

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

March 2021 Examination

B.Sc. Ophthalmic Technology & Optometry

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

SHORT ESSAY (Answer any three)

3 X 5 = 15 Marks

3. Describe the origin and course of Optic nerve.
4. Describe the location and connections of ciliary ganglion.
5. Describe the development of Lens.
6. Describe the microscopic structure of Cornea.
7. Illustrate Visual pathway and mention the effects of its lesions

SHORT ANSWERS (Answer any five)

5 X 3 = 15 Marks

8. Name the bones forming the bony orbit.
9. Draw a neat labelled diagram of Histology of cornea.
- 10 Eyelid glands.
11. Mention the parts of Conjunctiva.
12. Enumerate the structure passing through superior orbital fissure.
- 13 Name the components of lacrimal apparatus
14. Vitreous humor

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. Diagrammatically represent the errors of refraction and its correction.
2. Draw a neat labeled diagram of the optic pathway. Represent and name the lesion associated with a defect in the left optic tract.

SHORT ESSAY (Answer any three)

3 X 5 = 15 Marks

3. Mention the changes occurring in near vision
4. Describe the factors affecting transparency of cornea
5. Define glaucoma. Mention the types of glaucoma
6. Describe rhodopsin cycle.
7. Describe the theories of color vision

SHORT ANSWERS (Answer any five)

5 X 3 = 15 Marks

8. List visual reflexes
9. List the functions of iris
- 10 List the changes that occur in the eye during dark adaptation.
11. List the areas in visual cortex & mention its functions
12. What is blind spot
13. Draw a neat labeled diagram of cones
14. Describe the structure of choroid

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

March 2021 Examination

B.Sc. Ophthalmic Technology (OPH)

Time: 3 Hrs.

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. Name the viruses causing infections of the eye. Describe the pathogenesis and laboratory diagnosis of Herpes keratitis (3+3+4)
2. Draw a neat labelled diagram of the bacterial cell. List the differences between cell walls of Gram positive and Gram negative bacteria . (5+5)

SHORT ESSAY. (Answer any three)

3X5=15Marks

3. Describe the working principle of Autoclave with a diagram. List the sterilization controls used.
4. Enumerate Alcohols used in disinfection. Describe the mechanism of action and uses of it.
5. Name the causative agents of Trachoma. Describe the clinical manifestations and lab diagnosis of Trachoma
6. Mention the parasites causing infections of eye with a note on lab diagnosis of Acanthamoeba
7. Eye infections caused by *Staphylococcus aureus* and its lab diagnosis

SHORT ANSWERS (Answer any five)

5x3= 15 Marks

8. What is Cold sterilization? give two examples.
9. Enumerate three agents causing Dacrocystitis.
10. Name three gram negative bacilli causing infections of the eye.
11. Enumerate three agents causing conjunctivitis.
12. KOH preparation
13. List 6 personal protective equipment
14. Name any three antibiotic susceptibility testing methods

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

SHORT ESSAY (Answer any three)

3 X 5 = 15 Marks

3. Write the composition and functions of Vitreous humour.
4. Describe the lens proteins.
5. Write the composition and functions of tear film.
6. Describe the structure and functions of cornea.
7. Biochemical functions and deficiency manifestations of Vit C.

SHORT ANSWERS (Answer any five)

5 X 3 = 15 Marks

8. Mention any three clinical applications of heparin.
9. List any three irrigating solutions. Mention the uses of irrigating solutions.
10. Mention any three functions of albumin.
11. Mention three muscle proteins and their functions
12. Mention the biochemical functions of glutathione.
13. Functions of Vit E.
14. What is glaucoma?



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B.Sc. Allied Health Sciences Second Year (Semester-III)

March 2021 Examination

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. What is Retinoscopy? Describe with neat diagram the principle of retinoscopy.
2. Define Accommodation? Describe the theories of mechanism of accommodation.

SHORT ESSAY (Answer any 10 questions)

10 x 5 = 50 Marks

3. Describe the etiology, clinical features and treatment of Keratoconus.
4. What are Coherent sources of Light? Establish the relationship between Phase difference and path difference.
5. Define Resolving power and dispersive power of grating.
6. Write a note on Circle of least diffusion.
7. What are the treatment options for a Hypermetropic patient.
8. Briefly describe different modalities available for Aphakia correction with their advantages and disadvantages.
9. Write a note on RAF rule.
10. How will you proceed to confirm the axis of the cylinder in Streak Retinoscopy.
11. Signs of Aphakia and Pseudophakia.
12. What is Convergence and discuss the different types.
13. Discuss different types of Bifocal lenses with Suitable examples.
14. What is the use of fogging and sudden fogging in subjective refraction.

SHORT ANSWERS (Answer any 10 questions)

10 x 3 = 30 Marks

15. Anisometropia.
16. What are the characteristics of the image formed using a concave and convex lens.
17. Types of Astigmatism.
18. Nodal point.
19. Reduced aperture lenses.
20. Dispersion of light and Abbe number.
21. Applications of Interference.
22. Polarization.
23. Visual spectrum.
24. Anomalies of accommodation.
25. Retroreflection.
26. Oblique aberration.

