

First Year M.B.B.S. Preliminary Theory Examination - Batch (21-22)

Biochemistry: Paper – II

Date : 19/11/2022

Time :3:00 Hours

Total Marks

:100

Section - I

Q.1. Write justification on following (any eight)

2x8=16

1. In alkaptonuria, urine turns black when exposed to air.
2. Methotrexate is an anti-cancer drug.
3. Increase ammonia is toxic to brain.
4. Oxidized LDL is important in pathogenesis of atherosclerosis
5. Pancreatitis leads to steatorrhea.
6. α -1 antitrypsin deficiency leads to emphysema.
7. Cataract is more common in diabetes mellitus.
8. Creatine is used to improve performance of athletes.
9. Although no ATPs are formed in HMP shunt pathway, it is important for RBCs.

Q.2 Write short note. (any four)

6x4=24

1. Write the components of Pyruvate Dehydrogenase complex and its significance.
2. Urea cycle & its regulation.
3. Write the metabolic changes in Diabetes mellitus.
4. Define and differentiate Kwashiorkor and Marasmus.
5. Write functions and deficiency manifestations of Vitamin C

Section - II

Q 3 Write short notes. (any three)

4x3=12

1. Write the causes of fatty liver and explain how lipotropic factors can prevent fatty liver.
2. Free radical scavenger mechanisms.
3. Lipid digestion and absorption.
4. Definition, Type and significance of glycated haemoglobin.

Q 4 Write short notes. (any three)

6x3=18

1. Write oxidative Phosphorylation with the chemiosmotic theory for the synthesis of ATP
2. Biochemical explanation of diabetic ketoacidosis
3. Type, cause, clinical feature & diagnosis of Phenylketonuria with biochemical basis.
4. Explain the amphibolic role of TCA cycle.

Section - III

Q 5 Read the case and answer the questions given below

2x5=10

A 45 year old male patient came in physician OPD with blood reports which was done during screening before of purchase of insurance policy. Report shows high cholesterol level with glucose intolerance. As per height and weight of patient, his BMI (Body Mass Index) was above 30 kg/sq.meter. Doctor asked for more fibre diet and aerobic exercise and started statin group of drugs.

1. What is significant of fiber diet in this patient? 2
2. What is Body Mass Index and its significant? 2
3. What is role of statin group of drug in this case? Give biochemical explanation 2
4. What other investigation should be done for better evaluation of this patient? 2
5. What dietary change should be added for this patient? 2

Q 6 Write short notes on any four

5x4=20

1. Glucose tolerance test.
2. Write the physiological actions of Nitric oxide.
3. Metabolic derangement in Alcoholism

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4. Metabolism of HDL
5. Write the types of mutations and explain point mutation and frameshift mutation.

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