

**Madhya Pradesh Medical Science University,
Jabalpur
MBBS First Professional Examination Nov-2023
Subject- Biochemistry
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 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. (c)
- 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 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 should answered in up to 60 marks.

Q1. Total MCQs: 10 10 x 1 = 10

1. ~~A homopolysaccharide among the following is~~_____

- (a) heparin (b) hyaluronic acid (c) dermatan sulfate (d) cellulose
2. Nyctalopia is
(a) drying of eyes (b) destruction of cornea (c) blindness
(d) inability to see in dim light
3. Which is the most common amino acid present in collagen
(a) lysine (b) glycine (c) threonine (d) proline
4. The most important clinical importance of the BMR is that it is an indicator of
(a) thyroid dysfunction (b) gastrointestinal disturbances
(c) liver ailments (d) nephritis
5. Vegetarians, who do not consume milk should take daily
(a) vit. B1 (b) vit. B6 (c) vit. B12 (d) vit. C
6. During respiratory burst, all of the following reactive oxygen species (ROS) are formed, EXCEPT
(a) superoxide (b) hydrogen peroxide (c) nitric oxide
(d) hydroxyl radical
7. Copper deficiency occurs commonly in
(a) acrodermatitis enteropathy (b) wilson's disease (c) xeroderma pigmentosum (d) menke's disease
8. Which of the disease listed below is a lysosomal storage disease
(a) Zellweger syndrome (b) inclusion cell bodies (c) pompe's disease (d) leber's neuropathy
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9. 25-hydroxylation of vitamin D occurs in
(a) skin (b) liver (c) kidneys (d) intestinal mucosa
10. Vitamin C enhances intestinal absorption of
(a) potassium (b) iodine (c) iron (d) none of the above

Q2. Long Answer Questions 2 x 20 = 40

- a. Define enzymes with classification. Write different types of enzymes inhibition with suitable examples. Explain isoenzymes with examples. Indicate the importance of enzyme studies in myocardial infarction.
- b. A 50-year-old obese lady complains of excessive thirst and hunger, with increased urination. On physical examination she appeared normal. Her laboratory report showed the following findings; random plasma glucose level: 250 mg/dL. Urine was positive for glucose with glucose strips. Her fasting and postprandial plasma glucose levels were 130 mg/dL and 195 mg/dL respectively
- What is your diagnosis and write the biochemical basis of the disorder
 - Which biochemical investigations will help in diagnosis of the disease
 - What are the characteristic clinical features of the disorder
 - Mechanism of action of responsible hormone

Q3. Brief Answer Questions 6 x 05 = 30

- a. What does it mean to be a doctor

- b. Regulation of plasma calcium level
- c. One year old female child with low socio-economic status comes to OPD with retarded growth and emaciated appearance. No edema is present
 - i. Identify the condition
 - ii. What is the difference between marasmus and kwashiorkor
 - iii. What is the cause of emaciated appearance
- d. Explain cholesterol metabolism
- e. Describe electron transport chain. Write uncouplers with their significance
- f. Write the sources, RDA, and deficiency manifestations of vitamin A

Q4. Short Answer Questions 10 x 2 = 20

- a. Enumerate biologically important peptides
 - b. Enumerate antioxidant enzymes and minerals
 - c. Nitrogen balance
 - d. Biochemical importance of serotonin
 - e. Alkaptonuria
 - f. Well labeled diagram of cell membrane
 - g. Define classify carbohydrates
 - h. Define detoxification with its examples
 - i. Enumerate essential fatty acids
 - j. Wilson's disease manifestations
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