

- 1) Gallstones can easily formed when the bile contains an increased amount of
- Free fatty acids
  - Bile salts
  - Phospholipids
  - cholesterol
- 2) The use of cholestyramine in hyperlipidemic patients is beneficial as this treatment causes an increased activity of the liver enzyme:
- HMG-CoA reductase
  - Lipoprotein lipase
  - 7-alpha-hydroxylase
  - Hepatic lipase
- 3) Number of acetyl coA which result from complete oxidation of palmitic acid (16c)
- 6
  - 7
  - 8
  - 9
- 4) Acetyl coA participate in the following pathways except:
- Krebs cycle
  - Ketogenesis
  - Cholesterol synthesis
  - Gluconeogenesis
- 5) B-oxidation of fatty acids requires all the following coenzymes EXCEPT:
- FAD
  - NAD
  - NADP
  - CoASH

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1	2	3	4	5
D	C	C	D	C

**6) Mevinoline (Lovastatin) is a commonly used drug that inhibits endogenous synthesis of cholesterol. This leads to reduced level of free cholesterol in the cell that in turn leads to:**

- a) Increased activity of ACAT
- b) Increased synthesis of LDL receptors
- c) Increased transfer of cholesterol esters from cells to HDL
- d) Increased synthesis of bile acids by liver

**7) The excessive formation of ketone bodies occurs in the liver. The most important regulatory enzyme is :**

- a) Citrate lyase
- b) Hormone sensitive triglyceride lipase
- c) HMGCoA reductase
- d) HMGCoA lyase

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**8) A 45-year-old man has a mild heart attack and is placed on diet and mevastatin therapy. Which of the following will be result of this therapy?**

- a) Low blood glucose
- b) Low blood LDLs
- c) Ketosis
- d) Lipolysis

**9) When the liver is actively synthesizing fatty acids ,a concomitant decrease in  $\beta$  oxidation of fatty acids is due to:**

- a) Inhibition of a translocation between cellular compartments
- b) Inhibition by end products.
- c) Decrease in adipocyte lipolysis
- d) Detergent effects.

6	7	8	9
B	D	B	A

**10) Propionyl CoA results from oxidation of**

- a) Monounsaturated fatty acids
- b) Polyunsaturated fatty acids
- c) Odd number fatty acids
- d) Even number fatty acids

**11) Ketogenesis occurs in:**

- a) mitochondria of the liver
- b) cytoplasm of the liver
- c) heart
- d) mitochondria of brain

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**12) An enzyme required for biosynthesis of both ketone bodies and cholesterol:**

- a) HMG Co A reductase
- b) HMGC0A synthase
- c) HMGC0A lyase
- d) acetyl Co A carboxylase

**13) Ketogenesis occurs in all of the following condition Except**

- a) diabetes mellitus
- b) starvation
- c) high carbohydrate meals
- d) all of the above

**14) Which of the following fatty acids can yield succinyl CoA ?**

- a) odd number fatty acids
- b) phytanic acid
- c) palmitic acid

10	11	12	13	14
C	A	B	C	A

**15) Activation of fatty acids require all of the following Except:**

- a) ATP
- b) thiokinase
- c) CoASH
- d) Carnitine

**16) B-oxidation of fatty acid occurs in**

- a) cytoplasm
- b) outer mitochondrial membrane
- c) inner mitochondrial membrane
- d) mitochondrial matrix

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**17) carnitine acyl-carnitine translocase (CACT) is present in:**

- a) cytoplasm
- b) inner mitochondrial membrane
- c) mitochondrial matrix
- d) outer mitochondrial membrane

**18) All of the following are causes of hypercholesterolaemia Except:**

- a) diabetes mellitus
- b) obstructive jaundice
- c) deficiency of LDL-receptors
- d) hyperthyroidism

**19) B-oxidation of fatty acid can be summarized as follow**

- a) dehydrogenation, hydration, hydrogenation and cleavage
- b) dehydrogenation, hydration, dehydrogenation and cleavage
- c) dehydrogenation, dehydration, dehydrogenation and cleavage
- d) dehydrogenation, decarboxylation dehydrogenation and cleavage

15	16	17	18	19
D	D	B	D	B

20) Which of the following is manifested by hypoglycemia?

- a) Gaucher disease
- b) Carnitine deficiency
- c) Refsums disease

21) Insulin hormone inhibits carnitine shuttle through:

- a) Increasing the affinity between malonyl CoA and CPT-II.
- b) Increasing the affinity between malonyl CoA and CPT-1.
- c) Decreasing the affinity between malonyl CoA and CPT-1.
- d) Decreasing the affinity between malonyl CoA and CPT-II.

22) Increased levels of malonyl CoA inhibit the transfer of fatty acids into mitochondria as it:

- a) inhibits the synthesis of carnitine
- b) inhibits carnitine acyl transferase I (CAT I)
- c) inhibits carnitine acyl transferase II (CAT II)
- d) inhibits the cytosolic activation of fatty acids

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23) B-oxidation occurs in the following organs except

- a) Heart
- b) Brain
- c) Liver

24) Normal blood cholesterol is:

- a) 150 -220 mg/dl
- b) 400-500 mg/dl
- c) 70-120 mg/dl

25) Propionyl CoA is produced in the .....cycle of fatty acid oxidation

- a) 1<sup>st</sup>
- b) 2<sup>nd</sup>
- c) last

20	21	22	23	24	25
B	B	B	B	A	C

26) *Exogenous TAG is transported from intestine to liver by.....*

- a) LDL
- b) HDL
- c) chylomicrons

27) *Type 1 hyperlipoproteinemia is due to deficiency of.....*

- a) chylomicrons
- b) lipoprotein lipase
- c) apo D
- d) cholesterol

28) *..... is a good cholesterol*

- a) LDL
- b) HDL
- c) VLDL

29) *The optimal ratio of LDL/HDL is*

- a) 4
- b) 6
- c) 8

30) *..... is rich in cholesterol esters*

- a) HDL-2
- b) HDL-3
- c) discoidal HDL

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26	27	28	29	30
C	B	B	A	A

31) Defect in LDL receptors will lead to type..... hyperlipoproteinemia

- a) 1
- b) 2
- c) 3
- d) 4

32) During reproductive period, hypocholesterolemia occurs because the estrogen increases the number of .....receptors on liver

- a) VLDL
- b) LDL
- c) HDL

33) ..... molecule of acetyl coA are needed for synthesis 1 molecule cholesterol

- a) 3
- b) 5
- c) 18

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31	32	33
B	B	C