



Name :

Roll No. :

Invigilator's Signature :

**CS/B.OPTM/SEM-1/BO-104/2010-11
2010-11**

BIOCHEMISTRY (OCULAR & GENERAL)

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
(Objective Type Questions)**

1. Answer any *ten* of the following : 10 × 1 = 10

A) Choose the correct alternatives for the following :

i) All are hormones secreted from anterior pituitary
except

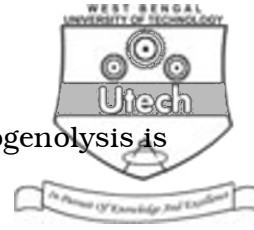
- | | |
|-------------------|-----------------|
| a) growth hormone | b) ACTH |
| c) L.H. | d) vasopressin. |

ii) Scurvy occurs due to

- | | |
|------------------|----------------------------|
| a) Vitamin A | b) Vitamin B ₁₂ |
| c) Ascorbic acid | d) Vitamin D. |

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[Turn over



iii) The rate limiting enzyme in glycogenolysis is

- a) glycogen phosphorylase
- b) glucan transferase
- c) phosphoglucomutase
- d) none of these.

B) Fill in the blank :

iv) The bond that stabilises the secondary structure of protein is

C) Choose the correct alternatives for the following :

v) Ellipsoid and myoid of rod is present in

- a) outer segment b) inner segment
- c) medial segment d) peripheral segment.

vi) The soluble proteins present in crystalline lens are

- a) albuminoids b) crystallines
- c) gelatins d) all of these.

vii) The innermost layer of the tear film is

- a) protein layer b) lipid layer
- c) aqueous layer d) mucin layer.

viii) The glycosaminoglycan present in cornea is

- a) hyaluronic acid b) dermatan sulphate
- c) keratan sulphate d) heparin.



- ix) During cataract formation , there is
- a) accumulation of sodium ions in the lens
 - b) accumulation of sodium ions and water
 - c) increase in ratio of insoluble to soluble proteins
 - d) all of these
 - e) none of these.
- x) Capillary wall in the ciliary processes
- a) allows most proteins to pass out
 - b) acts as impermeable membrane
 - c) acts as semipermeable membrane
 - d) none of these.
- D) Fill in the blank :
- xi) Rhodopsin consists of a colourless protein called

GROUP – B

(Short Answer Type Questions)

Write short notes on any *three* of the following. $3 \times 5 = 15$

2. Oxygen transport mechanism of haemoglobin.
3. Effect of pH on oxygen.
4. Dissociation curve.
5. Estrogen (hormone).
6. Allosteric enzyme.

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GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following.

$3 \times 15 = 45$

7. a) What are hormones ? Briefly outline their chemical characteristics. Explain mineralocorticoid hormones.
- b) Illustrate Lineweaver-Burk plot. $7\frac{1}{2} + 7\frac{1}{2}$
8. What are water soluble vitamins ? Discuss their sources and the disease caused by their deficiency.
9. Explain the biochemical basis of cataract formation in old people (senile cataract).
10. Write notes on the following : 3×5
- a) Carbohydrate metabolism.
- b) HMP shunt.
- c) Nitrogen balance.
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