**Assessment of Lactase-Related Course Objectives**

**Lecture Exam 4:**

**21.** Briefly describe what happens to the following molecules when they enter the liver:
A. Carbohydrate (ex. fructose)
B. Amino acid
C. Fatty acid (in a chylomicron)

Key:

A. Carbohydrate (ex. fructose): **converted to glucose, stored as glycogen**
B. Amino acid: **converted to blood proteins**C. Fatty acid (in a chylomicron): **converted to LDL, HDL, etc.**

Average: 4/6 (66.67%)

29. Match the enzyme with its function.

|  |  |
| --- | --- |
| converts proenzymes to chymotrypsin, carboxypeptidase and elastase | Answer 1 |
| breaks down disaccharides into monosaccharides | Answer 2 |
| breaks down chylomicrons | Answer 3 |
| removes the amino group from amino acids | Answer 4 |
| breaks down complex carbohydrates | Answer 5 |
| breaks down lactose | Answer 6 |
| breaks down triglycerides into monoglycerides | Answer 7 |
| breaks peptide bonds |  |

**Average: 2.28/3 (76%)**

**Exam average: 74.4%**

**Final lecture exam:**

27. (Pregnancy) Between 24 and 28 weeks of pregnancy, Brienne's doctor recommends a routine gestational diabetes test. Brienne drinks a glucose solution and an hour later receives a blood test. Would a *higher* than normal or a *lower* than normal level of glucose in the blood indicate gestational diabetes? Explain. (4pt)

Average: 3.325/4 (83.125%)

Key: ***Higher* than normal blood glucose levels (2pt) because glucose is not being taken up into the cells from the blood, due to insulin deficiency or receptor malfunction (2pt)**

45. (Pregnancy) The baby develops colic, which involves painful amounts of intestinal gas that make the baby very fussy. One cause of colic is lactose intolerance. What might the pediatrician expect to see if the baby was lactose intolerant? (select all that apply)

Select one or more:

 a. low blood glucose

 b. basic stool

 c. acidic stool

 d. low respiratory rate

 e. high breath hydrogen

 f. high blood glucose

 g. low breath hydrogen

 h. high respiratory rate

Average: 2.28/3 (76%)

Average on full test: 165.61/200 (82.8%)

Lab Final:

1. From the graph of blood glucose levels, taken after patients consumed a liter of milk, which patient(s) would you predict is/are lactose intolerant? You decide to test the patients you think might be lactose intolerant with a breath hydrogen test. What would you expect to find with this test? Why? (2pt)

(data not collected)

**Quiz #12**

**Name Section Grade /10**

**Graph Grade /5**

**Completed worksheet Grade /10**

1. Why is a low stool pH indicative of lactose intolerance? (1pt)
2. What is a hydrolase and how does it relate to metabolism? (2pt)
3. How do peristalsis and segmentation differ? (1pt)
4. Proteins are to amino acids as triglycerides are to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1pt).
5. Lactase is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ enzyme found in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Lactase breaks down \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ into \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. (5pt)

Average: 21.28/25 (85.12%)

Average of other 12 quizzes: 22.57371795 (90.3%)