**Course Title: Medical Biochemistry II**

**DT 2nd, Sec A**

**Student Name:**

**Student ID:**

**Max Marks: 30**

**Note: There are TWO sections**

**Section A consist of 5 MCQs and 10 match column questions, each carry ONE mark with grand total of 15 marks.**

**Choose the appropriate option and write in the ANSWER section.**

**Section B consist of 2 questions, with grand total of 15 marks**

**ATTEMPT all questions of Section A and Section B**

**SECTION A**

1. **The first reaction in the citric acid cycle is binding**
2. Carbon dioxide to a four-carbon (C4) molecule.
3. Acetyl-CoA to a C4 molecule.
4. Acetyl-CoA to a C5 molecule.
5. Acetyl-CoA to citric acid.
6. **Which process produces both NADH and FADH2?**  
   a. The citric acid cycle  
   b. Glycolysis  
   c. Urea cycle  
   d. The preparatory reaction
7. **Which nutrient provides the most amount of energy per gram?**
   1. Carbohydrate
   2. Fats
   3. Protein
   4. Vitamin

**4. 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

**5. 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** |
| 6 | Lactate | A | polysaccharides starch |  |
| 7 | Proper growth | B | Macronutrient |  |
| 8 | Urea | C | Marasmus |  |
| 9 | Swelling | D | Triose |  |
| 10 | Fiber | E | Kwashiorkor |  |
| 11 | Dietary carbohydrates | F | Anaerobic glycolysis |  |
| 12 | Enlarged liver | G | Non toxic |  |
| 13 | Pyruvate | H | Balanced diet |  |
| 14 | Low calorie intake | I | Unsaturated fat |  |
| 15 | Canola oil | J | Edema |  |

**SECTION B**

**16**. What are the steps involved in Glycolysis? **(10)**

**17.** Define Obesity and enlist the health issues associated with Obesity. **(5)**

**ANSWERS**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **1** |  | **6** |  | **11** |  |
| **2** |  | **7** |  | **12** |  |
| **3** |  | **8** |  | **13** |  |
| **4** |  | **9** |  | **14** |  |
| **5** |  | **10** |  | **15** |  |