Course Title: Medical Biochemistry II
DT 2nd, Sec A
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Max Marks: 30

Note: There are TWO sections
Section A consist of 15 MCQs and 10 match column questions, each carry ONE mark with grand total of 25 marks.
Choose the appropriate option and write in the ANSWER section.
Section B consist of 2 short questions, with grand total of 5 marks
Write to the point answers, do not give explanation.
ATTEMPT all questions of Section A and Section B

SECTION A

1. **Malnutrition means**
   a. **A person is not eating properly**.
   b. May mean undernutrition or over nutrition.
   c. Someone is starved.
   d. Someone is eating too much.

2. **The first reaction in the citric acid cycle is binding**
   a. Carbon dioxide to a four-carbon (C4) molecule.
   b. **Acetyl-CoA to a C4 molecule.**
   c. Acetyl-CoA to a C5 molecule.
   d. Acetyl-CoA to citric acid.

3. **Macronutrients that provide energy include all except:**
   a. carbohydrate
   b. Proteins
   c. Fats
   d. Fiber

4. **Which process produces both NADH and FADH2?**
   a. The citric acid cycle
   b. Glycolysis
   c. Urea cycle
   d. The preparatory reaction

5. **Which nutrient provides the most amount of energy per gram?**
   a. Carbohydrate
   b. Fats
   c. Protein
   d. Vitamin

6. **At what age do people suffer the most from malnutrition?**
   a. Elderly
   b. Teenagers
   c. Elderly and Children
   d. Teenagers and Children

7. **The preparatory steps of glycolysis breaks**
   a. Glucose into pyruvates.
   b. Pyruvates into glucose.
   c. Glucose into glyceraldehyde-3-phosphate.
   d. Pyruvates into acetyl-CoA and CO2.

8. **Which statement about glycolysis is correct?**
   a. Resulting pyruvate molecules are always directly incorporated into the Krebs cycle
   b. Glycolysis cannot proceed under anaerobic conditions
   c. Three molecules of $NADH_2$ and one molecule of $FADH_2$ are produced
   d. Two net molecules of ATP are produced through substrate-level phosphorylation.

9. Which of the following is a product of glycolysis?

a. GTP
b. Glucose
c. NADH
d. Acetyl CoA

10. Which of the following biological processes will occur under both aerobic and anaerobic conditions in humans?

a. Citric acid cycle
b. Glycolysis
c. Krebs cycle
d. Urea cycle

11. Meat and fish provide the following important nutrient

a. Carbohydrate
b. Protein
c. Lipid
d. Fiber

12. Which of the following product is not created by aerobic glycolysis?

a. Pyruvate
b. Lactic acid
c. NADH
d. ATP

13. Which of the following is not include in the symptoms of kwashiorkor.

a. Cracked and scaly skin
b. Loss of appetite
c. Excess sweating
d. Learning disability

14. What is the definition of overweight?

a. BMI > 18.5

b. BMI 18.5 - 24.9

c. BMI 25 - 29.9

d. BMI 30 and higher

15. Which of the following is not true of the citric acid cycle?

a. All enzymes of the cycle are located in the cytoplasm, except succinate dehydrogenase, which is bound to the inner mitochondrial membrane.
b. In the presence of malonate, one would expect succinate to accumulate.
c. Oxaloacetate is used as a substrate but is not consumed in the cycle.
d. Succinate dehydrogenase channels electrons directly into the electron transfer chain.

Match column A with column B and write the correct option (only correct letter) in column C

Sr. No	A	B		C
16	Lactate	A	polysaccharides starch	**B**
17	Proper growth	B	Macronutrient	**H**
18	Urea	C	Marasmus	**G**
19	Swelling	D	Triose	**J**
20	Fiber	E	Kwashiorkor	**A**
21	Dietary carbohydrates	F	Anaerobic glycolysis	**D**
22	Enlarged liver	G	Non toxic	**E**
23	Pyruvate	H	Balanced diet	**F**

24	Low calorie intake	I	Unsaturated fat	**C**
25	Canola oil	J	Edema	**I**

SECTION B

26. Mention the products of Glycolysis? **(2)**

27. Write down the names of health issues associated with Obesity. **(3)**

ANSWERS

1	**A**	**10**	**B**	**19**	**J**
2	**B**	**11**	**B**	**20**	**A**
3	**D**	**12**	**B**	**21**	**D**
4	**A**	**13**	**D**	**22**	**E**
5	**B**	**14**	**C**	**23**	**F**
6	**D**	**15**	**D**	**24**	**C**
7	**D**	**16**	**B**	**25**	**I**
8	**D**	**17**	**H**	**26**	***2ATP,** ***2NADH** ***Pyruvate**
9	**C**	**18**	**G**	**27**	**1- Heart diseases.** **2- High Blood pressure** **3- Diabetes**