

MODULE 3

Note: Essay answers must clearly be in your own words. All multiple choice questions have one answer unless otherwise specified. Choose the best response with the information provided.

Answer the following two questions:

- Explain why a patient with liver disease would have intolerance to fatty foods.

The liver produces bile which breaks down fats. If it is not producing bile (or less bile), fats will not be broken down effectively.

- Explain in detail how the stomach contents enter the small intestine.

The pyloric sphincter (valve), located at the base of the stomach, relaxes causing a small quantity of chyme to pass through the opening into the first part of the small intestine. This initiates a reflex that causes the muscles of the sphincter to contract and close the opening temporarily. Then the sphincter relaxes again and allows more chyme to enter.

Answer the following two questions:

1. A doctor is looking to prescribe a larger dose of a vitamin that would not easily cause vitamin toxicity. What type of vitamin would be the best to prescribe? Explain your answer.

- Water soluble vitamin
- Fat soluble vitamin
- All of the above

A. Water soluble vitamin. Fat soluble vitamins are stored within the body's fat stores making it harder for the body to rid itself of them.

2. Explain which digestive system functions are carried out by the large intestine.

Absorption: In the large intestine water and electrolytes are reabsorbed and vitamins are absorbed.

Defecation: Feces travel to the rectum where it is excreted via the anus.

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Answer the following essay question:

- Name and explain the four main functions performed by the digestive system.

The digestive system has four main roles that it performs: ingestion, digestion, absorption, and defecation.

Ingestion is when food enters the mouth.

Digestion or food breakdown occurs when food is moved, mixed, and exposed to enzymes along the gastrointestinal tract. Digestion can be divided into two parts: mechanical and chemical digestion. Mechanical digestion occurs when food is broken down into smaller pieces. This occurs when the teeth chew food, when the stomach mixes food, and as food is moved along the gastrointestinal tract. Chemical digestion is the breakdown of food by enzymes.

Absorption is the process of moving digested food into the blood stream.

Defecation is the excretion of indigestible food from the anus.

Answer the following three questions:

- Match the digestive organ with the one substance it produces: (4

points): Pancreas

F. Lipase

Liver

- **Urea**

Mouth

B. Salivary amylase