	Utech
Name :	
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Invigilator's Signature :	

CS/B.OPTM/SEM-3/BO-301/2009-10 2009

VISUAL OPTICS (OPTICS -III)

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:

 $10 \propto 1 = 10$

- i) A patient requires cylinder lens at 30 degree in one eye
 & at 150 degree in the other eye. What can be the type of astigmatism?
 - a) WTRb)

ATR

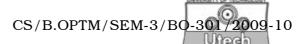
- c) Oblique
- d) Bi-oblique.
- ii) Latent hypermetropia is unmasked by
 - a) Cycloplegic drugs
 - b) Fogging method of refraction
 - c) Maddox rod
 - d) Pinhole test.

33326 [Turn over

CS/B.OPTM/SEM-3/BO-301/2009-10

111)	Diopuric power is the reciprocal of the local distant		of the local distance in		
	a)	Meter	b)	Centimeter	
	c)	Millimeter	d)	None of these.	
iv)	The strongest stimulus to accommodation is			modation is	
a) Blurring of the retinal image				e	
	b)	Sense of proximity of the object			
	c) Retinal image disparity				
	d) None of these.				
v)	Coma is a result of				
	a)	a) Peripheral aberration			
	b) Chromatic aberration				
	c)	Diffraction			
	d)	None of these.			
vi)	NPA is measured using a				
	a)	Maddox rod	b)	Maddox wing	
	c)	RAF rule	d)	Prism bar.	
vii)	Temporal crescent is seen in				
	a)	myopia	b)	hypermtropia	
	c)	aphakia	d)	anisometropia.	
viii)	i) If the crystalline lens in an eye is displaced backwa		is displaced backwards		
	or 1	removed from the ey	e, t	he resulting refractive	
	cond	lition is			
	a)	Hypermetropia	b)	Myopia	
	c)	Astigmatism	d)	Presbyopia.	
ix) Smaller pupil can give rise to					
	a)	spherical aberration			
	b)	chromatic aberration			
	c)	diffraction			
	d)	coma.			

33326 2



- x) Number of ordinal points in a schematic eye is
 - a) 4

b) 8

c) 6

- d) 10.
- xi) The far point of a -4.0 D patient is at
 - a) 20 cm

b) 25 cm

c) 50 cm

d) infinity.

GROUP - B

(Short Answer Type Questions)

Write short note on any three of the following.

 $3 \propto 5 = 15$

- 2. Schiener's disc exeriment.
- 3. Mechanism of accomodation.
- 4. Airy disc
- 5. Bi-oblique astigmatism.

GROUP - C

(Long Answer Type Questions)

Answer any three of the following.

 $3 \propto 15 = 45$

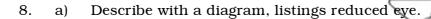
- 6. Define amplitude of accommodation. Show how it can be measured. Describe any two procedures for measuring presbyopic near addition. 2+6+7
- 7. What are the assumed different axes and angles present in the human eye? Define & describe each of them. Define diffraction & resolving power. 4+6+5

33326

3

[Turn over

CS/B.OPTM/SEM-3/BO-301/2009-10



- b) Draw and describe different types of regular astigmatism. 8 + 7
- 9. During refraction by the fogging method, an eye attains visual acuity of 6/6 with a correcting lens of +3.00 DSph. On reducing the correction to +2.00 DSph, visual acuity remains at 6/6. However, acuity diminishes on further reducing the refractive correction.
 - a) What is the
 - i) absolute hypermetropia
 - ii) facultative hypermetropia
 - iii) Manifest hypermetropia.
 - b) How is the acuity maintained at 6/6 on reducing the refractive correction from +3.00 DSph to +2.00 DSph?
 - c) What are the treatment options for a hypermetropic patient? 6+4+5

33326 4