



Sohag University
Faculty of Medicine
Department of Biochemistry



Time: 2Hours
Date: 27-5-2017

الدرجة الثانية

كيمياء
دور ١

Biochemistry Examination
For second year students

All questions to be answered (Formulae are a must whenever possible):

A) On biochemical basis explain : (5marks each)

- 1- State two important catabolic fates of aspartic acid.
- 2- Discuss disposal of ammonia in the brain.
- 3- Importance of lipoprotein lipase.
- 4- Role of cAMP dependent protein kinase in adipose tissue metabolism.
- 5- What is the hazard of elevation of purine catabolic end product.
- 6- The role of phosphatidyl inositolide metabolism in calcium dependent hormone action.
- 7- Hormones that regulates metabolism during fasting and starvation in liver.
- 8- Wilson's disease

B) Illustrate by formula the metabolic reactions :

- 1- Glycine to creatine phosphate (5marks)
- 2- Explain how glyceraldehyde 3-phosphate is formed from glucose by two different Pathways. (10marks)

C) Choose the single best answer (a, b, c, d or e) and put the chosen letter in its corresponding number in a table like that shown at the MCQs (5 marks, ONE mark for each point):

1- Formation of glycogen from glucose in the liver requires.

- a. AMP.
- b. ATP.
- c. UTP.
- d. CIP.
- e. None of the above.

2. The Substrate level phosphorylation step in citric acid cycle is.

- a. Pyruvate to acetyl COA.
- b. Iso-citrate to oxalosuccinate.
- c. ketoglutarate to succinyl COA.
- d. Succinyl COA to succinic acid.
- e. None of the above.

3. Which is a major constituent of lung surfactant?

- a. Dipalmitoyl lecithin
- b. Cholesterol
- c. Phosphatidic acid
- d. Glycerol.

4. The NADPH utilized for fatty acid synthesis can be generated from.

- a. Citrate lyase.
- b. HMP shunt.
- c. Mitochondrial malate dehydrogenase.
- d. Aspartate transaminase

5- Milk is the richest source of,

- a- Iron
- b- Calcium.
- c- Copper
- d- Zinc .

لامتحان الشفوي لجميع الطلبة والطالبات يوم الاحد الموافق ٢٨-٥-٢٠١٧م بعد الامتحان مباشرة في قسم الكيمياء الحيوية الطبية.

Good Luck



Sohag University
Faculty of Medicine
Department of Medical Biochemistry

الفرقة الثانية

كيمياء حيوية
وورثاني



Time: 2Hours
Date: 23-8-2017

Biochemistry Examination
For second year Medical students

All questions to be answered (Formulae are a must whenever possible):
A) Describe the reactions catalyzed by the following enzymes (5 marks each)

- 1- serine decarboxylase
- 2-Arginase
- 3-Acetyl coA carboxylase
- 4-Pyruvate carboxylase
- 5- α -ketoglutarate dehydrogenase.
- 6-Hormone sensitive lipase

B) On biochemical basis explain (5marks each)

- 1-G protein
- 2-Regulation of glycogenolysis.
- 3-Triacylglycerols biosynthesis in adipose tissue is inhibited by decreased glucose oxidation

C) Write down the differences between (5marks each)

- 1-Beta-oxidation and mitochondrial elongation of fatty acids.
- 2- Glucokinase and Hexokinase
- 3-L amino acid oxidase and D amino acid oxidase

D) On biochemical basis explain : (5marks each)

- 1-Phase II xenobiotics metabolism
- 2-HDLn metabolism (diagram) .

E) Choose the single best answer (a, b, c, or d) and put the chosen letter in its corresponding number in a table like that shown at the MCQs (5 marks, ONE mark for each point):

1- The breakdown of the fatty acid $(H_3-(CH_2)_7-COOH)$ via the β -oxidation pathway would yield :

- a- Four mols acetyl units only
- b- Three mols propionyl units
- c- Four mols acetyl units and one mol propionyl unit
- d- Three mols Acetyl units and one mol propionyl unit

2- ApoC-II :

- a- The ligand for LDL-receptors
- b- The activator of LCAT
- c- Acts lipid transfer protein
- d- The activator of lipoprotein lipase

3- The propionyl-CoA generated from β -oxidation of fatty acids containing odd numbers of carbon atom enters the TCA cycle as succinyl-CoA. The net yield of ATP from 1 mol of propionyl-CoA is :

- a- 4 ATP
- b- 5 ATP
- c- 3 ATP
- d- 6 ATP

4- Glut-5 is responsible for

- a- Glucose transport in RBCs
- b- Glucose transport in neurons.
- c- The primary fructose transport.
- d- Transport of glucose against concentration gradient

5- Which of the following minerals helps crystallization, storage and release of insulin:

- a- Selenium.
- b- Chromium.
- c- Zinc.
- d- Potassium.

Good Luck

الامتحان الشفوي والعلى لجميع الطلبة والطالبات يوم الاربعاء الموافق ٢٣-٨-٢٠١٧ م بعد الامتحان النظري في قسم الكيمياء الحيوية الطبية