

**MBBS FIRST YEAR SUPPLEMENTARY
EXAMINATIONS: FEBRUARY/MARCH 2024
BIOCHEMISTRY (New Regulation)
PAPER-1**

Time: 3 Hours

Max. Marks: 100

Note: Answer all questions

Draw diagrams whenever necessary with Black Ball point pen/HB pencil/any dark Colour pencil

Multiple Choice Questions: 10 X 1=10

1. Volume expander in treatment of hypovolemia
 - a) Dextrins
 - b) Dextran
 - c) Heparin
 - d) Agarose
 2. Pyruvate is converted to acetyl CoA. by
 - a) Pyruvate dehydrogenase
 - c) Pyruvate kinase
 - b) Pyruvate Carboxylase
 - d) Lactate dehydrogenase
 3. The presence of the following fatty acid in diet prevents heart attacks
 - a) Eicosa trienoic acid
 - c) Eicosa pentaenoic acid
 - b) Eicosa tetraenoic acid
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- d) None of the above
4. Prostaglandins are stored
- In adipose tissue
 - As plasma lipoproteins
 - As membrane phospholipid
 - As granules in mast cells
5. All the following enzyme complexes of respiratory chain act as proton pumps except
- Complex I
 - Complex III
 - Complex II
 - Complex IV
6. The enzyme involved in the transfer of electrons are known as
- Oxidoreductases
 - Lyases
 - Transferases
 - All of the above
7. Symport system operates in the transport of
- Bicarbonate
 - Calcium
 - Chloride
 - Glucose
8. The following diseases are peroxisomal biogenesis disorders except
- Adrenoleukodystrophy
 - Primary Hyperoxaluria
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- b) Zellweger syndrome
 - d) Inclusion cell disease
9. The separation of molecules based on their size, shape and molecular weight is done by
- a) Ion-exchange Chromatography
 - c) Adsorption chromatography
 - b) Gel filtration chromatography
 - d) Affinity chromatography
10. All the following coenzymes are derivatives of B-complex vitamins, except
- a) S-adenosyl methionine
 - c) Pyridoxal phosphate
 - b) NAD⁺
 - d) Coenzyme A

Essay/ Long Answer Questions: 2 X 15=30

11. How the Fatty acids are oxidized in the body. Explain B-oxidation, give its energetics and explain the regulation of B-oxidation in the body. 30
12. An 8-year-old child was brought to the hospital with e/o slow growth and pain in bones. On examination, he was anaemic had frontal bossing, bowing of legs and swelling of costochondral junction. Laboratory results were serum calcium - 8.2mg/dl, serum ALP: 720 U/L, serum phosphorous - 2.8mg/dl.
- a) What is your diagnosis.
 - b) What are the biochemical effects of vitamin D.
 - c) Causes for vitamin D deficiency.
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d). Sources and RDA vitamin D.

e) What are the clinical features of vitamin D deficiency.

30

Short Answer Questions: 7X6=42

13. Describe the Hexose Mono Phosphate shunt path way and add a note on its significance. 6

14. What is Substrate Level Phosphorylation and explain with suitable examples. 6

15. Clinically important enzymes and their significance. 6

16. Mucopolysaccharides. 6

17. Write about Anti-oxidants and their role in health. 6

18. How does the Physician improves the Health Care System. 6

19. Absorption of iron and its regulation. 6

Very Short Answer Questions: 6X3=18

20. Dietary fiber. 3

21. What is Michaelis Menten (K_m) value. Explain the concept by using suitable example. 3

22. Glycosuria and Renal Glycosuria. 3

23. Structure and functions of Lipoprotein. 3

24. Rethera's test. 3

25. Mention the clinical features of the following diseased conditions;

a. Keshan disease

b. Wilson's disease

c. Hemosiderosis. 3

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