University of Palestine

Course No: NUTR2305
Course Title:Nutritional Biochemistry
Date:03 /12/2016
No. of Questions: ()
Time: ONE hour
Using Calculator (Yes)

Second Mid-term Exam
First Semester 2016/2017
Total Grade: 15 Marks

Instructors Name: Dr. Hassan Ramadan
Student No.: _____
Student Name: _____
College Name: _____
Dep./Specialist: _____
Using Dictionary (No)

Question (1)Put the sign (√) against the right sentences and the sign (X) against the wrong sentences:

( ) Cholesteryl esters are hydrolyzed by pancreatic cholesteryl ester hydrolase.
( ) Steatorrhea can be caused by disturbances in lipid digestionand/or absorption.
( ) HDL contains 50% cholesterol and cholesteryl esters of its content.
( )The increased blood levels of acetoacetate and *D*- β-hydroxybutyrate causing the condition known as ketosis.
( ) The enzymes of fatty acids oxidation are located in mitochondria matrix.

lingual lipase and gastric lipasebecome important digestive enzymes in individuals with ----------, such as those with ----------.
----------causes the pancreas and the liver to release a solution rich in bicarbonate.
Fatty acidsare converted into their activated form by----------.
Cholesterol may precipitate in the gallbladder,leading to ----------.
---------- permits hormone-sensitive lipase access to the surface of the lipid droplet.

Question (2)Select and circle the correct answer from the following:

1- Which of the following is omega-3 polyunsaturatedfatty acid?
(a) Palmitic acid (b) Lauric acid
(c) Linolenic acid (d) Palmitoleic acid

2- The number of double bonds in arachidonicacid is
(a) 1 (b) 2
(c) 4 (d) 6

3- Long chain fatty acids are first activatedto acetyl-CoA in
(a) Cytosol (b) Microsomes
(c) Nucleus (d) Mitochondria

4- In β−oxidation of fatty acids which of thefollowing are utilized as co-enzymes?
(a) NAD^+ and $NADP^+$ (b) FAD H_2 and NADH + H^+
(c) FAD and FMN (d) FAD and NAD^+

5- Long chain fatty acids penetrate the innermitochondrial membrane
(a) Freely (b) As acyl-CoA derivative
(c) As carnitine derivative (d) Requiring Na dependent carrier

6- Atherosclerosis and coronary heartdiseases are associated with the diet:
(a) High in total fat and saturated fat (b) Low in protein
(c) High in protein (d) High in carbohydrate

7- Free fatty acids are transported in theblood

(a) Combined with albumin (b) Combined with fatty acid binding protein

(c) Combined with β -lipoprotein (d) In unbound free salts

8- The majority of absorbed fat appears inthe forms of

(a) HDL (b) Chylomicron

(c) VLDL (d) LDL

9- Propionyl CoA is formed on oxidation of

(a) Monounsaturated fatty acids (b) Polyunsaturated fatty acids

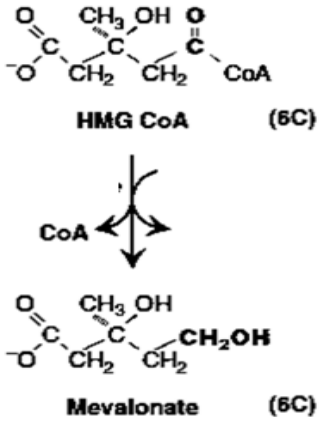
(c) Odd number fatty acids (d) None of these

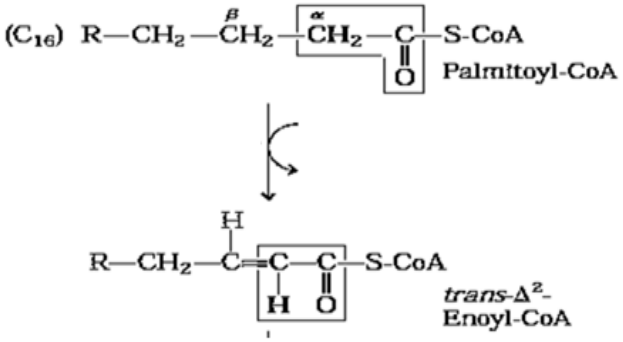
10- An enzyme required for the synthesis ofketone bodies as well as cholesterol is

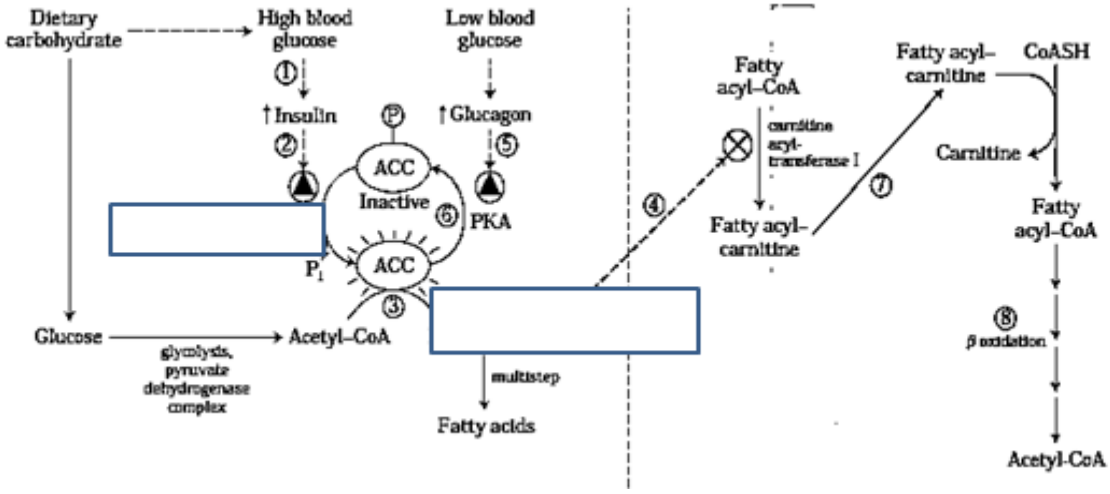
(a) Acetyl CoA carboxylase (b) HMG CoA synthetase

(c) HMG CoA reductase (d) HMG CoA lyase

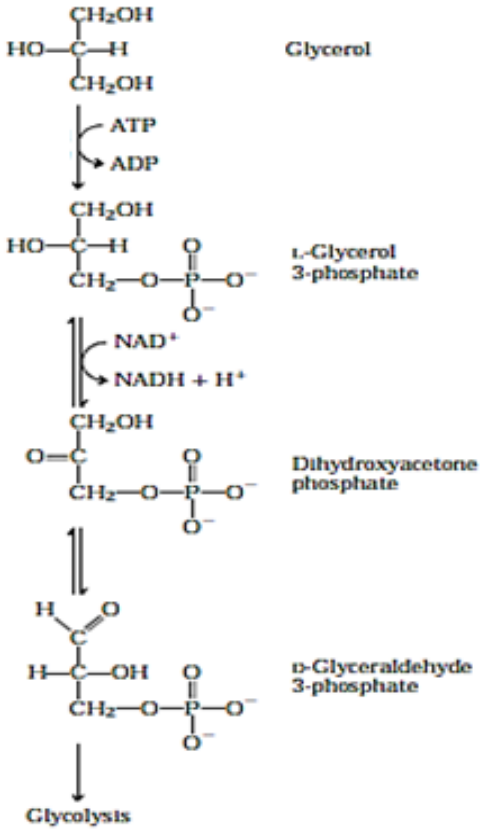
Question (3)Complete the following:

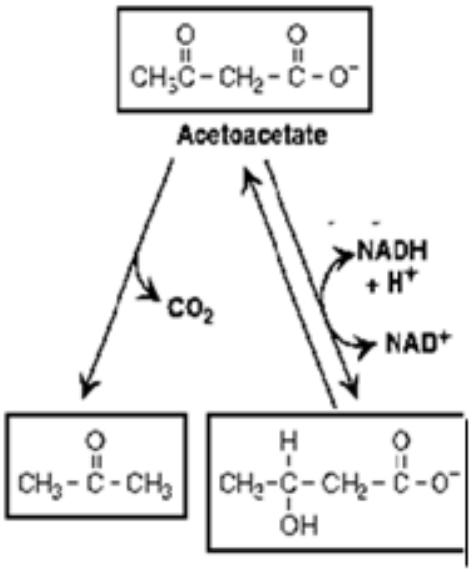






Calculate how may ATPs will be exactly produced from complete oxidation of Palmitoyl-CoA (16C) to CO_2 and H_2O ?





End of Questions

Good Luck