SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH
(A DEEMED TO BE UNIVERSITY)

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

March 2022 Examination

B.Sc. Ophthalmic Technology & Optometry

Time: 3 Hrs. **[Max. Marks: 100]**

Ocular Anatomy & Ocular Physiology Paper – I

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, under following headings
   a) Origin b) insertion, c) nerve supply d) action. e) Applied aspects (2+2+2+3+1)
2. Describe the visual pathway with a neat labelled diagram. Describe the lesions and its effects at various levels. (6+4)

SHORT ESSAY (Answer any three) **3 X 5 = 15 Marks**

3. Describe the cells of Retina
4. Mention the location and connections of ciliary ganglion.
5. Describe the development of eyelids.
6. Classify simple epithelium with examples.
7. Describe the microscopic structure of Cornea

SHORT ANSWERS (Answer any five) **5 X 3 = 15 Marks**

8. List the glands of the Eyelid.
9. Name the components of Lacrimal apparatus
10. Mention the functions of sclera
11. Conjunctiva.
12. Enumerate the structure passing through superior orbital fissure.
13. Draw a neat labelled diagram of microscopic structure of Optic nerve
14. Mention the function of Lens

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. Draw a neat labeled diagram of the optic pathway. Represent and name the lesion associated with a lesion in the left optic tract.
2. Describe the formation, drainage & functions of aqueous humor.

SHORT ESSAY (Answer any three) **3 X 5 = 15 Marks**

3. List the differences b/w rods & cones
4. Describe the factors affecting transparency of lens.
5. Describe the structure of eye
6. Describe the theories of color vision
7. Describe Purkinje Sanson Images

SHORT ANSWERS (Answer any five) **5 X 3 = 15 Marks**

8. What is blind spot
9. List the layers of retina
10. Define hypermetropia and give its correction
11. List the extra ocular muscles with its nerve supply
12. What is night blindness
13. List visual reflexes
14. Mention the visual areas present in cortex

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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. Enumerate the micro organisms infecting the cornea. Which samples are collected to diagnose herpes infections of the cornea? (3+3+4)
2. Define disinfectants and antiseptics. Classify disinfectants with examples, their uses. (2+2+6)

SHORT ESSAY. (Answer any three) **3X5=15Marks**

3. Draw a neat labelled diagram of the bacterial cell. List the differences between cell walls of gram positive and gram negative bacteria
4. Hot air oven—working principle and uses
5. Name the causative agents of inclusion conjunctivitis . Describe the mode of transmission and prevention of trachoma
6. Name the infection of caused by Neisseria gonorrhea and their lab diagnosis
7. Antibiotic susceptibility testing methods

SHORT ANSWERS (Answer any five) **5X3= 15 Marks**

8. Needle Stick injury and its implications.
9. Name 3 fungi causing eye infections
10. KOH preparation.
11. Name 3 viruses causing eye infections.
12. Name 3 motile bacteria
13. Enumerate three agents causing Dacrocystitis.
14. Name three gram negative bacilli causing infections of the eye.

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 of epithelium, function and metabolism of cornea
2. Describe the composition and metabolism of lens. Add a note on cataract formation

SHORT ESSAY (Answer any three) **3 X 5 = 15 Marks**

3. Describe the Wald's visual cycle.
4. Write the composition and functions of tear film.
5. Write the composition and functions of Vitreous humour.
6. Describe the structure and functions of Retina.
7. Describe the biochemical functions and deficiency manifestations of Vit C.

SHORT ANSWERS (Answer any five) **5 X 3 = 15 Marks**

8. Write any three biochemical functions of Albumin.
9. List any three applications of heparin.
10. Mention any three functions of glutathione
11. Mention three muscle proteins and their functions
12. Write the principle and application of seliwanoff's test.
13. Phtotoreceptor cells.
14. What is glaucoma?

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B.Sc. Allied Health Sciences Second Year (Semester-III)
March 2022 Examination

B.Sc. Ophthalmic Technology & Optometry

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. Enlist the various factors affecting the visual acuity? Describe the various test used to assess the visual acuity.
2. Describe the method of Static Retinoscopy and the source of error while doing retinoscopy.

SHORT ESSAY (Answer any 10 questions) **10 x 5 = 50 Marks**

3. Distinguish between Fresnel and Fraunhofer diffractions.
4. Describe with a diagram Listings reduced eye.
5. Describe Aphakia with its treatment.
6. Define Amplitude of Accommodation. How it can be measured.
7. How do you identify a spherical lens, cylindrical lens and a prism using Neutralization method.
8. State and explain Double Refraction.
9. Give an account of Raman Effect.
10. Discuss the Advantages and Disadvantages of Retinoscopy.
11. Write a note on Emmetropization.
12. Explain the use of Jackson's Cross Cylinder on the basis of principle involved and discuss the role of JCC during refraction.
13. Write a note on Pin hole.
14. Mechanism to minimize spherical aberrations in the eye.

SHORT ANSWERS (Answer any 10 questions) **10 x 3 = 30 Marks**

15. Snell's laws of Refraction.
16. Latent Hypermetropia.
17. Higher order optical aberrations.
18. Diffraction of light.
19. Explain thick lens and thin lens equation.
20. Causes of paralysis of accommodation.
21. Name few Subjective Autorefractors.
22. Light reduction effect.
23. Uses of Cylindrical lenses.
24. Causes for Excessive Accomodation.
25. Keratometry.
26. Bifocal lenses.