**THE DIGESTIVE SYSTEM**

**-the digestive system divided into 2 parts:**

 **1) Alimentary canal**

 **2) Accessory digestive organ**

**\_ ORGANS OF ALIMANTERY CANAL …**

 **1) MOUTH:**

 **-is a mucous membrane lined cavity**

 **-the lips protect its anterior opening ,the cheeks form its lateral walls , the hard palate form anterior roof , and soft palate form its posterior roof**

 **-it contains: teeth, tongue, palatine tonsil and lingual tonsils they are part of the body defense system**

 **-as food enters mouth, its mixed with saliva and masticated (chewed)**

 **-the tongue mix food with saliva during chewing and initiates swallowing , also the tongue allows us to enjoy the food as we eat it due to presence of taste receptors found on the tongue surface**

**2) THE PHARYNX:**

 **- is a muscular tube, divides into oropharynx and laryngopharynx**

**-it provides a passageway for food and air**

**3) ESOPHAGUSE:**

 **-it is a muscular tube extends from pharynx to stomach**

**- It conduct food to stomach**

**-the wall of alimentary canal from esophagus to large intestine consists four basic layers:**

 **1) The mucosa… consists of (lamina epithelial <surface>, lamina propia , muscular layer)**

 **2) The submucosa**

 **3) The muscularis externa (inner circular and outer longitudinal)**

 **4) The serosa... (Visceral peritoneum < the outer most layers>, parietal peritoneum < lined abdominopelvic cavity >)**

**4) STOMACH:**

 **-it is a C-shaped organ located on the left side of the abdomen**

 **-its regions are (cardiac region, fundus, pyloric)**

 **- It has two surfaces (convex lateral <greater curvature>,concavemedial < lescer curvature > )**

 **-the stomach act as a temporary (storage tank) for food as well as site for food breakdown**

 **- Food enters it through the cardio-esophageal sphincter and leaves it to inter small intestine through pyloric sphincter**

 **-the stomach has a third oblique layer of muscle of muscle in its wall that allows it to perform mixing or churning movement**

 **-the mucosa produce a protctive layer of bicorbanate rich alkaline mucous,that protect the stomach wall from being damaged by acid and digestive enzymes**

**- Also stomach contain gastric glands, that secret gastric juice**

 **\* Some cells produce intrinsic factor, needed for the absorption of vitamin (B12) from small intestine**

 **\*the chief cell produce pepsinogen (protein \_digesting enzyme)**

 **\*the parietal cell produce HCL (make the content of stomach acidic and activate pepsinogen into pepsin)**

 **\*the entero-endocrine cell produce local hormone (gastrin) which is important to digestive activities of stomach**

 **-most of the digestive activity occure in pyloric region**

 **-the food resemble cream called (chyme ) after processed in stomach and enter small intestine through pyloric sphincter**

**5) SMALL INTESTINE:**

 **-it is a tube like and suspended from the posterior body wall by the mesentry**

 **-it divided into (duodenum, jejunum, and ileum)**

**- Chemical digestion of foods begins in earnest in the small intestine**

**-in duodenum, some enzymes are produced by intestinal cells**

**-pancreatic juice and bile enter the duodenum through the sphincter at the distal end of the bile duct**

**- Nearly all food absorption occurs in small intestine because its wall has 3 structures, microvilli (brushbordes)**

**On mucosal cell ,villi and circular folds all increase surface area**

**6) LARGE INTESTINE:**

 **-is much larger in diameter than the small intestine**

**-its divisions are ( cecum, appendix, ascending ,transverse and descending colon , rectum and anal canal )**

**- Its major function to dry out the indigestible food residues by absorpting water and to eliminate these residues from body as feces**

**- Large intestine has no villi but contain large number of goblet cells in mucosa that produce alkaline mucous**

**-the mucus acts as lubricant to ease the passage of feces to the end of digestive tract**

**ACCESSORY DIGESTIVE ORGAN**

 **Include: teeth, salivary glands, pancreas, live and gall bladder**

**\_SALIVARY GLANDS:**

 **-3 pairs –parotid, submandibular and sublingual**

**-they secrete saliva into the oral cavity**

**-saliva is mixture of mucus and serous fluid**

**-the mucus moistens and helps to bind food together into a mass called a bolus which makes chewing and swallowing easier**

**-the serous part contain anaylase enzyme which digest starch**

**-also saliva contains lysozyme and antibodies that inhibit bacteria**

**-saliva dissolves food chemicals so they can be tested**

**\_PANCREAS:**

 **-is a soft gland lying in the mesentry between stomach and small intestine**

**-the pancreas produces enzymes that breakdown all categories of digestible food, in alkaline fluid, that neutralize the acidic chyme coming from stomach also it produce insulin and glucagon hormone**

**\_LIVER AND GALLBLADDER:**

 **-Liver is afour –lobed organ overlying the stomach**

**-its digestive function is to produce bile, which it ducts into the duodenum**

**-bile is watery soln containing bile salts and bile pigments**

**-bile dose not contain enzymes, but its bile salts emulsify fats by breaking large globules into smaller ones , this providing more surface area for**

**Fat-digesting enzymes to work on**

**-the gallbladder is a muscular sac that stores and concentrate bile when fat digestion is not occurring , the continuously made bile backs up the cystic ducts and enters the gallbladder**