

#1 - #21 MULTIPLE CHOICE QUESTIONS:

PLEASE CHOOSE THE ONE BEST ANSWER AND ENTER IT ON THE SCANTRON

1. Regarding calcitonin, which of the following is CORRECT:

- a) a peptide hormone that binds to receptors on the surface of osteoclasts in bone
- b) a steroid hormone that binds to receptors in the nucleus of osteoclasts in bone
- c) a peptide hormone that binds to receptors on the surface of parafollicular cells of the thyroid
- d) a steroid hormone that binds to receptors in the nucleus of parafollicular cells of the thyroid
- e) a plasma protein that binds to calcium in the blood

2. Which of the following is DERIVED from oral ectoderm:

- a) posterior pituitary
- b) anterior pituitary
- c) hypothalamus
- d) all of the above
- e) none of the above

3. An antibody that binds to FSH (follicular stimulating hormone) would specifically stain which of the following in the pituitary:

- a) a chromophobe
- b) a chromophil
- c) a Herring body
- d) all of the above
- e) none of the above

4. Which of the following is a characteristic of pituicytes:

- a) cell bodies are located in the hypothalamus
- b) contain Herring bodies
- c) neuroglial in nature
- d) all of the above
- e) none of the above

5. Which of the following is characteristic of the chief cells of the parathyroid gland:

- a) secrete a hormone that increases circulating calcium levels
- b) chromophilic
- c) contain many secretory granules (ie. vesicles) in the cytoplasm
- d) all of the above
- e) none of the above

6. Which of the following contains cells that produce large amounts of mineralocorticoid hormone as a result of an endocrine cascade that is triggered by the secretions of juxtaglomerular cells in the kidney:

- a) zona glomerulosa
- b) zona fasciculata
- c) zona reticularis
- d) adrenal medulla
- e) anterior pituitary

7. Regarding lymphocyte development, which of the following is CORRECT:

- a) B and T lymphocytes are derived from a common lymphoid progenitor cell
- b) T-lymphocytes become immunocompetent in the thymus
- c) B-lymphocytes become immunocompetent in the bone marrow
- d) all of the above
- e) none of the above

8. In the thymus, where are the epithelial reticular cells that synthesize and secrete thymopoietin located:

- a) in the cortex
- b) at the corticomedullary junction
- c) in the medulla
- d) all of the above
- e) none of the above

9. Which of the following are in the path of lymph vascular flow:

- a) lymph nodes
- b) the spleen
- c) mucosa-associated lymphoid tissue (M.A.L.T.) aggregates
- d) all of the above
- e) none of the above

10. In the respiratory epithelium, which cell type is ciliated:

- a) columnar epithelial cell
- b) goblet cell
- c) stem cell
- d) all of the above
- e) none of the above

11. In the trachea, where is the hyaline cartilage located:

- a) mucosa
- b) submucosa
- c) adventitia
- d) lamina propria
- e) elastic lamina

12. Which of the following is NOT found in the vocal folds of the larynx:

- a) stratified squamous epithelium
- b) dense connective tissue
- c) skeletal muscle fibers
- d) elastic cartilage
- e) submucosal glands

13. In the superior portion of the nasal cavity, where are the nuclei of olfactory sensory receptor cells that bind odorant molecules located:

- a) in the epithelium
- b) in the lamina propria
- c) in the submucosa
- d) all of the above
- e) none of the above

14. Regarding respiratory bronchioles, which of the following is CORRECT:

- a) no goblet cells
- b) no submucosal glands
- c) no cartilage
- d) all of the above
- e) none of the above

15. Which of the following is part of the blood-alveolar interface where gas exchange occurs:

- a) fenestrated capillary endothelial cells
- b) Clara cells
- c) fused basal lamina
- d) all of the above
- e) none of the above

16. Which of the following is NOT present in fully-erupted teeth:

- a) enamel
- b) dentin
- c) ameloblasts
- d) odontoblasts
- e) odontoclasts

17. Where are the G-protein-coupled receptors that bind 'tastant' molecules located:

- a) on modified cilia on the apical surface of sensory receptor cells of tastebuds
- b) on modified microvilli on the apical surface of sensory receptor cells of tastebuds
- c) on the basal surface of sensory receptor cells of tastebuds
- d) on the post-synaptic membrane of sensory neurons that interact with sensory receptor cells of tastebuds
- e) on the entire surface of serous secreting cells in the submucosal glands of the tongue

18. Which of the following are MOST prominent in the lamina propria within villi of the small intestine:

- a) Paneth cells
- b) lacteals
- c) elastic ECM fibers
- d) mucous-secreting Brunner's glands
- e) muscularis mucosa

19. Which of the following is NOT derived from endoderm:

- a) Kupffer cells of the liver
- b) hepatocytes of the liver
- c) absorptive epithelial cells of the gall bladder
- d) endocrine cells of the pancreas
- e) exocrine cells of the pancreas

20. In a Type I diabetic, which of the following are most often DECREASED in number:

- a) Kupffer cells of the liver
- b) hepatocytes of the liver
- c) absorptive epithelial cells of the gall bladder
- d) endocrine cells of the pancreas
- e) exocrine cells of the pancreas

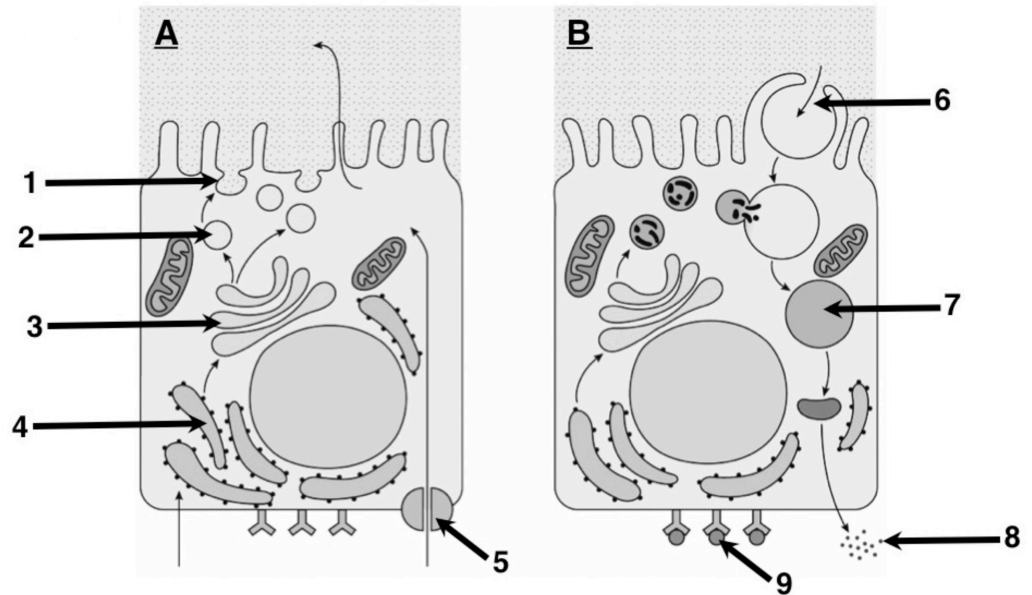
21. In the hepatic lobule, which of the following contains exocrine secretions:

- a) hepatic portal venule
- b) hepatic arteriole
- c) hepatic sinusoid
- d) bile ductule
- e) central vein

Figure 1

A = Hormone Synthesis

B = Hormone Release



22. In Fig 1, which numbered structure best represents the site of iodine uptake:

(write the number) ___

23. In Fig 1, which numbered structure best represents the site of thyroglobulin protein translation:

(write the number) ___

24. In Fig 1, which numbered structure best represents the site of thyroglobulin iodination

(write the number) ___

25. In Fig 1, which numbered structure best represents the site of proteolytic digestion of the iodinated thyroglobulin complex:

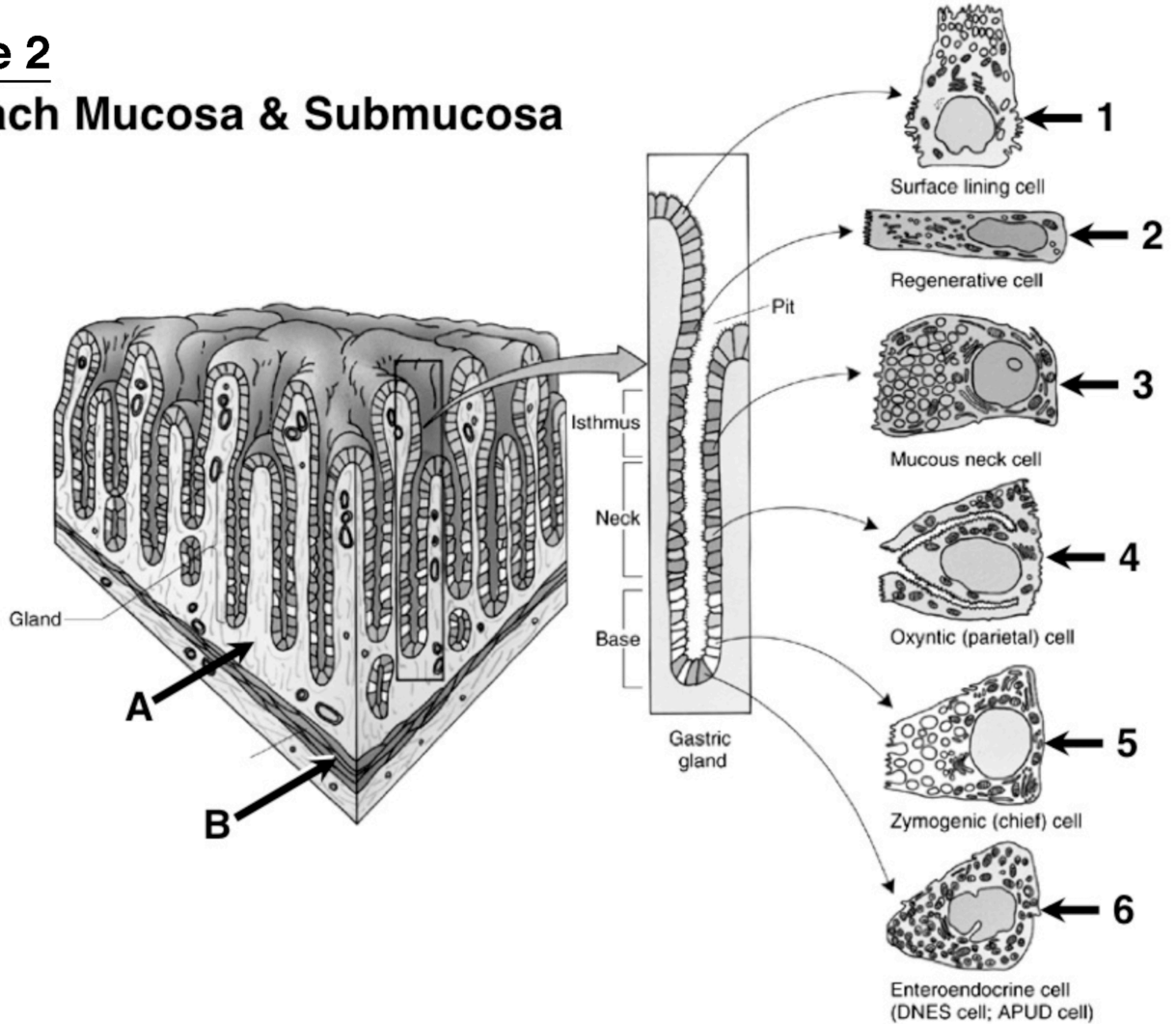
(write the number) ___

26. In Fig 1, what peptide hormone that is synthesized in the anterior pituitary is represented by structure #9:

(name the hormone) _____

End of Questions Related to Fig 1

Figure 2 Stomach Mucosa & Submucosa



27. In Fig 2, what type of connective tissue is found in structure 'A':

(write the type of connective tissue) _____

28. In Fig 2, what is cell type is MOST prominent in structure 'B':

(write the cell type) _____

29. In Fig 2, which numbered cell type has the greatest proliferative potential:

(write the number) ____

30. In Fig 2, which numbered cell type secretes its products basally:

(write the number) ____

31. In Fig 2, which numbered cell type secretes a product that ACTIVATES zymogens:

(write the number) ____

32. A mythical ANAT390 student's grandmother who had been post-menopausal for approximately 20 years fell and broke her hip. During the early stages of her recovery she was put on 'fosamax' (a bisphosphonate that inhibits of osteoclast activity). What was the purpose of this pharmacologic treatment?

33. A mythical ANAT390 teaching assistant (TA) suffered from chronic 'heartburn' over a six month period. Her physician diagnosed the condition as a case of mild reflux of gastric contents into the esophagus and thus prescribed a proton-pump inhibitor and the symptoms soon subsided. However, on the next visit to see her physician the ANAT390 TA asked if an endoscopic examination of her esophagus was warranted. What possible condition was the TA concerned about:

34. A mythical ANAT390 instructor was put on cortisol to treat an inflammatory skin condition. Which cell type in the anterior pituitary decreased its secretory output dramatically for the duration of the treatment:

End of Sample Questions: This is the format of the final examination