

Department of Biochemistry
GMERS Medical College, Valsad
First Year M.B.B.S Pre University Examination
November- 2017
Biochemistry: Paper –I

Time: 2 Hrs 30 Min.

Marks: 50

SECTION - I

- 1. Short notes : (2 out of 3) 2 x 4=8**
(a) Biochemical basis of Polyuria Polyphagia, & Polydipsia
(b) Absorption and Metabolism of Iron.
(c) HMP shunt Pathways and its Importance.
- 2. Short notes: (4 out of 6) 4 x 3=12**
(a) Metabolic Acidosis
(b) β - Oxidation of fatty acid and its energetics
(c) Components of Respiratory Chain
(d) Renal Regulation of Blood PH
(e) Effect of Dietary fat on Plasma Lipid.
(f) Ketone Body Synthesis
- 3. Answer in few lines: (5 out of 6) 5 x 1=5**
(a) Acetone is the dead end in Ketone body formation.
(b) Importance of HbA1C
(c) Fluorosis
(d) Normal range of BMR for Male & Female.
(e) Mucopolysachharide example with one function each.
(f) Factors affecting Calcium absorption.

SECTION-II

- 4. Read the following case and answer the questions: 5 x 2=10** 45 yr. old female with Body Mass Index of 35kg/m^2 and diagnosis of Diabetes Mellitus for 7 yrs. came to medicine OPD for increased frequency of micturition, tingling, and numbness in bilateral palm and soles, Diarrhoea and history of not taking any treatment for DM for last 3 months. Clinicians advised report of random plasma glucose: the result was 332mg%, Serum Na was 127mmol/L and Serum K was 2.88mmol/L. Serum Ketone Bodies were found elevated. The clinician advised report of fasting and post prandial Plasma Glucose: the result was 276 mg% and 567mg% respectively Treatment with ORS and Insulin was started.
(a) Explain BMI
(b) Why ORS contain glucose and sodium
(c) What is difference among Random Fasting and Postprandial Glucose
(d) Why in D.M. the patient causes elevated serum Ketone Bodies
(e) What is the biochemical explanation of Numbness and Tingling in this Patient
- 5. Write justification : (5 out of 7) 5 x 2=10**
(a) Human cannot digest Cellulose
(b) Lecithin Sphingomyelin ratio has clinical significance
(c) Patient with Glycogen storage diseases develops Gout in early adult life
(d) Fibres in diet are essential nutrients
(e) Statin reduces cholesterol synthesis
(f) Sucrose is an Non reducing Sugar
(g) Brown adipose tissue reduces obesity
- 6. Answer in one or two lines : (5 out of 6) 5 x 1=5**
(a) Epimer of Glucose.
(b) Uncouplers
(c) Plasma lipid Profile.
(d) Application of RIA
(e) GTT.
(f) Fatty liver.