

Group-A

(Multiple Choice Question)

1. **Choose the correct alternative for following (ANY ten)**

10x1=10

- i) Worth 4 dot test measure:
 - a) State of binocular vision
 - b) Heterophoria
 - c) Stereo acuity
 - d) Fixation pattern
- ii) Relieving prism is effective in treatment of:
 - a) Heterophoria
 - b) Suppression
 - c) ARC
 - d) Nystagmus
- ii) In inverse occlusion occlusion is given to:
 - a) Good eye
 - b) Bad eye
 - c) Both eye
 - d) None of these.
- iv) Consecutive CI occur due to:
 - a) Accommodative spasm
 - b) Presbyopia
 - c) Squint Sx
 - d) High refractive error
- v) Cheiroscope is used in the treatment of:
 - a) Suppression
 - b) ARC
 - c) Amblyopia
 - d) All of these
- vi) With Krimsky test we can measure angle of deviation:
 - a) Only in near
 - b) Only in distance
 - c) Both in distance & near
 - d) None of these
- vii) With park 3-step test we can evaluate:
 - a) Paretic cyclovertical muscle
 - b) Paretic horizontal muscle
 - c) Secondary changes after paresis
 - d) None of these
- viii) In unharmonious ARC:
 - a) Subjective angle less than objective angle
 - b) Subjective angle greater than objective angle
 - c) Subjective angle equal to objective angle
 - d) Subjective angle zero

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- ix) DVD may be confused with:
- a) Overacting inferior oblique
 - b) Palsy of inferior oblique
 - c) Overacting inferior rectus
 - d) Palsy of inferior rectus
- x) The most common etiology of A or V pattern strabismus is:
- a) Dysfunction of oblique muscle
 - b) Dysfunction of rectus muscle
 - c) Both of 1 & 2
 - d) None of these
- xi) Red –green glasses are used in all of following except:
- a) Hess screen
 - b) Diplopia chart
 - c) After image test
 - d) Worth 4 dot test
- xii) Miotics sometime used in treatment of:
- a) Accommodative esotropia
 - b) Accommodative lag
 - c) CI
 - d) None of these

Group-B

Write short notes (ANY three)

3x5=15

1. Broad 'H' test
2. R.A.F Ruler
3. Worth 4 dot test
4. Convergence excess
5. Bar reader

Group-C

Any three

3x15=45

1. Classify strabismus. What are the important aspects of history taking during examination of squint? How will you assess near phoria?
5+5+5
2. Explain Krimsky's corneal reflex test. Briefly describe Maddox Rod testing. Write down the diagnostic procedure to assess convergence insufficiency
3+6+6
3. Write the classification of amblyopia. Briefly describe the treatment modalities available for amblyopia. How to check eccentric fixation?
4+8+3
4. State 'Hering law of equal innervation'. On the basis of this law explain why secondary deviation will be greater than primary deviation in case of incomitant esotropia due to LLR palsy. Explain the interpretation of diplopia testing where vertical separation increase in dextrolevation.
3+4+10
5. Explain the use of synoptophore. What is park 3 step test? Mention the types of suppression. Write down the treatment goal in case of suppression
4+6+2+3

**APPLIED OPTOMETRY & ORTHOPTICS
SEMESTER-6**

TIME: 3 HOURS

Full Marks: 70

Group-A

(Multiple Choice Question)

1. Choose the correct alternative for following (ANY ten)

10x1=10

- i) Right superior oblique is contra lateral synergist muscle of :
 - e) Left Inferior rectus
 - f) Left Inferior oblique
 - g) Left Superior rectus
 - h) Right Inferior rectus
- ii) Relieving prism is effective in treatment of:
 - e) Heterophoria
 - f) Suppression
 - g) ARC
 - h) Nystagmus
- ii) In inverse occlusion occlusion is given to:
 - e) Good eye
 - f) Bad eye
 - g) Both eye
 - h) None of these.
- iv) Consecutive CI occur due to:
 - e) Accommodative spasm
 - f) Presbyopia
 - g) Squint Sx
 - h) High refractive error
- v) Cheiroscope is used in the treatment of:
 - e) Suppression
 - f) ARC
 - g) Amblyopia
 - h) All of these
- vi) The 4▲base out prism is used to diagnose
 - e) Suppression
 - f) Dipopia
 - g) Relative fusional vergence
 - h) None of these
- vii) With park 3-step test we can evaluate:
 - e) Paretic cyclovertical muscle
 - f) Paretic horizontal muscle
 - g) Secondary changes after paresis
 - h) None of these
- viii) In unharmonious ARC:
 - e) Subjective angle less than objective angle
 - f) Subjective angle greater than objective angle
 - g) Subjective angle equal to objective angle
 - h) Subjective angle zero
- ix) False projection is present in:
 - a) Infantile esotropia

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- b) Accommodative esotropia
- c) Duane's syndrome
- d) Brown syndrome
- x) The most common etiology of A or V pattern strabismus is:
 - e) Dysfunction of oblique muscle
 - f) Dysfunction of rectus muscle
 - g) Both of 1& 2
 - h) None of these
- xi) Red –lens test is used to diagnose:
 - e) suppression
 - f) ARC
 - g) Sensory fusion
 - h) All of these
- xii) Miotics sometime used in treatment of:
 - e) Accommodative esotropia
 - f) Accommodative lag
 - g) CI
 - h) None of these

Group-B

Write short notes (ANY three)

3x5=15

1. Bielschowsky after image test
2. R.A.F Ruler
3. Worth 4 dot test
4. Convergence excess
5. Bar reader

Group-C

Any three

3x15=45

1. Classify strabismus. What are the important aspects of history taking during examination of squint? How will you assess near phoria?
5+5+5
2. Explain Krimsky's corneal reflex test. Briefly describe Maddox Rod testing. Write down the diagnostic procedure to assess convergence insufficiency
3+6+6
3. Write the classification of amblyopia. Briefly describe the treatment modalities available for amblyopia. How to check eccentric fixation?
4+8+3
4. What do you mean by normal retinal correspondence & abnormal retinal correspondence? Mention the type of abnormal retinal correspondence. Outline the examination procedure for assessing abnormal retinal correspondence.
4+4+7
5. Mention the use of synoptophore. What is park 3 step test? How is the Hess screen used to assess the faulty muscle in case of paralytic squint?

4+6+5

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VISUAL OPTICS (OPTICS IV)

SEMESTER-4

TIME: 3 HRS

Total Marks:70

Group A

1. Choose the correct alternatives for the following: 10x1
- i) Pelli Robson chart is used for
 - a) V.A testing
 - b) Glare testing
 - c) Contrast sensitivity testing
 - d) Color vision testing
 - ii) In case of a purely axial myopia if a spectacle has been placed at ant. Focal plane of eye .RSM will be:
 - a) 1
 - b) >1
 - c) <1
 - d) 0
 - iii) 1mm shortening of axial length of eyeball can produce :
 - a) 1D of hyperopia
 - b) 3D of hyperopia
 - c) 1D of myopia
 - d) 3D of myopia
 - iv) If a myopic patient shift from spectacle to contact lens :
 - a) accommodative & vergence demand increases
 - b) accommodative & vergence demand decreases
 - c) accommodative demand increases but vergence demand decreases
 - d) no changes occurs in accommodative & vergence demand
 - v) Spherical equivalent of $+2.00/-2.50$ D cyl 90° is:
 - a) $+3.25$ Dsph
 - b) -0.50 Dsph
 - c) $+0.75$ Dsph
 - d) $+0.50$ Dsph
 - vi) Coma is a type of :
 - a) off -axia spherical aberration
 - b) chromatic aberration
 - c) peripheral magnification
 - d) none of these
 - vii) A patient having refractive error of -1 Dsph/ -3.00 Dcyl 180° is an example of :
 - a) with the rule astigmatism
 - b) against the rule astigmatism
 - c) mixed astigmatism
 - d) none of these
 - viii) Pseudomyopia is caused by:
 - a) accommodative spasm
 - b) accommodative insufficiency
 - c) paralysis of accommodation
 - d) accommodative infacility

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ix) Radius curvature of post. Surface of cornea:

- a) 5.5 mm
- b) 6.5mm
- c) 7.8 mm
- d) 8.5 mm

x) With papillary constriction:

- a) Diffraction increases
- b) Spherical aberration increases
- c) Depth of focus increases
- d) None of these

Group-B

2. Write short notes on any three

5x3

- a) RSM
- b) Chromatic aberration
- c) Progressive myopia
- d) Depth of focus
- e) Circle of least confusion

Group -C

3. Answer any three

15x3

a) Define F& K relationship. AN axial ametropic eye with -9.OOD spectacle at ant. Focal plane. When the person corrected with contact lens find out the new RSM.

5+10

b) Briefly describe different modalities available for aphakia correction with their advantages & disadvantages.

15

c) Classify astigmatism. Illustrate the characteristics of retionoscopic reflexes found in astigmatic eye.

7+8

d) Define & classify glare. Outline the tests for contrast sensitivity function of eye.

5+10

1st INTERNAL ASSESSMENT

OCULAR PHYSIOLOGY

Full Marks=30

TIME=2Hrs

Q.1 Choose the correct option for the following: 5x1=5

i. The water content of Cornea is:

- (a) 100% (b) 98% (c) 99% (d) None

ii. The healing of corneal wound takes place within:

- (a) 1hr (b) 2hr (c) 24hrs (d) 48hrs

iii. Oxygen required for corneal metabolism is derived mainly from:

- (a) Aqueous humour (b) vitreous humour (c) Atmosphere (d) All of the above

iv. Failure of Na-K Pump in corneal endothelium will result in:

- (a) Corneal edema (b) Halos (c) Loss of corneal transparency (d) All of the above

v. Plasmoid aqueous humour has the following features except:

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- (a) Increase in protein content (b) Decrease in aqueous outflow
(c) Tyndall effect (d) occurs due to inflammation of anterior Uvea

Q.2 Write short notes on: (any 2) 2x5=10

- (a) Aqueous Humour, its composition & functions
(b) Factors affecting corneal transparency
(c) Secretion of aqueous humour
(d) Difference b/w Snellen chart & Bailey-lovie chart

Q.3 Answer the following questions :(any one) 15x1=15

- (i) Describe the aqueous humour drainage pathway. 10
(ii) Mention the Supra nuclear control of eye movement 5

OR

- (iii) Describe the actions & nerve supply of the extra ocular muscles of the eye. 12
(iv) What are the components of blood-aqueous barrier? 3

CLINICAL REFRACTION-1
SEMESTER-6

TIME: 3 HRS
GROUP-A

FullMarks:70

1. Choose the correct answer of following: 10x1=10

1. The condition where focus of one principal meridian is at outer limiting membrane of retina is known as:

- a) Circle of least confusion
b) Circle of diffusion
c) Strums conoid
d) None

2. Aniso-oxypopia refers to:

- a) Unequal V.A in two eyes
b) Unequal refractive error in two eyes
c) Unequal accommodation in two eyes
d) None

3. The spherical equivalent of JCC is:

- a) +1
b) -1
c) 0
d) 2

4. Cycloplegic refraction is contraindicated:

- a) Young hyperopic
b) Esophoria
c) Glaucoma
d) Children < 7 yrs

5. Straddling method of R'scopy is used to:

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- a) Refine cyl axis
 - b) Refine sph. Power
 - c) Both
 - d) None
6. The amplitude of accommodation of a person having far point ∞ and near point at 10 cm is:
- a) 10D
 - b) 1D
 - c) 1.5D
 - d) None
7. Duochrome test is used in all except:
- a) Check cylinder correction
 - b) Check sph. Over or under correction
 - c) Binocular balancing
 - d) Determination of presbyopic addition
8. Pinhole increase V.A by:
- a) Reducing the size of blur circle
 - b) Increasing size of blur circle
 - c) Cutting of peripheral rays
 - d) Both of a) & c)
9. Starting point of MSR may be all except:
- a) PGP
 - b) autoref
 - c) Retinoscopy
 - d) JCC
10. Radical retionocopy:
- a) Presence of media opacity
 - b) Presence of high refractive error
 - c) In case of children
 - d) All of these

Group-B

Write short notes (ANY three)

3 x 5=15

- 1. Nott's & MEM method of dynamic retinoscopy
- 2. Turville infinity balance
- 3. Prism dissociation method
- 4. Pinhole
- 5. Push up technique

Group-C

Any three

3 x 15=45

- 1. a) What is clinical refraction?
- b) What is the importance of history taking before refraction?
- c) Write down the steps of monocular subjective refraction.
- d) Discuss the use of Bailey-Lovie chart as compared to Snellen chart

2+5+3+5

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2. a) Explain the characteristics of streak reflex which help you to determine nature of refractive error
b) What is fogging technique?
c) What is JCC?
e) Explain the optical basis of cyl.power determination with JCC
4+4+2+5
3. a) Explain the optical principal of duochrome test & its utility in monocular subjective refraction
b) Briefly describe the method (any three) by which we can determine presbyopic addition.
3+5+7
4. a) Name the cycloplegic agents used for refraction
b) When is cycloplegic refraction indicated?
c) What pre examinations should be done before cycloplegic refraction?
d) How much tonus allowance should be reduced during final refraction
3+4+4+4
5. a) How can we overcome accommodative spasm during non-cycloplegic refraction?
b) Explain slit refraction
8+7