Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Optometry Degree Examination - SEP-2019

Time: Three Hours **Max. Marks: 80 Marks**

Optometric Optics
(Revised Scheme – 3)
Q.P. CODE: 3111

Your answers should be specific to the questions asked
Draw neat, labeled diagrams wherever necessary

LONG ESSAYS (Answer Any Three) **3 x 10 = 30 Marks**

1. Explain steps of lens surfacing.
2. What is PAL? What is the difference between hard and soft progressive lens design? Write the standard method for taking progressive lens fitting Measurements.
3. Mention the various parts of a frame with the help of a diagram. Explain the various types of frames in detail.
4. Explain different types of trifocal lenses.

SHORT ESSAYS (Answer Any Six) **6 x 5 = 30 Marks**

5. What factors should be considered before selecting frames for the children.
6. Explain about Aspheric lenses in detail.
7. Explain 5 troublesome reflections from spectacle lens surface with a diagram.
8. Calculate the edge substance 'e' of a plano concave lens made in crown glass (1.523) of surface power -11.0 D, diameter of lens 44 mm and center thickness 0.6 mm
9. Explain the steps of torric transposition with example.
10. Explain lens material defects.
11. Briefly explain effects of UV Radiation on eye.

SHORT ANSWERS **10 x 2 = 20 Marks**

12. Define prism and give the unit of prism power.
13. High index lens
14. Facial wrap
15. Name the materials used in making of frame.
16. Spherical aberration.
17. Lens maker equation.
18. Vertex distance.
19. Knapp's law.
20. Pantoscopic tilt.
21. Toughened lenses

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II Year B.Sc. Optometry Degree Examination - APRIL-2019

Time: Three Hours **Max. Marks: 80 Marks**

Optometrics Optics
Q.P. CODE: 3111
Revised Scheme - 3

Your answers should be specific to the questions asked
Draw neat, labeled diagrams wherever necessary

LONG ESSAYS (Answer any Three) **3 x 10 = 30 Marks**

1. Explain the manufacturing process and the tests to find out the effectiveness of heat toughened lenses
2. Types of reflections in ophthalmic lenses and ways to avoid them.
3. Name the common design problem of progressive addition lens. What are patient's basic visual characteristics and requirements that need to be assessed once the patient is motivated for progressive addition lens?
4. Explain the properties of crossed cylinders with help of example.

SHORT ESSAYS (Answer any Six) **6 x 5 = 30 Marks**

5. Write a note on sign convention in optometric optic.
6. Write briefly the Vertex power and vertex distance.
7. Explain the steps of torric transposition with example.
8. A -10.00 DS lens is made up in lenticular form using a 10mm aperture. The lens is mounted at dioptrical distance of +40.00D from the eyes center of rotation. Calculate the angular field of view.
9. Types of bifocal lens segments
10. Describe the effects of distortion in high powered plus and minus spectacle lenses.
11. Calculate the edge substance 'e' of a plano concave lens made in crown glass (1.523) of surface power -8.0 D, diameter of lens 44 mm and center thickness 2mm.

SHORT ANSWERS **10 x 2 = 20 Marks**

12. Mirror coating.
13. Mention the refractive index and density of crown glass and CR 39.
14. Contrast filters and gradient lenses.
15. Crutch spectacles.
16. Advantages of aspheric lens.
17. Define glare and list the type.
18. Fresnel prisms.
19. What is a pantoscopic tilts. What is the usual pantoscopic tilt?
20. Prentice rule.
21. Monocular PD.

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Optometry Degree Examination – OCT-2019

Time: Three Hours **Max. Marks: 80 Marks**

Visual Optics
(Revised Scheme – 3)
Q.P. Code: 3112

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

LONG ESSAYS (Answer Any Three) **3 x 10 = 30 Marks**

1. Define visual acuity. What is the difference between log MAR chart & Bailey Lovie chart? Explain step by step how you are going to measure Visual acuity using log MAR chart.
2. Define accommodation. What are the changes which occurs during accommodation? What is physical and physiological accommodation? Explain Range and amplitude of accommodation with an example.
3. What is Dynamic Retinoscopy? Explain any 2 methods of dynamic retinoscopy. Explain Radical & Near retinoscopy.
4. Explain Hyperopia on the basis of different types, clinical features & its treatment modalities

SHORT ESSAYS (Answer Any Six) **6 x 5 = 30 Marks**

5. Ophthalmoscopic findings in myopia
6. Types of accommodation in hypermetropia
7. What is "Jack in the box" phenomenon? Define Night Myopia
8. Cycloplegic refraction
9. Optical condition in Astigmatism
10. Optical condition in Aphakia
11. Define the following terms : Presbyopia, Anisometropia, Aniseikonia, Pseudophakia, emmetropia

SHORT ANSWERS **10 x 2 = 20 Marks**

12. Transpose the following in minus cylinder form:

    +1.00/+3.00*65

    +6.00/+0.50*180
13. Define physical & physiological accommodation
14. Side effects of Atropine
15. Define AC/A ratio
16. What is static retinoscopy?
17. Mention two causes of Aniseikonia
18. Disadvantages of Aphakic spectacles
19. Convert the following in feet system : a)6/36 b) 6/12
20. What is SRK II formula?
21. Name all the anomalies of accommodation

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Optometry Degree Examination - OCT-2019

Time: Three Hours **Max. Marks: 80 Marks**

CEVS and Optometric Instruments
(Revised Scheme - 3)
Q.P. Code: 3113

Your answers should be specific to the questions asked
Draw neat, labeled diagrams wherever necessary

LONG ESSAYS (Answer Any Three) **3 x 10 = 30 Marks**

1. Write in detail about slit lamp illumination techniques.
2. Explain extended keratometry. Write about its clinical uses and sources of error occurred while performing keratometry.
3. Define Tonometry. Write in short about applanation Tonometry and explain its principle with the help of diagram.
4. What is the difference between direct and indirect ophthalmoscope? Write about the theory and uses of direct ophthalmoscopy.

SHORT ESSAYS (Answer Any Six) **6 x 5 = 30 Marks**

5. List down common color vision tests performed clinically.
6. Define lensometry. Write about the sources of error in lensometry.
7. Describe in detail about the extra ocular muscle balance tests performed clinically.
8. What is optometer principle? Where is it used?
9. Principle of Retinoscopy. What is the difference between static and dynamic Retinoscopy?
10. Badal and Non badal principle
11. Briefly write down accessories of slit lamp.

SHORT ANSWERS **10 x 2 = 20 Marks**

12. Name the dye which is used in FFA. What are the benefits of using the particular dye?
13. Define visual acuity.
14. Calculate the amount of cylinder in plus and minus form:
    a) K1 = 42.50 D @ 170
    b) K2 = 44.00 D @ 80
15. SWAP
16. Sim K
17. Anderson's criteria
18. How is the colour coding done in topography modeling system?
19. Fixation loss
20. Optical principle of direct ophthalmoscope
21. Name two types of colour arrangement tests.

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II year B.Sc. Optometry Degree Examination – OCT-2019

Time: 3 Hours **Max. Marks: 80 Marks**

Microbiology and Pathology, Pharmacology
Section A: Microbiology and Pathology (40 Marks)
(Revised Scheme – 3)
Q.P. Code : 3114

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

(Note : Both QP Codes 3114 and 3115 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer Any Two) **2 x 10 = 20 Marks**

1. Write pathology of inflammation of retina in detail.
2. Method of sterilization and disinfection generally used in laboratory.
3. Give an account on Gram negative bacteria.

SHORT ESSAYS (Answer Any Two) **2 x 5 = 10 Marks**

4. Write about any two common bacterial culture media.
5. Epidemic keratoconjunctivitis
6. Short notes on herpes zoster ophthalmicus

SHORT ANSWERS **5 x 2 = 10 Marks**

7. What is inflammation
8. Thrombosis
9. Write two names of fungus causing fungal infection
10. What is acanthamoeba keratitis?
11. Chemotaxis

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II year B.Sc. Optometry Degree Examination – OCT-2019

Time: 3 Hours **Max. Marks: 80 Marks**

Microbiology and Pathology, Pharmacology
Section B: Pharmacology (40 Marks)
(Revised Scheme – 3)
Q.P. Code: 3115

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

(Note : Both QP Codes 3114 and 3115 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer Any Two) **2 x 10 = 20 Marks**

1. Classify the drugs used in the treatment of glaucoma. Give an examples and describe their mechanisms of action
2. Describe the routes of drug administration, giving the advantages and disadvantages.
3. Mention the different types of allergic reactions and discuss their mechanisms

SHORT ESSAYS (Answer Any Two) **2 x 5 = 10 Marks**

4. Describe the sources of drugs
5. What are the actions of atropine in the eye
6. Short note on anesthetics used on ophthalmic procedures

SHORT ANSWERS **5 x 2 = 10 Marks**

7. Pharmacokinetics
8. Osmotic pump
9. Bio – equivalence
10. Name the dyes used in examination of eye
11. Drug tolerance

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