CS/B.OPTM/SEM-1/BO-104/2011-12

2011
BIOCHEMISTRY (GENERAL & OCCULAR)

Time Allotted : 3 Hours   *Full Marks :* 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.
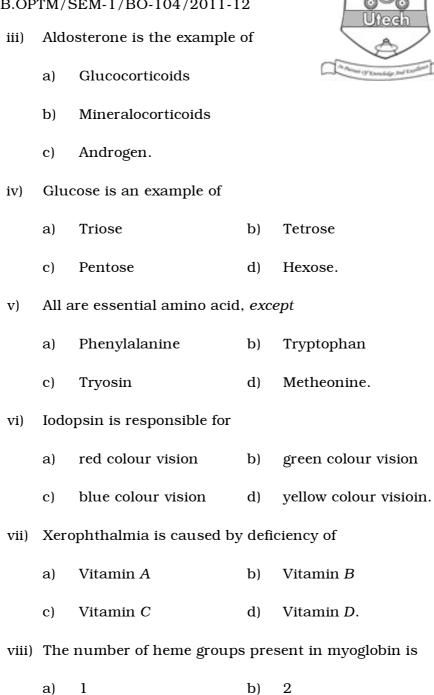
GROUP – A
(Multiple Choice Type Questions)

1. Choose the correct alternatives for any *ten* of the following :   10 × 1 = 10

   i)   Water soluble vitamin is

        a)   Vitamin *A*

        b)   Vitamin *B*

        c)   Vitamin *C*.

   ii) When Levo & Dextro isomers are present in equal amounts in a solution it is

        a)   Rhythmic solution

        b)   Neutral solution

        c)   Racemic solution.

iii) Aldosterone is the example of

    a)   Glucocorticoids

    b)   Mineralocorticoids

    c)   Androgen.

iv) Glucose is an example of

    a)   Triose   b)   Tetrose

    c)   Pentose   d)   Hexose.

v) All are essential amino acid, *except*

    a)   Phenylalanine   b)   Tryptophan

    c)   Tryosin   d)   Metheonine.

vi) Iodopsin is responsible for

    a)   red colour vision   b)   green colour vision

    c)   blue colour vision   d)   yellow colour visioin.

vii) Xerophthalmia is caused by deficiency of

    a)   Vitamin A b)   Vitamin B

    c)   Vitamin C d)   Vitamin D.

viii) The number of heme groups present in myoglobin is

    a)   1   b)   2

    c)   3   d)   4.
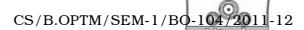
ix) Which one of the following is not an aldose ?

a) glucose

b) galactose

c) mannose

d) fructose.

x) Wax is the example of

a) simple lipid

b) complex lipid

c) derived lipid

d) neutral lipid.

xi) Low K_m value indicates

a) strong affinity between enzyme and product

b) strong affinity between enzyme and substrate

c) strong affinity between substrate and product

d) strong affinity between two enzymes.

GROUP – B

(Short Answer Type Questions)

Write short notes on any *three* of the following.

$$3 \times 5 = 15$$

2. Factors affecting transparency of lens.

3. Bohr effect.

4. Differences between haemoglobin and myoglobin.

5. Essential and non-essential amino acids.

GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following.   3 × 15 = 45

6. What are hormones. Explain briefly the role of Estrogen, Progesterone and Testosterone in the human body.

7. a) What are enzymes ? Classify enzymes.

    b) Explain competitive and non-competitive inhibitions of an enzyme.   7 + 8

8. a) Describe the process of glycolysis and write its importance.

    b) Explain — "Energy investment" and "splitting phases" of glycolysis.   7 + 8

9. a) Discuss Tests for "Tear film adequacy".

    b) Discuss Michaelis-Menten equation.   7 + 8