

**SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH**

**(A DEEMED TO BE UNIVERSITY)**

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

**July - 2017 Examination**

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

**Time : 2.30 Hrs.**

**[Max. Marks : 80]**

**PAPER-I**

**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 (40 marks)**

**Q.P. Code : AHS - 124**

**LONG ESSAY**

**1 X 10 = 10 Marks**

1. Describe the Extra ocular muscles under the following headings:  
a) Origin b) Insertion c) Nerve supply d) Actions e) Applied aspects

**SHORT ESSAY (Answer any three)**

**3 X 5 = 15 Marks**

2. Otic ganglion.
3. Histology of retina
4. Write about the development of the eye.
5. Lacrimal gland

**SHORT ANSWERS (Answer any five)**

**5 X 3 = 15 Marks**

6. Draw a neat labeled diagram showing the layers of the eyeball.
7. Central retinal artery and its applied importance.
8. List the layers of the cornea.
9. Pupillary light reflex.
10. Name any six cell organelles.
11. Enumerate the structures piercing the sclera.

**Section - B**

**Ocular Physiology (40 marks)**

**Q.P Code : AHS - 125**

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

**LONG ESSAY**

**1 X 10 = 10 Marks**

1. Trace the visual pathways. Explain the effects of lesions at six levels in its course.

**SHORT ESSAY (Answer any three)**

**3 X 5 = 15 Marks**

2. Explain rhodopsin cycle.
3. What is acuity of vision? How is it tested?
4. Mention three functions of aqueous humour. What is Glaucoma?
5. What is colour blindness? How is it classified?

**SHORT ANSWERS (Answer any five)**

**5 X 3 = 15 Marks**

6. Mention the functions of rods and cones.
7. Describe one protective mechanism in the eye.
8. What are the changes during dark adaptation?
9. Name the extraocular muscles and the movements produced by them.
10. Give the role of vitamins for normal function of retina.
11. Explain the changes during accommodation.

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**PAPER-II**

**Ocular Microbiology & 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**

**(40 marks)**

**Q.P. Code : AHS - 126**

**LONG ESSAY**

**1 X 10 = 10 Marks**

1. Enumerate the micro organisms infecting the eye. Which samples are collected to diagnose streptococcal infections of the eye?

**SHORT ESSAY (Answer any three)**

**3 X 5 = 15 Marks**

2. Chlamydia trachomatis.
3. Toxoplasma gondii.
4. Neisseria gonorrhoeae.
5. Candida species.

**SHORT ANSWERS (Answer any five)**

**5 X 3 = 15 Marks**

6. Enumerate three agents causing infections of the eye in HIV patients.
7. Enumerate agents causing conjunctivitis.
8. Coagulase test.
9. Draw a neat labeled diagram of a gram stained picture of a sample with corynebacterium diphtheriae.
10. Enumerate agents causing conjunctivitis.
11. Name three parasites causing eye infections.

**Section - B**

**Ocular Biochemistry**

**(Max. Marks: 40)**

**Q.P Code : AHS -127**

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

**LONG ESSAY**

**1 X 10 = 10 Marks**

1. Explain briefly the biochemical basis of cataract formation in old people.

**SHORT ESSAY (Answer any three)**

**3 X 5 = 15 Marks**

2. Waldeyer's visual cycle.
3. Sorbitol pathway and its significance in the lens.
4. Biochemical composition of cornea.
5. Tear film-layers, composition and functions.

**SHORT ANSWERS (Answer any five)**

**5 X 3 = 15 Marks**

6. Keratan sulphate.
7. Urine heat coagulation test.
8. Glaucoma.
9. Active coenzyme forms of the following Vitamins-Vitamin B1, Vitamin B6, Vitamin B5.
10. Give three structural features of collagen.
11. Crystallins.

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**Paper - III**

**[Max. Marks : 80]**

**Physical & Physiological Optics**

**Q.P Code : AHS - 128**

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

*Draw neat labelled diagrams wherever necessary.*

**LONG ESSAY**

**2 X 10 = 20 Marks**

1. Describe stages of retinoscopy and characteristics of retinoscopy reflex.
2. Discuss the behavior of light through prism. Discuss about different uses of prism.

**SHORT ESSAY (Answer any Six)**

**6X 5 = 30 Marks**

3. Neutralization of lenses.
4. Spherical aberration.
5. Optics of reduced eye.
6. Oblique and bi oblique astigmatism.
7. Principle of snellen's chart construction and its optotypes.
8. Optical correction in keratoconus.
9. Calculation of presbyopic correction.
10. Effective power of lens.

**SHORT ANSWERS (Answer any Ten)**

**10 X 3 = 30 Marks**

11. Define Prism diopter.
12. Three different types of image magnification.
13. Range of accommodation.
14. Define emmetropia.
15. High index lens.
16. Straddling in retinoscopy.
17. Aspherical lenses.
18. Stenopic slit.
19. Steps in simple transposition.
20. Name three postoperative refractive errors.
21. Law of rectilinear propagation.
22. Mention four methods of correcting myopia.

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