

**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.
- 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

## लोक सेवा आयोग

नेपाल स्वास्थ्य सेवा, मेडिसिन समूह, ग्याष्ट्रोइन्टेरोलोजी उपसमूह, नवौं (९) तहको खुला र आन्तरिक  
प्रतियोगितात्मक लिखित परीक्षाको पाठ्यक्रम

- 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
- 6.14 Management of diarrhoea.
- 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 enterocolitis.
- 7.12 Colonic polyps & polyposis syndrome
- 7.13 Malignant disease of colon.
- 7.14 Hemorrhoids
- 7.15 Disease of the anorectum

## लोक सेवा आयोग

नेपाल स्वास्थ्य सेवा, मेडिसिन समूह, ग्याष्ट्रोइन्टेरोलोजी उपसमूह, नवौं (९) तहको खुला र आन्तरिक  
प्रतियोगितात्मक लिखित परीक्षाको पाठ्यक्रम

- 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 Motility & dysmotility of the biliary system & sphincter 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

लोक सेवा आयोग

नेपाल स्वास्थ्य सेवा, मेडिसिन समूह, ग्याष्ट्रोइन्टेरोलोजी उपसमूह, नवौं (९) तहको खुला र आन्तरिक  
प्रतियोगितात्मक लिखित परीक्षाको पाठ्यक्रम

- 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 (Ballon 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. Orientation of EUS, ERCP Capsule Endoscopy, Chromoendoscopy, Esophageal Manometry, Enteroscopy and pH study**

-----