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RO-1545-R

First Year M.B.B.S. Examination

June - 2010

Biochemistry (Paper - I)

Time : 2 Hours]

[Total Marks : 50

Instructions

(1)

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(2) Figures to the right indicate full marks.

(3) Draw diagrams where appropriate.

- 1 Write down different types of protein structures. How different structure of protein are stabilized ? 11

OR

- 1 Describe Heme synthesis and its regulation, enumerate porphyrias. 11

- 2 Read the following case and answer the following questions : 10

A three day old neonate was brought to pediatric nursery with yellow discoloration of sclera and skin. His total bilirubin was 9 mg/dl (Normal range : 0.1-1.0 mg/dl). Pediatrician diagnosed as a case of physiological jaundice. The patient was advised phototherapy and recovered in 24 hrs.

- What is the cause of physiological jaundice ?
- What is the difference between direct and indirect bilirubin ?
- What is the role of phototherapy in this case ?
- What are other causes of unconjugated hyperbilirubinemia ?
- What type of hyperbilirubinemia is seen in obstructive jaundice ?

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[Contd...

- 3 Write short notes on : (any **three**) **9**
- (a) Lysosomes and Peroxisomes
 - (b) ELISA
 - (c) Eicosanoids
 - (d) Applications of radioisotopes in medicine
 - (e) Bile salts.
- 4 Write notes on : (any **two**) **10**
- (a) Functions of plasma proteins
 - (b) Mucopolysaccharides
 - (c) Electrophoresis
 - (d) Structure of collagen.
- 5 Comment on / justify in 2-3 sentences : (any **five**) **10**
- (a) Sucrose is a non-reducing disaccharide.
 - (b) HDL cholesterol is "Good cholesterol".
 - (c) Allopurinol is used in the treatment of gout.
 - (d) Denaturation of proteins in food is biologically advantageous.
 - (e) Glucose is required for the absorption of Na⁺.
 - (f) Proline does not allow forming alpha helix.
 - (g) Selective COX2 inhibitors reduce gastric side effects of NSAIDS.
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