

2/2/26
PM

BLDE (DEEMED TO BE UNIVERSITY)

B.Sc. in Optometry

[Time: 3 Hours]

[Max. Marks: 80]

IV SEMESTER

PAPER – I (Optometric Optics I&II)

QP CODE: 8440

Your answer should be specific to the questions asked.

Write Question No. in left side of margin.

Long Questions

10X1 = 10 Marks

1. Describe in detail the structure, materials, and design of progressive addition lenses with suitable diagrams.

Short Essays: (Any – 8)

5 X 8 = 40 Marks

2. Explain the principle and working of prisms used in ophthalmic optics.
3. Describe the different types of spherical and cylindrical lenses.
4. Explain the procedure for calculating edge thickness in lenses.
5. Write short notes on hard coatings and hydrophobic coatings.
6. Explain the characteristics and advantages of polycarbonate lenses.
7. Describe the different methods used for inspecting spectacle lenses.
8. Discuss the functions and properties of absorptive glasses.
9. Write a note on toric transposition with example.
10. Explain the process of frame selection for different face shapes.

Short Answers: (Any – 10)

3 X 10 = 30 Marks

11. Define optical center.
12. What is a Fresnel lens?
13. Define refraction index.
14. What is prism diopter used for?
15. What is sag formula used for?
16. Define pantoscopic angle.
17. What is meant by glazing in optics?
18. What is an aspheric surface?
19. What is the purpose of antireflective coating?
20. What are the uses of safety lenses?
21. What is meant by lens surfacing?

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B.Sc. in Optometry

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[Max. Marks: 80]

IV SEMESTER

PAPER – II (Ocular Diseases II & Glaucoma)

QP CODE: 8441

Your answer should be specific to the questions asked.

Write Question No. in left side of margin.

Long Questions

10X1 = 10 Marks

1. Approach to a case of Optic atrophy

Short Essays: (Any – 8)

5 X 8 = 40 Marks

2. Posterior Uveitis
3. Retinoblastoma
4. Hypertensive retinopathy
5. Chemical injuries of eye
6. Metabolic Cataract
7. Explain steps of small incision cataract surgery
8. Biometry
9. Optic neuritis
10. Acute congestive glaucoma

Short Answers: (Any – 10)

3 X 10 = 30 Marks

11. Three causes of cystoid macular edema
12. Disc changes in Glaucoma
13. Name angle structures in order
14. Three causes of posterior subcapsular cataract
15. Name three types of OVD
16. List instruments used in small incision cataract surgery (SICS).
17. Classification of Glaucoma
18. Lyon's Hereditary Optic neuropathy
19. Lattice degeneration
20. IOL calculation formula
21. UGH syndrome

7/7/26
pm

BLDE (DEEMED TO BE UNIVERSITY)

B.Sc. in Optometry

[Time: 3 Hours]

[Max. Marks: 80]

IV SEMESTER PAPER – III (Dispensing Optics) QP CODE: 8442

Your answer should be specific to the questions asked.

Write Question No. in left side of margin.

Long Questions

10X1 = 10 Marks

1. Describe in detail the use of lensometer for finding power, axis, prism, and optical center in different types of lenses.

Short Essays: (Any – 8)

5 X 8 = 40 Marks

2. Explain the concept of vergence and solve sample problems on vergence calculation.
3. Write short notes on different types of frame mountings and their uses.
4. Explain different methods used to mark the optical center of lenses.
5. Discuss the steps involved in lens fitting for supra and rimless frames.
6. Explain the procedure of IPD measurement in binocular vision assessment.
7. Write short notes on specific features of low vision lenses.
8. Describe the use of prism lenses in optical dispensing.
9. Write a note on occupational lenses and their applications.
10. Explain the difference between spherical, cylindrical, and sphero-cylindrical lenses.

Short Answers: (Any – 10)

3 X 10 = 30 Marks

11. Discuss the importance of accurate centration in avoiding prismatic effect
12. Define glazing.
13. What is the purpose of frame alignment?
14. Define base curve.
15. What is a segment height in bifocals?
16. What is a supra frame?
17. What is a bevel edge?
18. Name two commonly used lens materials for safety lenses.
19. What is the importance of pantoscopic angle?
20. Define specific gravity of lens materials.
21. What is an aspheric lens?

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BLDE (DEEMED TO BE UNIVERSITY)

B.Sc. in Optometry

[Time: 3 Hours]

[Max. Marks: 80]

IV SEMESTER

PAPER – IV (Optometric Instrumentation)

QP CODE: 8443

Your answer should be specific to the questions asked.

Write Question No. in left side of margin.

Long Questions

10X1 = 10 Marks

1. Explain the principle, construction, and working of the indirect ophthalmoscope with neat diagrams.

Short Essays: (Any – 8)

5 X 8 = 40 Marks

2. Explain the procedure for using a retinoscope and its clinical importance.
3. Describe the different types of test charts and their standards.
4. Explain the construction and optical principles of a phoropter.
5. Discuss the design and use of trial frames and lenses.
6. Write a short note on the types and uses of tonometers.
7. Describe the use and functions of a vision analyzer.
8. Explain the principle and working of keratometry.
9. Write a note on pupilometry and its clinical uses.
10. Discuss the role of illumination in the consulting room for vision testing.

Short Answers: (Any – 10)

3 X 10 = 30 Marks

11. Explain briefly about the working principle of color vision testing devices.
12. Write a note on Jackson cross cylinder.
13. What is Modulation Transfer Function (MTF)?
14. Name two types of retinoscopes.
15. What is the function of the ophthalmoscope lens?
16. Define corneal topography.
17. What is a brightness acuity test used for?
18. What is the working principle of a refractometer?
19. What are the types of Gonioscope.
20. Define field of vision.
21. Mention any two uses of ERG.

11/07/26
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BLDE (DEEMED TO BE UNIVERSITY)

B.Sc. in Optometry

[Time: 3 Hours]

[Max. Marks: 80]

IV SEMESTER

PAPER – V (Basic & Ocular Pharmacology)

QP CODE: 8444

Your answer should be specific to the questions asked.

Write Question No. in left side of margin.

Long Questions

10X1 = 10 Marks

1. Describe in detail the pharmacotherapy of ocular infections – bacterial, viral, fungal, and chlamydial.

Short Essays: (Any – 8)

5 X 8 = 40 Marks

2. Explain the concept and importance of ocular pharmacokinetics.
3. Write short notes on the mechanism of action of beta-blockers used in glaucoma.
4. Describe the classification and uses of anti-inflammatory drugs in ophthalmology.
5. Write short notes on ocular drug toxicity and its prevention.
6. Explain the types and clinical uses of local anesthetics in ophthalmology.
7. Write short notes on diuretics and their ocular applications.
8. Describe the drugs used in allergic eye diseases.
9. Write short notes on wetting agents and tear substitutes.
10. Explain the mechanism and uses of prostaglandin analogues.

Short Answers: (Any – 10)

3 X 10 = 30 Marks

11. Write ocular side effects of topical corticosteroids.
12. Define pharmacokinetics.
13. What is bioavailability?
14. Name two routes of ocular drug administration.
15. Mention two antihypertensive drugs.
16. Define drug tolerance.
17. Mention two drugs used in degenerative condition of the eyes.
18. Mention two therapeutic uses of benzodiazepine.
19. Write any three Anti-viral drugs.
20. Mention two commonly used mydriatic drugs.
21. What are the symptoms of drug allergy?