Bio 104 Laboratory Outlines

Bio 104: Computer Exercise - Anatomy & Physiology Revealed (APR)

Digestive System

A. See Lab Instructor to sign logbook for use of laptop and CD in the lab room.
B. Insert Anatomy & Physiology Revealed (APR) cd into cd drive and allow it to autoplay.
C. View Home Screen. Take one or more of the tours (select bottom right) to familiarize yourself with the navigational tools:
   - Dissection - “melt-away” layers of dissection to reveal individual structures
   - Animation – view animations of anatomical structures and systems
   - Imaging – correlate dissected anatomy with radiologic images
   - Self-test – gauge proficiency with timed self-tests
D. Select System → Digestive. Select Dissection (scalpel icon) → Select Topic → Oral cavity and pharynx. Select View → Lateral. Click the green Go button.
   Select the structures below from the list of Accessory glands and organs or Gastrointestinal tract and answer the following questions. As you review the cadaver dissections, peel away the layers and click on the tags to identify specific structures.

Select structures from the structure group Oral Cavity and Pharynx:

1. The soft palate separates ____________ from ____________.
2. During deglutition, the soft palate moves ____________ (directional term) to prevent food from entering ____________.
3. The hard palate is a horizontal plate made up of ____________ and ____________ bones.
4. Important functions of the lips include ____________ and ____________.
5. The _____ (number) permanent teeth include the upper teeth located in the ____________ and the lower teeth located in the ____________.
6. The main functions of the tongue include ____________, ____________, and ____________.
7. Pharynx means __________ in Latin and has 3 subdivisions: ____________, ____________, and ____________.
Select **Change Topic/View**→Select **Salivary Glands**. Click the green **GO** button.

8. Name the 3 pairs of **salivary glands** and the % of saliva that they produce:
   a. ____________
   b. ____________
   c. ____________

9. Three functions of **saliva** include:
   a. 
   b. 
   c. 

Select **Change Topic/View**→Select **Teeth**. Click the green **GO** button.

10. The **teeth** that are important in biting and cutting are ________________.
11. The **teeth** that are the longest and are important in grasping and holding are the ________________.
12. The ________________ and ________________ are important in grinding and crushing.
13. The **premolars** are known as ________________.

Select Change Topic/View→Select **Esophagus**. Click **GO**.

14. The 3 parts of the **esophagus** are ________________, ________________, and ________________.
15. The esophagus conveys from the ________________ to the ________________.
16. Another name for reflux esophagitis is ________________.
17. The “hole” in the diaphragm for the passage of the esophagus is the ________________.

Select **Animation** menu. Select **Digestive system overview**. Click the **Play** button. After viewing the animation, answer the following questions:

18. Name the four main functions of the digestive system:
   a. 
   b. 
   c. 
   d. 
19. The 2 types of digestion are ________________ and ________________.
20. Digestion begins in the ________________.
21. Another name for chewing is ____________________.
22. Food is prevented from entering the nasal cavity during swallowing by the ____________________.
23. What muscles push food particles into the pharynx? ____________________
24. The structure that prevents food from entering the respiratory system is the ____________________.
25. Name the structure that connects the pharynx with the stomach: ______________
26. Once it has been swallowed, the food mass is called a ____________.
27. The term for the involuntary wavelike contractions that propel the digesting food to the stomach is ____________________.
28. Rugae are also known as ____________________ and function in ____________________.
29. The stomach cells secrete: ________________, ________________, and ________________.
30. What effect do these secretions have on the bolus? ____________________
31. The bolus mixed with stomach secretions is called ________________.
32. ________________ exits the stomach through the ____________________ and enters the ____________________.
33. The main site of nutrient absorption is the ____________________.
34. Name the 3 parts of the small intestines (proximal to distal):
   a.
   b.
   c.

Select Dissection icon. Select Change Topic/View→Select Stomach and Duodenum:
35. Name the four parts of the stomach from proximal to distal: ________________, ________________, ________________, ________________.
36. The muscular structure that prevents reflux of stomach contents is called the ____________________.
37. The structures that allow the stomach to expand as it fills are the ____________________.
38. What is the function of the major duodenal papilla?

Select Animation icon (at top of screen). Select Stomach.
39. Where is the stomach located? Between which 2 organs?
40. What is the function of the stomach?
   What 2 processes contribute to this function?

41. What is the function of the pyloric sphincter?

42. Name the 4 layers of the stomach (outermost to innermost):
   a. 
   b. 
   c. 
   d.

43. Name the layers of the muscularis.: ________________, ________________, ________________, ________________
   How does it compare to the rest of the digestive tract?

44. List 2 functions of gastric mucus:
   a. 
   b. 
   c.

45. Describe the gastric pits. Name the 4 cells and their secretions:
   a. 
   b. 
   c. 
   d.

Select Animation icon → Select Liver:

46. Name the structure that separates the 2 anterior lobes of the liver:
   ________________

47. Histologically, the liver is composed of functional units called ____________.

48. Name 2 basic functions of the liver:
   a. 
   b.

Select Change Topic/View → Select Biliary ducts:

49. Name the 2 structures that receive bile from the liver:
   ________________ and ________________

50. The structure that carries pancreatic secretions to the duodenum is the ________________.

Close program.

Remove CD & put in case before shutting down computer.
Shut down computer and return hardware and software to your lab instructor.