

Anatomy and physiology: practice test assignment



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A and P II Chapter 24 practice test 1. Which of the following digestive regions is responsible for the propulsion of materials into the esophagus? Answer: pharynx 2. The active process that occurs when materials enter the digestive tract via the mouth is: Answer: ingestion 3. Sympathetic stimulation of the muscularis externa promotes: Answer: muscular inhibition and relaxation 4. Which of the following statements about peritonitis is false? Answer: It leads to inflammation of the digestive mucosa. 5.

Which of the following major layers of the digestive tract is described as a layer of dense irregular connective tissue filled with blood vessels and the plexus of Meissner? Answer: submucosa 6. Strong contractions of the ascending and transverse colon moving the contents of the colon toward the sigmoid colon are called: Answer: mass peristalsis 7. Which of the following salivary glands produce salivary amylase, a carbohydrate-digesting enzyme? Answer: 1. parotid glands 2. sublingual glands 8. Which of the following is not a function of saliva?

Answer: initial digestion of proteins 9. The three pairs of salivary glands that secrete into the oral cavity include: Answer: parotid, sublingual, and submandibular 10. Crushing, mashing, and grinding of food are best accomplished by the action of the: Answer: bicuspid 11. The three phases of deglutition are: Answer: buccal, pharyngeal, and esophageal 12. On its way to the esophagus, food normally passes through the: Answer: oropharynx and laryngopharynx 13. The pharyngeal muscles that push the food bolus toward the esophagus are the: Answer: pharyngeal constrictor muscles 14.

Solid food and liquids are carried from the pharyngeal region to the stomach by the: Answer: laryngopharynx 15. The inferior end of the esophagus normally remains in a state of active contraction that: Answer: prevents the backflow of materials from the stomach into the esophagus 16. The contractions of the stomach are inhibited by: Answer: secretin 17. Which of the following is secreted by the stomach? Answer: gastrin 18. The division of the small intestine that contains the Brunner glands is the: Answer: duodenum 19. An enzyme not found in pancreatic juice is: Answer: disaccharidase 20.

Bile entering the gallbladder must pass through the: Answer: cystic duct 21. The hormone that promotes the flow of bile and of pancreatic juice containing enzymes is: Answer: cholecystokinin 22. The longitudinal ribbon of smooth muscle visible on the outer surfaces of the colon just beneath the serosa are the: Answer: taenia coli 23. The vermiform appendix is dominated by what type of lymphatic structures in the mucosa and submucosa? Answer: lymphoid nodules 24. The vitamins liberated by bacterial action and absorbed in the large intestine are: Answer: biotin, pantothenic acid, and vitamin K 25.

Which of the following organic nutrients are not absorbed by capillaries in the intestinal villi? Answer: lipids 26. The nutrients that can be absorbed without preliminary processing but may involve special transport mechanisms are: Answer: water, electrolytes, and vitamins 27. The enzyme lactase, which digests lactose to glucose and galactose, is synthesized by: Answer: the stomach 28. Hydrochloric acid in the stomach functions primarily to: Answer: facilitate lipid digestion 29. The intestinal epithelium

absorbs monosaccharides by: Answer: facilitated diffusion and cotransport mechanisms 30.

When two fluids are separated by a selectively permeable membrane, water tends to flow into the solution that has the: Answer: higher concentration of solutes 31. An error in swallowing could most likely be detected by the: Answer: larynx 32. Many visceral smooth muscle networks show rhythmic cycles of activity in the absence of neural stimulation due to the presence of: Answer: pacemaker cells that spontaneously depolarize and trigger contraction of entire muscular sheets 33. The reason a completely dry food bolus cannot be swallowed is: Answer: friction with the walls of the esophagus makes peristalsis ineffective 34.

Gastric glands, which produce most of the gastric juice, are abundant in which of the following regions of the stomach? Answer: A and B. a. fundus. b. body 35. The two factors that play an important part in the movement of chyme from the stomach to the small intestine are: Answer: stomach distension and gastrin release 36. The plicae of the intestinal mucosa, which bears the intestinal villi, are structural features that provide for: Answer: increased total surface area for absorption 37. The enteroendocrine cells of the intestinal crypts are responsible for producing the intestinal hormones: Answer: cholecystikinin and secretin 8. Villikinin, motilin, and somatostatin are produced in the: Answer: small intestine 39. The primary function(s) of the gastrointestinal juice is (are) to: Answer: all of the above. a. moisten the chyme. b. assist in buffering acids. c. dissolve digestive enzymes and products of digestion 40. An immediate increase in the rates of glandular secretion and peristaltic activity in all segments of the small intestine are a <https://assignbuster.com/anatomy-and-physiology-practice-test-assignment/>

result of the: Answer: gastroenteric reflex 41. The primary effect of secretin is to cause a(n): Answer: increase in secretion of water and buffers by the pancreas and the liver 42.

The peptide hormone that causes the release of insulin from the pancreatic islets is: Answer: GIP 43. How does the mucosa of the rectum compare with that of the colon and cecum? Answer: The colon and cecum are lined with a simple columnar epithelium for absorption, whereas the rectum is lined with stratified squamous epithelium because it is next to an opening to the exterior. 44. The muscular sphincter that guards the entrance between the ileum and the cecum is the: Answer: ileocecal valve 45. Which produces the least number of contractions to force food through the digestive tract on a daily basis?

Answer: large intestine 46. The average composition of the fecal waste material is: Answer: 75% water; 5% bacteria; 20% indigestible materials, inorganic matter, and epithelial remains 47. The hormone gastrin: Answer: increases the activity of parietal and chief cells 48. The two positive feedback loops involved in the defecation reflex are: Answer: stretch receptors in rectal walls, and the sacral parasympathetic system 49. The ' doorway to the liver' (porta hepatis) is a complex that includes the: Answer: bile duct, hepatic portal vein, and hepatic artery 50.

Triglycerides coated with proteins create a complex known as a: Answer: chylomicron End of chapter Questions 1. The enzymatic breakdown of large molecules into their basic building blocks is called: ??? (d)chemical digestion. 2. The outer layer of the digestive tract is known as the: ???(a)serosa. 3.

Double sheets of peritoneum that provide support and stability for the organs of the peritoneal cavity are the: ??? (d) mesenteries. 4. A branch of the portal vein, hepatic artery, and tributary of the bile duct form ??? (c) a portal area. 5. Label the digestive system structures in the following figure. a) oral cavity, teeth, tongue; (b) liver; (c) gallbladder; (d) pancreas; (e) large intestine; (f) salivary glands; (g) pharynx; (h) esophagus; (i) stomach; (j) small intestine; (k) anus 6. Label the four layers of the digestive tract in the following figure. (a) mucosa; (b) submucosa; (c) muscularis externa; (d) serosa 7. Most of the digestive tract is lined by _____ epithelium. e. simple columnar. 8. Regional movements that occur in the small intestine and function to churn and fragment the digestive material are called: (a.) segmentation. 9.

Bile release from the gallbladder into the duodenum occurs only under the stimulation of: (a.) cholecystokinin. 10. Label the three segments of the small intestine in the following figure. (a) duodenum; (b) jejunum; (c) ileum. 11. The major function(s) of the large intestine is (are): (a.) reabsorption of water and compaction of feces. (b.) absorption of vitamins liberated by bacterial action. (c.) storage of fecal material prior to defecation. (d.) a, b, and c. 12. Vitamins generated by bacteria in the colon are: (c) vitamin K, biotin, and pantothenic acid. 13.

The final enzymatic steps in the digestive process are accomplished by: (a.) brush border enzymes of the microvilli. 14. What are the six steps of digestion? Digestion involves (1.) ingestion; (2.) mechanical processing; (3.) secretion; (4.) digestion (conversion into a form usable by cells); (5.) absorption; and (6.) excretion. 15. Name and describe the layers of the

digestive tract, proceeding from the innermost layer to the outermost layer.

Layers of the digestive tract are (1.) the mucosa: the epithelial layer that performs chemical digestion and absorption of nutrients; (2. the submucosa: the connective tissue layer containing lymphatic and blood vessels and the submucosal nerve plexus; (3.) the muscularis externa: the smooth muscle layer containing the myenteric nerve plexus; and (4.) the serosa: the outermost layer, epithelium and connective tissue that forms the visceral peritoneum (or connective tissue that forms the adventitia). 16. What three basic mechanisms regulate the activities of the digestive tract? Activities of the digestive tract are regulated by neural, hormonal, and local mechanisms. 17.

What are the three phases of swallowing, and how are they controlled? The three phases of swallowing??? the buccal, pharyngeal, and esophageal phases??? are controlled by the swallowing center of the medulla oblongata via the trigeminal and glossopharyngeal cranial nerves. The motor commands originating at the swallowing center are distributed by cranial nerves V, IX, X, and XII. Along the esophagus, primary peristaltic contractions are coordinated by afferent and efferent fibers within the glossopharyngeal and vagus cranial nerves, but secondary peristaltic contractions occur in the absence of CNS instructions. 8. What are the primary digestive functions of the pancreas, liver, and gallbladder? The pancreas provides digestive enzymes, plus bicarbonate ions that elevate the pH of the chyme. The liver produces bile and is also the primary organ involved in regulating the composition of circulating blood. The gallbladder stores and releases bile, which contains additional buffers and bile salts that facilitate the digestion

and absorption of lipids. 19. Which hormones produced by duodenal enteroendocrine cells effectively coordinate digestive functions?

The hormones include the following: enterocrinin, which stimulates the submucosal glands of the duodenum; secretin, which stimulates the pancreas and liver to increase the secretion of water and bicarbonate ions; cholecystikinin (CCK), which causes an increase in the release of pancreatic secretions and bile into the duodenum, inhibits gastric activity, and appears to have CNS effects that reduce the sensation of hunger; gastric inhibitory peptide (GIP), which stimulates insulin release at pancreatic islets and the activity of the duodenal submucosal glands; vasoactive intestinal peptide (VIP), which stimulates the secretion of intestinal glands, dilates regional capillaries, and inhibits acid production in the stomach; gastrin, which is secreted by G cells in the duodenum when they are exposed to large quantities of incompletely digested proteins; and, in small quantities, motilin, which stimulates intestinal contractions, villikinin, which promotes the movement of villi and associated lymph flow, and somatostatin, which inhibits gastric secretion. 20.

What are the three primary functions of the large intestine? The large intestine reabsorbs water and compacts the intestinal contents into feces, absorbs important vitamins liberated by bacterial action, and stores fecal material prior to defecation. 21. What two positive feedback loops are involved in the defecation reflex? Positive feedback loops in the defecation reflex involve (1.) stretch receptors in the rectal walls, which promote a series of peristaltic contractions in the colon and rectum, moving feces toward the anus; and (2. the sacral parasympathetic system, also activated

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by the stretch receptors, which stimulates peristalsis via motor commands distributed by the pelvic nerves. 22. During defecation, (a.)stretch receptors in the rectal wall initiate a series of peristaltic contractions in the colon and rectum. (b.)stretch receptors in the rectal wall activate parasympathetic centers in the sacral region of the spinal cord. (e.)only a and b occur. 23. Increased parasympathetic stimulation of the intestine would result in: (e.)none of these. 24. A drop in pH below 4.5 in the duodenum stimulates the secretion of (a)secretin. 5. Through which layers of a molar would an oral surgeon drill to perform a root canal (removal of the alveolar nerve in a severely damaged tooth)? A root canal involves drilling through the enamel and the dentin. 26. How is the epithelium of the stomach protected from digestion? The stomach is protected from digestion by mucous secretions of its epithelial lining and by neural and hormonal control over the times and rates of acid secretion. 27. How does each of the three phases of gastric secretion promote and facilitate gastric control? (1.) The cephalic phase of gastric secretion begins with the sight or thought of food. Directed by the CNS, this phase prepares the stomach to receive food. (2.) The gastric phase begins with the arrival of food in the stomach; this phase is initiated by distension of the stomach, an increase in the pH of the gastric contents, and the presence of undigested materials in the stomach. (3.) The intestinal phase begins when chyme starts to enter the small intestine. This phase controls the rate of gastric emptying and ensures that the secretory, digestive, and absorptive functions of the small intestine can proceed reasonably efficiently. 8. Nutritionists have found that after a heavy meal, the pH of blood increases slightly, especially in the veins that carry blood away from the stomach. What causes this "postenteric alkaline tide"? After

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a heavy meal, bicarbonate ions pass from the parietal cells of the stomach into the extracellular fluid, causing the pH of the extracellular fluid to rise. As the extracellular fluid exchanges ions with the blood, the blood pH also increases. 29. Some people with gallstones develop pancreatitis. How could this occur?

If a gallstone is small enough, it can pass through the common bile duct and block the pancreatic duct. Enzymes from the pancreas then cannot reach the small intestine. As the enzymes accumulate, they irritate the duct and ultimately the exocrine pancreas, producing pancreatitis. 30. Harry is suffering from an obstruction in his colon. He notices that when he urinates, the color of his urine is much darker than normal, and he wonders if there is any relationship between the color of his urine and his intestinal obstruction. What would you tell him?

The darker color of his urine is probably due to increased amounts of the pigment urobilin, which gives urine its normal yellow color. Urobilin is derived from urobilinogen, which is formed in the large intestine by the action of intestinal bacteria on bile pigments. In an intestinal obstruction, the bile pigments cannot be eliminated by their normal route, so a larger-than-normal amount diffuses into the blood, where it is eliminated by the kidneys. 31. A condition known as lactose intolerance is characterized by painful abdominal cramping, gas, and diarrhea.

The cause of the problem is an inability to digest the milk sugar, lactose. How would this cause the observed signs and symptoms? If an individual cannot digest lactose, this sugar passes into the large intestine in an

undigested form. The presence of extra sugar in the chyme increases its osmolarity, so less water is reabsorbed by the intestinal mucosa. The bacteria that inhabit the large intestine can metabolize the lactose, and in the process they produce large amounts of carbon dioxide.

This gas overstretches the intestine, which stimulates local reflexes that increase peristalsis. The combination of more-fluid contents and increased peristalsis causes diarrhea. The overexpansion of the intestine by gas, which is directly related to increased gas production by the bacteria, causes the severe pain and abdominal cramping. 32. Recently, more people have turned to surgery to help them lose weight. One form of weight control surgery involves stapling a portion of the stomach shut, creating a smaller volume. How would such a surgery result in weight loss?

The primary effect of such surgeries would be a reduction in the volume of food (and thus in the amount of calories) consumed because the person feels full after eating a small amount. This can result in significant weight loss.

CheckPoints Page 882 1. Identify the organs of the digestive system. Organs of the digestive system include the esophagus, stomach, small intestine, large intestine, and accessory organs (salivary glands, liver, and pancreas).

2. List and define the six primary functions of the digestive system.

The six primary functions of the digestive system include the following: (1) ingestion = consciously eating food; (2) mechanical processing = crushing and shearing foodstuffs to make them more susceptible to enzymatic attack; (3) digestion = the chemical breakdown of food into smaller products for absorption; (4) secretion = the release of water, acids, and other substances

by the epithelium of the digestive tract and by glandular organs; (5) absorption = movement of digested particles across the digestive epithelium and into the interstitial fluid of the digestive tract; and (6) excretion = the removal of waste products from the body. . What is the importance of the mesenteries? The mesenteries??? sheets consisting of two layers of serous membrane separated by loose connective tissue??? support and stabilize the organs in the abdominopelvic cavity and provide a route for the associated blood vessels, nerves, and lymphatic vessels. 4. Name the layers of the gastrointestinal tract from superficial to deep. The layers of the gastrointestinal tract, from superficial to deep, are the serosa, muscularis externa, submucosa, and mucosa (adjacent to the lumen). 5.

Which is more efficient in propelling intestinal contents from one place to another: peristalsis or segmentation? The waves of contractions that constitute peristalsis are more efficient in propelling intestinal contents than segmentation, which is basically a churning action that mixes intestinal contents with digestive fluids. 6. What effect would a drug that blocks parasympathetic stimulation of the digestive tract have on peristalsis? A drug that blocks parasympathetic stimulation, which increases muscle tone and activity in the digestive tract, would slow peristalsis. Page 888 7.

Name the structures associated with the oral cavity. Structures associated with the oral cavity include the tongue, salivary glands, and teeth. 8. Which type of epithelium lines the oral cavity? The oral cavity is lined by a stratified squamous epithelium, which provides protection against friction or abrasion by foodstuffs. 9. The digestion of which nutrient would be affected by damage to the parotid salivary glands? Damage to the parotid salivary

glands, which secrete the carbohydrate-digesting enzyme salivary amylase, would interfere with the digestion of complex carbohydrates. 10.

Which type of tooth is most useful for chopping off bits of relatively rigid foods? The incisors are the teeth best suited for chopping (or cutting or shearing) pieces of relatively rigid food, such as raw vegetables. 11. Where exactly in the human body is the fauces? The fauces is the dividing line between the oral cavity and the pharynx. 12. Describe the structure and function of the pharynx. The pharynx is an anatomical space that receives a food bolus or liquids and passes them to the esophagus as part of the swallowing process. 13. Identify the muscles associated with the pharynx.

Muscles associated with the pharynx are pharyngeal constrictor muscles, the palatopharyngeus and stylopharyngeus muscles, and palatal muscles. Page 890 14. Name the structure connecting the pharynx to the stomach. The structure connecting the pharynx to the stomach is the esophagus. 15.

Compared to other segments of the digestive tract, what is unusual about the muscularis externa of the esophagus? The muscularis externa of the esophagus is an unusual segment of the digestive tract because it (1) contains skeletal muscle cells along most of the length of the esophagus and (2) is surrounded by an adventitia rather than a serosa. 6. What is occurring when the soft palate and larynx elevate and the glottis closes? When the soft palate and larynx elevate and the glottis closes, swallowing (deglutition) is occurring. Page 897 17. Name the four major regions of the stomach. The four regions of the stomach are the cardia, fundus, body, and pylorus. 18. Discuss the significance of the low pH in the stomach. The low pH of the stomach creates an acidic environment that kills most microbes ingested

with food, denatures proteins and inactivates most enzymes in food, helps break down plant cell walls and meat connective tissue, and activates pepsin. 9. How does a large meal affect the pH of blood leaving the stomach? Large (especially protein-containing) meals stimulate increased stomach acid secretion. Because the hydrogen ions of stomach acid come from blood entering the stomach, blood leaving the stomach will have fewer hydrogen ions and thus a higher pH. This phenomenon is referred to as the alkaline tide. 20. When a person suffers from chronic gastric ulcers, the branches of the vagus nerves that serve the stomach are sometimes cut in an attempt to provide relief. Why might this be an effective treatment?

The vagus nerves contain parasympathetic motor fibers that can stimulate gastric secretions, even if food is not present in the stomach (the cephalic phase of gastric digestion). Cutting the branches of the vagus nerves that supply the stomach would prevent this type of secretion from occurring and thereby reduce the likelihood of ulcer formation. Page 910 21. Name the three regions of the small intestine from proximal to distal. The three regions of the small intestine are the duodenum, jejunum, and ileum. 22. How is the small intestine adapted for the absorption of nutrients?

The small intestine has several adaptations that increase its surface area and thus its absorptive capacity. The walls of the small intestine are thrown into folds, the plicae circulares. The tissue that covers the plicae circulares forms fingerlike projections, the villi. The cells that cover the villi have an exposed surface covered by small fingerlike projections, the microvilli. In addition, the small intestine has a very rich supply of blood vessels and

lymphatic vessels, which transport the nutrients that are absorbed. 23. Does a high-fat meal raise or lower the level of cholecystokinin in the blood?

A high-fat meal would raise the cholecystokinin level in the blood. 24. How would the pH of the intestinal contents be affected if the small intestine did not produce secretin? The hormone secretin, among other things, stimulates the pancreas to release fluid high in buffers to neutralize the chyme that enters the duodenum from the stomach. If the small intestine did not secrete secretin, the pH of the intestinal contents would be lower than normal. 25. The digestion of which nutrient would be most impaired by damage to the exocrine pancreas?

Damage to the exocrine pancreas would most impair the digestion of fats (lipids), because it is the primary source of lipases. Even though such damage would also reduce carbohydrate and protein digestion, enzymes for digesting these nutrients are produced by other digestive system structures, including the salivary glands (carbohydrates), the small intestine (carbohydrates and proteins), and the stomach (proteins). Page 916 26.

Identify the four regions of the colon. The four regions of the colon are the ascending colon, transverse colon, descending colon, and sigmoid colon. 27.

What are some major histological differences between the large intestine and the small intestine? The large intestine is larger in diameter than the small intestine, but its relatively thin wall lacks villi and has an abundance of mucous cells and intestinal glands. 28. Differentiate between haustral churning and mass movements. In mass movements, which occur a few times per day throughout the transverse colon and the distal portions of the

large intestine, strong peristaltic contractions move material along the length of the colon. In haustral churning, segmentation movements mix the contents of adjacent haustra.

Page 921 29. What kinds of nutrients does the body require? Nutrients required by the body are carbohydrates, lipids, proteins, vitamins, minerals, and water. 30. What component of food would increase the number of chylomicrons in the lacteals? Because chylomicrons are formed from the fats digested in a meal, fats increase the number of chylomicrons in the lacteals. 31. The absorption of which vitamin would be impaired by the removal of the stomach? Removal of the stomach would interfere with the absorption of vitamin B12, a process that requires intrinsic factor, produced by the parietal cells of the stomach. 2. Why is it that diarrhea is potentially life threatening, but constipation is not? When an individual with diarrhea loses fluid and electrolytes faster than they can be replaced, the resulting dehydration can be fatal. Although constipation can be quite uncomfortable, it does not interfere with any life-supporting processes; the few toxic waste products normally eliminated by the digestive system can move into the blood and be eliminated by the kidneys. Page 922 33. Identify general digestive system changes that occur with aging.

General age-related digestive system changes include decreased secretory mechanisms, decreased gastric and intestinal motility, decreased mitotic activity of epithelial cells, and loss of tone; cumulative damage becomes more apparent, cancer rates increase, and dehydration occurs as a result of decreased osmoreceptor sensitivity. 34. Identify the functional relationships between the digestive system and other body systems. The digestive system

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absorbs the organic substrates, vitamins, ions, and water required by cells of all other body systems. 35. What body systems may be affected by inadequate calcium absorption?

The skeletal, muscular, nervous, endocrine, and cardiovascular systems may all be affected by inadequate absorption of calcium. Review Questions

Labeling 1. Label the following histological structures of the digestive tract from the image of the small intestine section. 1. 1 myenteric plexus D. 1. 2 submucosal gland A. 1. 3 mucosa B. 1. 4 serosa (visceral peritoneum) E. 1. 5 submucosa F. 1. 6 muscularis externa C. 2. match the terms with the

appropriate regions and structures of the stomach. 2. 1 fundus D. 2. 2 oblique muscle layer overlying mucosa E. 2. 3 circular muscle layer B. 2. 4 cardia C. 2. rugae F. 2. 6 pyloric sphincter A. 3. Correctly match the terms with the appropriate structures of the liver lobule. 3. 1 central vein B. 3. 2 hepatocytes A. 3. 3 bile duct F. 3. 4 bile canaliculi E. 3. 5 sinusoid C. 3.

6 Kupffer cells D. Matching 1. Put the following structures involved in bile transport in the proper order, from the liver to the gallbladder and on to the small intestine, by matching them (1) through (6): Bile canaliculi Bile ductules Right and left hepatic ducts Common hepatic ducts Cystic duct Common bile duct 2. Match the following cells and glands with their correct products: 2. Parietal cell HCl 2. 2 Chief cell . Pepsinogen 2. 3 G cells Gastrin 2.

4 Intestinal glands Cholecystokinin 2. 5 Brunner glands Urogastrone 3. Match the following substrates and products with the enzyme that catalyzes the reaction: 3. 1 Proteins to short-chain polypeptides . Pepsin 3. 2 Dipeptides and tripeptides to amino acids Exopeptidase 3. 3 trypsinogen to trypsin Enterokinase 3. 4 A disaccharide to monosaccharides . Lactase 4. Match the

following intestinal hormones to their correct functions:

- 1Gastrin . This stimulates of increased motility in the stomach and the production of acids and enzymes. .
- 2Gastric inhibitory peptide . Secreted when fats and especially glucose enters the intestine, this enzyme triggers the release of insulin at the pancreas. 4.
- 3Cholecystokinin This is secreted when chyme is rich in lipids and partially digested proteins. It triggers the opening of the hepatopancreatic sphincter. 4.
- 4 Enterocrinin . This is released when chyme enters the small intestine and it stimulates mucin production. 5.

Match the organ of the digestive system with its function:

- 1Mastication of food . Teeth
- 2Carries solid foods and liquids to the stomach . Esophagus
- 3Bulk storage of ingested food, chemical and mechanical breakdown of ingested food, and production of the intrinsic factor . Stomach
- 4Digestion and absorption of nutrients . Small intestine
- 5Reabsorption of water, absorption of important vitamins, and storage of fecal matter . Large intestine
- 6 Temporary storage of fecal matter . Rectum

Multiple Choice

1. Which of the following is a function of the digestive tract? Answer: a. Ingestion b. Digestion c. Excretion d. Absorption
2. From the outside in, the correct order of the layers of the digestive tract is Answer: erosa, muscularis externa, submucosa, mucosa.
3. The movements of the muscularis externa are coordinated by the Answer: myenteric plexus.
4. Waves of smooth muscle contraction that propel materials along the digestive tract are called Answer: peristalsis.
5. The mesentery that hangs like an apron from the lateral and inferior portion of the stomach is the Answer: greater omentum.
6. The lingual frenulum Answer: a. connects the tongue to the floor of the oral cavity. b. is a thin fold of mucous membrane. c. may need to be cut if the condition of ankyloglossia exists.
7. Incisors are used for Answer: lipping

or cutting. 8. The mucosa and submucosa of the esophagus are folded for
Answer: to allow the expansion of the esophagus during the passage of a
large bolus. 9. Which of the following is a function of the stomach? Answer:
a. Mechanical breakdown of food b. Production of intrinsic factor 10. Chief
cells secrete Answer: pepsinogen. 11. When the stomach is empty, the
mucosa is thrown into folds called Answer: rugae. 12. When you walk into a
Mexican restaurant and smell the savory aroma of fajitas, which phase of
gastric activity is triggered? Answer: Cephalic phase 13. Peyer patches
Answer: re lymphoid nodules located in the ileum. 14. The wall of the small
intestine bears a series of folds called the Answer: plicae circulares. 15. The
duodenum differs from the rest of the small intestine in that its submucosa
contains many _____ that secrete mucus. Answer: Brunner glands 16.
The gastroenteric reflex stimulates motility Answer: along the entire length
of the small intestine. 17. Sympathetic stimulation Answer: inhibits
submucosal glands. 18. Concentrated crystals of minerals and salts in the
gallbladder produce Answer: a condition called cholelithiasis. 19. Pancreatic
juice is

Answer: alkaline. 20. Which of the following is not a function of the liver?
Answer: Immunologic regulation 21. Liver cells, or hepatocytes, receive
blood from the Answer: a)hepatic artery. b)hepatic portal vein. 22. Bile acts
as a(n) Answer: emulsifier. 23. The defecation reflex Answer: a. involves long
and short reflexes. b. involves two positive feedback loops. 24. The large
intestine absorbs which of the following vitamins from colonic bacteria?
Answer: a. Biotin b. Vitamin B5, or pantothenic acid c. Vitamin K 25. Fat-
soluble vitamins move across the intestinal mucosa by Answer: iffusion. True

and False 1. The pharynx belongs to both the respiratory and digestive systems. Answer: True As air is inhaled it passes through the pharynx into the trachea, and as food is swallowed it passes through the pharynx into the esophagus. 2. Cuspids are cutting or clipping teeth. Answer: False Incisors are cutting or clipping teeth. 3. A drop in the pH of the chyme coming from the stomach triggers the release of CCK. Answer: False CCK is a hormone released when chyme is full of fatty acids and triglycerides. 4. The haustra are formed by contraction of the taenia coli.

Answer: True Expansion and elongation of the colon is accomplished by haustra; how do the haustra expand and elongate? 5. The region of the tooth between the crown and the root is called the gingival space. Answer: False The gingival space is between the gum and the tooth. Fill In the Blank 1. The muscularis externa propels materials from one portion of the digestive tract to the other by a series of wavelike contractions called peristalsis, while in most areas of the small intestine ___ segmentation _____ movements churn and fragment digestive materials. 2.

Pancreatic juice is secreted by units known as pancreatic ___ acini _____. 3. ___ Peptidases _____ are proteolytic enzymes that break small peptide chains into amino acids. 4. The transverse folds that make up the intestinal lining and provide more surface area for absorption are called ___ plicae _____. 5. The glycoprotein ___ intrinsic factor _____, necessary for vitamin B12 absorption, is produced in the stomach. Multiple Choice 2 1. The layer of the digestive tract that contains large blood vessels, lymphatics, and a network of nerve fibers called the plexus of Meissner is the Answer: submucosa. 2. Each of the following products of digestion is taken up by <https://assignbuster.com/anatomy-and-physiology-practice-test-assignment/>

capillaries in the small intestine except one. Identify the exception. Answer: Chylomicrons

3. Which of the following statements is false concerning the teeth? Answer: Dentin, the material that makes up the enamel of the teeth, is a type of spongy bone, thus giving the tooth its hardness. A layer of a material called cementum covers the dentin of the root and attaches the tooth to the periodontal ligament.

4. Which salivary glands produce a thick serous secretion containing large amounts of salivary amylase? Answer: Parotid glands

5. Which type of tooth is conical with a pointed tip and used for tearing and slashing? Answer: Cuspids or canines

6. During the pharyngeal phase of deglutition Answer: the larynx elevates and the uvula and soft palate block the nasopharynx.

7. Which of the following statements is false concerning aging and the digestive system? Answer: Dehydration becomes less common as a result of the body's inability to effectively rid itself of water.

8. Which of the following is not a pancreatic enzyme? Answer: Pepsinogen

9. Which of the following statements is false regarding the Kupffer cells of the liver?

Answer: Kupffer cells have the ability to produce bile.

10. Of the 1, 500 mL of material that enters the large intestine on a daily basis, approximately how much water in the material is reabsorbed? Answer: 1, 200 mL

11. During the defecation reflex Answer: parasympathetic centers in the sacral region of the spinal cord stimulate mass movements.

12. Each of the following is a brush border enzyme except one. Identify the exception. Answer: Amylase

13. Fatty acids and monoglycerides interact with the bile salts in chyme to form small, lipid-bile salt complexes called Answer: micelles.

14. Peyer patches are associated with which region of the intestine? Answer: Ileum Peyer patches

are aggregates of lymphoid tissue found in the ileum. 15. Treatment for a morbidly obese man includes surgery to reduce the length of his intestine. Which region of the small intestine should be removed to achieve greatest weight loss? Answer: Jejunum The jejunum is responsible for the majority of chemical digestion and nutrient absorption. Section 2: Concept Review Now let's see what you have learned about Digestion and Absorption. I will give you a question and two possible answers.

Then I will pause while you consider the choices and select your answer.

After a few seconds, I will give you the correct answer with an explanation.

Question 1 Enzymes and buffers are considered part of which type of digestion? Is it A) mechanical or B) chemical? The answer is B) chemical.

Mechanical digestion involves mixing, churning, and chewing. Question 2

What do we call movement of food without direction in the digestive tract? Is it A) peristalsis or B) segmentation? The answer is B) segmentation.

Peristalsis is the movement of food forward through the digestive tract.

Question 3 Where does major absorption of food substances occur?

Is it in A) the stomach or B) the small intestine? The answer is B) the small intestine. Almost all absorption occurs in the small intestine. Question 4

Which type of enzyme digests carbohydrates? Is it A) amylase or B) peptidase? The answer is A) amylase. Peptidase breaks down proteins.

Question 5 Which side of the epithelial cells lining the digestive tract faces in towards the lumen? Is it A) apical or B) basal? The answer is A) apical. The basal surface fuses the cells to the deep tissues. Question 6 What is the term for emulsified, digested lipids? Is it A) chylomicrons or B) micelles? The answer is B) micelles.

Chylomicrons are cholesterol-fat complexes that have a protein coating.

Question 7 Which portion of the small intestine serves as a mixing bowl for substances from the pancreas, liver, and stomach? Is it A) the duodenum or B) the ileum? The answer is A) the duodenum. As the food enters the small intestines, enzymes, buffers, and bile also enter at the duodenum Question 8 In which part of your digestive system is most of the water reabsorbed? Is it A) the colon or B) the small intestine? The answer is B) the small intestine. Up to ninety-five percent of the water entering the digestive tract is absorbed here.

That's the end of this section. Section 3: Rapid Review Now we will do a quick set of review questions on Digestion and Absorption. I will give you a question and then only a couple of seconds to give your answer. After a brief pause, I will give you the correct answer. Let's start with some true or false questions. Question 1 True or false? Bile is produced by the gallbladder. Answer: False Question 2 True or False? Once food is digested in the stomach, it is called chyme. Answer: True Question 3 A chylomicron is an example of a digested protein. Answer: False Okay, now let's try some multiple choice questions. Question 4

Which substance is absorbed through the intestinal lining? Is it A) monosaccharides or B) nucleic acids? Answer: A) monosaccharides Question 5 What is the term for breaking down lipids? Is it A) lipogenesis or B) emulsification? Answer: B) emulsification Great! Now let's try some short answer questions. Question 6 Which accessory organ produces amylases, lipases, buffers, and hormones? Answer: The pancreas Question 7 Most of the fat absorption occurs in which part of the small intestine? Answer: The

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ileum Question 8 Where does the process of chemical digestion start?

Answer: In the mouth That's the end of this section.