



**RO-1546**  
**First Year M.B.B.S. Examination**  
**June – 2010**  
**Biochemistry (Paper - II)**

Time : 2 Hours]

[Total Marks : 50

**Instructions :**

(1)

<p>नीचे दर्शाविए निशानीवाणी विगतो उत्तरवही पर अवश्य कर्णी. Fillup strictly the details of signs on your answer book.</p> <p>Name of the Examination : <b>First Year M.B.B.S.</b></p> <p>Name of the Subject : <b>Biochemistry (Paper - 2)</b></p> <p>Subject Code No. : <b>1 5 4 6</b> Section No. (1, 2,.....): <b>Nil</b></p>	<p>Seat No. : <input type="text"/><input type="text"/><input type="text"/><input type="text"/><input type="text"/><input type="text"/></p> <div style="border: 1px solid black; border-radius: 15px; padding: 10px; text-align: center; width: 100%;">Student's Signature</div>
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- (2) Figures to the **right** indicate full marks.  
(3) Draw diagrams where appropriate.

1 Discuss biochemical aspects of diabetes mellitus. 11

OR

1 Discuss replication, what are the various mechanisms for repair of DNA. 11

2 Read the following case and answer the questions : 10

A 45 year old male who is suffering from diabetes mellitus (DM) visited to OPD for routine check up. His fasting glucose level was 99 mg/dl, PP2BS was 130 mg/dl. Total cholesterol was 280 mg/dl (Normal range : 200-240 mg/dl) Triglycerides was 198 mg/dl (normal range 130-160 mg/dl) HbA<sub>1C</sub> was 7.5% (normal range 3.5-5.5%). Physician prescribed statins and other medicines to control plasma glucose level he also advised him regular exercise, regular eye check up.

- (a) How statins help to treat hyperlipidemia ?  
(b) What is the significance of HbA<sub>1C</sub> ?  
(c) Why diabetics are more prone to develop cataract ?  
(d) Why uncontrolled diabetes mellitus leads to ketosis ?  
(e) Why HDL cholesterol is "Good Cholesterol".

- 3** Write short note on : (any **three**) **9**
- (a) Phenyl ketonuria
  - (b) Transamination
  - (c) Characteristics of genetic codes
  - (d) Carnitine transporter
  - (e) Galactosemia.
- 4** Write notes on : (any **two**) **10**
- (a) Glycogenolysis
  - (b) PCR
  - (c) Post translation modification
  - (d) Urea cycle.
- 5** Comment on / justify in 2-3 sentences : (any **five**) **10**
- (a) Sodium fluoride used as preservative while collecting blood for glucose estimation.
  - (b) Replication is always semi conservative.
  - (c) Ciprofloxacin inhibit replication of bacterial DNA.
  - (d) Hemolysed serum is not suitable for serum potassium estimation.
  - (e) Muscle glycogen does not contribute in plasma glucose level.
  - (f) Human being can not digest cellulose.
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