

QP Code:

Reg. No.:.....

## SECOND BSc OPTOMETRY FINAL AVERAGE EXAMINATION

(Model Question Paper)

### Optometric Optics

Time: 3 hrs

Maximum marks: 80

- Answer all questions
- Draw diagrams wherever necessary

#### Essays

(2x15=30)

1. Define bifocal spectacle lenses. Describe the types of bifocals. Add a note on trifocals.
2. Describe the aberrations of lenses and methods to rectify them.

#### Short notes

(5x5=25)

3. Lens faults and types
4. The effective power of a thin lens
5. Abbevalue. Derive the equation  $ChAb=P/V$
6. Antireflection coating
7. Best form spectacle lens

#### Answer briefly

(10x2=20)

8. Fresnel prism
9. Materials used for ophthalmic lenses
10. Spectacle magnifier
11. Field of view of ophthalmic lenses
12. Calculate the prismatic effect at NV point of prescription  $-3.00DC$  in RE and  $-5.0DC$  in LE, add is  $+3.00$ . The near optic centre is 8mm below and 2.5mm in, the segment top is 4mm below from distance optic centre.
13. Effect of UV rays on the eyes
14. Reflecting filters
15. Prism diopter
16. Lens surfacing
17. Toughened lens

#### One word answer

(5x1=5)

18. The size of abrasive using during polishing is-----.
19. Photo chromic filters contain microscopic crystals of -----.
20. Jack in the box phenomenon seen with the use of high convex lens is due to-----.
21. Fitting of lens into the frame is called-----.
22. Chemical name of CR-39 is -----.

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**SECOND BSc OPTOMETRY FINAL AVERAGE EXAMINATION**

(Model Question Paper)

**Clinical Examination of Visual System and Ophthalmic Instruments**

**Time: 3 hrs**

**Maximum marks: 80**

- Answer all questions
- Draw diagrams wherever necessary

**Essays**

**(2x15=30)**

1. Measurement of visual acuity in school children and adults. Briefly outline the principles of Snellen's test types.
2. Define keratometry and differentiate it. Outline the optical system of Bausch and Lomb keratometer.

**Short notes**

**(5x5=25)**

3. History taking of an ophthalmic case.
4. Examination of intra ocular pressure. Mention different methods.
5. Examination of lachrymal system.
6. Perimetry. Mention different types.
7. Ultra sonography in ophthalmology. Mention different types.

**Answer briefly**

**(10x2=20)**

8. CC CARD
9. Slit lamp, adjustment and illuminations.
10. Colour vision testing devices.
11. Types of retinoscopes.
12. Examination of cornea.
13. Gonioscopes
14. Lensometer.
15. Trial frames.
16. External eye photography, principles
17. Auto refractometer.

**One word answer**

**(5x1=5)**

18. RAF rule is used for .....
19. Prism bars are used for.....
20. Types of ophthalmoscopes. ....
21. Bjerrum's screen is used for.....
22. Definition of visual field.....

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QP Code:

Reg. No.:.....

**SECOND BSc OPTOMETRY FINAL AVERAGE EXAMINATION**  
**(Model Question Paper)**  
**Visual Optics**

**Time: 3 hrs**

**Maximum marks: 80**

- *Answer all questions*
- *Draw diagrams wherever necessary*

**Essays**

**(2x15=30)**

1. Define retinoscopy. Describe the optics of the stages of retinoscopy in detail.
2. Define hypermetropia and mention the components of hypermetropia. Enumerate the principles of correction of hypermetropia with spectacle lenses.

**Short notes**

**(5x5=25)**

3. Draw the schematic representation of reduced eye and mark the cardinal points. Add a note on Gullstrand's indices.
4. Presbyopia
5. Knaps rule and its application.
6. Spectacle magnification and relative spectacle magnification.
7. Types of retinoscopes.

**Answer briefly**

**(10x2=20)**

8. Far point
9. Do the toric transpositions of +3.50 DS / +2.00 D cyl x 180 (Base curve + 6.00 and -6.00)
10. Acquired myopia
11. Principle of Bausch and Lomb keratometer.
12. Duo chrome test.
13. Calculate the Amplitude of accommodation required to see an object at 10 cm for +4.00D hyperopia.
14. The cross cylinder form of a prescription is as follows. +3.00 DC X 90 and +1.50 DC X 180. Convert the prescription to minus and plus spherocylindrical form.
15. Depth of focus
16. Phoropter
17. Fogging

**One word answer**

**(5x1=5)**

18. The equation  $R=1.22 \lambda / d$  representing Airy disc diameter is related to -----.
19. Straddling is used to refine -----.
20. Myopia more than ----- is referred to as pathological myopia
21. The Scheiner principle is used in -----.
22. The cycloplegic effect of atropine lasts for -----days.

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Reg. No.:.....

**SECOND BSc OPTOMETRY FINAL AVERAGE EXAMINATION**  
**(Model Question Paper)**  
**Nutrition & Biochemistry**

**Time: 3 hrs**

**Maximum marks: 80**

- Answer all questions
- Draw diagrams wherever necessary

**Essays**

**(2x15=30)**

1. What is the normal blood urea level? Discuss the reactions of urea cycle. Add a note on its regulation. (1+9+5)
2. Discuss in detail the dietary sources, requirement, biochemical functions and deficiency manifestations of vitamin A. (1+1+7+6)

**Short notes**

**(5x5=25)**

3. Prostaglandins.
4. Acute phase proteins.
5. Deficiency manifestations of vitamin C.
6. Factors affecting enzyme action.
7. Homocystinuria

**Answer briefly**

**(10x2=20)**

8. Substrate level phosphorylation
9. Acute intermittent porphyria
10. Secondary structure of proteins.
11. Benedict's test.
12. Metabolic acidosis.
13. Ferritin
14. Fatty acid synthase complex
15. Calcitonin.
16. Incomplete proteins
17. Carnitine

**One word answer**

**(5x1=5)**

18. Mention any two terminator codons.
19. Name any two substances that can be used as tear substitutes.
20. Name a vitamin with antioxidant property.
21. The mineral that is deposited in cells in Wilson's disease is .....
22. Vitamin D deficiency in children causes.....

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**SECOND BSc OPTOMETRY FINAL AVERAGE EXAMINATION**

(Model Question Paper)

**Ocular Anatomy & Ocular Physiology**

**Time: 3 hrs**

**Maximum marks: 80**

- Answer all questions
- Draw diagrams wherever necessary
- Write **Section A** and **Section B** in separate answer books. Do not mix up questions from **Section A** and **Section B**

**QP Code:**

**Section A: Ocular Anatomy**

**Marks:40**

**Essay**

**(15)**

1. Describe in detail the growth and development of human eye. Mention few congenital anomalies of eye ball

**Short notes**

**(2x5=10)**

2. Describe the anatomical course of trigeminal nerve.
3. Describe the lachrymal apparatus and add a note on congenital dacryocystitis.

**Answer briefly**

**(5x2=10)**

4. Chalazion
5. Blepharitis
6. Conjunctivitis.
7. Hordiolum
8. Entropion.

**One word answer**

**(5x1=5)**

9. The third cranial nerve is .....
10. Layers of tear film are.....
11. Trachoma is caused by.....
12. Lagophthalmos is.....
13. The term leucoma stands for.....

**QP Code:**

**Section B: Ocular Physiology**

**Marks:40**

**Essay**

**(15)**

1. Explain theories of color vision. Describe various methods of testing color vision.

**Short notes**

**(2x5=10)**

2. Aquous humour dynamics.
3. Visually evoked potential [VEP].

**Answer briefly**

**(5x2=10)**

4. Accomodation.
5. Dry eye.
6. Corneal transparency.
7. Electro retino gram[ERG]P
8. Contrast sensitivity.

**One word answer**

**(5x1=5)**

9. Anterior most layer of tear film is.....
10. Normal depth of anterior chamber of eye in the center is .....
11. Tonometry is the term for.....
12. Syringing test is done for.....
13. Normal blinking rate is.....