

**B.Sc. Allied Health Sciences Second Year Semester-III**

February – 2019 Examination

**B.Sc. Ophthalmic Technology (OPH)**

**Time: 3 Hrs.**

**Paper – I**

**[Max. Marks: 100]**

**Ocular Anatomy & Ocular Physiology**

*Your answers should be specific to the questions asked.*

*Draw neat labelled diagrams wherever necessary.*

*(Use separate answer booklet for Section A & B)*

**Section – A**

**Ocular Anatomy (50 Marks)**

**Q.P Code : J3235**

**LONG ESSAY**

**2 X 10 = 20 Marks**

1. Explain layers of retina and its applied anatomy.
2. Explain extra ocular muscles, its origin insertion, nerve supply and action.

**SHORT ESSAY (Answer any three)**

**3 X 5 = 15 Marks**

3. Describe the Visual pathway and the effects of its lesions.
4. Describe the formation and drainage of Aqueous humor.
5. Ciliary ganglion.
6. Lacrimal apparatus.
7. Describe the microscopic structure of Optic nerve.

**SHORT ANSWERS (Answer any five)**

**5 X 3 = 15 Marks**

8. What is canal Schlemm.
9. List the layers of cornea.
10. What are Tarsal glands?
11. Name the types of simple epithelium with examples.
12. Enumerate the structures passing through superior orbital fissure.
13. List the derivatives of Optic disc.
14. Draw a neat labeled diagram showing the layers of the eyeball.

**Section – B**

**Ocular Physiology (50 Marks)**

**Q.P Code : J3236**

*(Use separate answer booklet for Section-B)*

**LONG ESSAY**

**2 X 10 = 20 Marks**

1. Describe the formation, drainage & functions of aqueous humor.
2. Describe the pathway indirect light reflex

**SHORT ESSAY (Answer any three)**

**3 X 5 = 15 Marks**

3. Draw a neat labeled diagram of the optic pathway
4. Describe presbyopia & its correction
5. Describe photo transduction
6. Describe purkinje Samson images
7. Describe the factors affecting transparency of cornea

**SHORT ANSWERS (Answer any five)**

**5 X 3 = 15 Marks**

8. Describe parasympathetic effect on eye
9. List theories of color vision
10. List the functions of retina
11. List the extra ocular muscles with its nerve supply
12. List the changes that occur in the eye during dark adaptation.
13. List the areas in visual cortex & mention its functions
14. Define field of vision. Mention its normal limits in different quadrants

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**Paper – II**

[Max. Marks: 100]

**Ocular Microbiology & Ocular Biochemistry**

*Your answers should be specific to the questions asked.*

*Draw neat labelled diagrams wherever necessary.*

*(Use separate answer booklet for Section A & B)*

**Section – A**

**Ocular Microbiology (50 Marks)**

**Q.P Code : J3245**

**LONG ESSAY**

**2X10=20 Marks**

1. Define sterilization. Describe in detail the working principle of autoclave with a diagram. List the articles sterilized in the autoclave. (2+4+2+2)
2. Enumerate the microorganisms infecting the eye. What samples are collected to diagnose streptococcal infections of the eye? (3+2+5)

**SHORT ESSAY (Answer Any three)**

**3X5=15 Marks**

3. Standard precautions.
4. Laboratory diagnosis of gonococcal infection of eye.
5. Cold Sterilization.
6. Biomedical Waste Management.
7. Keratomycosis.

**SHORT ANSWERS (Answer any five)**

**5X3= 15 Marks**

8. Name the 3 antibiotics acting on cell wall.
9. Name the 3 bacteria causing infection in the eye post surgery.
10. Enumerate agents causing endophthalmitis.
11. Name 3 fungal infections of the eye.
12. Name 3 agents causing dacrocystitis.
13. Name 3 motile bacteria.
14. Name three Enriched media.

**Section – B**

**Ocular Biochemistry (50 Marks)**

**Q.P Code : J3246**

*(Use separate answer booklet for Section-B)*

**LONG ESSAY**

**2 X 10 = 20 Marks**

1. Explain the biochemical composition and functions of Aqueous humor.
2. Describe the chemistry, RDA and biochemical role of Vit A in vision. Add a note on deficiency manifestations of Vit A.

**SHORT ESSAY (Answer any three)**

**3 X 5 = 15 Marks**

3. Write the composition and functions of tear film.
4. Describe the lens proteins.
5. Write the composition and functions of vitreous humour.
6. Describe the structure and functions of Retina.
7. Describe the biochemical composition and functions of cornea.

**SHORT ANSWERS (Answer any five)**

**5 X 3 = 15 Marks**

8. Write any three biochemical functions of Vit C.
9. List any three irrigating solutions. Mention the uses of irrigating solutions.
10. Photoreceptor cells .
11. Mention three muscle proteins and their functions.
12. Mention any three plasma proteins and their functions.
13. Functions of aqueous humour.
14. Write the principle and application of selivanoff's test.

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**B.Sc. Ophthalmic Technology**

**Time : 3 Hrs.**

**[ Max. Marks : 100]**

**Paper-III**

**Physical & Physiological Optics**

**Q.P Code : J3250**

*Your answers should be specific to the questions asked.*

*Draw neat labeled diagrams wherever necessary.*

**LONG ESSAY**

**2 x 10 = 20 Marks**

1. Describe the optics of an Aphakic eye. Add a note on correction of Aphakia.
2. Define and classify Hypermetropia. Describe the various methods of correction for prescribing Hypermetropic patients.

**SHORT ESSAY (Answer any 10 questions)**

**10 x 5 = 50 Marks**

3. Describe the optical problems of Aphakic spectacles.
4. Write a note on Presbyopia.
5. Describe Latent Hypermetropia.
6. Differentiate between Reflection and Refraction.
7. Principles and uses of Lensometer.
8. Describe the difficulties in Retinoscopy.
9. Draw and describe different types of Regular Astigmatism.
10. Write a note on Spherical aberration.
11. What are the steps of Monocular and Binocular subjective refraction.
12. Write a note on Distortion.
13. Explain the different Streak reflex characteristics that can help you to determine the cylinder axis in an Astigmatic patient.
14. Describe the method of "Assessment of amplitude of accommodation" by using minus lenses.

**SHORT ANSWERS (Answer any 10 questions)**

**10 x 3 = 30 Marks**

15. Donder's reduced eye.
16. Streak retinoscopy.
17. Refractive index of a medium.
18. Dioptre.
19. Modes of prescribing presbyopic add.
20. Phenomena based on Quantum optics.
21. Applications of Retro reflections.
22. Components of Hypermetropia depending upon accommodation.
23. Uses of convex lens.
24. Vergence.
25. Optics of movement of reflex in myopia of more than 1D.
26. Plane polarized light.