

**ER-4005****First Year M. B. B. S. Examination****December - 2016****Biochemistry : Paper - I**Time : $2\frac{1}{2}$ Hours]

[Total Marks : 50

Instruction :

Fill up strictly the details of signs on your answer book.		Seat No.:
Name of the Examination :		
First Year M. B. B. S.		
Name of the Subject :		
Biochemistry : Paper - I		
Subject Code No.:	4 0 0 5	Section No. (1, 2, ...): 1&2
		Student's Signature

SECTION - I

- 1 Short Notes : (2 out of 3) 8
- (a) Describe the sources, biochemical functions and disorders of calcium metabolism.
 - (b) What is gluconeogenesis? Describe the gluconeogenesis from various substrates.
 - (c) Buffer system of blood for maintenance of pH.
- 2 Short Notes : (4 out of 6) 12
- (a) Lipoproteins : types, composition and functions.
 - (b) Digestion, absorption, transport, functions of Iron.
 - (c) Essential Fatty Acids and their significance.
 - (d) Lactose intolerance.
 - (e) Cori's cycle.
 - (f) Liver function tests.

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- 3 Answer in one or two lines : (5 out of 6) 5
- Lead toxicity effects.
 - Functions of prostaglandins.
 - Blood is collected in fluoride bulb for estimation of blood glucose level.
 - Function and deficiency manifestation of iodine.
 - Significance of HMP shunt.
 - Ketone bodies functions.

SECTION - II

- 4 Read the following case and answers the questions : 10
- A 45 year old male patient having Type 2 Diabetes Mellitus presented with complaints of impaired vision and feeling of tiredness. Ophthalmic examination showed Cataract in both eyes. His Biochemical test reports were : Fasting Plasma Glucose = 300 mg/dl, Urine Glucose +++, Glycated Hb (HbA1C) = 12%.
- Why Cataract develops more commonly and earlier in patients of Diabetes Mellitus?
 - What is Glycated Hb and significance of estimating it?
 - What are other late complications of Diabetes Mellitus besides cataract?
 - Differentiate between Type 1 and Type 2 Diabetes Mellitus.
 - How much is the renal threshold for Glucose? What are the other causes of Glycosuria?
- 5 Write justification : (5 out of 7) 10
- Starvation causes ketoacidosis.
 - In RBCs, end product of Glycolysis is always lactate.
 - LDL cholesterol is bad cholesterol.
 - TCA cycle is amphibolic pathway.

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- (e) Hemolysed serum sample is not suitable for estimation of potassium.
- (f) Aspirin is used as anti-inflammatory drug.
- (g) Deficiency of enzyme Glucose 6 Phosphate Dehydrogenase (G6PD) causes drug induced hemolysis.

6 Answer in one or two lines : (5 out of 6)

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- (a) Functions of selenium
- (b) Functions of magnesium
- (c) Uncouplers
- (d) Functions of dietary fibres.
- (e) Physiologically important glycosides
- (f) Specific dynamic action of food.