[LL 0817] AUGUST 2017 **Sub. Code: 2712**

B.OPTOM
(New Syllabus 2015-2016)

SECOND YEAR

PAPER II – VISUAL OPTICS – I & II

Q.P. Code: 802712

Time: Three Hours **Maximum: 100 Marks**

Answer all questions

I. Elaborate on: **(3 x 10 = 30)**

1. Explain the steps of subjective refraction.
2. Define Myopia. Give its causes, types, signs, symptoms and management.
3. Explain the different types of Amblyopia and give its management.

II. Write notes on: **(8 x 5 = 40)**

1. Principle and procedure of Jackson cross cylinder.
2. Retinoscopy techniques in Astigmatic eye.
3. Classification of hypermetropia.
4. Two methods in estimating near addition power.
5. Axis of the eye.
6. Astigmatic fan.
7. Prerequisite and errors in retinoscopy.
8. AC/A ratio.

III. Short answers on: **(10 x 3 = 30)**

1. Define emmetropia. Where is the far point in an emmetrope?
2. List the cardinal points in the eye.
3. List the causes of refractive error.
4. Give the spherical equivalent +2.50DS/-1.00DC x 90.
5. State Prentice rule with an example.
6. Difference between anisometropia and aniseikonia.
7. Define relative spectacle magnification.
8. Give the type of image formation in a convex lens.
9. Difference between dynamic and static refraction.
10. Define principal focus.

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[LM 0218] FEBRUARY 2018 **Sub. Code: 2712**

B.OPTOM
(New Syllabus 2015-2016)

SECOND YEAR

PAPER II – VISUAL OPTICS – I & II

Q.P. Code: 802712

Time: Three Hours **Maximum: 100 Marks**

Answer all questions

I. Elaborate on: **(3 x 10 = 30)**

1. Define Presbyopia. Give its causes, types, signs, symptoms and management.
2. Define Hypermetropia. Give its causes, types, signs symptoms and management.
3. Differentiate between static and dynamic retinoscopy. Write the different methods of neutralization.

II. Write notes on: **(8 x 5 = 40)**

1. Binocular balancing.
2. Classification of astigmatism.
3. Classification of hypermetropia.
4. Anisometropia.
5. List the cardinal points in an optical system and define each.
6. Optical problems in an Aphakic spectacles.
7. Management of Myopia.
8. Types of magnification.

III. Short answers on: **(10 x 3 = 30)**

1. Different types of Amblyopia.
2. The power of the lens is 6.00D. What is its focal length?
3. Why is cornea considered the major refracting system of the eye?
4. Transpose and state the type of refractive error +2.50DS/-1.00DC x 90.
5. Define visual axis.
6. Differentiate between ocular refraction and spectacle refraction.
7. Define Emmetropia give its far point.
8. Define AC/A ratio give its normal value.
9. Signs of Pseudophakia.
10. Define first principle and second principle focus.

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[LN 0818] AUGUST 2018 **Sub. Code: 2712**

B.OPTOM
(New Syllabus 2015-2016)

SECOND YEAR

PAPER II – VISUAL OPTICS – I & II

Q.P. Code: 802712

Time: Three Hours **Maximum: 100 Marks**

Answer all questions

I. Elaborate on: **(3 x 10 = 30)**

1. Explain the optics and procedure of Retinoscopy.
2. Define Astigmatism. Give its causes, types, signs, symptoms and management.
3. Give the causes for presbyopia and different ways how a presbyope can be managed?

II. Write notes on: **(8 x 5 = 40)**

1. Principle and procedure of Duochrome test.
2. Refracting surface of the eye.
3. Optical problems in Aphakic spectacles.
4. Types of amblyopia.
5. Two methods in Binocular balancing.
6. Effective power of spectacle.
7. Aniseikonia.
8. Pseudophakia.

III. Short answers on: **(10 x 3 = 30)**

1. Define vergence and give its units.
2. Give the sign conventions used in optics.
3. Define angle kappa and give its importance.
4. Transpose and comment on the type of refractive error -1.00 DS/-0.50 DCX 40.
5. Define far point. Where will be the far point of -5.00Ds myope?
6. A myope with a farpoint of 50cm with near point of 10cm what will be his amplitude of accommodation?
7. Define relative spectacle magnification.
8. Three clinical features in Amblyopia.
9. Give three characteristic feature of a retinoscopic reflex.
10. Define nodal point.

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[LO 0219] FEBRUARY 2019 **Sub. Code: 2712**

B.OPTOM
(New Syllabus 2015-2016)

SECOND YEAR

PAPER II – VISUAL OPTICS – I & II

Q.P. Code: 802712

Time: Three Hours **Maximum: 100 Marks**

Answer all questions

I. Elaborate on: **(3 x 10 = 30)**

1. Write in detail about etiology, clinical features, types and management of astigmatism.
2. Cardinal points of the eye.
3. Define Retinoscopy. Discuss the technique, principles and practice of Retinoscopy.

II. Write notes on: **(8 x 5 = 40)**

1. Jackson cross cylinder and its applications.
2. Optical aberrations of the eye.
3. Post mydriatic test.
4. Duochrome Test.
5. Uses of prisms in ophthalmology.
6. Cycloplegic drugs.
7. Second sight.
8. Refractive index of the crystalline lens.

III. Short answers on: **(10 x 3 = 30)**

1. Fogging.
2. Angle Kappa.
3. Maddox Rod.
4. Vergence.
5. Astigmatic fan.
6. Pinhole test.
7. Far point of the eye.
8. Straddling.
9. Near vision charts.
10. Contrast sensitivity.

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[LP 0819] AUGUST 2019 **Sub. Code: 2712**

B.OPTOM
(New Syllabus 2015-2016)

SECOND YEAR

PAPER II – VISUAL OPTICS – I & II

Q.P. Code: 802712

Time: Three Hours **Maximum: 100 Marks**

Answer all questions

I. Elaborate on: **(3 x 10 = 30)**

1. Define accommodation. Discuss in detail the anomalies of accommodation and the management.
2. Define visual acuity. Discuss in detail the various types of visual acuity charts and their applications.
3. Write in detail about keratometry.

II. Write notes on: **(8 x 5 = 40)**

1. Kay pictures.
2. Visual angle.
3. Facultative Hypermetropia.
4. Second sight.
5. Pinhole.
6. Dynamic retinoscopy.
7. Cycloplegic drugs.
8. Sturm's conoid.

III. Short answers on: **(10 x 3 = 30)**

1. Ametropia.
2. Titmus test.
3. Presbyopia.
4. Placido disc.
5. Curvature myopia.
6. B scan.
7. Maddox wing.
8. Convergence excercises.
9. Accommodative hypermetropia.
10. Refractive index of the crystalline lens.

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[LQ 0220] FEBRUARY 2020 **Sub. Code: 2712**

B.OPTOM
(New Syllabus 2015-2016)

SECOND YEAR

PAPER II – VISUAL OPTICS – I & II

Q.P. Code: 802712

Time: Three Hours **Maximum: 100 Marks**

Answer all questions

I. Elaborate on: **(3 x 10 = 30)**

1. AC/A ratio and anomalies of accommodation.
2. Discuss in detail about the optics, signs and management of aphakia.
3. Explain in detail about emmetropization and growth of human eye in relation to refractive error with age.

II. Write notes on: **(8 x 5 = 40)**

1. Cardinal points of the eye.
2. RAF ruler
3. Neutralization of spectacles
4. Null Point.
5. Optics of astigmatism.
6. Pachymetry.
7. Write in short about Gullstrand's schematic eye with neat diagram.
8. Amblyopia.

III. Short answers on: **(10 x 3 = 30)**

1. Duo chrome test.
2. Types of myopia.
3. Optical components of eye.
4. Pseudophakia.
5. Visual angle.
6. Magnification.
7. Use of pinhole.
8. Hirschberg test.
9. Vertex distance.
10. Post mydriatic test.

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THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 0321] **MARCH 2021** **Sub. Code: 2712**

(AUGUST 2020 EXAM SESSION)

B.OPTOM

SECOND YEAR (Regulation 2015-2016)

PAPER II – VISUAL OPTICS – I & II

Q.P. Code : 802712

Time: Three hours **Answer ALL Questions** **Maximum: 100 Marks**

I. Elaborate on: **(3 x 10 = 30)**

1. Write in detail about different types of Astigmatism. And explain about the position of meridional images in relation to retina in each type.
2. Write in detail about keratometry and the working principle of one position variable doubling keratometer.
3. Explain in detail about Emmetropization and growth of human eye in relation to refractive error with age.

II. Write notes on: **(8 x 5 = 40)**

1. Explain about the principle of duo-chrome test and its significance with neat diagram.
2. Explain exit and entrance pupil of the human eye and its significance.
3. Write in short about the refractive properties of the cornea.
4. Explain the significance of vertex distance during subjective refraction.
5. Explain rowing-ring scotoma with aphakic glasses.
6. Write in short about Gullstrands schematic eye with neat diagram.
7. Explain about the Purkinje images in human eye with neat diagram.
8. Presbyopic correction and methods of patient management

III. Short answers on: **(10 x 3 = 30)**

1. Binocular refraction.
2. Eccentric fixation.
3. Visual axis of the eye.
4. Compound myopia.
5. Absolute hypermetropia.
6. Stereo acuity.
7. Visual acuity.
8. Minimum angle of resolution.
9. Principle of retinoscopy.
10. Functional amblyopia.

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THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 0222] **FEBRUARY 2022** **Sub. Code: 2712**
(AUGUST 2021 EXAM SESSION)

B.OPTOM
SECOND YEAR (Regulation 2015-2016)
PAPER II – VISUAL OPTICS – I & II
Q.P. Code : 802712

Time: Three hours **Answer ALL Questions** **Maximum: 100 Marks**

I. Elaborate on: **(3 x 10 = 30)**

1. Write in detail about the optics of Streak Retinoscopy and its working principle.
2. Write in detail about Optics of the Aphakic Eye. Consequences of Uniocular Aphakia and its management.
3. Write in detail about Myopia, and elaborate on the optics behind correction of myopia with spectacle Lenses with neat diagram.

II. Write notes on: **(8 x 5 = 40)**

1. What is short about Spectacle magnification
2. Write in short about Irregular Astigmatism with neat diagram
3. Write in short about Jacksons Cross Cylinder with neat diagram
4. Explain Heterophoria method to measure AC/A ratio
5. Define Far and Near point of accommodation and its position in Myopia and Hyperopia
6. Write in short about Cycloplegic Refraction.
7. Write in short about Gullstrand's Schematic Eye with neat diagram.
8. Write in short about the construction of Snellen Distance Visual Acuity Chart.

III. Short answers on: **(10 x 3 = 30)**

1. Aniseikonia
2. Pinhole
3. Log MAR Chart
4. Facultative Hypermetropia
5. Pachymetry
6. Purkinje Image
7. Fresnel Prism
8. Doubling in Keratometry
9. Angular Magnification
10. Post Mydriatic Test

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