READING GUIDE – The Digestive System Chapter 14

Anatomy of the Digestive System
1) What are the 2 main groups of the digestive system?

2) What is another name for the alimentary canal?

3) List the seven components of the alimentary canal. List four accessory organs.

4) To what bone is the tongue anchored?

5) a) What are TONSILS?
   b) What is their function?

6) Define PERISTALSIS:

7) Describe the 4 tissue layers of the alimentary canal in the table below.

<table>
<thead>
<tr>
<th>Tissue Layer</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mucosa</td>
<td></td>
</tr>
<tr>
<td>Submucosa</td>
<td></td>
</tr>
<tr>
<td>Muscularis externa</td>
<td></td>
</tr>
<tr>
<td>Serosa</td>
<td></td>
</tr>
</tbody>
</table>

8) What is the function of the
   • EPIGLOTTIS?(p 440)
   • PYLORIC SPHINCTER?
   • CARDIOESOPHAGEAL SPHINCTER?
   • GREATER OMENTUM

9) What is CHYME?

10) Complete the following chart of the components of GASTRIC JUICE.

<table>
<thead>
<tr>
<th>Gastric Juice Component</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pepsinogen</td>
<td></td>
</tr>
<tr>
<td>Pepsin</td>
<td></td>
</tr>
<tr>
<td>Hydrochloric acid</td>
<td></td>
</tr>
<tr>
<td>Mucus</td>
<td></td>
</tr>
<tr>
<td>Intrinsic factor</td>
<td></td>
</tr>
</tbody>
</table>
11) What are the 3 subdivisions to the small intestine?
___________________ ___________________ ___________________

12) What is the function of the small intestine?______________________________________________

13) What is the function of the large intestine? _____________________________________________

14) Identify the 4 regions of the colon. ____________________________________________________

15) Complete the following chart describing the various types of secondary teeth.

<table>
<thead>
<tr>
<th>Type of Tooth</th>
<th>Shape (describe or sketch)</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>INCISORS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CUSPIDS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BICUSPIDS (premolars)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOLARS</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

16) a. What are the 3 salivary glands? _____________________________________________________
   b. What is the function of saliva? ____________________________________________________
   c. What is BOLUS? __________________________________________________________________
   d. Describe the function of salivary amylase. __________________________________________

17) The pancreas is said to be retroperitoneal. Describe what retroperitoneal is. ____________
____________________________________________________________________________________

18) a. The liver is one of the most important organs. One of its most important role is creating bile. What is bile? __________________________________________________________________
   b. What is the function of bile? __________________________________________________________________

FUNCTIONS OF THE DIGESTIVE SYSTEM
19) Describe the 6 processes in the digestive system (gastrointestinal tract).
   a. 
   b. 
   c. 
   d. 
   e. 
   f.
20) State where each of the following begin and complete digestion (Use Figure: 14.13 page 479):

**Digestion begins in the...**  **Digestion is completed in the...**
- carbohydrates:  
- proteins:  
- fats:  

21) Complete the chart below comparing some of the hormones that control digestive functions (Use Table 14.1 page 485):

<table>
<thead>
<tr>
<th>Hormone</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gastrin</td>
<td></td>
</tr>
<tr>
<td>Cholecystokinin</td>
<td></td>
</tr>
<tr>
<td>Secretin</td>
<td></td>
</tr>
</tbody>
</table>

**NUTRITION**

22) Describe the difference between major nutrients and minor nutrients.

23) Explain the importance of cellulose in the diet.

24) Complete the following chart:

<table>
<thead>
<tr>
<th>Compound</th>
<th>Dietary source(s) (pg. 489)</th>
<th>Function(s) (491-494)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CARBOHYDRATES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LIPIDS/FATS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PROTEINS</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


- essential: _______________________________________________________
- nonessential: ___________________________________________________

b. What is a:

- complete protein? ______________________________________________
- incomplete protein? _____________________________________________

26) What is the major function of vitamins? __________________________

27) Identify a few of the most vitamin-rich minerals. ___________________
28) a. Define Basal Metabolic Rate (BMR): ________________________________________________________
   b. What is the average BMR for a person that weighs 154 pounds? _________________________
   c. What affects the BMR in humans? _________________________________________________

29) Define the following clinical terms related to the digestive system and nutrition:

   ☑ cystic fibrosis: _________________________________________________________________
   ☑ cirrhosis: _________________________________________________________________
   ☑ hepatitis: _________________________________________________________________
   ☑ dysentery: _________________________________________________________________
   ☑ appendicitis: _________________________________________________________________
   ☑ hyperthyroidism: _____________________________________________________________
   ☑ polyps: _________________________________________________________________