

# **DETAILED SYLLABS FOR THE POST OF PAEDIATRIC GASTROENTEROLOGY IN MEDICAL EDUCATION**

**- CATEGORY NO.874/2025**

**(Total 100 Marks)**

## **SECTION I: BASIC SCIENCES – 10 marks**

### **A. Developmental Anatomy**

- Embryology of esophagus, stomach, small intestine, colon
- Hepatobiliary embryology
- Pancreatic development
- Congenital malformations of GI tract
- Vascular anatomy relevant to portal hypertension
- Surgical anatomy relevant to endoscopy and interventions

### **B. Physiology**

- Gastrointestinal motility physiology
- Mechanisms of digestion and absorption
- Electrolyte transport mechanisms
- Enterohepatic circulation
- Bile acid metabolism
- Pancreatic exocrine and endocrine physiology
- Gut–brain axis physiology

### **C. Immunology**

- Gut-associated lymphoid tissue (GALT)
- Mucosal immunity
- Food allergy mechanisms
- Autoimmune liver disease mechanisms
- Immune dysregulation syndromes

### **D. Molecular and Genetic Basis of diseases**

- Monogenic inflammatory bowel disease
- Genetic cholestatic disorders (PFIC spectrum)

- Wilson disease genetics
- Inherited metabolic liver diseases
- Genetic pancreatitis
- Role of genomics in disease prognosis and therapy

## **SECTION II: LUMINAL GASTROINTESTINAL DISORDERS** (10 marks)

### **A. Diarrheal Disorders**

- Acute infectious diarrhea (bacterial, viral, parasitic)
- Persistent diarrhea
- Chronic diarrhea evaluation algorithm
- Cow's milk protein allergy (CMPA)
- Celiac disease
- Inflammatory bowel disease
- Malabsorption syndromes
- Protein-losing enteropathy

### **B. Upper GI Disorders**

- Gastroesophageal reflux disease (GERD)
- Eosinophilic esophagitis
- Helicobacter pylori infection
- Peptic ulcer disease
- Achalasia
- Gastroparesis
- Cyclic vomiting syndrome

### **C. Functional Gastrointestinal Disorders**

- Irritable bowel syndrome
- Functional abdominal pain
- Rome criteria application
- Brain-gut interaction
- Psychological aspects of GI disorders

### **D. Constipation and Defecation Disorders**

- Functional constipation

- Hirschsprung disease
- Pelvic floor dyssynergia
- Encopresis

## **E. Gastrointestinal Bleeding**

- Variceal bleeding
- Non-variceal bleeding
- Meckel's diverticulum
- Polyps and vascular malformations

## **SECTION III: PEDIATRIC HEPATOLOGY (15marks)**

### **A. Cholestatic Liver disease**

- Approach to infant with cholestasis
- Medical and nutritional management of cholestasis in infants and children
- Neonatal hepatitis and congenital infections
- Biliary atresia
- Progressive familial intrahepatic cholestasis (PFIC)
- Alagille syndrome
- Inborn errors of metabolism
- Diseases of the gallbladder in infancy, childhood and adolescence

### **B. Acute Liver Failure**

- Etiology including infections, toxins, metabolic causes
- Management protocols
- Complications (cerebral edema, coagulopathy)
- Liver transplant criteria

### **C. Chronic Liver Disease**

- Cirrhosis
- Portal hypertension
- Ascites
- Spontaneous bacterial peritonitis
- Hepatorenal syndrome

## **D. Hepatitis**

- Viral hepatitis -Interpretation of serology/Antiviral therapy principles/Prevention strategies and vaccination
- Drug Induced Liver Disease
- Autoimmune hepatitis
- Primary sclerosing cholangitis
- Overlap syndromes

## **E. Metabolic Liver Disorders**

- Wilson disease
- Glycogen storage disorders
- Tyrosinemia
- Galactosemia
- Mitochondrial hepatopathy
- Iron storage Disorders
- Heme biosynthesis and porphyrias
- Lysosomal storage diseases

## **F. Liver Tumours**

- Hepatoblastoma
- Hepatocellular carcinoma
- Benign liver lesions

## **G.Laboratory assessment of liver function and injury in children**

## **SECTION IV :PEDIATRIC LIVER TRANSPLANTATION(10 marks)**

- Indications
- Pre-transplant evaluation
- Post-transplant care
- Immunosuppression
- Complications

## **SECTION V: PANCREATIC DISORDERS( 5 marks)**

- Acute pancreatitis
- Chronic pancreatitis
- Genetic pancreatitis
- Pancreatic insufficiency
- Cystic fibrosis
- Pancreatic trauma

## **SECTION VI: NUTRITION(10 marks)**

### **A. Growth and Development**

- Anthropometric assessment
- WHO growth charts
- Growth velocity calculation
- Pubertal growth

### **B. Malnutrition**

- Severe acute malnutrition (SAM)
- Moderate acute malnutrition (MAM)
- Micronutrient deficiencies

### **C. Enteral Nutrition**

- Tube feeding techniques
- Elemental and polymeric diets
- Exclusive enteral nutrition in IBD

### **D. Parenteral Nutrition**

- Indications
- Formulation
- Monitoring
- Complications

## **E. Obesity and Metabolic Syndrome**

- Evaluation
- Management strategies
- NAFLD

## **SECTION VII: NEONATAL AND SURGICAL GI DISORDERS(10 marks)**

- Tracheoesophageal fistula
- Intestinal atresia
- Malrotation
- Necrotising enterocolitis
- Short bowel syndrome
- Abdominal wall defects

## **SECTION VIII: DIAGNOSTICS PROCEDURES(10 marks)**

- Upper GI endoscopy
- Colonoscopy
- Variceal band ligation
- Polypectomy
- Liver biopsy
- Paracentesis
- Capsule endoscopy
- pH monitoring
- Manometry
- Imaging and its interpretation
- Basic histopathology interpretation

## **SECTION IX: EMERGENCY MANAGEMENT(10 marks)**

- Massive GI bleed
- Acute liver failure
- Severe dehydration
- Acute pancreatitis
- Toxic megacolon

**SECTION X : RECENT ADVANCES IN PAEDIATRIC  
GASTROENTEROLOGY AND HEPATOLOGY(10 marks)**

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**NOTE: - It may be noted that apart from the topics detailed above, questions from other topics prescribed for the educational qualification of the post may also appear in the question paper. There is no undertaking that all the topics above may be covered in the question paper.**