Questions

1.10 Oral Cavity and Digestive System

394. Which of the following structures of the oral cavity are derived from embryonic ectoderm?
   (a) salivary glands
   (b) lining of the palate
   (c) anterior part of the tongue
   (d) posterior part of the tongue
   (e) tonsils

395. The soft palate has:
   (a) striated muscle
   (b) smooth muscle
   (c) stratified squamous epithelium
   (d) mucous glands
   (e) adipose tissue

396. Keratinized epithelium lines the:
   (a) hard palate
   (b) soft palate
   (c) gingival
   (d) dorsal surface of the tongue
   (e) floor of the mouth

397. Non-keratinized epithelium lines the:
   (a) inside of the lips
   (b) cheeks
   (c) floor of the mouth
   (d) lower surface of the tongue
   (e) outside part of the lips

398. Saliva contains:
   (a) water
   (b) mucin
   (c) proteins
   (d) mineral salts
   (e) amylase

399. Parotid glands:
   (a) are the largest of the salivary glands
   (b) are branched acinar exocrine glands
   (c) have secretory granules with high amylase activity
   (d) have secretory unitys that contain mixed serous and mucous cells
   (e) have secretory units that only composed of serous cells

400. Submandibular (submaxillary) glands possess:
(a) a branched tubuloacinar exocrine configuration
(b) both mucous and serous secretory cells
(c) only serous cells within secretory units
(d) myoepithelial cells
(e) demilunes

401. Striated ducts are found in:
(a) parotid glands
(b) submandibular (submaxillary) glands
(c) sublingual pancreas
(d) exocrine pancreas
(e) proximal tubules of kidneys

402. Amylase is secreted by the :
(a) parotid gland cells
(b) zymogen cells of the stomach
(c) acinar cells of the exocrine pancreas
(d) gall bladder
(e) duodenum

403. The tongue has:
(a) a covering of stratified squamous epithelium
(b) interlaced striated muscle bundles oriented in several directions
(c) an abundance of nerves and blood vessels
(d) collections of lymph nodules
(e) intrinsic mucous and serous salivary glands

404. Taste buds are:
(a) sensory receptors
(b) in contact with non-myelinated nerve fibers
(c) lightly staining in histological preparations
(d) situated in stratified epithelium
(e) able to respond to a specific taste only

405. Cells of taste buds are:
(a) epithelial
(b) spindle-shaped
(c) continuously replaced
(d) rich in ribosomes and rough endoplasmic reticulum
(e) coated with long apical microvilli

406. Oral structures containing hydroxyapatite include:
(a) enamel
(b) dentine
(c) cementum
(d) periodontal ligament
(e) alveolar bone

407. Enamel is:
(a) the hardest structure in the body
(b) or ectodermal origin
(c) composed of collagen fibers
(d) preserved in decalcified sections of teeth
(e) preserved in ground sections of teeth

408. Dentin:
(a) is composed mainly of hydroxyapatite crystals
(b) is harder than bone because of its higher content of calcium salts
(c) contains collagen fibers
(d) contains glycosaminoglycans
(e) is visible in sections of decalcified teeth

409. In teeth of adults the pulp contains:
(a) a dense type of connective tissue
(b) thin collagen fibers
(c) reticular fibers
(d) abundant nerves
(e) rich vascularization

410. The cementum of adult teeth:
(a) is similar in structure to woven bone
(b) has cells in lacunae called cementocytes
(c) is organized in Haversian systems
(d) covers the dentin of the root
(e) undergoes necrosis if the periodontal ligament is destroyed

411. The periodontal membrane or ligament:
(a) helps anchor the tooth in its socket
(b) provides nutrition for the tooth
(c) contains collagen fibers
(d) is composed of inert, hard, non-living material
(e) is connected by special fibers to the cementum and alveolar bone to allow limited tooth movements

412. In the human esophagus can be found:
(a) simple columnar epithelium
(b) lamina propria composed of dense, connective tissue
(c) glands in the submucosa
(d) striated skeletal muscles
(e) an adventitial layer throughout its length

413. The esophagus:
(a) is a muscular tube
(b) has both striated and smooth muscle
(c) normally has a keratinized epithelium
(d) has glands that are structurally very similar to cardiac glands of the stomach
(e) has adventitia composed of loose, fibroelastic, connective tissue

414. Cardiac glands of the stomach are:
(a) restricted to the initial part of the stomach
(b) found throughout the stomach
(c) lined by columnar cells
(d) with mucus-secreting cells
(e) found to possess parietal cells

415. Mucous neck cells of the stomach are:
(a) found in the area of the isthmus of gastric glands
(b) continuous with the covering epithelium of the stomach
(c) structurally similar to mucous cells of the cardiac and pyloric glands
(d) found to contain PAS-positive material
(e) columar or flask-shaped

416. In the gastric glands of the stomach can be found:
(a) goblet cells
(b) zymogen cells
(c) parietal cells
(d) mucous neck cells
(e) argentaffin cells

417. Parietal cells have:
(a) intensely eosinophilic cytoplasm
(b) large concentrations of mitochondria
(c) intracellular canaliculi
(d) peripherally placed nuclei
(e) well-developed, rough endoplasmic reticulum

418. Human parietal cells secrete:
   (a) vitamin B_{12} intrinsic factor
   (b) digestive enzymes
   (c) hydrochloric acid
   (d) mucus
   (e) hormones

419. Zymogenic cells of the stomach
   (a) have many apical granules
   (b) stain acidophilic
   (c) secrete digestive enzymes including pepsm
   (d) have well-developed, smooth endoplasmic reticulum
   (e) have well-developed, routh endoplasmic, reticulum

420. Endocrine cells of the stomach:
   (a) are usually isolated or in very small groups
   (b) have large numbers of small, membrane-bound granules visible by electron microscopy
   (c) show an affinity for silver salts
   (d) show an affinity for chromium salts
   (e) secrete polypeptide hormones

421. The zymogen and parietal cells are replaced:
   (a) only in the fetus
   (b) every 2-3 hours
   (c) every 2-3 days
   (d) every 2-3 weeks
   (e) every year or longer

422. The mucous membrane of the stomach
   (a) regenerates easily when injured
   (b) is constantly lubricated with mucus
   (c) has its epithelial lining replaced every 2-3 days
   (d) has its epithelial lining replaced every 2-3 weeks
   (e) contains a large number of villi

423. In the pylorus in comparison with the fundus or body the:
   (a) gastric pits are longer
   (b) gastric glands are smaller
   (c) glandular tubules are wider
   (d) glandular tubules are more branched
   (e) main cell type is similar to that of the fundic mucous neck cells

424. In the duodenum can be found:
(a) large concentrations of lymphatic nodules
(b) glands in the lamina propria
(c) glands in the submucosa
(d) three layers of muscles in the muscularis externa
(e) tunica serosa throughout its length

425. Brunner glands:
(a) are composed of homogeneous epithelium
(b) secrete mucus
(c) secrete acid
(d) contain Paneth cells
(e) are found in the submucosa of the duodenum

426. Devices to increase the effective surface area for absorption in the small intestine include:
(a) plicae circulares (valves of Kerckring)
(b) villi
(c) microvilli
(d) pits
(e) cilia

427. Protective features found in the small intestine include:
(a) stratified epithelium
(b) mucus secretion
(c) alkaline secretions to neutralize acids produced in the stomach
(d) abundant lymphatic tissue
(e) leukocytes, which can migrate through the epithelial lining.

428. The mucosa of the small intestine has:
(a) villi
(b) simple columnar epithelium
(c) absorptive cells
(d) goblet cells
(e) crypts of Lieberkuhn

429. Intestinal villi:
(a) are constructed from epithelium and lamina propria
(b) are constructed form mucosa, submucosa and muscularis externa
(c) are found in the large intestine
(d) contain lacteals
(e) function in the absorption of fast

430. Absorptive cells of the small intestine when examined by transmission electron microscopy are seen to possess:
(a) stereocilia
(b) microvilli with glycocalyx
(c) terminal web
(d) secretory granules
(e) chylomicra

431. The glycocalyx on absorptive cells in the small intestine:
(a) creates a microenvironment different from that of the rest of the gut lumen
(b) helps peristalsis
(c) increase the surface area of the absorptive cells
(d) contains calcium-binding protein
(e) stains intensely PAS-positive

432. The functions of the lacteals of the small intestine include the:
(a) transport of lymphocytes present in the lamina propria
(b) absorption of excess fluid from the surrounding connective tissue
(c) absorption of lipids from the intestinal lumen
(d) absorption of carbohydrates from the intestinal lumen
(e) internal support, stiffness and rigidity of the villi

433. Lipid in the intestine is:
(a) digested as a result of pancreatic lipae activity
(b) digested as a result of bile action
(c) absorbed in the duodenum
(d) absorbed mainly in the large intestine
(e) absorbed into mesenteric veins and passes via the portal system to the liver

434. Paneth cells:
(a) have high concentrations of zinc
(b) have secretory granules that are visible by light microscopy
(c) are believed to screte lysosomes
(d) are believed to secrete lysozyme
(e) are found in the base of intestinal glands

435. Peyer's patches are:
(a) glands of the esophagus
(b) absorptive areas in the jejunum
(c) lymphatic areas of the large intestine
(d) concentrations of lymphatic nodules in the ileum
(e) lymphatic nodules in the stomach lining

436. The myenteric plexus of Auerbach:
(a) is located mainly between the circular and longitudinal layers of muscle
(b) is located in the submucosa
(c) is part of the intrinsic nervous mechanism of the intestinal wall
(d) can be readily identified in histological preparations after impregnation with silver salts
(e) contains multipolar neurons

437. The large intestine is characterized by:
(a) a smooth mucosal membrane
(b) folds along most of its length
(c) small villi
(d) crypts of Lieberkükn
(e) many goblet cells

438. Taenia coli are:
(a) tapeworms found in the human gut
(b) present in the small intestine
(c) present in the large intestine
(d) visible with the naked eye
(e) bands of longitudinal muscle

439. The appendix has:
(a) a similar general histological structure to that of the large intestine
(b) relatively few crytes of Lieberkühu
(c) a relatively small and angular lumen
(d) abundant lymphatic tissue
(e) taenia coli

440. The colon has:
(a) taenia coli
(b) haustra
(c) semi-lunar folds
(d) appendices epipolicae
(e) serosa

441. The functions of the colon incude:
(a) water absorption
(b) formation of feces
(c) production of mucus
(d) lubrication of the mucosal lining
(e) production of lymphocytes in lymphatic nodules

442. The liver is:
(a) the largest internal organ of the body
(b) an exocrine gland
(c) an enocrine gland
(d) easily able to regenerate
(e) rich in connective tissue

443. Blood flow in liver lobules passes along sinusoids from the:
(a) central vein to the portal vein
(b) portal vein to the central vein
(c) hepatic artery to the central vein
(d) central vein to the hepatic artery
(e) hepatic vein to hepatic portal vein

444. Endothelial cells lining the sinusoids of the liver:
(a) have a basal lamina
(b) are in direct contact with the hepatocytes
(c) are fenestrated
(d) form a continuous layer
(e) allow the easy passage of fluid from the blood to the space of Disse

445. Hepatocytes typically contain:
(a) abundant, rough endoplasmic reticulum
(b) abundant, smooth endoplasmic reticulum
(c) glycogen
(d) lipid droplets
(e) peroxisomes (microbodies)

446. Hepatocytes are:
(a) of endodermal origin
(b) of mesodermal origin
(c) able to synthesize lipoproteins
(d) important in detroxification processes
(e) found often with more than one nucleus per cell

447. Lipoproteins are secreted by hepatocytes directly into the:
(a) bile canaliculi
(b) space of Disse
(c) sinusoids
(d) lymph channels
(e) portal vessels

448. The space of Disse contains
   (a) bile
   (b) blood
   (c) reticular fibers
   (d) microvilli
   (e) fat-storing cells

449. Bile is:
   (a) formed in the gall bladder
   (b) formed in the liver
   (c) concentrated and stored in the gall bladder
   (d) discharged into the duodenum
   (e) discharged in response to the hormone cholecystokinin

450. Bile canaliculi:
   (a) are lined by cuboidal epithelial cells
   (b) have a wall of their own
   (c) are formed from modified plasma membranes of adjacent hepatocytes
   (d) have microvilli projecting into their lumen
   (e) are lined by endothelial cells

451. The bile canaliculai are:
   (a) formed from modification of the apical surface of hepatocytes
   (b) modified desmosomes
   (c) modified nexuses
   (d) enclosed by tight junctions
   (e) rich in ATP-ase activity

452. Kupfffer cells are:
   (a) wandering macrophages
   (b) fixed macrophages
   (c) stellate cells
   (d) found in bile ducts
   (e) fixed to adjacent endothelial cells by means of desmosomes.

453. Kuffer cells:
   (a) secrete enzymes into the digestive tract
   (b) participate in the breakdown of erthrocytes
   (c) are active phagocytes
   (d) contain considerable peroxidase activity
   (e) belong to the Mononuclear Phagocyte System

454. The extrhepatic bile ducts:
(a) have a mucous membrane
(b) are lined with cuboidal or columnar epithelium
(c) are lined by endothelial cells
(d) have a muscular wall
(e) have a basal lamina

455. The epithelium lining the gall bladder:
(a) is homogeneous
(b) contains goblet cells
(c) is ciliated
(d) has apical microvilli
(e) has lateral microvilli

456. The gall bladder has:
(a) pseudostratified epithelium
(b) simple columnar epithelium
(c) serous glands
(d) a layer of smooth muscles in its wall
(e) serosa on all its sides.

457. The exocrine pancreas secretes:
(a) trypsinogen
(b) ribonuclease
(c) carboxypeptidase
(d) lipase
(e) amylase

458. Pancreatic exocrine cells have well-developed:
(a) smooth endoplamic reticulum
(b) rough endoplasmic reticulum
(c) Gogli bodies
(d) glycogen deposits
(e) zymogen granules.

459. Cells of the exocrine pancreas are:
(a) serous
(b) mucous
(c) mixed serous and mucous
(d) PAS-positive
(e) extremely rich in RNA.

460. In the exocrine pancreas can be found:
(a) centroacinar cells
(b) intercalated ducts
(c) striated ducts
(d) mixed secretory units
(e) myoepithelial cells.

461. The control of pancreatic exocrine secretion is performed by the hormones
(a) insulin
(b) glucagons
(c) somatostatin
(d) secretin
(e) pancreozymin