



B-3704

**First M. B. B. S. Examination**

December - 2017

**Biochemistry : Paper - I**

Time :  $2\frac{1}{2}$  Hours]

[Total Marks : 50

Instruction :

<p>ಇದೇ ತಾಳಿಕೆ - ಪೂರ್ವಭಾವಿ ರೀತಿಯಲ್ಲಿ ಪರಿಶೀಲಿಸಿ.</p> <p>Fillup strictly the details of signs on your answer book.</p>		Seat No. :
<p>Name of the Examination :</p> <p>First M. B. B. S.</p>		
<p>Name of the Subject :</p> <p>Biochemistry : Paper - I</p>		
<p>Subject Code No. : 3 7 0 4</p>	<p>Section No. (1, 2, ...): 1&amp;2</p>	

**SECTION - I**

- 1 Short notes : (2 out of 3) 8
  - (1) Biochemistry of diabetes mellitus
  - (2) Describe metabolism of HDL and LDL
  - (3) Absorption and Metabolism of Calcium
- 2 Describe in brief : (4 out of 5) 12
  - (1) Digestion and absorption of carbohydrate
  - (2) Structure and composition of cell membrane
  - (3) Renal-function tests
  - (4) Ketone Body Synthesis
  - (5) Renal Regulation of Blood PH.
- 3 Answer in one or two lines : (5 out of 6) 5
  - (1) Principle of chromatography
  - (2) Sources of iron in food
  - (3) Role of bile salt in lipid digestion
  - (4) Normal plasma lipid profile
  - (5) Importance of glycated hemoglobin
  - (6) Oedema in protein malnutrition.

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[ Contd...



## SECTION - II

- 4 Clinical Case with 5 questions : 10
- 45 yrs old male with BMI of  $35 \text{ kg/m}^2$  and diagnosis of Diabetes Mellitus for 17 yrs. came to medicine OPD for increased frequency of urine, tingling, and numbness in upper limbs, diarrhea. Treatment for Diabetes Mellitus was irregular for last 3 months. Clinicians advised report of random plasma glucose; the result was  $332 \text{ mg\%}$ , Serum  $\text{Na}^+$  was  $127 \text{ mmol/L}$  and Serum  $\text{K}^+$  was  $2.88 \text{ mmol/L}$ . Serum Ketone Bodies were found elevated. Treatment with Oral Rehydration Salt (ORS) and Insulin was started.
- Explain Body Mass Index (BMI).
  - Why ORS contain glucose and sodium?
  - Why there is increased frequency of urine in the patient?
  - Why serum Ketone Bodies are elevated in Diabetes Mellitus?
  - Is serum  $\text{K}^+$  in the patient normal/elevated or low? What are effects of abnormal serum  $\text{K}^+$  in body?
- 5 Answer in few lines : (5 out of 7) 10
- Ethanol is used to treat methanol poisoning.
  - Sucrose is nonreducing sugar.
  - For estimation of blood sugar, blood is collected in fluoride bulb.
  - Glucocorticosteroid is used as anti-inflammatory drug.
  - Blood for serum potassium estimation should not be haemolysed.
  - Fruits and vegetables are essential in food.
  - Statin reduces cholesterol synthesis.
- 6 Answer in one or two lines : (5 out of 6) 5
- Digestion of sucrose
  - Principle of ELISA
  - Biochemical effects of Cigarette smoking
  - Importance of any two Tumor markers
  - Reference ranges for fasting and post-glucose plasma glucose
  - Biological functions of cholesterol in body.