Department of biochemistry, gmc, surat
1st mbbs preliminary examination –Nov-2017
Biochemistry paper – I

Duration : 2 hours **Max mark: 50**

Q: 1 write notes (2 out of 3) **(08 marks)**

1. Write acute & chronic complication of diabetes mellitus and give biochemical explanation of diabetic ketoacidosis.
2. Significant of HMP Shunt pathway & NADPH.
3. Homeostasis of blood calcium level.

Q: 2 describe in brief (4 out of 6) **(12 marks)**

1. Glycosylated hemoglobin
2. Risk factor for atherosclerosis.
3. Energy production from Palmitic acid (16 Carbon) by beta oxidation.
4. Tumour marker
5. Renal mechanism of acid-base balance
6. Digestion & absorption of carbohydrate

Q: 3 write answer in few line (5 out of 6) **(05 marks)**

1. Sorbitol pathway
2. Energetics of anaerobics glycolysis.
3. Application of electrophoresis
4. Significance of cholesterol
5. Micelle
6. Name the Mucopolysaccharide (Glycosamino glycans)

Q: 4 read the case & answer the questions **(10 marks)**

Early in the morning, 40 years old male patient came in emergency with complain of chest pain, perspiration and altered consciousness for 4 hours. Patient also had diabetes mellitus for 10 years. He was taking medicine for diabetes mellitus irregularly. In history, it was found that he was chronic alcoholic and a day before chest pain , he also had heavy alcohol ingestion., with no feed intake. Doctor asked for few blood investigations. From ecg finding and abnormal cardiac function test. Diagnosis of myocardial infarction was confirmed.

Following treatment was given

Loading dose of anti-platelet drug (aspirin), Loading dose of hypocholesterolemic (statin group) drug Fibrinolytic drug (streptokinase), 50% dextrose saline with thiamine (vitamin b1)

After complete management and recovery after 7 days of admission in hospital, at time discharge from hospital,physician advised to take medicines regularly and to take more amount of fruit and fiber food.

Investigation

Random blood sugar = 30 mg% Hba1c = 9 % S. Cholesterol = 350 mg%

1. Explain biochemical role of statin , aspirin and fibrinolytic drugs in treatment of myocardial infarction.
2. What is biochemical reason for hypoglycemia? And why physician asked to give injectable 50% dextrose saline with thiamine (vitamin b1)?
3. Chronic un-control diabetic patient are more prone to atherosclerosis and arteriosclerosis. Explain in detail.
4. What are the cardiac markers for diagnosis of myocardial infarction ? Which one is specific for diagnosis of patient if come with in 6-8 hour of chest pain and if patient come after 5 day of onset of chest pain?
5. What is re-perfusion injury ? And what is role of allopurinol to prevent it?

Q:5 write justification (answer in few lines) (5 out of 7) **(10 marks)**

1. HDL is called as “Good Cholesterol”
2. TCA cycle is amphibolic in nature.Premature baby tends to develop respiratory distress syndrome
3. Hyperkalemia may occur in metabolic acidosis.
4. Ethanol is used to treat methanol poisoning.
5. Sucrose is invert sugar.
6. For esimation of blood sugar, blood is collected in flouride bulb.

Q:6 write answer in few line (5 out of 6) **(05 marks)**

1. Essential fatty acids name & function.
2. Renal glycosuria
3. Lactose Intolerance
4. Vongierke's disease
5. Name of Lipoprotein
6. Scurvy.