Quiz III

Biochemistry II December 2, 2008

Name:_____ **ID (学号):**_____

I. Multiple choice questions (选择题):

1. Which one of the following contributes nitrogen to both purine and pyrimidine rings?

A. Aspartate
B. Carbamoyl phosphate
C. Carbon dioxide
D. Glutamine
E. Tetrahydrofolate

Answer _____

2. Insulin has many direct effects on various cell types from such tissues as muscle, fat, liver, and skin. Which of the following cellular activities is **decreased** following exposure to physiological concentrations of insulin?

A. Plasma membrane transfer of glucose
B. Glucose oxidation
C. Gluconeogenesis
D. Lipogenesis
E. Formation of ATP, DNA, and RNA

Answer _____

3. During fatty acid metabolism in humans, coenzyme A (CoA) is different from acyl carrier protein (ACP) in which one of the following ways?

A. Binding of malonic acid with a phosphopantetheine
B. Binding of fatty acids
C. Function in fatty acid oxidation
D. Function in the cytosol
E. Function in fatty acid synthesis

Answer _____

4. Which of the following is **true** of glycogen metabolism?

A. Cyclic AMP-activated protein kinase stimulates glycogen synthase.
B. Phosphorylase kinase is activated by phosphorylation.
C. Phosphorylase b is inactivated by phosphorylation.
D. Cyclic AMP levels are lowered by epinephrine and glucagon stimulation of adenylate cyclase.
E. Glycogen synthesis is stimulated by glucagon.

Answer _____

5. Biosynthetic pathways that require NADPH include which of the following? (***With more than one correct answers***)

A. Gluconeogenesis.
B. Fatty acid biosynthesis.
C. Ketone body formation.
D. Cholesterol biosynthesis.
E. Deoxyribonucleotide biosynthesis.

Answers_____

III. Short-answer questions (简答题):

When you are running a 100 m race, you will consume more O_2 than when you walking slowly during the same time period. After finishing the race, you will continue to breathe at an elevated but declining rate for some minutes. Please answer the following two questions.

(a). Why do the O_2 needs increase dramatically during the race?

(b). Why do the O_2 demands remain high after the race has been completed?