Jan-26

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. Explain the construction and working of bifocal and trifocal lenses with neat diagrams.

Short Essays: (Any – 8) **5 X 8 = 40 Marks**

2. Explain about Aspheric lenses in detail.
3. Explain the methods used to check lens quality.
4. Discuss the uses and importance of vertex power in ophthalmic lenses.
5. Explain the process of lens manufacturing in brief.
6. Describe the various types of spectacle magnifiers.
7. Explain how tilt of a spectacle lens affects its power.
8. Describe the uses of high refractive index glasses.
9. Write short notes on photochromic and reflecting filters.
10. Explain the causes and effects of chromatic aberration.

Short Answers: (Any – 10) **3 X 10 = 30 Marks**

11. Define base-apex notation.
12. What is the difference between reflection and refraction?
13. What is sagittal depth?
14. Define centration.
15. What is meant by lens transposition?
16. What is decentration?
17. Define optical axis of a lens.
18. What is a lenticular lens?
19. What is the use of a spherometer?
20. What is a field of view in spectacles?
21. What is polycarbonate lens?

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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. Explain the anatomy and physiology of the retina and describe various macular disorders with examples.

Short Essays: (Any – 8) **5 X 8 = 40 Marks**

2. Describe the types and causes of retinal vein occlusion.
3. Write a short note on Age Related Macular Degeneration (ARMD).
4. Explain the difference between rhegmatogenous and tractional retinal detachment.
5. Describe the causes and management of chemical injuries to the eye.
6. Write short notes on congenital and developmental cataracts.
7. Explain the pathophysiology and management of diabetic retinopathy.
8. Describe different pupillary reflexes and their clinical importance.
9. Explain the common types of lens displacement and their causes.
10. Write short notes on optic neuritis.

Short Answers: (Any – 10) **3 X 10 = 30 Marks**

11. Define coloboma of the optic disc.
12. Write two types of cataract surgeries.
13. Name three causes of vitreous opacity.
14. What is sympathetic ophthalmia?
15. Define cortical blindness.
16. What is the difference between open globe and closed globe injury?
17. What is the function of the vitreous humor?
18. Write three causes of retinal detachment.
19. Name two types of laser treatment used in glaucoma.
20. What is Adie's tonic pupil?
21. Discuss the surgical methods used in the treatment of glaucoma

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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.

10X1 = 10 Marks

Long Questions

1. Explain in detail the procedure of centration and decentration in spectacle lenses with examples and diagrams.

5 X 8 = 40 Marks

Short Essays: (Any – 8)

2. Explain the working and uses of a Geneva Lens Measure.
3. Describe the step-by-step procedure for measuring Interpupillary Distance (IPD).
4. Write a short note on hand neutralization of ophthalmic lenses.
5. Explain the use and importance of a lensometer for checking prism and axis.
6. Write short notes on glazing, cutting, and fitting of lenses.
7. Discuss the importance of Abbe's number in lens selection.
8. Write a note on advantages and disadvantages of plastic frames.
9. Explain various methods for marking the optical center and axis.
10. Describe how you would identify different types of ophthalmic lenses.

3 X 10 = 30 Marks

Short Answers: (Any – 10)

11. Write short notes on the importance of accurate frame alignment in dispensing.
12. Define transposition in optics.
13. What is toric transposition?
14. What is the use of the Geneva lens measure?
15. Define prismatic effect.
16. What is pantoscopic tilt?
17. What is decentration?
18. Define vertex power.
19. What is an IPD scale used for?
20. Define back surface power.
21. What is the purpose of hand neutralization?

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[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. Describe in detail the design, optics, and illumination systems of the slit-lamp biomicroscope.

Short Essays: (Any – 8) **5 X 8 = 40 Marks**

2. Explain the optical principle and calibration of a lensometer.
3. Describe the principle and working of corneal topography.
4. Explain in brief the different types of projection charts used in refraction rooms.
5. Discuss the various methods for measuring visual acuity.
6. Write short notes on filters used in ophthalmoscopes.
7. Explain the principle and working of the synoptophore.
8. Write about the procedure and clinical application of B-scan ultrasonography.
9. Explain different illumination techniques used in slit lamp examination.
10. Describe the importance and method of calibration in tonometers.

Short Answers: (Any – 10) **3 X 10 = 30 Marks**

11. Write short notes on the use of new digital instruments in optometry.
12. Define test chart and give one example.
13. What is the function of trial case lenses?
14. Define keratometry and its uses?
15. Define perimetry.
16. Name the parts of an indirect ophthalmoscope.
17. What is a color vision test?
18. What is the main use of ERG in diagnosis?
19. Define synoptophore.
20. What is the function of illumination filters?
21. Define refractive index.

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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. Composition of human tear film, define dry eye and their types, composition of artificial tear agents

Short Essays: (Any – 8) **5 X 8 = 40 Marks**

2. Therapeutic uses of beta blockers.
3. Classification of anti-glaucoma drugs and their uses
4. What is local anaesthesia, and how does it differ from general anaesthesia?
5. Classification and uses of centrally acting muscle relaxant
6. What is topical instillation into conjunctival sac and their advantage and disadvantage?
7. Write a brief note on Functions, deficiency of vitamin A
8. Uses and Techniques of local Anaesthesia
9. brief note on ofloxacin
10. Classification of antiviral drugs

Short Answers: (Any – 10) **3 X 10 = 30 Marks**

11. Define pharmacokinetics
12. Symptoms and clinical features of methanol poisoning
13. Discuss the importance of chemotherapy dosing and scheduling
14. What is tear substitute
15. What is ocular pharmacology?
16. Define diuretics
17. Mechanism of action of timolol
18. Name any four anti fungal drug
19. What is intra-ocular injection and its type
20. Write a note on pilocarpine
21. What are the potential systemic toxic effects of local anaesthetics?