

**Third Year B.Optomety Examination**  
**Binocular Vision and Orthoptics**

Date : 24-07-2019, Wednesday]

[Max. Marks : 80

[Time : 3 Hours

- Instructions :** (1) Figure to the right indicates marks.  
(2) Draw diagram wherever necessary.  
(3) Write legibly.  
(4) Use separate answer books for each section.

**SECTION I**

- 1 Objective Question :** **10**
- |                         |                             |
|-------------------------|-----------------------------|
| ( 1 ) Define Vergence   | ( 6 ) Define N.P.A.         |
| ( 2 ) Define Version    | ( 7 ) Define yoke muscles   |
| ( 3 ) Define AC/A ratio | ( 8 ) Define ARC            |
| ( 4 ) Suppression       | ( 9 ) Define NRC            |
| ( 5 ) N.P.C.            | ( 10 ) Define accommodation |
- 2 Answer any five with diagrams. :** **30**
- ( a ) Define B.S.V. & all grades with pictures. What are the advantages of BSV?  
( b ) Explain Physiological-Diplopia with types & diagrams. Give some differences between phy. & patho. diplopia.  
( c ) Explain : ( i ) PANUM'S - AREA with diagram  
( ii ) HOROPTER ( iii ) FUSIONAL - RESERVE  
( d ) Write a short essay on HETEROPHORIA with all causes, types, sign-symptoms in short.  
( e ) Explain all E.O.M. with actions, N-Supply & Thickness also.  
( f ) Explain 'AMBLYOPIA' with latest classification & management in short.

**SECTION II**

- 3 Objective Question :** **10**
- |                                    |                           |
|------------------------------------|---------------------------|
| ( 1 ) LATENT NYSTAGMUS             | ( 6 ) Uses of R.A.F. rule |
| ( 2 ) Explain A & V Pattern        | ( 7 ) SEQUELA OF RLR      |
| ( 3 ) Explain cover - uncover test | ( 8 ) SEQUELA OF RSO      |
| ( 4 ) Explain cover test           | ( 9 ) D.V.D.              |
| ( 5 ) Uses of CHEIROSCOPE          | ( 10 ) What is X pattern? |
- 4 Answer any five in short :** **30**
- ( a ) Explain all weakening procedures of squint surgery.  
( b ) Draw a Diplopia chart for REMR, SR, IR Palsy (acute) Combined.  
( c ) Explain all type of 'OCCLUSION' with diagnostic & THERAPEUTIC USES.  
( d ) Explain 'INT-EXOTROPIA' with all diagnostic methods & how we can manage it.  
( e ) Explain classification of "ESOTROPIA" & Management of ACCO. ESOTROPIA in a 6 years old girl.  
( f ) Explain : ( i ) H.B. test for angle of deviation. ( ii ) Causes of PSEUDO-ESOTROPIA  
( iii ) Explain PENALISATION in short.  
( g ) Explain in short : ( i ) DUANE'S RET. SYNDROME.  
( ii ) All uses of SYNOPTOPHORE ( iii ) PARADOXICAL - DIPLOPIA.



**Third Year B.Optomety Examination  
Contact Lens I & II**

Date : 26-07-2019, Friday]

[Max. Marks : 80

[Time : 3 Hours

- Instructions :** (1) Figure to the right indicates marks.  
 (2) Draw diagram wherever necessary.  
 (3) Write legibly.  
 (4) Use separate answer books for each section.

**SECTION I:**

**Q.1. Answer in Short**

(10 marks)

**a). MCQ**

(1 mark each)

1. According to Harvitt and Bonanno, what should the transmissibility of daily wear contact lenses be to limit or prevent corneal oedema?
 

a. $Dk/t = 24 \times 10^{-9}$	b. $Dk/t = 24 \times 10^{-11}$
c. $Dk/t = 35 \times 10^{-9}$	d. $Dk/t = 35 \times 10^{-11}$
  
2. According to Harvitt and Bonanno, what should the transmissibility of extended wear contact lenses be to limit or prevent corneal oedema?
 

a. $Dk/t = 87 \times 10^{-9}$	b. $Dk/t = 87 \times 10^{-11}$
c. $Dk/t = 125 \times 10^{-9}$	d. $Dk/t = 125 \times 10^{-11}$
  
3. All of the following are true of aspheric RGP lenses as compared to spherical RGP's, except:
 

a. Better corneal alignment is achieved	b. Provide better vision
c. More difficult to manufacture	d. More difficult to verify
  
4. What is the Internal astigmatism in an eye with subjective refraction  $-5.00 / -3.00 \times 180^\circ$  and keratometry readings  $44.00 / 46.00 @ 90^\circ$ ?
 

a. $-1.00 \text{ DC} \times 90^\circ$	b. $-1.00 \text{ DC} \times 180^\circ$
c. $-2.00 \text{ DC} \times 180^\circ$	d. $-2.00 \text{ DC} \times 90^\circ$
  
5. What is the minimum amount of corneal oedema present if 2 folds are observed in the deep stroma.
 

a. 2%	b. 8%
c. 16%	d. 4%
  
6. \_\_\_\_\_ is an example of wetting agent
 

a. hydroxypropylcellulose	b. polyvinyl alcohol
c. chlorohexidine	d. Both A & B
  
7. Which one of the following is Not a typical sign of MK?
 

a. Bulbar redness	b. Altered corneal astigmatism
c. Mucopurulent discharge	d. Lid oedema
  
8. A patient has a spectacle refraction of  $-18.50 \text{ DS}$  at a vertex distance of 12 mm.  
 What BVP should be ordered for the final contact lens?
 

a. $-15.25 \text{ D}$	b. $-16.25 \text{ D}$	c. $-15.75 \text{ D}$	d. $-16.00 \text{ D}$
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9. A contact lens with an EOP of 7% allows how much available atmospheric oxygen to the cornea:
 

a. 7%	b. 21%
c. 33%	d. 50%

0719E348(2)

10. A patient has horizontal visible iris diameter (HVID) of 11.0 mm. Which of the following total lens diameters would be MOST suitable when fitting this patient with soft contact lenses?

- a. 9.00 mm                      b. 10.00 mm                      c. 13.00 mm                      d. 15.00 mm

**Q.2. Write short notes on (any five)**

**(30 marks)**

1. Elucidate principles and application of therapeutic and prosthetic contact lenses with example.
2. Write about various tests for dry eye evaluation?
3. Indications of contact lenses, with reasons.
4. Discuss various ocular complication causes due to high water content hydrogel soft lenses.
5. Function of buffers, tonicity agent and surfactants in multipurpose solutions.
6. Explain Keratoconus, its assessment and management.

**SECTION II:**

**Q.1. Short answer**

**(10 marks)**

1. Altering the specific gravity of a rigid lens can change the mass by 20%. (true/false)
2. Soft contact lens is more suitable for occasional wear than RGP lens. (true/false)
3. Ptosis is more common with RGP than soft contact lens. (true/false)
4. Bacterial corneal ulcer is more common with soft than RGP contact lens. (true/false)
5. The best immediate treatment for a chemical splash to the eye is Neutralization of the chemical with an alkali. (true/false)
6. What is the typical pH of Human tears under normal open eye conditions?
7. What is water content in soft contact lenses?
8. A patient wears a soft trial lens with a back optic zone radius (BOZR) of 8.60 mm and overall diameter 14.50 mm. The lens fit is satisfactory, but you decide to fit a smaller lens with a diameter of 14.00 mm. \_\_\_\_\_ BOZR would be required the new contact lens, in order to keep the same lens-cornea relationship?
9. The normal, non-lens wearing cornea typically swells approx. \_\_\_\_\_ % during sleep.
10. Cornea is composed of \_\_\_\_\_ % GAGs.

**Q.2. Write short notes on (any five)**

**(30 marks)**

1. Write a note on Soft contact lens manufacturing methods.
  2. Discuss the options on Myopia control using various modalities.
  3. Indications of Keratometry and topography for soft contact lenses fitting.
  4. Explain Hydrogen peroxide system and cold chemical disinfectant system.
  5. Explain CLARE, its assessment and management.
  6. Note on soft Toric CL stabilization techniques?
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Third Year B.Optomety Examination  
Major Eye Diseases & Systemic Diseases

Date : 30-07-2019, Tuesday]

[Max. Marks : 80

[Time : 3 Hours

- Instructions :** (1) Figure to the right indicates marks.  
(2) Draw diagram wherever necessary.  
(3) Write legibly.  
(4) Use separate answer books for each section.

SECTION-A

Q-1. Choose the correct answer

(10)

- 1) Kayser- Fleischer ring in case of Wilson's disease is seen in
  - a) Cornea
  - b) Iris
  - c) Lens
  - d) Macula
  
- 2) All of the following can be ophthalmic presentations of a patient having neurological problem except
  - a) Headache
  - b) Dimness of vision
  - c) Metamorphopsia
  - d) Field defect
  
- 3) All of the following drugs cause optic neuropathy except
  - a) Ethambutol
  - b) Isoniazide
  - c) Chloramphenicol
  - d) Rifampicin
  
- 4) Atropine is contraindicated in
  - a) Neovascular glaucoma
  - b) Malignant glaucoma
  - c) Uveitic glaucoma
  - d) Acute angle closure glaucoma
  
- 5) Rosette cataract is associated with
  - a) Diabetes
  - b) Anterior uveitis
  - c) Blunt ocular trauma
  - d) Penetrating ocular injuries

[P.T.O.]

0719E358(2)

- 6) All of the following are causes of sudden painless visual loss except
- CRAO
  - Vitreous haemorrhage
  - Tractional R.D.
  - Cataract
- 7) Retrolental fibroplasia is a term used for
- PHPV
  - ROP
  - Coat's disease
  - Retinoblastoma
- 8) Full form of CME is
- Central Macular Edema
  - Clinically Significant Macular Edema
  - Common Macular Edema
  - Cystoid Macular Edema
- 9) Neuroretinal rim of optic nerve head is thickest
- Superiorly
  - Inferiorly
  - Nasally
  - Temporally
- 10) Myasthenia gravis can produce all of the following except
- Paralysis of accommodation
  - Paralysis of convergence
  - Paralysis of lateral rectus
  - Paralysis of LPS

Q-2) Write short notes on any five out of six (with details and diagram)

(30)

- Ocular manifestations of blunt trauma
- Congenital cataract
- HIV and eye
- Marfan's syndrome.
- Malignant ocular tumours.
- Age Related Macular Degeneration

0719E358(3)

SECTION – B

**Q-3** Answer in short

(10)

1. Name the disease where corneal collagen cross linking therapy is used.
2. Full name of CRVO
3. Name the laser used to treat diabetic macular edema.
4. Two uses of antibiotic with steroid eye drops.
5. Left optic tract lesion will cause \_\_\_\_\_.
6. What is Salu's sign?
7. Name the muscles which help to elevate the upper eye lid.
8. Name two causes of night blindness.
9. Full form of DSEK.
10. Causes of cherry red spot over macula.

**Q-4** Write short notes on any five out of six (with details and diagram)

(30)

1. Differential diagnosis of leucocoria
  2. Classification of optic atrophy
  3. WHO classification of Trachoma
  4. Congenital anomalies of lens
  5. Eye and toxoplasmosis
  6. Optical coherence tomography
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**Third Year B.Optomety Examination**  
**Occupational Optometry & Community Optometry**

**Date : 01-08-2019, Thursday]**

**[Max. Marks : 80**

**[Time : 3 Hours**

- Instructions :** (1) Figure to the right indicates marks.  
(2) Draw diagram wherever necessary.  
(3) Write legibly.  
(4) Use separate answer books for each section.

**SECTION A**

**[40 Marks]**

**Q-1 ANSWER THE FOLLOWING.**

**(10 MARKS)**

1. What is infrared radiation ?
2. What is NASCAVOMETER ?
3. What is glaucoma ?
4. Define hazard.
5. What is a consent ?
6. What is workplace survey ?
7. Name any two occupation where colour vision is necessary.
8. Long term exposure of UV to conjunctiva can cause .....
9. BS 7028 classifies as .....
10. True or False: Alcohol is a social drug.

**Q-2 WRITE SHORT NOTES ON (ANY 5)**

**(30 MARKS)**

1. Write any three occupations where PPE is required? Which PPE would you suggest in each occupation?
2. Write a note on Computer Vision Syndrome.
3. What are the factors which affect mans safety at work.
4. What are the advantages of contact lens over spectacles?
5. What are the different eye conditions which can occur due to trauma ?
6. Write different roles of optometrist .

**SECTION B**

**[40 Marks]**

**Q-3 ANSWER THE FOLLOWING:**

**(10 MARKS)**

1. Define visual field.
2. How much illumination is needed for a visual acuity setup?
3. Which tint will you advice to a shooter ?
4. What is public health ?
5. Which type of cataract occurs in diabetes?

**[P.T.O.]**

0819E367(2)

6. What is a blow out fracture ?
7. What is ROP?
8. Define contrast sensitivity.
9. Which material is used for manufacturing of sports polaroid lenses ?
10. What is drop ball test ?

(30 marks)

**Q-4 WRITE SHORT NOTES ON: (ANY FIVE)**

1. Tabulate different sports and their visual demands.
  2. Which are the tests you will perform for a badminton player ?
  3. Tabulate different tints recommended for different sports.
  4. How will you set up refraction on camp site? What are the different problems you will face on camp site ?
  5. What is sports visual task analysis ?
  6. What are the duties of an optometrist in a primary eye care Centre?
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## Third Year B.Optomety Examination

## Pediatric Optometry, Geriatric Optometry &amp; Low Vision Aids

Date : 03-08-2019, Saturday]

[Max. Marks : 80

[Time : 3 Hours

- Instructions :** (1) Figure to the right indicates marks.  
(2) Draw diagram wherever necessary.  
(3) Write legibly.  
(4) Use separate answer books for each section.

## SECTION A

## Q.1 Do as Directed

10 Marks

1. \_\_\_\_\_ instrument measures the endothelial cell count.
2. Xalatan is \_\_\_\_\_ type of drug in glaucoma .
3. \_\_\_\_\_ lens is used in keratometer for extending a range from 52 D to 61D.
4. Define Legal blindness?
5. 4M = \_\_\_\_\_ N points.
6. Define Abnormal Retinal Correspondence
7. In Logmar Visual acuity chart one letter is \_\_\_\_\_ log unit.
8. The HVF 30-2 indicates \_\_\_\_\_
9. What is Jack in the box phenomenon?
10. Define Nystagmus and list physiological nystagmus

## Q.2 Short questions (Any five)

30 Marks

1. List Different disease in children having history of Genetic factors (Explain any three according to type of Genetic involved) Optical devices in Low vision.
2. Congenital Dacryocystitis
3. Define Low vision and Explain  $20/50 = 1M = N8$
4. Uses of Cycloplegics in pediatric patient
5. A patient with 60 ARMD having a severe low vision. Write down its behavioural and clinical problems of patient and how will you manage optically and non-optically?
6. Important factors involved in selecting a frame for Pediatric child of 5 year old? Explain Transverse angle and splay angle

0819 E375(2)

## SECTION B

### Q.1 Do as Directed

10 Marks

1. The amsler grid is a near point test of central \_\_\_\_\_ degree of vision.
2. Eikonometer is the instrument used to measure the disparity in size of the retinal images. (True or False)
3. Three Uses of OCT?
4. Name Three different colour vision test?
5. \_\_\_\_\_ retinoscopy technique is used to estimate hypermetropic refraction without any trial lens.
6. When one eye is emmetropic and other eye is Myopia of -3.00. Then it is called \_\_\_\_\_ type of Anisometropia.
7. \_\_\_\_\_ Type of pin hole should be used in low vision patient
8. Muscles responsible for Leavoelevation are \_\_\_\_\_ and \_\_\_\_\_.
9. \_\_\_\_\_ Instrument can measure the posterior corneal curvature and corneal thickness.
10. What is Stargadt Disease?

### Q.2 Short question (Any 5)

30 Marks

1. Mention different vision therapies to be given in Anisometropic Amblyopia
  2. Explain Grades of Hypertensive Retinopathy in an elderly patient.
  3. Note on types of Magnification? Explain any one type of calculating magnification
  4. Anti-Glaucoma drugs
  5. Write a note on Treatment options of Aphakia in Geriatric age group?
  6. Mention major investigation to be performed in geriatric low vision patients?
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