

I tried to put as many questions as possible , but unfortunately only answers were found without the questions .

These are some questions from doctor2015 med exam :

1. One of them isn't acute phase protein : transferrin
2. Protein that maintain hemoglobin : haptoglobin
3. Correct about albumin : related to bilirubin toxicity
4. Pyruvate carboxylase forms : oxaloacetate
5. What is false about PKA :
6. What is the most severe hypoglycemia enzyme : G.6.P
7. Lactose is formed by glucose with : UDP-galactose
8. What is the enzyme in glycolysis that produces a product that in the next rxn produces energy by substrate level phosphorylation not by ETC : enolase
9. What induces glycogen degradation : inhibiting phosphodiesterase
10. A female has galactose intolerance , still the mammary glands can produce lactose by : epimerization of UDP-galactose
11. Lactose synthase is made of glucose and : UDP-galactose
12. Which statement is correct : F2,6BP can be synthesized from F1,6,BP using isomerase
13. Hormones sensitive pathway are : activated by cAMP pathway
14. What is true about GSH : tripeptide
15. Decrease all proteins : kidney failure
16. What enzyme doesn't work during fasting state : pyruvate dehydrogenase
17. What is correct about intestinal membrane : the brushes of intestinal membrane don't absorb disaccharides
18. If we transferred the FADH2 electrons directly to O2 , how much energy we will get : 41
19. What regulates the ETC : ADP
20. Which combination of these 2 is false : glycogen phosphorylase is activated by glucose.6.p
21. Someone was running every morning , the energy yield from steric acid : 146

Doctor2013 med exam :

1. common b/t alcohol and lactate pathway : both reduce NADH
2. Ca²⁺ : activate phosphoenolpyruvate kinase
3. phosphorylate and glucagon will inhibit : glycogen synthase
4. Enzyme reverse step and give energy : enolase
5. Succinate DH deficiency will increase : succinate
6. one of the following is common in both glycogen synthesis and break down : Glucose-1-phosphate

7. muscles can't break down glycogen to maintain normal blood sugar because : it lacks Glucose-6-phosphatase
8. the common intermediate in using pyruvate and glycerol in gluconeogenesis: Dihydroxyacetone
9. Patient with glycogen storage disease characterized by muscle weakness and normal blood lactate has deficiency in :
Glycogen phosphorylase
10. Arsenic is an inhibitor that can bind to Lipoate which on the following will be affected : α ketoglutarate and pyruvate dehydrogenase complexes
11. One of the following can't be used as a substrate for gluconeogenesis : Acetyl-CoA
12. the reactions of converting Glyceraldehyde-3-phosphate to 3-Phosphoglycerate involves all the following except : Oxidation of NADH To NAD+

1-it is an acute phase protein:

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

2-NFKB functions:

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

3-Concentration of albumin =

3.4-5 g/100 ml

4-doesn't cause emphysema:

- A) SZ
- B) MZ
- C) FS
- D) smoking
- E) presence of methionine-sulfoxide at residue no. 358

5-prevents loss of hemoglobin in urine:

- A) ceruloplasmin
- B) haptoglobin
- C) alpha1- antitrypsin

D) alpha1- fetoprotein

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



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



A) -73.5

B) +73.5

C) -12.5

D) +12.5

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

7-Concerning 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

9-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

10- 1 mole acetyl CoA undergoes citric acid cycle and produce 2 Moles of CO_2 , which could be a product of this ?!

A) 1 mole NADH

B) 1 mole FADH_2

C) 1 mole oxaloacetate

D) 1 mole citrate

Questions on chapters

7,8,9,10,11 1)Inhibitor of ETC

at FMN , CoQ is :

- A. Amytal
- B. Retenon
- C. Antimycin
- D. Cynide
- E. A&B

2) What is the net yield of NADH when 1 mole of glucose 6-phosphate is oxidized by aerobic glycolysis to yield pyruvate?

- A. 0 mole NADH
- B. 1 mole NADH
- C. 2 Mole NADH
- D. 3 mole NADH

3) The most important controlled step in the glycolytic pathway is: A. the formation of fructose 1,6 biphosphate

- B. formation of glucose-6-phosphate
- C. Formation of glyceraldehyde-3-phopshate
- D. formation of fructose-6-phosphate
- E. formation of PEP

4) activators of the enzyme pyruvate kinase include:

- A. Insulin
- B. Fructose1,6,biphosphate

C. Fructose 2,6biphosphate

D. A + B

E. None of the above

5) which enzyme catalyses reaction of PEP to pyruvate? A. Enolase

B. Pyruvate kinase

C. phosphoglycerate

kinase D. Mutase

E. Hexokinase

6) Glucagon controls the entry of glycolysis by altering the enzymatic action of PFK2, this results in the inhibition of :

A. Fructose,6,phosphate into fructose,1,6biphosphate

B. Glucose6phosphate into fructose6,phosphate

C. Fructose1,6biphosphate into fructose2,6,biphosphate

D. Fructose1,6biphosphate into fructose 6,phosphate

7) which enzyme participates in both glycolytic and gluconeogenic pathways? A. Glucose-6-phosphate

B. PEP carboxylase

C. Fructose-

1,6,phosphatase D.

Glucokinase

E. Glyceraldehyde 3-phosphate dehydrogenase

8) Fructose 2,6,biphosphate :

- A. is required for gluconeogenesis
- B. stimulates fructose 1,6,biphosphatases
- C. increased by cAMP
- D. inhibits PFK1

9) Rate of Glycolysis is increased by

- A. Increased Insulin/glucagon ratio
- B. ATP
- C. Citrate
- D. Increased glucagon/insulin ratio

10) Most of the ATP made during catabolism through:

- A. First stage
- B. Second stage
- C. Third stage
- D. all stages equally

11) which of the following enzymes are regulated?

- A. Glucokinase/hexokinase
- B. Aldolase
- C. Pyruvate Kinase
- D. A+C
- E. none of the above

12) rate limiting enzyme of glycolysis : A. hexokinase

B. phosphatase1

C. Phosphofructokinase1

D. Aldolase

E. glucokinase

13) the enzyme having low k_m and low v_{max} for glucose is : A. hexokinase

B. phosphatase1

C.

Phosphofructokinase1

D. Aldolase

E. glucokinase

14) Pyruvate carboxylase

A) requires acetyl coA for activity

B) catalyses an irreversible reaction in glycolysis

c) requires biotin

D) A+B

E) A + C

16) Which is inhibited by glucose-6-phosphate :

A. hexokinase

B.

glucokinase

C. A + B

D. none

17) Which of the following enzymes is found in the liver but not in the

muscle?

- A. Hexokinase
- B. Glucose-6-phosphatase
- C. Glycogen phosphorylase
- D. Lactate dehydrogenase

18) which of the following when found in less than normal amount results in glycogen storage disease V?

- A. Hexokinase
- B. Glucose-6-phosphatase
- C. Glycogen phosphorylase
- D. Lactate dehydrogenase

19) In the cori cycle, carbon in the form of lactate carried by blood to liver then back to the muscle in form of?

- A. glucose
- B. pyruvate
- C. ethanol
- D. Acetyl CoA
- E. ATP

20) a substrate for glycogen synthase is :

- A. Glucose-6-phosphate
- B. glucose-1-phosphate
- C. UDP-glucose
- D. free glucose

E. none of the above

21) Both glucagon and epinephrine stimulate _____ and inhibit _____.

- A. glycogen synthesis / breakdown
- B. glycogen breakdown / synthesis
- C. glycolysis / gluconeogenesis
- D. cAMP breakdown / cAMP formation
- E. Glucose uptake / release

22) Which enzyme activates glycogen phosphorylase? A. glycogen phosphorylase

B. Protein Kinase A

C. Debranching

enzyme D.

Phosphorylase kinase

E. Phosphoprotein phosphatase

23) Which enzyme inactivates phosphorylase kinase? A. glycogen phosphorylase

B. Protein Kinase A

C. Debranching

enzyme D.

Phosphorylase kinase

E. Phosphoprotein phosphatase

24) Which of the following enzymes cleaves glucose residues from glycogen chains?

A. glycogen phosphorylase

- B. Protein Kinase A
- C. Debranching enzyme
- D. Phosphorylase kinase
- E. Phosphoprotein phosphatase

25) Insulin promotes glycogen synthesis in the liver by

- A. inhibiting glycogen synthase
- B. binding to phosphorylase
- C. causing the dephosphorylation of both phosphorylase and glycogen synthase
- D. activating phosphorylase
- E. facilitating the entry of glucose to the cell

26) All of the following can be broken down in our body except :

- A. cellulose
- B. Starch
- C. amylopectin
- D. glycogen
- E. Triohose

28) Glycogen phosphorylase is :

- A. catalyses the rate limiting step of glycogenolysis
- B. releases glucose 6-phosphate

C. acts on branched chain of glycogen

D. A + B

E. A + B + C

29) Which enzyme forms $\alpha(1-6)$ linkages? A. glycogen phosphorylase

B. Protein Kinase A

C. glycogen branching enzyme D. Phosphorylase kinase

E. Phosphoprotein phosphatase

30) $\alpha(1-4)$ bond is found in:

A. sucrose

B. Maltose

C. Lactose

D. Galactose

31) Which of the following slows down TCA?

A. increased concentration of AMP and pyruvate

B. NAD⁺ and ADP

C. calcium ions

D. ATP and NADH

E. fumarate

32) All of the following co-factors are required in the pyruvate dehydrogenase complex except :

A. lipoic acid

B. NAD⁺

C. TPP

D. FAD

E. All are required

33) NADH is produced in all TCA reactions except : A) Isocitrate dehydrogenase

B) Malate dehydrogenase

C) succinate dehydrogenase

D) α -keto-glutarate dehydrogenase E) it is produced in all of them

34) Substrate level phosphorylation occurs from which of the following enzymes?

A. lactate dehydrogenase

B. Succinate dehydrogenase

C. succinate thiokinase

D. fumarase

E. hexokinase

35) when having thiamine deficiency, which enzymatic activity do you expect to be decreased?

- A. pyruvate carboxylase
- B. malate dehydrogenase
- C. fumarase
- D. a-ketoglutarate dehydrogenase
- E. lactate dehydrogenase

36) Which of the following reaction does not count as energy yielding?

- A. isocitrate to a-ketoglutarate
- B. fumarate to malate
- C. succinyl coA to succinate
- D. malate to oxaloacetate
- E. None of the above

37) the conversion of PEP to pyruvate requires :

- A. lactate dehydrogenase
- B. PFK1
- C. pyruvate kinase
- D. Glucose-6-phosphate dehydrogenase
- E. All of the above

38) Protein kinase is activated by :

- A. production of cAMP
- B. dissociation of alpha-subunit from complex
- C. release of a GTP molecule
- D. A + B
- E. A + C

39) During well-feed state, all is

true except? A. Glycogen synthase
is activated

B. Insulin production stimulates glycogen
oligotransferase

C. Glycogenolysis is inhibited

D. glycogenin initiates glucose
attachment

E. nothing is false

40) Which of the following results in hepatomegaly?

A. Glycogen storage disease type I

B. Glycogen storage disease type II

C. Glycogen storage disease type III

D. Glycogen storage disease type V

E. Glycogen storage disease type VII

1E	2C	3A	4D	5B	6A	7E	8A	9A	10C
11D	12C	13A	14E	15D	16A	17B	18C	19A	20C
21B	22D	23E	24C	25C	26A	27A	28A	29C	30B
31D	32E	33C	34D	35D	36B	37C	38D	39B	40A

**branching in glycogen is important for :

A. increasing solubility

B. increasing synthesis rate

C. increasing degradation rate

D. All of the above

E. none of the above

Good Luck =)

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