

Department of Biochemistry
GMERS Medical College Valsad
MBBS 1st Year Preliminary examination 2016-17
Biochemistry Paper 1

- Instructions:**
- 1 Figure to the right indicate full marks
 - 2 Draw neat diagrams wherever necessary
 - 3 Answer shall be legible and to the point
 - 4 Write each section in separate answer books

Section 1

Write Short Notes (Attempt any two)

1. Homeostasis of blood calcium level.
2. Role of kidney in maintenance of acid base balance.
3. HMP shunt pathway and its significance.

Describe in Brief (Attempt any four)

1. Prostaglandins
2. Disorders associated with iron metabolism
3. Cori's cycle
4. Tumor markers
5. Functions of phospholipids
6. Digestion and absorption of carbohydrate

3 Write in few lines (5 out of 6)

1. Fluorosis
2. Basal metabolic rate (BMR)
3. Name the complexes of electron transport chain
4. Respiratory distress syndrome
5. Applications of electrophoresis
6. What is Sorbitol pathway?

Section 2

Q.4 Case Study

(Marks-10)

A 55 year old male executive working in MNC found to have hypercholesterolemia. He was obese, non-vegetarian and was consuming high calorie diet especially sucrose. His plasma cholesterol was 400 mg/dl (normal range 150-220 mg/dl) and had high LDL cholesterol value. He was advised to have low calorie, cholesterol free diet and more amounts of dietary fibers. He was being treated with bile acid binding resins and subsequently found lowered plasma cholesterol concentration to 250 mg/dl

1. Name the various conditions which can cause hypercholesterolemia
2. Mention the functions of cholesterol
3. Name the rate limiting enzyme in cholesterol biosynthesis
4. What is the biochemical basis of advising low calorie food & dietary fibers to the patient?
5. How do the bile acid binding resins lower the plasma cholesterol level?

Q.5 Justification (Attempt any five.)

(Marks-10)

1. Hyperkalemia can occur in metabolic acidosis.
2. Fat burns in the flame of carbohydrate.
3. Uncouplers of oxidative phosphorylation are biologically useful.
4. Muscle glycogen cannot contribute to blood glucose level.
5. Cataract is developed at an early age in uncontrolled diabetes mellitus.
6. Elevated level of homocysteine increases risk of atherosclerosis.

Q.6 Write in few lines (5 out of 6)

(Marks-05)

1. Functions of essential fatty acids.
2. Name the enzyme defective in hereditary fructose intolerance.
3. Protein energy malnutrition disorders.
4. What is substrate level phosphorylation?
5. Wilson's disease
6. What is anion gap?