



Medical Committee
The University of Jordan

#لجنة_2013

Biochemistry 2

Mid exam:

1- doesn't have polymorphic forms:

- A) ceruloplasmin
- B) transferrin
- C) haptoglobin
- D) transthyretin
- E) immunoglobulin A

2- it is an acute phase protein:

- A) fibrinogen
- B) transferrin
- C) albumin
- D) transthyretin
- E)

3- NFkB functions:

- A) while being in the cytosol
- B) after translocated to the cytosol
- C) stimulates Interleukin 1
- D) activates gene transcription
- E)

4- Concentration of albumin:

5- doesn't cause emphysema:

- A) SZ
- B) MZ
- C) FS
- D) smoking

E) presence of methionine-sulfoxide at residue no. 358

6- prevents loss of hemoglobin in urine:

A) ceruloplasmin

B) haptoglobin

C) alpha1- antitrypsin

D) alpha1- fetoprotein

E)

7- the least no. Of amino acids exist in the hypervariable region of one variable domain equals:

A) 7

B) 12

C) 21

D) 42

E)

8- which of the following Igs has/have least flexibility:

A) IgM & IgE

B) IgM & IgA

C) IgE & IgD

D) IgD & IgA

E)

9- IgG contains B-strands extra in the variable region in comparison with the constant region:

A) one

B) two

C) three

D) four

E) none

10- right about J-chain:

A) provide localized protection

B) IgG dimer has 1 J-chain

C) IgM hexamer has 1 J-chain

11- if the newborn has an infection he responds by:

A) IgA

B) IgG

C) IgE

D) IgA & IgG

E) he can't produce an immune response

12- if you have the following rxns and their delta G values at standard conditions ...

$A + B \rightarrow C + \text{Pi}$ $\Delta G' = -43.0$

$\text{ATP} \rightarrow \text{ADP} + \text{Pi}$ $\Delta G' = -30.5$

The value of delta G at standard conditions for the following RXN equals:

$A + B + \text{ADP} \rightarrow C + \text{ATP}$

A) -73.5

B) +73.5

C) -12.5

D) +12.5

E) we can't find it out unless we have K_{eq}

13- about oxygen:

A) has a high negative reduction potential , thus easily reduces other substances

B) has a high positive reduction potential , thus easily reduces other substances

C) has a high negative reduction potential , thus easily oxidizes other substances

D) has a high positive reduction potential , thus easily oxidizes other substances

E)

14- Putting an inhibitor of succinate dehydrogenase will cause a decrease in the concentration of:

- A) citrate
- B) pyruvate
- C) isocitrate
- D) fumarate
- E) acetyl Co-A

15- 1 mole acetyl CoA undergoes citric acid cycle and produce 2 Moles of CO₂ , which could be a product of this ?!

- A) 1 mole NADH
- B) 1 mole FADH₂
- C) 1 mole oxaloacetate
- D) 1 mole citrate

In addition to previous post :

All the following b/t step G3-p and 3p except : phosphodpglycerate kinase

common b/t alcohol and lactate pathway : both reduce NADH

Ca²⁺ : activate phosphoeerylase kinase

phosphorylate and glucagon will inhibit : glycogen synthase

Enzyme revrse step and give energy : enolase

cori cycle : i guess glucose :|

Succinate DH deficiency will incerease : succinate

1- one of the following is common in both glycogen synthesis and break down : Glucose-1-phosphate

2- muscles can't break down glyocgen to maintain normal blood sugar because : it lacks
Glucose-6-phosphatase

3- A question about cori cycle jawbto ATP

4- the common intermediate in using pyruvate and glycerol in gluconiogenesis : Dihydroxyacetone

5- Patient with glycogen storage disease characterized by muscle weakness and normal blood lactate has deficiency in : Glycogen phosphorylase

6-this reaction

pyruvate + ... + ... >>> acetyl CoA + ... + ... with production of NADH

7- Concentration of albumin in blood plasma : 3.4-5 g/100 ml

8- The least number of hypervariable amino acids in an immunoglobulin domain : 21 because the immunoglobulin domain with the least stretches is variable domain of the light chain and it contains 3 stretches of amino acids $7 \times 3 = 21$

9- Aresnate is an inhibitor that can bind to Lipoate which on the following will be affected : Alpha keto glutarate and pyruvate dehydrogenase complexes

10- one of the following is an acute phase protein : Fibrinogen

11-About J- Chain what is correct : IgM hexamer contains 1 J-Chain

12- One of the following can't be used as a substrate for gluconeogenesis : Acetyl-CoA

13-the reactions of converting Glyceraldehyde-3-phosphate to 3-Phosphoglycerate involves all the following except : Oxidation of NADH To NAD⁺

Final exam:

1-Complete the reaction

Malate + A \rightarrow B + C + Pyruvate

B, C have NADPH or CO₂

2-The product of acetyl coA carboxylase inhibits : The transport of acyl-CoA through the mitochondria

3- Which of the following is not an antioxidant : Uric Acid

4-Milky appearance : Chylomicron remnant

5-the carbon skeleton of Serine is used to produce : Pyruvate

6-All the following situations help to correct the condition of hypoglycemia during Fasting Except : Activation of pyruvate dehydrogenase

7- Glucogenesis is activated in the kidneys during Prolonged fasting

8-in oleic acid β - Oxidation : 7 FADH₂

9-eshi kan jawabo HDL

10-Patients with severe hyperglycemia (eshi zy heek)suffer from cataract and many other stuff because : Sorbitol is trapped inside cells

11-In cases of Galactosemia galactose is provided for the synthesis of cellular stuff from the reaction catalyzed by : UDP-hexose-4-Epimerase

12-Familial hypercholesterolemia : No LDL receptors

13-the reaction that fix nitrogen on structures is Alpha-ketoglutarate ---> Glutamate

14-2 nitrogens of urea are from glutamate through : oxidative deamination +transamination

15-Neuman-pick disease : No degradation of sphingomyelin

16-fereshi kan jawabo eno sulfonamides are used to inhibit folic acid synthesis in humans

17-a girl decided to go into a fat free diet which of the following will be deficient in her blood : Arachidonic acid

18-all of the following about hormone sensitive lipase is true except : Found extracellular

19-rate limiting step of cholesterol esterification : addition of -OH at carbon number 7

20-about H₂O₂ what is wrong : it is a FREE RADICAL and ROS (it is not free radical)

21-first step of urea cycle 2ATP--> 2 ADP +Pi

22- About fermentation of alcohol which is wrong is produce 1 ATP per glucose

23-In patients with Combined immunodeficiency they are unable to convert : Adenine ---> inosine

24-produces Phosphocholine from phosphatidyl choline --> phospholipase C

25-Vitamin D is produced from : Dihydrocholesterol

26-essential amino acids are Valine leucine and isoleucine

27-One of the following is associated with PKU : mental retardation if not treated

28- which of the following must be added on ceramide to synthesize sphingomyelin : Phosphatidyl choline

29-A patient that shouldn't eat plant chlorophyll things has problems in : Alpha oxidation

30-all the followings are coenzymes of Pyruvate dehydrogenase except : PLP

31-The enzymes that catalyze oxidative decarboxylation in TCA : isocitrate dehydrogenase + Alpha-ketoglutarate dehydrogenase

32-about Monosaccharides one of the following is wrong : HFI is caused from a deficiency in fructokinase