PAPER CODE: MB2019101

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FIRST MBBS DEGREE EXAMINATIONS: MARCH, 2022

BIOCHEMISTRY (NEW REGULATION) PAPER-I

Time: 3 Hours **Max Marks: 100**

Note: Answer all questions.

Give Diagrammatic representation wherever necessary.

Write Long Answer on the following Questions: **2 X15 = 30**

1. A 48 year old male presented to O.P with chest pain. Family history shows that his father died of a heart attack at the age of 46, and his elder brother also had a heart attack at the same age. The patient reports that he gets chest pain occasionally with ambulation and is not able to climb stairs without significant chest pain and shortness of breath. His plasma cholesterol level was 450 mgs%

   a) What is the possible diagnosis?

   b) What are the different types of lipoproteins and their biological significance.

   c) Discuss their role (LP) in cholesterol transport. How it is regulated.

   d) Normal values of HDL and LDL cholesterol. (1+3+3+6+2)

2. a) State the blood buffer systems.

   b) What is clinical application of acid-base balance?

   c) Write in detail about renal and lung regulation of blood pH

   d) Classify acid base disturbances.

   e) What are the clinical conditions where you see metabolic acidosis?

   (1+2+8+2+2)

Write Short Answer on the following Questions: 8X5=40

3. Define active transport mechanism. Give 2 examples where drugs inhibit active transport. (1+2+2)

4. Formation of ketone bodies in our body and their utilization. How will you detect the ketone bodies in the urine? (2+2+1)

5. Describe Enzyme inhibition with examples.

6. Monoclonal antibodies.

7. Define hypoglycaemia clinical features, complications of hypoglycaemia. Normal levels of fasting blood sugar and Post prandial blood sugar and random blood sugar. (1+2+2)

8. Structure of collagen and elastin and their functions. Explain the biochemical basis of osteogenesis imperfecta. (2+1+2)

9. Explain HMP (Hexose Monophosphate Shunt) Pathaway. What is the significance of this pathway? (2+3)

10. Clinical importance of enzymes in assessment of cardiac disease & liver diseases. (2+3)

Write Very Short Answer on the following Questions: 10X3=30

11. Biochemical markers of COVID 19.

12. Hormones derived from cholesterol.

13. Types of blotting techniques and their clinical application.

14. Name three Glycogen storage disorders.

15. Structure of proinsulin and insulin.

16. Normal values of serum electrolytes.

17. Rapoport-Leubering cycle and its importance.

18. Antioxidant Vitamins

19. Detoxification by conjugation.

20. Essential fatty acids and their importance. (1+2)

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