SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH

(A DEEMED TO BE UNIVERSITY)

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

July/August 2019 Examination

B.Sc. Ophthalmic Technology

Time: 3 Hrs. **Paper – I** **[Max. Marks: 100]**

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

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

3. Classify simple epithelium with examples.
4. Describe the steps of Meiosis.
5. Describe the components of Lacrimal apparatus.
6. Describe the microscopic structure of Optic nerve.
7. Describe the development of eyeball.

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

8. Rods and cones.
9. Illustrate the Histology of cornea.
10. Name the connections of ciliary ganglion.
11. Name the contents of bony orbit.
12. Structure passing through superior orbital fissure.
13. Draw a neat labelled diagram of the eyeball.
14. Anterior chamber of eye.

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. Name the lesions associated with the defect in the visual cortex.

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

3. Trace the accommodation reflex pathway
4. List the differences between sympathetic & parasympathetic division on eye
5. Describe the changes occurring in dark adaptation
6. Describe theories of color vision
7. Define field of vision. Mention its normal limits in different quadrants

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

8. List the functions of aqueous humor
9. List the functions of iris
10. List the differences b/w rods & cones
11. List the layers of retina
12. List the factors that affect transparency of cornea
13. Describe structure of sclera
14. List the extra ocular muscles with its movements

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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 **2 X 10 = 20 Marks**

1. Classify sterilization methods. Describe in detail the working principle of hot air oven with a diagram. List the articles sterilized in the hot air oven. (4+4+2)
2. Enumerate the bacteria causing eye infections. Describe the laboratory methods used for the diagnosis of staphylococcal infections.(4+6)

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

3. Enumerate Phenolic disinfectants. Describe the mechanism of action and uses of Phenols.
4. Standard precautions.
5. Laboratory diagnosis of gonococcal infection of eye.
6. Laboratory diagnosis of herpes keratitis.
7. ZN Staining.

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

8. Name three parasites causing eye infections.
9. Name three bacteria causing infections after cataract surgery.
10. Name three antibiotics acting on bacterial cellwall.
11. What is Cold sterilization? Give two examples.
12. Steps of hand washing.
13. Enumerate three agents causing infections of the eye in HIV patients.
14. Enumerate three agents causing endophthalmitis.

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 structure, biochemical composition and metabolism of Retina.

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 the normal serum levels of a) Albumin b) Globulin c) A/G Ratio
11. Mention three muscle proteins and their functions.
12. Mention the biochemical functions of glutathione.
13. Functions of aqueous humour.
14. What is glaucoma?

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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. Define Astigmatism? Add a note on treatment of Astigmatism.
2. Discuss "RAMAN EFFECT" in detail.

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

3. Write a note on Duochrome Test.
4. Describe the optics of Maddox rod and its uses.
5. Define Diffraction of light and compare with interference of light.
6. Write a note on Chromatic aberrations.
7. Write a note on Autorefractors.
8. Explain the term first focus principle and second focus principle.
9. Explain about Trial set.
10. Enlist signs and symptoms of Presbyopia and method to correct presbyopia.
11. What is Zone plate and explain how is it made.
12. What is Static and Dynamic retinoscopy.
13. Discuss briefly the various methods of determining the astigmatism present in a person.
14. Discuss Prism effects in a lens.

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

15. Glare effect.
16. Rectilinear propagation of light.
17. Weber's law.
18. Mention 3 common problems during Retinoscopy.
19. Treatment for Paralysis of Accommodation .
20. Fringe width.
21. Prismatic aberrations.
22. Types of Progressive lenses.
23. Surgical treatment of Hypermetropia.
24. Optics of movement of reflex in Myopia of 1D.
25. Clinical uses of Purkinje-sanson images.
26. Refractive status of New born and Emmetropization.

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