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.