

DIPLOMA IN OPTOMETRY TECHNOLOGY
SECOND YEAR
PAPER I – REFRACTION TECHNIQUES, CONTACT LENSES,
LOW VISION AIDS AND OPTICAL DISPENSING

Q.P. Code: 841536

Time: Three Hours

Maximum : 100 Marks

Answer All Questions

I. Elaborate on:

(3 x 10 = 30)

1. Explain the method of doing a complete subjective refraction.
2. Explain the different types of optical device used in low vision Aids with its features.
3. Draw a neat labelled diagram of frames and explain its part.

II. Write notes on:

(10 x 5 = 50)

1. Define spherical aberration and give the factors how the Human eye overcomes it?
2. Mention few special techniques of retinoscopy in an astigmatic eye.
3. Procedure on doing a Jackson Cross cylinder.
4. An Emmetrope with an amplitude of accommodation of 2D requires to work at a distance of 20cm. What is the required addition required by the patient.
5. Difference between Rigid gas permeable lens and soft contact lens.
6. Fluorescein fitting in an Rigid gas permeable lens.
7. Write a short note on how you would rehabilitate a patient without any low vision aids?
8. Non optical devices in low vision aids
9. Different types of lens material and its features.
10. Differences between hard and a soft design progressive lenses.

III. Short answers on:

(10 x 2 = 20)

1. Explain Snellen's fraction.
2. Give the spherical equivalent for the prescription +2.00DSph /-1.00Dcylx90.
3. A myope of -2.00D what will be his far point?
4. Mention the different types of near vision notation.
5. Name the two ways of disinfecting contact lenses.
6. Explain the LARS rule with an example.
7. Define oxygen transmissibility.
8. Uses of contact lenses as a therapeutic.
9. Explain kestenbaun rule.
10. What is image jump in bifocal lens?

DIPLOMA IN OPTOMETRY TECHNOLOGY
SECOND YEAR
PAPER I – REFRACTION TECHNIQUES, CONTACT LENSES,
LOW VISION AIDS AND OPTICAL DISPENSING

Q.P. Code: 841536

Time: Three Hours

Maximum : 100 Marks

Answer All Questions

I. Elaborate on:

(3 x 10 = 30)

1. Define Low Vision according to WHO? Write about the different types of optical and non Optical devices.
2. What is cycloplegic refraction? Mention few drugs used for cycloplegic refraction its action and duration. Give few important indications of doing a cycloplegic refraction.
3. Elaborate on different types of lens material with its physical properties and advantage.

II. Write notes on:

(10 x 5 = 50)

1. Write a short note on chromatic aberration and its application.
2. Short note on spherocylindrical lenses.
3. Types of Intraocular lenses and its features.
4. Mention the different types of field defects seen in glaucoma.
5. Indications and contraindications of contact lenses.
6. Fitting of a toric contact lenses.
7. Explain the procedure of taking monocular Interpupillary distance.
8. Write a short note on photochromatic lenses.
9. Electrophotical devices in low vision.
10. Explain in brief the optics of contact lens.

III. Short answers on:

(10 x 2 = 20)

1. Write the prescription in plus cylinder form -1.00Dsph /-0.50Dcylx90.
2. Difference between cylinder and spherocylinder.
3. Name four special visual acuity test for children.
4. A patient with his RE reads three letters in 0.9 line of a Log MAR chart. What is his visual acuity?
5. Define Oxygen permeability.
6. What is the effect of accommodation on a myopic patient who changes from spectacle to contact lens.
7. A low vision patient with distance visual acuity of 6/60. What will be the add required?
8. Characteristics of retinoscopic reflex.
9. Name the different types of bridges.
10. Define pantoscopic tilt.

**DIPLOMA IN OPTOMETRY TECHNOLOGY
SECOND YEAR**

**PAPER I – REFRACTION TECHNIQUES, CONTACT LENSES, LOW VISION
AIDS AND OPTICAL DISPENSING**

Q.P. Code: 841536

Time : Three Hours

Maximum : 100 Marks

Answer All questions.

I. Elaborate on:

(3 x 10 = 30)

1. Discuss in detail about keratometry and its procedure.
2. Write about various progressive designs and explain its markings with a diagram.
3. Write about different magnifications used in Low vision aids with examples.

II. Write notes on:

(10 x 5 = 50)

1. What is hyperopia? Write its treatment options.
2. Explain on any three contact lens complications.
3. Explain the steps of subjective refraction.
4. Explain LARS and CAAS rule with examples.
5. What are the different types of trifocals?
6. Explain on spectacle and stand magnifiers.
7. What is static and dynamic fitting in RGP contact lens?
8. Write in short on artificial eye.
9. What is IPD? What are the different methods to measure it?
10. Write the steps involved in transposition.

III. Short answers on:

(10 x 2 = 20)

1. Define visual impairment.
2. Transpose the prescription +1.50/2.25 x 180 into alternate cylinder form.
3. What is vertex distance?
4. Write briefly on ballasting techniques for soft torics.
5. Schirmer's test.
6. Write about Refractive index.
7. What are various assistive devices used in low vision?
8. List the types of prosthetic lenses.
9. Write about spherocylindrical lens.
10. List out the government schemes for low vision patients.

DIPLOMA IN OPTOMETRY TECHNOLOGY
SECOND YEAR
PAPER I – REFRACTION TECHNIQUES, CONTACT LENSES,
LOW VISION AIDS AND OPTICAL DISPENSING

Q.P. Code: 841536

Time : Three Hours

Maximum : 100 Marks

Answer All questions.

I. Elaborate on:

(3 x 10 = 30)

1. Write in detail about retinoscopy.
2. Explain about soft contact lens fitting and its evaluation.
3. Write in detail about various optical devices used in low vision.

II. Write notes on:

(10 x 5 = 50)

1. Write about hard and soft progressive designs.
2. What are the different RGP contact lens materials?
3. Symptoms of flat fit and tight fit in contact lens fitting.
4. What are the different types of low vision charts?
5. Write in brief on astigmatism and its types.
6. Explain the difference between glass and plastic.
7. Find out the contact lens power for the prescription
-3.00/2.50 x 170 (VD = 12mm).
8. Write in brief on telescopes and its types.
9. Explain about keratometry.
10. How will you write down a prescription? Mention with example.

III. Short answers on:

(10 x 2 = 20)

1. Write about different wearing modalities in contact lens.
2. What is trivex?
3. Define legal blindness.
4. Define oxygen permeability.
5. What is a typoscope?
6. Schirmer's test.
7. What is post mydriatic test?
8. What is chromatic aberration?
9. List the indications of progressive lens.
10. What is the importance of IPD?

**DIPLOMA IN OPTOMETRY TECHNOLOGY
SECOND YEAR**

**PAPER I – REFRACTION TECHNIQUES, CONTACT LENSES, LOW VISION
AIDS AND OPTICAL DISPENSING**

Q.P. Code: 841536

Time : Three Hours

Maximum : 100 Marks

Answer All questions.

I. Elaborate on:

(3 x 10 = 30)

1. Indications and contraindications of contact lens use.
2. Write about boxing system.
3. Explain on different types of refractive error.

II. Write notes on:

(10 x 5 = 50)

1. Explain in brief on optics of contact lens.
2. Explain with and against movement in retinoscopy.
3. Write about different types of bifocals.
4. Explain on different types of magnifications.
5. Difference between hand held and stand magnifier.
6. Write about impact resistant lenses.
7. Explain about rehabilitation in low vision.
8. Write about advantages of contact lens over spectacles.
9. Write in brief on Jackson cross cylinder.
10. What is presbyopia? What are the treatment options?

III. Short answers on:

(10 x 2 = 20)

1. Define oxygen transmissibility.
2. Write the spherical equivalent for the prescription -5.50/-2.25x100.
3. Define Abbe value and mention its importance.
4. What is travel vision?
5. Explain Duochrome test.
6. What is extended wear contact lens?
7. What are high index lenses?
8. List out few non optical devices.
9. What is cycloplegic refraction?
10. Define low vision.

**DIPLOMA IN OPTOMETRY TECHNOLOGY
SECOND YEAR**

**PAPER I – REFRACTION TECHNIQUES, CONTACT LENSES, LOW VISION
AIDS AND OPTICAL DISPENSING**

Q.P. Code: 841536

Time : Three Hours

Maximum : 100 Marks

Answer All questions.

I. Elaborate on:

(3 x 10 = 30)

1. Write in detail about retinoscopy.
2. Draw a neat labeled diagram of frames and explain its part.
3. Explain about soft contact lens fitting and its evaluation.

II. Write notes on:

(10 x 5 = 50)

1. Spherical aberration.
2. Contact lens fitting in Aphakia.
3. Properties of contact lens.
4. Explain about progressive lenses design.
5. Cyclopegic refraction.
6. Keratometer.
7. Rehabilitation in low vision.
8. Types of intraocular lenses and its feature.
9. Datum system.
10. Non – optical device in low vision.

III. Short answers on:

(10 x 2 = 20)

1. What are high index lenses?
2. Importance of IPD.
3. Oxygen permeability.
4. Mention the different types of near vision notation.
5. What is image jump in bifocal lenses?
6. Abbe value.
7. Pantoscopic tilt.
8. Different types of bridges.
9. Define low vision.
10. LARS rule.

**DIPLOMA IN OPTOMETRY TECHNOLOGY
SECOND YEAR**

**PAPER I – REFRACTION TECHNIQUES, CONTACT LENSES, LOW VISION
AIDS AND OPTICAL DISPENSING**

Q.P. Code: 841536

Time : Three Hours

Maximum : 100 Marks

Answer All questions.

I. Elaborate on:

(3 x 10 = 30)

1. Indications and contraindications of contact lens.
2. Define low vision according to WHO? Write about the different types of optical and non – optical devices.
3. Explain vertometer in detail with its optics.

II. Write notes on:

(10 x 5 = 50)

1. Write in brief on telescopes and its types.
2. Write in brief on Jackson cross cylinder.
3. Fitting of toric contact lens.
4. Types of bifocal lens.
5. Subjective refraction.
6. Types of Magnification.
7. FDA classification of contact lens.
8. Binocular balancing in refraction.
9. Datum system.
10. Write notes on Photo chromatic lens.

III. Short answers on:

(10 x 2 = 20)

1. Characteristics of retinoscopic reflex.
2. Difference between cylinder and spherocylinder.
3. Duochrome test.
4. What is continuous wear contact lens?
5. Worth four dot test.
6. Aberrations.
7. Schirmers test.
8. Abbe value.
9. Therapeutic contact lens.
10. Trivex.

**DIPLOMA IN OPTOMETRY TECHNOLOGY
SECOND YEAR**

**PAPER I – REFRACTION TECHNIQUES, CONTACT LENSES, LOW VISION
AIDS AND OPTICAL DISPENSING**

Q.P. Code: 841536

Time : Three Hours

Maximum : 100 Marks

Answer All questions.

I. Elaborate on:

(3 x 10 = 30)

1. Explain the different types of optical device used in low vision aids with its feature.
2. Write about boxing system.
3. Explain the method of complete subjective refraction.

II. Write notes on:

(10 x 5 = 50)

1. Write about hard and soft progressive design.
2. Write short note on photo chromatic lens.
3. Write short note on chromatic aberration and application.
4. Explain about ophthalmometer.
5. Types of intraocular lenses and its features.
6. Fluoresce in fitting in a rigid gas permeable lenses.
7. Fitting of bifocal contact lenses.
8. Difference between handheld and stand magnifier.
9. Explain about rehabilitation in low vision.
10. Jackson cross cylinder.

III. Short answers on:

(10 x 2 = 20)

1. What is cyclopeic refraction?
2. Define Dk/t.
3. Define economic blindness.
4. Define pantoscopic tilt.
5. Importance of IPD.
6. Name the different types of bridges.
7. Explain Snellen's refraction.
8. Schirmers test.
9. Kestenbaum rule.
10. LARS rule.

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

[LR 1220]

**DECEMBER 2020
(AUGUST 2020 EXAM SESSION)**

Sub. Code: 1536

DIPLOMA IN OPTOMETRY TECHNOLOGY

SECOND YEAR – (Regulation from 2014 -2015 & 2018-2019)

**PAPER I – REFRACTION TECHNIQUES., CONTACT LENSES, LOW VISION
AIDS AND OPTICAL DISPENSING**

Q.P. Code: 841536

Time : Three Hours

Answer All questions.

Maximum : 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. Write in detail about Subjective Refraction.
2. Write in detail about Soft contact lens fitting.
3. Write in detail about Progressive lenses.

II. Write notes on:

(10 x 5 = 50)

1. Types of IOL.
2. Corneal topography.
3. Chromatic aberration.
4. Complications from contact lens wear.
5. Magnifiers in low vision.
6. Spectacle lens materials.
7. Advantages of contact lenses.
8. LogMAR chart.
9. Characteristics of retinoscopic reflex.
10. Muscle balance test.

III. Short answers on:

(10 x 2 = 20)

1. Define low vision.
2. Executive bifocal.
3. Working distance lens in retinoscopy.
4. Ortho K lenses.
5. Pseudophakia.
6. Scleral contact lens.
7. Rehabilitation.
8. Monovision as presbyopia correction.
9. Toughened lenses.
10. Jack in the box effect.
