RAYAT SHIKSHAN SANSTHA'S

MAHATMA PHULE MAHAVIDYALAYA

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Video Lecture

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Topic- Diseases of Gastrointestinal System

Class – T. Y. B. Sc.

Diseases of Gastrointestinal System

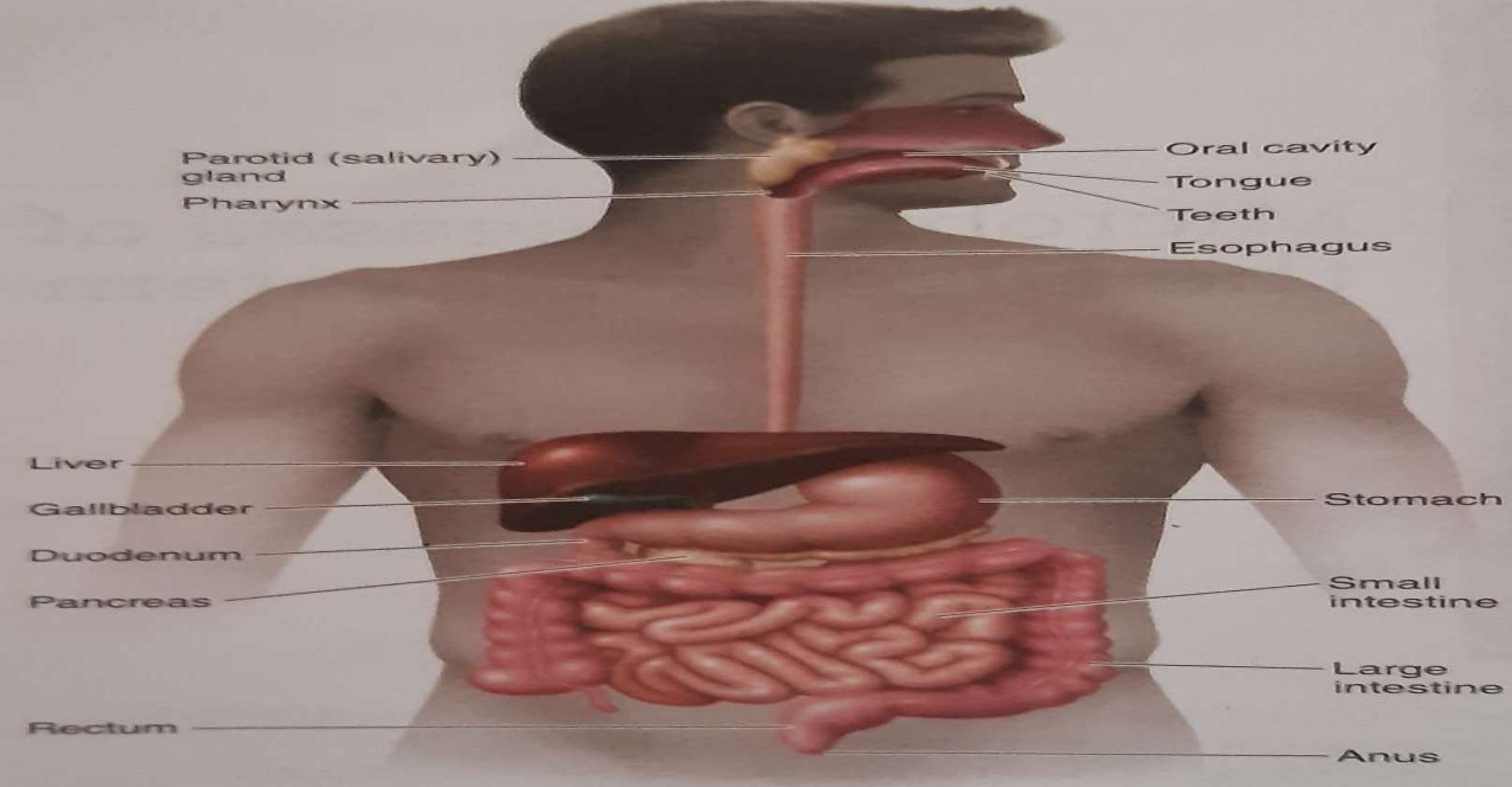
Prof. Kashid S. P.

I) Introduction:-

- Diseases of the digestive system are the most common illness and usually result from ingesting food or water contaminated with pathogenic microorganisms or their toxins in food and water.
- Transmitted by **fecal oral cycle**.
- The fecal oral cycle of transmission can be broken by the proper sanitization, disposal of sewage, the disinfection of drinking water and proper preparation and storage of the food.

II) Structure and function of the digestive system :-

- The gastrointestinal (GI) tract or alimentary canal consists of the mouth, pharynx, esophagus, stomach, small intestine and large intestine.
- In the GI tract , with mechanical and chemical help from the accessory structures large food molecules are broken down into smaller molecules. These small molecules are transported by blood and lymph to body cells.
- Feces , the solid resulting from digestion are eliminated from the body.



Precision Graphics

Figure 1 The human digestive system.

III) Defence mechanism of digestive system

- Immune system located in the digestive tract is present in the small intestine.
- The loosely arranged lymphoid tissue and structures like lymph nodes and Payer's patches are collectively known as gut associated lymphoid tissues (GALT).
- **GALT** is the Part of the immune system.
- **High acid** content of the stomach.
- **Paneth cells** of Small intestine:- phagocytize bacteria, produces lysozyme and defencins.

IV) Bacterial diseases: of the mouth

1.Dental caries (**tooth decay):-** Causative agent:- *Streptococcus mutants*

- Symptoms:- Discoloration of tooth enamel, hole in tooth ultimately tooth decay.

2. Periodontal disease:-

- Gingivitis:- Inflammation of the gums. Caused by *Streptococcus.*
- Periodontitis :- It is chronic gum disease can cause bone destruction and tooth loss. It is due to *Porphyromonas spp.*

3. Acute necrotizing ulcerative gingivitis :-

- caused by *Prevotella intermedia.*
- Symptoms:- pain during chewing, halitosis.

V) Types of bacterial toxins :-

Bacteria are able to exert pathogenic effect on the digestive system of the host due to their ability to produce exotoxin, endotoxin and enterotoxin.

- **Exotoxin**:- a protein toxin released from mostly the gram positive bacteria.
- **Endotoxin**:- Part of the outer portion of the cell wall (lipid A) of most gram negative bacteria.
- **Enterotoxin**:- Enterotoxins are the exotoxin that acts on the intestinal wall.

VI) Types of bacterial GI tract diseases:-

Bacterial diseases of the digestive tract are of two types.

- **Infection** :- Caused by the growth of pathogenic bacteria in the intestine. Incubation period is from 12 hours to 2 weeks.

- **Intoxication** :- results from ingesting preformed bacterial toxin.

Both infection and intoxication can cause the diarrhea and dysentery.

THANK YOU