	Utech
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Invigilator's Signature :	

# 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:  $10 \times 1 = 10$ 
  - 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.

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- 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

2

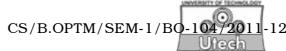
a) 1

b) 2

c) 3

d) 4.

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- 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.

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## (Long Answer Type Questions)

Answer any three of the following.



- 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

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