QP. CODE: MB2019101

KALOJI NARAYANA RAO UNIVERSITY OF HEALTH SCIENCES

WARANGAL, TELANGANA STATE-506 002

MBBS FIRST YEAR SUPPLEMENTARY EXAMINATIONS: NOVEMBER, 2024

BIOCHEMISTRY PAPER-I

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

Note: Answer all questions.

Give Diagrammatic representation whenever necessary

Multiple Choice Questions: **10x1=10**

1. 1. Na^+ -K^+ ATPase is the marker enzyme of

a) Nucleus

b) Plasma Membrane

c) Golgi Bodies

d) Cytosol

2. Who proposed Fluid Mosaic model of Cell Membrane in 1972

a) Darson and Singer

b) Frye and Edidin

c) Brown and Goldstein

d) Singer and Nicholson

3. Eicosanoids includes

a) Prostaglandins

b) Leukotrienes

c) Thromboxane's

d) All of the above

4. Which of the following is cardioprotective fatty acid

a) Palmitic acid

b) Stearic acid

c) Propionic acid

d) Omega 3 fatty acid

5. Suicidal enzyme is

a) Lipoxygenase

b) Cyclooxygenase

c) Thromboxane synthase

d) 5-Nucleosidase

6. Cystic fibrosis results from defective ion channels for

a) NA^+

b) K^+

c) Cl

d) H^+

7. Sphingomyelinase deficiency seen in

a) Niemann-Pick disease

b) Gaucher's disease

c) Tay-Sach's disease

d) Guillain Barre syndrome

8. The SDA (Specific Dynamic Action) is the highest for the following nutrient

a) Proteins

b) Fats

c) Vitamins

d) Carbohydrates

9) Renal rickets is caused by

a) Decreased formation of Cholecalciferol

b) Increased synthesis of 25- HOC

c) Decreased synthesis of calcitriol

d) None of the above

10. Daily requirement of Iodine for an adult is

a) 15-20pg

b) 150-200pg

c) 800-900pg

d) 600-700pg

Essay/ Long Answer Questions: **2x15=30**

11. 11. A 50-year-old obese male came to causality with complaints of severe chest pain and breathlessness. He is a known diabetic since 6 years on irregular treatment. His ECG revealed an ST segment elevation. His lipid profile showed the following.

T. cholesterol- 320 mg%, LDL cholesterol- 180 mg%, HDL cholesterol- 24 mg%,

Triglycerides- 250 mg%

a) What is the probable diagnosis.

b) Explain in detail the steps involved in synthesis of cholesterol in our body,

c) Causes for hypercholesterolemia

d) Role of stating to reduce the cholesterol. (1+7+5+2)

12. a) What is Gluconeogenesis.

b) Under what conditions is the process of gluconeogenesis activated in the body

c) What are the substances for gluconeogenesis.

d) Mention the key enzymes and how is alanine converted to glucose.

e) Justify the statement: Gluconeogenesis is not simple reversal of glycolysis.

(1+2+2+5+5)

Short Answer Questions: **7x6=42**

13. What are the differences between competitive and noncompetitive inhibition. Give two examples for competitive inhibition.
14. How the Physician becomes a part of Care System.
15. Write in detail on the Protein-Energy malnutrition disorders.
16. Describe the principle and applications of electrophoresis.
17. Describe the sources, daily requirements and functions of Vitamin D.
18. Describe transport mechanisms across the cell membrane.
19. Discuss in detail on the inhibitors of ETC and oxidative phosphorylation and a note on inherited disorders of oxidative phosphorylation.

Very Short Answer Questions: **6x3 =18**

20. Essential fatty acids.
21. What is an allosteric enzyme. And give one example of reaction catalysed by an allosteric enzyme.
22. Explain the concept: "HMP pathway is significant in preservation of erythrocyte membrane integrity".
23. Lipotropic factors.
24. Mention the sources and functions of Iron.
25. Mention the dietary importance of Proteins.

******