

Government Medical Collage, Surat

Preliminary Examination, June-2016 Biochemistry paper – II

Duration: 10 min for Q:5 & 2 hr 50 min for Q:1 to Q:4

Maximum Mark: 50

Q: 1 Short Notes (2 out of 3)

(08 Marks)

1. Molecular and Biochemical explanation for pathogenesis of Sickle cell disease
2. Urea cycle
3. Replication of DNA.

Q: 2 Write in Brief (4 out of 6)

(12 Marks)

1. Characteristic of Genetic code.
2. Fates & metabolic disorders of Phenylalanine.
3. Enumerate factors affecting enzyme activity.
4. Post translation modification
5. Biochemical basis of scurvy
6. Salvage pathway of Purine synthesis & Lysch Nyhan Syndrome.

Q:3 Read Following Case & Answer the Question

(10 Marks)

A Teenager was brought to a clinic with complaints of nausea & vomiting, abdominal discomfort for the past one week. He had yellow discoloration of skin, sclera. He was also passing dark urine. The serum & urine collected from the patient was deep yellow. He finally diagnosed as Acute Viral Hepatitis. The biochemical report was as under:

Total bilirubin: 15 mg/dl	Serum AST: 380 u/L	Serum ALP: 220u/L
Direct bilirubin: 7 mg/dl	Serum ALT: 800u/L	Urine bile pigment: +++
Indirect bilirubin: 8 mg/dl	Blood Ammonia: High	
APTT – Test: 60 sec	APTT – Control : 30 sec	APTT – INR : 2

Physician advised to take diet with low fat, low protein & High carbohydrate.

1. Why there were increase level of direct bilirubin & indirect bilirubin?
2. Write down normal level of total, direct & indirect bilirubin. How will you differentiate different type of jaundice by laboratory tests?
3. Write about different types of jaundice & their causes.
4. Give biochemical explanation for abnormal APTT level.
5. How Oral Phenylbutarate & lactulose can correct hyperammonemia ?

Q:4 Write a justification in 2-3 lines (5 out of 7)

(10 Marks)

1. Vitamin B12 & folic acid deficiency can cause Hyperhomocysteinemia
2. Blood Buffers act quickly but not permanently.
3. Phenobarbitone precipitate acute intermittent porphyria.
4. A single intramuscular dose of Vitamin K is given to all newborns.
5. Adenosine deaminase deficiency cause severe immuno-deficiency disorder.
6. Lactase enzyme gene is not transcribed in presence of both glucose & lactose, in prokaryotes.
7. Zwitter ions has least buffering & solubility capacity.