



Name :

Roll No. :

Invigilator's Signature :

CS/B.OPTM/SEM-1/BO-104/2009-10

2009

BIOCHEMISTRY (GENERAL & OCULAR)

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) Which of the following is not an essential amino acid ?

- | | |
|------------------|-----------------|
| a) Phenylalanine | b) Isoleucine |
| c) Lysine | d) Prothrombin. |

ii) In glycolysis fluoride inhibitor, inhibits the enzyme

- a) phosphotriose isomerase
- b) enolase
- c) lactate dehydrogenase
- d) hexokinase.

11706

[Turn over



- iii) The number of ATP obtained in TCA cycle is
- a) 30
 - b) 20
 - c) 8
 - d) 38.
- iv) In β oxidation of fatty acid Palmitoyl CoA undergoes seven cycles to produce
- a) 6 Acetyl CoA
 - b) 4 Acetyl CoA
 - c) 8 Acetyl CoA
 - d) 2 Acetyl CoA.
- v) Deficiency of Vitamin B cause may
- a) Scurvy
 - b) Anaemia
 - c) Xerophthalmia
 - d) Rtarded bone growth.
- vi) The origin of glucagon hormone is
- a) pancreas
 - b) anterior pituitary
 - c) adrenal cortex
 - d) stomach.
- vii) The co-enzyme of transaminase required for transaminatino is
- a) NADP
 - b) c-AMP
 - c) NADH
 - d) PLP.
- viii) The photopigment responsible for dim light vision is
- a) rhodopsin
 - b) iodopsin
 - c) melanin
 - d) cyanin.
- ix) Alpha-crystalline is present in
- a) cornea
 - b) tear film
 - c) lens
 - d) retina.



- x) α -helix is a type of
- a) primary structure of protein
 - b) secondary structure of protein
 - c) tertiary structure of protein
 - d) quaternary structure of protein.
- xi) The deoxy form of haemoglobin exist in
- a) T-form
 - b) B-form
 - c) R-form
 - d) D-form.
- xii) Albumin is synthesized in the
- a) pancreas
 - b) stomach
 - c) liver
 - d) duodenum.

GROUP – B

(Short Answer Type Questions)

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

3 × 5 = 15

2. Gamma globulins.
3. TCA cycle
4. Haemoglobin.
5. TPP as co-enzyme
6. Deamination.

CS/B.OPTM/SEM-1/BO-104/2009-10



GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following. $3 \times 15 = 45$

7. Classify hormone on the basis of their mechanism of action. Discuss briefly the origins & major functions of estrogen, glucagons & glucocorticoid. 3 + 12
8. Discuss briefly the oxidative phases of Hexose Mono Phosphate shunt. What is the difference between haemoglobin & myoglobin ? What is Bohr effect ? 6 + 4 + 5
9. Discuss briefly about the sources of nutrients and metabolic pathway in cornea.
10. Explain the reaction rhodopsin bleaching when light fall on the retina. Discuss the process of β -oxidation of unsaturated fatty acid. 8 + 7
11. Deduce Michaelis-Menten equation for a single substrate uninhibited reactor. What are the basic differences between Michaelis-Menten equation and Birggs-Haldane theory ? Outline the methods for determining Michaelis-Menten constants. 7 + 4 + 4

=====