Al Azhar University Gaza
Faculty of Pharmacy
Student's name:
Time: 2 hours

Biochemistry I Final Exam 2017

Part I Multiple choice questions (20 Marks)

1- **Enzyme efficiency can**
   a) Increase the speed of reaction up to 10^6-10^8 times
   b) Yield products 10^2-10^4 / sec
   c) Increase the transitional state energy
   d) A and b
   e) A, b and c

2- **The nature of enzyme is <u>not characterized by</u>**
   a) Active site contains functional amino acids
   b) Allosteric binding site always inhibition signal
   c) The protein part called apo
   d) The vitamin area called co enzyme
   e) The metal part called co factor

3- **Beta lactam antibiotics inhibit bacterial**
   a) Cell wall synthesis competitively
   b) Cell wall synthesis non competitively
   c) Cell wall synthesis irreversibly
   d) Cell wall synthesis reversibly
   e) Nucleus DNA and RNA

4- **Sarine biochemical weapon**
   a) Inhibits acetyl cholinesterase irreversibly
   b) The same mechanism as pesticides
   c) Atropine is useful as antidote
   d) A and c
   e) A, b and c

5- **Fatty acids are**
   a) Synthesized in cytoplasm by F.A. synthase
   b) Degraded in mitochondria by β oxidation
   c) Not synthesized in the body
   d) A and b
   e) B and c

6- **Isoniazide decreases**
   a) Vitamin B1 level
   b) Vitamin B3 level
   c) Vitamin B6 level
   d) A and b
   e) B and c

7- **The only vitamins can synthesized by the body are**
   a) Vitamin D
   b) Vitamin B3
   c) Vitamin K
   d) Biotine
   e) A and B

8- **Flora contributes in vitamins synthesis <u>except</u>**
   a) Vitamin K
   b) Vitamin Biotine
   c) Vitamin B12
   d) Vitamin C
   e) A, b and c

9- **Xerophthalmia is caused from the toxicity of**
   a) Vitamin B3
   b) Vitamin B6
   c) Vitamin A
   d) Vitamin E
   e) Vitamin D

10- **Macrocytic anemia is caused from the deficiency of**
   a) Vitamin B12
   b) Folic acid
   c) Fe
   d) A and b
   e) B and c

11- **The hormones help in digestion are**
   a) Secretine
   b) Cholycystokinine
   c) Gastrine
   d) A and b
   e) All of the above

12- **The absorption of glucose is not characterized by**
   a) Facilitative non insulin at the beginning of the meals
   b) Passive absorption
   c) Active insulin dependent at the end
   d) GLUT channels
   e) Na and glucose transport

13- **Mannose is considered**
   a) Pentose
   b) 2 epimer galactose
   c) 4 epimer glucose
   d) 2 epimer glucose
   e) Glucose diasteriomer

14- All lipid must be carried through the blood by specific proteins

a) Sex hormone binding proteins
b) Vitamin A binding protein
c) Albumin
d) VLDL
e) All of the above

15- The fatty acids from mother to baby are unique because

a) Absorbed easily
b) Carried directly by albumin
c) Small carbon chain to 16c
d) A and b
e) A, b and c

16- The non essential fatty acid is

a) Linoleic acid
b) Palmitic acid
c) Linoleinic acid
d) Arachidonic acid
e) Oleic acid

17- Lipid carrier from GIT to liver is

a) Chylomicrone
b) VLDL
c) LDL
d) IDL
e) HDL

18- Renal osteo-dystrophy may caused due

a) Vitamin D inactivation
b) PTH deficiency
c) Renal disease
d) Increase calcitonin
e) A and c

19- Diarrhea, dermatitis, dementia and may lead to death(4Ds disease) is

a) Beri beri
b) Pellagra
c) Vitamin B6 deficiency
d) Alzheimer
e) None of the above

20- To decrease cholesterol we can use

a) Vitamin B3
b) Atrovastatine
c) Vitamin B6
d) A and b
e) All of the above

Part II Short note questions; Answer only 5 questions (40 Marks)

Add structures to your answers

Q1-Draw these structures; Dermatan sulphate, UG nucleotides in RNA, ceramide, biotine, omega 6 and 9 fatty acid, glycogen and taurodeoxycholic acid.

Q2- with an example; what are the mechanisms of:

a) **Acetyl Co A carboxylase**

b) **ACEI**

c) **D methyl malonyl CoA racemase**

d) ALT

e) Lactate dehydrogenase

f) Vitamin K

Q3- Diagram; what are the substances synthesized from precursors: a) Cholesterol

b) Mannose

c) Galactose

d) Phosphotadic acid

e) Linoleic acid

Q4 -Compare between: a) Isomerase and epimerase

b) Anticancer and anti HIV nucleotides

c) Adrenaline and insulin signals

d) First product, second product and energy inhibition

e) Gaucher and Sanfillipo diseases

Q5- Explain why?

a- Elevation of cholesterol in the blood

c- Excess vitamins B6, A and D may lead to toxicities

d- GAG's sugar derivatives

e- Second messengers raised from different pathways

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b- Different activations steps for vitamins

c- Vitamin A, D and E act as hormones in many actions

d- Niacine and flavine both have two active forms

e- Competitive inhibitors changes the kinetic of enzyme reaction

Q6- Write about

a- Folic acid has many active sites for different reactions

b- Vitamin B6 has many active sites for different reactions