

Course Title: Medical Biochemistry II
Radiology 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 products 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	
17	Proper growth	B Macronutrient	
18	Urea	C Marasmus	
19	Swelling	D Triose	
20	Fiber	E Kwashiorkor	
21	Dietary carbohydrates	F Anaerobic glycolysis	

22	Enlarged liver	G	Non toxic	
23	Pyruvate	H	Balanced diet	
24	Low calorie intake	I	Unsaturated fat	
25	Canola oil	J	Edema	

SECTION B

26. Mention the products of Glycolysis? (2)

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

ANSWERS

1	B	10	B	19	J
2	B	11	B	20	E
3	D	12	B	21	A
4	A	13	C	22	E
5	B	14	C	23	D
6	D	15	A	24	C
7	A	16	F	25	I
8	D	17	H	26	
9	C	18	G	27	

Paper biochemistry

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Name Asim Noor khan

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Program BS radiology

Semester 2nd

Section A

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SECTION B

QNO.26) Mention the product of glycolysis?

Definition

The process in which glucose is broken down to give energy or pyruvate or lactate is known as glycolysis

- Step of glycolysis
- In first step glucose are converted into glucose 6 phosphate with the help of an Enzymes known as hexokinase enzymes
- In the second step glucose 6 phosphate are converted into fructose 6 phosphate With the help of an enzyme known as phosphoglucose isomerase

- In the third step fructose 6 phosphate are converted into fructose 1,6 bis phosphate with the help of an enzyme know as phospo fracto kinase
- In forth step fructose 1,6 bis phosphate are converted into DHAP and GAP
- In Fift step GAP are converted into 1,3 bis phospo glycerat by an enzyme know as glyceralde 3 phosphate dehydrogenase
- In 6th step 1,3 bis phospoglycerat are converted into phospoglycerat by an enzyme know as phospoglycerat kinase
- In 7th steps 3, phospoglycerat are converted into 2 phospoglycerat by an enzyme know as phospoglycerat maltase
- In the 8th steps 2 phospoglycerat are converted into PEP by an enzyme know as Enalase
- In the last steps PEP are converted into pyrovat by an enzyme know as private
- Kinase so the Last product of glycolysis is pyrovate

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Q NO.27) write down the name of health issue associated with the obesity?

ANS. Obesity

- Obesity is a complex disease involving an exsive amount of body fat
- Obesity is not just a cosmetic concern
- It is a medical problem that increase your risk of other disease and health problems such as heart disease diabetes and high blood pressure
- [Heart disease and stroke](#)
- OBESITY
- Obesity mack you more likely to have High blood pressure and abnormal cholesterol levels which are ricks factors for heart disease and stroke

DIABETES

- Obesity can effect the way your body use insulin to control blood sugar levels the rise your risk of insulin resistance and diabetes

CERTEN CANCER

- Obesity May increase your risk of cancer of the uterus overy

DIGESTIVE PROBLEM

- Obesity increase the gallbladder disease and liver problems

SEXAL PROBLEM

- Obesity May cause infertile

OSTEO ARTHRITIS

- Obesity increase the stress placed on weights bring joints in addition

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