SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH

(A DEEMED TO BE UNIVERSITY)

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

February – 2016 Examination

B.Sc. Ophthalmic Technology (OPH)

Time : 2.30 Hrs. **[Max. Marks : 80]**

PAPER-I

Ocular Anatomy & 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 visual pathway.

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

2. Lacrimal gland.
3. Development of eyelids.
4. Lens.
5. Anterior chamber of eyeball.

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

6. Muscles of iris.
7. Blood supply of cornea.
8. Functions of sclera.
9. Structure of choroid.
10. Name the cells of retina.
11. Structures passing through superior orbital fissure.

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. With help of neat labeled diagrams describe defects of image forming mechanism and their corrections.

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

2. Describe composition, circulation and functions of aqueous humour.
3. List the layer of retina.
4. List the visual reflexes and describe any two.
5. Describe photoreceptor potentials.

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

6. Action, innervation and effect of paralysis of any one external ocular muscle.
7. Define nystagmus.
8. Visuo-psychic area.
9. Describe homonymous hemianopia.
10. Give three effects of sympathetic nerve stimulation.
11. Three properties of a synapse.

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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 bacteria causing eye infections. Describe the laboratory methods used for the diagnosis of staphylococcal infections.

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

2. Zeihl neelsen's staining.
3. Aspergillosis in the eye.
4. Blepharitis.
5. Acanthamoeba.

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

6. Name three viruses causing eye infections.
7. Name three chemical disinfectants.
8. Name three parasites causing eye infections.
9. Enumerate three agents causing Dacrocystitis.
10. Name three gram negative bacilli causing infections of the eye.
11. Enumerate three agents causing conjunctivitis.

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. Write in detail about biochemical composition of epithelium, function, and metabolism of cornea.

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

2. Describe the structure and functions of retina.
3. Explain wald's visual cycle. With diagram.
4. Explain the biochemical alterations during the formation of cataract.
5. Describe the composition and function of aqueous humour.

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

6. Write the principle and application seliwanoff's test.
7. Write the vitamin deficiency causing pellagra and mention any two clinical features of pellagra.
8. Mention any three biomedical importance of acetylcholine.
9. Mention any three clinical application of heparin.
10. Normal levels of serum albumin, serum globulin and A/G ratio.
11. List three function of glutathione.

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Time : 2.30 Hrs. **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. What is Jackson's cross cylinder? How will you refine the axis and power of cylindrical lens?
2. What are the steps of toric transposition? Write a note on focimeter (lensometer)

SHORT ESSAY (Answer any Six) **6X 5 = 30 Marks**

3. Back vertex distance.
4. Progressive addition lenses.
5. Methods to assess AC/A ratio.
6. Optics of Maddox rod and its uses.
7. Duochrome test.
8. Astigmatic dial.
9. Forms of spherical lenses.
10. Optical problems of aphakic spectacles.

SHORT ANSWERS (Answer any Ten) **10 X 3 = 30 Marks**

11. Define emmetropia and classify refractive errors.
12. Different bifocal lens designs.
13. Refractive status of a newborn and emmetropization.
14. How do you detect lens type in the spectacles and neutralize it?
15. Fogging test.
16. Diffraction of light.
17. Mention four uses of prisms in Ophthalmology.
18. Types of retinoscope.
19. Dispersion of light and Abbe number.
20. Higher order optical aberrations.
21. Optical interface and behavior of light at smooth and rough interfaces.
22. Afocal system and its application.

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