Q.P. CODE:M102A030

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MBBS DEGREE EXAMINATION - MARCH, 2024

FIRST M.B.B.S. EXAMINATION

BIOCHEMISTRY - PAPER-I

(Theory Questions)

Time: 2 Hour 40 Minutes   **Max Marks: 80**

Note: Answer all questions.

Draw diagrammatic representation wherever necessary

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SECTION-II (THEORY QUESTIONS - 80 MARKS)

STRUCTURED ESSAY QUESTIONS: **2 X15 = 30**

1. A 40-year-old man is brought to the hospital in a comatose state. On examination, he was found to be dehydrated and toxic with a characteristic breathing pattern with sweet smell. He was admitted and investigated.

Following are his lab investigations:

RBS   :380 mg/dl

S. HCO_3: 15 mEq/L

S. Ketones: 80mg/dl

pH: 7.25

Urinary Benedicts test: ++++

Urinary Rothera's test: Positive

Answer the following:

a) What is your diagnosis?

b) What are the favourable points for your diagnosis?

c) Explain the metabolism of Ketone Bodies?

d) Write about the hormonal regulation of blood glucose.

e) What are the differences between types of Diabetes Mellitus?

2. Define the lipoproteins and classify them. Explain the LDL metabolism. Write about Atherosclerosis.

SHORT ANSWER QUESTIONS: 10x5=50

3. Describe the types of PEM (Protein Energy Malnutrition).

4. Define BMR. What is its normal value? What are the factors affecting BMR?

5. HMP shunt and its significance.

6. What are isoenzymes? Write about cardiac isoenzymes.

7. Enumerate the types of Heteropolysaccharides and write their biochemical significance.

8. What are antioxidants? Give two examples of:

Antioxidant enzymes

Antioxidant vitamins

Antioxidant minerals

9. Write in detail about ETC. Add a note on its inhibition and uncouplers of oxidative phosphorylation.

10. What are the factors affecting enzyme activity? Add a note on competitive inhibition.

11. What is clearance? What are the different types of clearance tests you know and their significance?

12. Describe the steps of heme synthesis. Add a note on AIP (Acute Intermittent Porphyria).

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