & nonspecific)
5.6 H pylori  
5.7 Peptic ulcer & its complications, their management  
5.8 Stress & stomach  
5.9 Gastric hypersecretory states including Zollinger Ellison Syndrome (ZES)  
5.10 Surgery for peptic ulcer  
5.11 Post gastrectomy complication  
5.12 Tumors of stomach  
5.13 Bezoars  
5.14 Diverticuli & hernia of the stomach

6. Small intestine  
6.1 Anatomy, blood supply, histology  
6.2 Motility of small intestine  
6.3 Congenital anomalies  
6.4 Normal absorption of the nutrients  
6.5 Intestinal electrolyte absorption and secretion  
6.6 Malabsorption syndrome  
6.6.1 Pathophysiology, manifestations & approach  
6.7 Celiac sprue  
6.8 Infection related diseases  
6.8.1 Intestinal microflora in health & diseases  
6.8.2 Tropical sprue  
6.8.3 Infectious diarrhoea & food poisoning  
6.8.4 Parasitic diseases  
6.9 Small intestinal ulcers  
6.10 Short bowel syndrome  
6.11 Eosinophilic gastroenteritis  
6.12 Food allergies  
6.13 Intestinal obstruction & pseudo-obstruction  
6.15 G.I. lymphomas  
6.16 Small intestinal tumors  
6.17 Small intestinal transplantation

7. Colon  
7.1 Basic anatomy, blood supply, histology & functions  
7.2 Motility the colon & disorders of motility  
7.3 Congenital anomalies  
7.4 Megacolon  
7.5 Constipation  
7.6 Colonic pseudo-obstruction.  
7.7 Fecal incontinence  
7.8 Antibiotic associated diarrhoea  
7.9 Inflammatory bowel disease  
7.9.1 Ulcerative colitis  
7.9.2 Crohn's disease  
7.9.3 Indeterminate colitis  
7.9.4 Ileostomies & its management  
7.10 Diverticular disease of colon.
7.11 Radiation entero-colitis.
7.12 Colonic polyps & polyposis syndrome
7.13 Malignant disease of colon.
7.14 Hemorrhoids
7.15 Disease of the anorectum
7.16 Other inflammatory diseases of the colon including
    7.16.1 Solitary rectal ulcer syndrome
    7.16.2 Diversion colitis
    7.16.3 Collagenous & microscopic colitis
    7.16.4 Non specific ulceration of the colon
    7.16.5 Pneumatoses cystoids intestinalis

8. **Pancreas**
   8.1 Anatomy, Physiology, blood supply developmental anomalies
   8.2 Physiology of the pancreatic secretion
   8.3 Pancreatic function test
   8.4 Acute, recurrent & chronic pancreatitis
   8.5 Pancreatic tumor (Exocrine & endocrine)
   8.6 Cystic fibrosis & other childhood disorder of the pancreas
   8.7 Hereditary pancreatitis
   8.8 Pancreatic transplantation

9. **Biliary Tree**
   9.1 Anatomy, Physiology
   9.2 Physiology of bile formation & excretion
   9.3 Enterohepatic circulation
   9.4 Bilirubin metabolism
   9.5 Approach to the patient with jaundice
   9.6 Gall stone, its complications & management
   9.7 Acute calculous cholecystitis
   9.8 Miscellaneous disorders of the gall bladder
   9.9 Acute cholangitis
   9.10 Benign biliary structures
   9.11 Benign & malignant neoplasm of the biliary system
   9.12 Endoscopic management of biliary obstruction
   9.13 Molilility & dysmolility of the biliary system & spincter of oddi dysfunction
   9.14 Congenital diseases of the biliary system
   9.15 Sclerosing cholangitis & recurrent pyogenic cholangitis

10. **Liver**
    10.1 Anatomy, Physiology, blood supply
    10.2 Function of liver
    10.3 Microcirculation of liver
    10.4 Liver function test
    10.5 Portal hypertension
        10.5.1 Extrahepatic portosplenic vein obstruction
        10.5.2 Non cirrhotic portal fibrosis
        10.5.3 Cirrhosis
    10.6 Acute viral hepatitis
    10.7 Chronic hepatitis
10.8 Fulminant hepatic failure
10.9 Cirrhosis of liver with the emphasis on the spectrum of alcohol related disorder
10.10 Ascites
10.11 Hepatorenal syndrome
10.12 Autoimmune liver disease
10.13 Metabolic liver disease
10.14 Primary biliary cirrhosis
10.15 Hepatic venous outflow tract obstruction
10.16 Fibrocystic disease of the liver
10.17 Wilson's disease
10.18 Hemochromatosis
10.19 Liver abscess & Bacterial, parasitic, Fungal and granulomatous liver disease.
10.20 Liver in porphyria, pregnancy & Congestive heart failure
10.21 Hepatic tumors
10.22 Liver biopsy
10.23 Liver transplantation & artificial liver support

11. Peritoneum and Retroperitoneum:
11.1 Chronic peritonitis
11.2 Malignant ascites
11.3 Diseases of retroperitoneum

12. Vascular diseases of the G.I. tract

13. G.I. Radiology
13.1 Reading and interpreting the common x-ray film's including
13.1.1 X-ray films of the abdomen
13.1.2 Barium studies, ultrasound of abdomen, EUS
13.1.3 CT scan including CT angiography / Portography, MRCP, Portography, Percutaneous Cholangiography (PTC) & PTCD, TIPS, BRTO (Balloon Occluded Transvenous Obliteration), Angiographic Management of difficult GI bleeding, MR scan, angiography and ERCP films

14. G.I. Pathology
14.1 Reading and interpreting histological slides of common gastrointestinal and liver diseases

15. Adequate understanding and training of procedures including upper G.I. endoscopy and lower G.I. procedures

16. Extracorporeal Shockwave Lithotripsy, Capsule Endoscopy, Chromoendoscopy, Esophageal Manometry, Enteroscopy and pH study

17. Diagnostic and therapeutic of ERCP and EUS

18. Review of recent Gastroenterology Journals

19. Updating recent advances in gastroenterology and hepatology

20. APC (Argon Plasma Coagulation), recent advances in therapeutic endoscopy

---