

**Madhya Pradesh Medical Science University, Jabalpur****MBBS First Professional Examination Feb-2023****Paper Code- 23AM0000100031****Subject- Biochemistry (New Scheme)****Paper I**

Time : 3:00 Hours

Maximum Marks :100

Instructions:

- a) All questions are compulsory
- b) Draw diagrams wherever necessary
- c) Answers of Questions and Sub questions must be written strictly according to the serial order of question paper.
- d) MCQ has to be answered in theory answer book
- e) Please write MCQ answer neatly and in serial order with black or blue pen in brackets for example:- 1. (a) 2. (b)
- f) MCQ has to be answered only once, any kind of repetition or cutting or erasing or whitener will be considered as malpractice,  
  
Such answers will not be counted in the marks and action will be taken according to UFM rules of University
- g) Subjective Answer should be answered in up to 30 words per marks. For example if a question having 2 marks answer should be answered in up to 60 words.
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**Q.1 Total MCQs : 10****10x1=10**

1. Lysosomes are produced by the

- a. Nucleus
- b. Mitochondria
- c. Golgi apparatus
- d. Ribosomes

2. Transmembrane proteins serve as

- a. Ion channels
- b. Carriers
- c. Receptors
- d. All the above

3. Lactose intolerance is due to the deficiency of the enzyme.

- a. Lactase
- b. Amylase
- c. Sucrase
- d. All the above

4. Which of the following is an epimeric pair.

- a. Glucose and
  - b. Galactose and
  - c. Fructose and
  - d. Lactose and maltose
- galactose
- mannose
- galactose

5. Pellagra is due to the deficiency of

- a. Thiamine
- b. Niacin
- c. Riboflavin
- d. Vitamin B12

6. RDA of copper for adults is

- a. 5-1mg
- b. 2-3 mg/dl

- c. 3.5-4.5 mg  
d. 9-11 mg/dl
7. Normal LDL cholesterol level is-
- a. < 100 mg/dl  
b. > 150 mg/dl  
c. 20- 30mg/dl  
d. 200-220 mg/dl
8. Which of the following has a protective effect against malaria
- a. Hb Bart  
b. HbF  
c. HbM  
d. HbS
9. Glycine is used for the synthesis of-
- a. Thyroxin  
b. Niacin  
c. Serotonin  
d. Heme
10. Bence-Jones proteins are excreted in the urine of the patients of
- a. Diabetes mellitus  
b. Nephrotic syndrome  
c. Multiple myeloma  
d. All the above

**Q.2 Long Answer Questions****2x20=40**

- a. Give an account on how fatty acids are activated and transported into the mitochondria. Describe the reactions of Beta – oxidation in the mitochondrial matrix. Add a note on ATP yield from palmitate.

b. Case study:- A 57-year old male was brought to the emergency with a history of 12 hrs shortness of breath, coughing and tightness in the chest region. The symptoms appeared suddenly. His past medical history is significant for diabetes mellitus and hypertension. He is a known smoker and alcoholic. At the time of admission his BP was 180/100mm of Hg. The laboratory tests showed CKMB as 45 IU/L (Ref Range 5-25 IU/L).

1. Suggest the probable diagnosis ?
2. Define enzymes and its classification.
3. Define isoenzyme also discuss different isoenzyme forms of any two relevant enzyme along with their characteristics and clinical significance
4. Management

**Q.3 Brief Answer Questions****6X05=30**

- a. Structure of cell-membrane.
- b. Discuss the synthesis of glucose from non carbohydrates sources.
- c. Classify protein based on their functions with suitable example.
- d. Causes and deficiency manifestations of calcium.
- e. Communication skill and its importance in doctor patient relationship.
- f. Detoxification by conjugation.

**Q.4 Short Answer Questions****10X02=20**

- a. Risk factors for Atherosclerosis.
- b. What is oxidative phosphorylation?
- c. Biochemical role of oxytocin and ADH.
- d. Deficiency of vitamin C.
- e. Why Cataract is seen in diabetic patient.
- f. Respiratory acidosis.
- g. Why low levels of Vitamin B12 is seen in vegetarians.
- h. Biologically important peptides.
- i. Disorder of urea cycle.
- j. Energetics of glycolysis.

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