**Course Title: Medical Biochemistry II**

**Radiology 2nd, Sec A**

**Student Name:**

**Student ID:**

**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**
2. A person is not eating properly.
3. May mean undernutrition or over nutrition.
4. Someone is starved.
5. Someone is eating too much.
6. **The first reaction in the citric acid cycle is binding**
7. Carbon dioxide to a four-carbon (C4) molecule.
8. Acetyl-CoA to a C4 molecule.
9. Acetyl-CoA to a C5 molecule.
10. Acetyl-CoA to citric acid.
11. **Macronutrients that provide energy include all except:**
12. carbohydrate
13. Proteins
14. Fats
15. Fiber
16. **Which process produces both NADH and FADH2?**  
    a. The citric acid cycle  
    b. Glycolysis  
    c. Urea cycle  
    d. The preparatory reaction
17. **Which nutrient provides the most amount of energy per gram?**
    1. Carbohydrate
    2. Fats
    3. Protein
    4. Vitamin
18. **At what age do people suffer the most from malnutrition?**
19. Elderly
20. Teenagers
21. Elderly and Children
22. Teenagers and Children
23. **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.
24. **Which statement about glycolysis is correct?**
25. Resulting pyruvate molecules are always directly incorporated into the Krebs cycle
26. Glycolysis cannot proceed under anaerobic conditions
27. Three molecules of NADH2 and one molecule of FADH2 are produced
28. Two net molecules of ATP are produced through substrate-level phosphorylation.

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

1. GTP
2. Glucose
3. NADH
4. Acetyl CoA

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

1. Citric acid cycle
2. Glycolysis
3. Krebs cycle
4. Urea cycle

**11. Meat and fish provide the following important nutrient**

1. Carbohydrate
2. Protein
3. Lipid
4. Fiber

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

1. Pyruvate
2. Lactic acid
3. NADH
4. ATP

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

* 1. Cracked and scaly skin
  2. Loss of appetite
  3. Excess sweating
  4. 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?**

* 1. All enzymes of the cycle are located in the cytoplasm, except succinate dehydrogenase, which is bound to the inner mitochondrial membrane.
  2. In the presence of malonate, one would expect succinate to accumulate.
  3. Oxaloacetate is used as a substrate but is not consumed in the cycle.
  4. 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 BS. Radiology
* 2nd Semester (Section A)
* Paper:- Biochemistry
* Mam. Mr. Sana Khan
* Mid Term Exam
* Date: 13/04/2020

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Section B

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QNo.26:) Mention the product of glycolysis?

* Ans:- Definition

The process in which golcose is break down to give energy or private or lactate is know as glycolysis

* Step of glycolysis
* In first step golcose are converted into golcose 6 phosphate with the help of an enzymes know as hexokinase enzymes
* In the second step golcose 6 phosphate are converted into froctose 6 phosphate with the help of an enzymes know as phosphogolcose isomerase
* In the third step froctose 6 phosphate are converted into froctose 1,6 bis phosphate with the help of an enzymes know as phospho fracto kinase
* In the fourth step froctose 1,6 bis phosphate are converted into DHAP and GAP
* In the fifth step GAP are converted into 1,3 bis phospho glycerate by an enzymes know as glycerate 3 phosphate dehydrogenase
* In 6th step 1,3 bis phosphoglycerat are converted into phosphoglycerat by an enzymes know as phosphoglycerat kinase
* In 7th step 3, phosphoglycerat are converted into 2 phosphoglycerat by an enzymes know as phosphoglycerat Maltase
* In the 8th step 2 phosphoglycerat are converted into PEP by an enzymes know as Enalase
* In the last step PEP are converted into pyrovat by an enzymes know as pyrovat
* Kinase so the last product of glycolysis is pyrovat

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QNo.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 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 risks 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 problem

SEXUAL PROBLEM

* Obesity may cause infertile

OSTEO ARTHRITIS

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

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