



Name : .....  
Roll No. : .....  
Invigilator's Signature : .....

**CS/B.OPTM/SEM-2/BO-202/2012**

**2012**

**PHYSIOLOGY ( 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.*

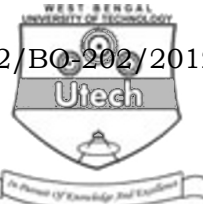
**GROUP – A**

**( Multiple Choice Type Questions )**

1. Choose the correct alternatives for the following :  $10 \times 1 = 10$ 
  - i) Second order neuron in optic pathway are present in
    - a) retina
    - b) medial geniculate body
    - c) lateral geniculate body
    - d) superior colliculus.
  - ii) The 'blind spot' is situated at
    - a) fovea centralis
    - b) optic disc
    - c) 3 mm temporal to optic disc
    - d) 3 mm nasal to optic disc.



- iii) The innermost part of the nucleus of the crystalline lens is called
  - a) infantile nucleus
  - b) embryonic nucleus
  - c) fetal nucleus
  - d) adult nucleus.
- iv) Under closed eye condition, cornea derives its oxygen supply mostly from
  - a) aqueous humour
  - b) atmosphere
  - c) palpebral blood vessels
  - d) limbal capillaries.
- v) The far point of myopic eye is
  - a) in front of the eye
  - b) behind the eye
  - c) at the infinity
  - d) none of these.
- vi) Constriction of pupil occurs due to contraction of
  - a) Muller's muscle
  - b) dilator pupillae
  - c) sphincter pupillae
  - d) lateral rectus.
- vii) The nerve supplying orbicularis oculi muscle is
  - a) trochlear
  - b) oculomotor
  - c) nasociliary
  - d) facial.
- viii) The tiny depression at the centre of foveola is called
  - a) Umbo
  - b) fovea
  - c) macula
  - d) FAZ.
- ix) The lipid layer of tear film is derived from
  - a) conjunctiva
  - b) meibomian gland
  - c) gland of manz
  - d) gland of zeiss.
- x) Fibres concerned with light reflex after crossing optic chiasma, travel along optic tract and then proceed to
  - a) lateral geniculate body
  - b) medial geniculate body
  - c) ciliary ganglion
  - d) pretectal nucleus.



**GROUP – B**

**( Short Answer Type Questions )**

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

2. Corneal endothelium.
3. Protective mechanisms of the eye.
4. Uveo scleral drainage pathway.
5. Light reflex pathway.

**GROUP – C**

**( Long Answer Type Questions )**

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

6. Discuss tear film dynamics under the following headings- secretion of tears, retention & redistribution of tears, drying and breakup of tear films and elimination of tears.
7. a) Discuss the different types of BINOCULAR eye movements.  
b) Discuss briefly the functions of visual cortex.  $10 + 5$
8. a) Describe the changes in the various ocular structures during accommodation.  
b) Discuss changes in the aging lens.  $10 + 5$
9. a) Discuss the factors regulating corneal transparency. Explain Maurice-Goldman theory.  
b) Draw a labelled diagram (description not needed) for a typical rod and a cone.  $7\frac{1}{2} + 7\frac{1}{2}$

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