

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?**
- The citric acid cycle
 - Glycolysis
 - Urea cycle
 - The preparatory reaction
- 5. Which nutrient provides the most amount of energy per gram?**
- Carbohydrate
 - Fats
 - Protein
 - Vitamin
- 6. At what age do people suffer the most from malnutrition?**
- Elderly
 - Teenagers
 - Elderly and Children
 - Teenagers and Children
- 7. The preparatory steps of glycolysis breaks**
- Glucose into pyruvates.
 - Pyruvates into glucose.
 - Glucose into glyceraldehyde-3-phosphate.
 - Pyruvates into acetyl-CoA and CO₂.
- 8. Which statement about glycolysis is correct?**
- Resulting pyruvate molecules are always directly incorporated into the Krebs cycle
 - Glycolysis cannot proceed under anaerobic conditions
 - Three molecules of NADH₂ and one molecule of FADH₂ 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	B
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	

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- Program Radiology
 - Semester.2nd
 - Class. Section.A
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Section.B

QN.26. mention the products of Glycolysis ?

Ans..... Definition. A process in which Glucose are broken down to give pyrovate or lactate. Pyrovate is also known as pyrovic acid.

Step of Glycolysis.

- **In first step glucose are converted into Glucose 6 phosphates with the help of an enzymes known as hexokinase enzymes.**
- **In second step Glucose 6 phosphates are converted into fructose 6 phosphate with the help of enzymes known as phosphoglucose isomerase.**
- **In third step fructose 6 phosphate are converted into fructose 1 ,6 bis phosphates with the help of an enzymes known as phospho fracto kinase.**
- **In forth step fructose 1,6 bis phosphates are converted into DHAP and GAP .**
- **In Fift step GAP are converted into 1,3 bis phosphoglycerate by an enzymes known as Glyceraldehyde 3 phosphates Dehydrogenase.**
- **In 6th step 1,3 bis phosphoglycerate are converted into 3 phosphoglycerate by an enzymes known as phosphoglycerate kinase.**
- **In 7th step 3 phosphoglycerate are 7th converted into 2 phosphoglycerate by an enzymes known as phosphoglycerate maltase.**

ΔIn 8th step 2 phosphoglycerate are converted into PEP by an enzymes known as Enalase.

PEP are converted into pyrovate by an enzymes known

ΔIn last step

pyruvate kinase...so the last products of Glycolysis is pyruvate.

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QN .27.write down the name of health issue associated with obesity?

Ans.

- **Obesity is a complex disease involving an excessive amount of body fat.**
- **Obesity is not just a cosmetic concern.**
- **It is a medical problem that increases your risk of other diseases and health problems. Such as heart disease, diabetes and high blood pressure.**
- **Heart disease and strokes.**
- **Obesity makes you much more likely to have high blood pressure and abnormal cholesterol levels, which are risk factors for heart disease and stroke.**
- **Diabetes.**
- **Obesity can affect the way your body uses insulin to control blood pressure and sugar levels, which increases your risk of insulin resistance and diabetes.**
- **Certain cancer**
- **Obesity may increase your risk of cancer of the uterus, ovary.**
- **Digestive problem.**
- **Obesity increases the risk of gallbladder disease and liver problems.**
- **Sexual problem.**
- **Obesity may cause infertility**
- **Osteoarthritis.**
- **Obesity increases the stress placed on weight-bearing joints in addition to promoting inflammation within the body.**
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➤ **Thank you.**

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