PAPER CODE: MB2019101

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MBBS FIRST YEAR EXAMINATIONS: NOVEMBER, 2023

BIOCHEMISTRY (New Regulation) PAPER -I

Time: 3 Hours Max Marks:100

Note: Answer all questions Draw diagrams wherever necessary with Black Ball point pen /HB pencil /any dark Colour pencil

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Multiple Choice Questions: 10 X 1 = 10

1. Anomeric carbon atom of fructose is

a) 1st carbon atom

b) 2nd carbon atom

c) Penultimate carbon atom

d) None of the above

2. All the following are unsaturated fatty acids except

a) Propionic acid

b) Linoleic acid

c) Linolenic acid

d) Arachidonic acid

3. During glycogen breakdown, the action of glycogen phosphorylase produces

a) Glucose -6-phosphate

b) Glucose-1-phosphate

c) Fructose- 6-phosphate

d) None of the above

4. The key enzyme in the pathway of cholesterol biosynthesis is

a) HMG CoA synthase

b) HMG CoA lyase

c) HMG CoA reductase

d) Mevalonate kinase

5. Components of the electron transport chain are arranged in order of

a) Decreasing redox potential

b) Increasing redox potential

c) Positive redox potential to negative redox potential

d) None of the above

6. Enzymes act by reducing the

a) Activation energy

b) Heat energy

c) Binding energy

d) All of the above

7. Increased levels of lactate dehydrogenase (LDH) can be observed in

a) Myocardial infarction

b) Haemolytic anaemia

c) Leukaemia's

d) All of the above

8. The fluid mosaic model of membrane includes

a) Cholesterol molecules in the membrane increase stability of membrane

b) Membrane proteins are fixed and cannot move

c) Membrane contains bimolecular leaflet of lipids

d) Permeability of drugs across cell membrane is dependent on their solubility in water

9. Mobility of particles during electrophoresis is based on all the following factors, except

a) Current voltage and ampere

b) Quality of supporting media

c) Ph of buffer medium

d) Solubility of particle protein

10. The power house of the cell is

a) Nucleus

b) Cell membrane

c) Mitochondria

d) Lysosomes1. Anomeric carbon atom of fructose is

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Essay/Long Answer Questions: 2 X 15 = 30

11. What are Lipoproteins. Classify Lipoproteins. Explain the transport of TAG (Tri Acyl glycerides) in the body. Discuss the clinical significance of LDL and HDL. Add a note on dyslipidaemias. (2+3+5+2+3)

12. What is Glycogen. How is Glycogen broken down in the body. Explain the hormonal regulation of the pathway. Write about glycogen storage disorders. (1+4+4+6)

Short Answer Questions: 7 X 6 = 42

13. What are the different types of enzyme inhibition. Explain about competitive inhibition with two examples of its therapeutic significance.

14. Write about inhibitors and uncouplers of electron transport chain.

15. Justify Physician role in Health Care System.

16. Enzyme profile in liver diseases, and write about their clinical significance.

17. Describe the sources, daily requirement and functions of Vitamin C.

18. Describe the regulation of calcium homeostasis.

19. Define BMR, what is its normal value, and what are all the factors affecting BMR.

Very Short Answer Questions: 6 X 3 = 18

20. Write about classification of lipids with suitable examples.

21. Principle and applications of Enzyme Linked Immunosorbent Assay (ELISA).

22. Antioxidant Vitamins.

23. Describe about transport systems with examples.

24. Essential Fatty acids.

25. Compare and Contrast Kwashiorkor and Marasmus.

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