Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Optometry Degree Examination - 29-Dec-2020

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 the properties of crossed cylinders with examples.
2. Mention the various parts of a frame with the help of a diagram. Explain the various types of frames in detail.
3. Briefly explain the refraction through astigmatic lenses.
4. Find the sph-cyl equivalent to the pair of cross cylindrical lens +2.00 D cyl x 20 / +4.00 D cyl x 80.

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

5. What is the difference between Boxing System and Datum System?
6. Describe the effect of distortion in high powered plus and minus spectacle lenses.
7. Briefly explain about photochromatic lens.
8. Describe spherical aberration. Discuss the effect of this aberration in spectacle lenses.
9. Calculate the center thickness of Plano convex lens made in spectacle crown glass (1.523) of power of surface +10.0 D, diameter of lens is 40mm and edge thickness is 1 mm.
10. Describe the various types of lenses which are suitable for high minus prescription.
11. Describe the indications and contraindications of progressive additional lenses.

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

12. Define absorptive lenses.
13. Chromatic aberration
14. High index lens
15. Write down lens maker's formula.
16. What is abbey number? Give an example.
17. Advantages of aspheric lenses
18. What is thermosetting material? Give an example.
19. Enlist the common faults in the lens material.
20. List down few characteristics of a tinted glass
21. Pentascopic Tilt

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Optometry Degree Examination - 05-Jan-2021

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

Visual Optics
Q.P. CODE: 3112
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. Write the mechanism of accommodation and list down the anamolies of accommodation.
2. Define astigmatism and explain the classification and treatment of astigmatism.
3. Write a note on objective refraction.
4. What is the recommended visual acuity chart for screening vision in children six years old and older briefly explain?

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

5. What is meant by fogging? What might occur if patient is not fogged prior to beginning the subjective refraction?
6. Write about amplitude, farpoint and near point of accommodation.
7. Write a short note on dynamic retinoscopy.
8. What are the disadvantages of atropine for use in cycloplegic refraction for children?
9. Explain with diagram schematic and reduced eye.
10. Write a note on AC/A ratio.
11. What is the difference between a binocular balancing procedure and binocular refraction procedure?

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

12. If an object is 33 cm from a +10.00 lens, where is the image (what distance from the lens)?
13. Define depth of focus and depth of field.
14. Define transposition.
15. Define presbyopia.
16. Write any 2 instruments which can measure accommodation and convergence
17. Duochrome test
18. What is near retinoscopy?
19. Use of Maddox rod
20. Define Pseudomyopia.
21. Write in 2 lines about cover test.

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Optometry Degree Examination - 07-Jan-2021

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

CEVS AND OPTOMETRIC INSTRUMENTS
Q.P. CODE: 3113
(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. Mention the types of contrast sensitivity in brief. Explain the use of Arden gratings.
2. Write instrumentation theory of fundus fluorescein angiography. Explain the stages of FFA.
3. Define tonometry. Write the principles used in the same. Write shortly about Indentation tonometers.
4. Write the principle used in Retinoscopy. Write about different types of retinoscopes.

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

5. Explain the categories of visual acuity measurement.
6. Write about scheiner's disc principle and placido disc.
7. Write a note on EOG.
8. Explain the variables which will influence the measurement of visual acuity.
9. Write a note on slit lamp accessories. Write the clinical uses of slit lamp.
10. Explain Young-Helmholtz theory of colour vision.
11. Discuss the basic differences between Manual kinetic perimetry (Goldmann perimeter) and Automated static perimetry (Humphrey perimeter)

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

12. What is the importance of amsler grid testing?
13. Write power ranges of trial case lenses.
14. What are the clinical applications of photokeratoscopy?
15. What is the difference between dynamic and static perimetry?
16. Name the pediatric visual acuity charts.
17. Mention one condition which can cause generalized depression in visual field.
18. What is pseudoexophthalmos?
19. What will be the effect of hypofluorescein and hyperfluorescein in case of applanation tonometry
20. Define apostilbs.
21. Define VEP.

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Optometry Degree Examination – 11-Jan-2021

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. Give an account on causative agent, pathogenesis, and treatment of Mycotic keratitis.
2. Write short notes on a. Differential media b. Enriched media
3. Define leukemia. Classification of leukemia and explain chronic myloid leukemia.

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

4. Give a brief account of clinical manifestations of syphilis.
5. Define the term bacteraemia, septicaemia and pyaemia
6. Explain the anaerobic bacterial culture methods.

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

7. Staphylococcus aureus
8. Propionibacterium spp.
9. Tubercle
10. Antigen
11. Lepra (foam) cells

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Optometry Degree Examination - 11-Jan-2021

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

MICROBIOLOGY PATHOLOGY PHARMACOLOGY
Q.P. CODE: 3115
SECTION B – PHARMACOLOGY (40 MARKS)
(REVISED SCHEME – 3)

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. Discuss the factors that modify the action of drugs
2. Classify corticosteroids. Describe the pharmacological effects of glucocorticoids and mineralocorticoids.
3. Where are the blood-retina barriers in the eye? Describe two substances that can be used for angiography detailing their excitation and emission spectra and when they are preferred?

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

4. Discuss anti-diabetic drugs
5. Describe the sources of drugs
6. Enumerate the viruses causing eye infections. Write a note on herpes simplex virus.

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

7. Enema
8. Acanthamoeba keratitis
9. Enzyme induction
10. Arthus reaction
11. Define bleeding time and clotting time.

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Optometry Degree Examination - 16-Jul-2021

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

OPTOMETRICS OPTICS – (RS-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. Name the common design problem of progressive addition lens. What are patients basic visual characteristics and requirements that need to be assessed once the patient is motivated for progressive addition lens?
2. Write briefly about the faults on the material of the lens.
3. Describe the datum and boxing systems of measurements with the help of suitable diagrams.
4. Briefly explain the principles of single layer anti-reflection coating.

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

5. Explain about Aspheric lenses in detail
6. High Index Lens
7. Calculate the edge substance 'e' of a plano concave lens made in crown glass (1.523) of surface power -10.0 D , diameter of lens 44 mm and center thickness 0.6mm
8. Explain advantages of plastic lenses over glass.
9. A -11.00 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.
10. Explain the steps of torric transposition with example
11. Briefly explain the image jump in bifocal lens

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

12. Define glare and list the type.
13. Explain the term segment height and segment depth.
14. Name any two ocular effects each of ultra violet radition and infrared ration
15. Verifocal lenses
16. Devide the 12Δ BD in left eye before both the eye.
17. If a lens has an index of refraction of 1.98, what is the ideal index of refraction for a single layer antireflection coating?
18. State the the surface power required to produce the following lenses in perisocopic form a)+1.5 b)-3.75
19. Contrast filters and gradient lenses.
20. Recumbent prisms
21. Rotation test

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Optometry Degree Examination – 19-Jul-2021

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

Visual Optics (RS-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. Describe principle, and procedure of retinoscopy in details.
2. Define emmetropia. Define myopia and write down its classification and treatment.
3. Define presbyopia and explain in details any 3 different methods to correct presbyopia.
4. Define convergence and anomalies of convergence.

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

5. Write a short note on curvature and thickness of lens.
6. Write a short note on mechanism of accommodation.
7. Write a short note on the importance of speed, width and color of retinoscopy glow.
8. Write down the difference between dry and wet retinoscopy.
9. Define visual acuity and write down different types of chart used with their principles.
10. Define AC/A ratio and write different methods to calculate AC/A ratio.
11. Write a short note on hypermetropia and its classification.

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

12. Define aphakia and pseudophakia.
13. Name different methods of refining astigmatism.
14. Write in one line the importance of duochrome and WFDT test in subjective refraction.
15. Write any two differentiating factors between ocular and spectacle accommodation.
16. Define meter angle.
17. Define anisometropia.
18. Define radical retinoscopy.
19. Write any two test name to diagnose psuedomyopia.
20. Draw a neat and labeled diagram of schematic and reduced eye.
21. Define accommodative insufficiency.

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Optometry Degree Examination - 22-Jul-2021

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

CEVS AND OPTOMETRIC INSTRUMENTS
Q.P. CODE: 3113
(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. Mention the types of contrast sensitivity in brief. Explain the use of Arden gratings.
2. Write instrumentation theory of fundus fluorescein angiography. Explain the stages of FFA.
3. Describe the various parts of a normal Humphrey visualfield analysis report.
4. Write the principle used in Retinoscopy. Write about different types of retinoscopes.

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

5. Explain Young-Helmholtz theory of colour vision.
6. Discuss the basic differences between Manual kinetic perimetry (Goldmann perimeter) and Automated static perimetry (Humphrey perimeter).
7. Discuss briefly about gray scale, total deviation and pattern deviation.
8. Explain the role of 'scleral rigidity' and the role of 'Friednwald nomogram.
9. Explain the variables which will influence the measurement of visual acuity.
10. Which are the sources of error for keratometry? Write the doubling principle used in the same.
11. Write a note on Hypofluorescence" on F.F.A.

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

12. HRR (Hardy Rand Rittler) test
13. Write power ranges of trial case lenses.
14. What are the clinical applications of photokeratoscopy?
15. Schiotz tonometry
16. Name the pediatric visual acuity charts.
17. Blind spot significance.
18. Name the Piezoelectric crystal in ultrasound
19. Mention the differences between a 30 – 2 and a 24 – 2 HVF test programe.
20. Define apostilbs.
21. Define VEP.

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Optometry Degree Examination - 26-Jul-2021

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

MICROBIOLOGY PATHOLOGY PHARMACOLOGY
Q.P. CODE: 3114
SECTION A – MICROBIOLOGY AND PATHOLOGY (40 MARKS)
(REVISED SCHEME – 3)

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. Enumerate the causing eye infection. Add a note on Herpetic keratitis.
2. Explain about Cataract.
3. Define sterilization. Explain the various methods involved in Moistheat.

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

4. Fusarium
5. Congenital Toxoplasmosis
6. Tuberculosis

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

7. Define thrombosis
8. Name any two Fungi causing Eye infections.
9. Necrosis
10. Name two Disinfectants used in hospital.
11. Phagocytosis

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Optometry Degree Examination – 26-Jul-2021

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. What are the ideal properties of Cycloplegics? Explain with reference to Atropine the mechanism, significance and adverse effects of this drug.
2. Explain adverse ocular reactions to various drug therapies with appropriate examples.
3. Explain the Specialized Transport of Drug across membranes

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

4. Write a note on anti-glaucoma drugs.
5. Write note on drugs used in inflammatory diseases of the eye.
6. Distinguish between sympathetic and parasympathetic nervous system.

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

7. Beta blockers
8. Miotic agents
9. Give examples for skeletal muscle relaxants
10. Clearance and its pharmacological significance
11. Half-life of a drug

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