Rajiv Gandhi University of Health Sciences, Karnataka

II year B.Sc. Optometry Degree Examination – 17-May-2023

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. Explain the steps of lens surfacing
2. What Are PAL's? Types Of PAL's, Neat Labelled Diagram Of PAL's. Indication and contraindication of PAL's
3. Find the sph-cyl equivalent to the pair of obliquely cross cylinder
   Lens 1: Plano – 3.00 DC x 10
   Lens 2: Plano + 2.00 DC x 60
4. Define bifocal lens. Explain types and uses with neat labelled diagram

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

5. Explain briefly about prentice rule
6. Two thin lenses whose focal lengths are F1 and F2 are placed together in close contact. Show that the focal length of combination is given by f1f2/f1+f2
7. What factors should be considered before selecting frames for the children?
8. Explain lens material defect
9. Explain briefly about photochromic lens
10. Calculate the center of thickness of Plano convex lens made in spectacle crown glass (1.523) of power of surface +10.00 D diameter of lens is 40 cm and edge thickness is 1mm
11. Explain the steps of torric transposition with example

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

12. What is frame front?
13. What is called transposition? Explain with example
14. What is refractive index?
15. Note on effect of prism on incident light
16. Chromatic aberration
17. Varifocal lens
18. Calculate the prismatic effect produced when a -5.00 D lens is decentered 4mm upward
19. Note on decentration of cylindrical lenses
20. Advantages of CR-39
21. Types of bifocal

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Optometry Degree Examination - 19-May-2023

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. Explain about schematic and reduced eyes with neat diagram.
2. What is accommodation? Discuss the associated anomalies of accommodation.
3. What is Myopia? Discuss the optical principle, clinical types, features and treatment options.
4. What is subjective refraction? Explain in detail about the different ways of subjective refraction.

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

5. Brief on types of Hypermetropia.
6. Brief on Sturm's conoid.
7. Define Presbyopia. Mention its clinical symptoms and treatment options.
8. Define Anisometropia and its treatment options.
9. Types of astigmatism with examples.
10. Define convergence. What is convergence insufficiency and convergence excess?
11. Define Hypermetropia and classify.

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

12. Pseudophakia.
13. Transpose the following in minus cylinder form:
    $+1.75/+0.75 \times 90^{*}$
    $+2.25/+1.25 \times 180^{*}$
14. Uses of Cycloplegia.
15. Define Aniseikonia.
16. Image formed by concave lens.
17. Define Emmetropia.
18. Convert the following in feet system: (a) 6/60 (b) 6/15.
19. Define contrast sensitivity.
20. Define AC/A ratio.
21. Define visual acuity.

*****

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Optometry Degree Examination – 22-May-2023

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 30 = 30 Marks**

1. What are the components of a corneal topography reports? Write in detail about the parameters to be considered while interpreting the corneal topography report.
2. Define VEP. Explain the instrumentation theory and indication of VEP.
3. What are ophthalmoscopes? Write about the types of Ophthalmoscopes differentiate them.
4. What is HFA? Explain all the reliability indices required to interpret a visual field report. Describe the total deviation, pattern, deviation and glaucoma Hemifield test of visual field report.

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

5. Differentiate three mirror from four mirror Gonioscope. Explain the clinical procedure of three mirror gonioscopy.
6. Write short note on principles and clinical procedure of B scan ultrasound.
7. Define history taking. Explain clinical significance and components of history taking.
8. What is Imbert Fick law? Explain the instruments where Imbert Fick law has been used.
9. Short note on parts of retinoscope and the mirror effects present in the retinoscope.
10. Explain in detail about the color arrangement test and write about the commercially available instruments.
11. What is Scheiner's principle? Advantages and disadvantages of the same.

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

12. List down the pediatric visual acuity charts based on the age groups.
13. Which part in the lensometer helps to measure the prisms present in the spectacles? What components of prisms are measureable with lensometer?
14. What are the accessories of slit lamp?
15. List down the accessories of trial set.
16. Phoropter.
17. Differentiate one position keratometer with tow position keratometer with examples.
18. Differentiate Apostilb and Decibel.
19. Name the places of placing the electrodes in ERG procedure.
20. Advantage of slit scanning over placid disc system in corneal topographer.
21. Enlist the advantages of log MAR visual acuity chart over Snellen visual acuity chart.

*****

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Optometry Degree Examination - 24-May-2023

Time: Three 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 in detail about different types of Bacterial culture media.
2. Explain about Cataract.
3. Give an account of Gram-Negative Bacteria.

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

4. Congenital Toxoplasmosis
5. Tuberculosis
6. Common bacterial infections of cornea and conjunctiva

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

7. Name two Anaerobic Bacteria.
8. Name any two Virus causing Eye infections.
9. Necrosis
10. Name two disinfectants used in hospital.
11. Chemotaxis

*****

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Optometry Degree Examination – 24-May-2023

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

MICROBIOLOGY AND PATHOLOGY, PHARMACOLOGY
SECTION B: PHARMACOLOGY (RS – 3) (40 MARKS)
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. Describe dyes used in ocular diagnostics
2. List the condition in which corticosteroids are used and what are its adverse effects on eye
3. Classify diuretics used in ophthalmology and explain osmotic diuretics in detail

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

4. Discuss the drugs used in angina pectoris
5. Describe in detail about anti-inflammatory drugs used on eye
6. Write a short essay on route of drug administration

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

7. Define agonist and antagonist drugs
8. Drug dependence
9. Plasma half-life
10. Inhalation anaesthesia
11. Tear substitutes

*****

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Optometry Degree Examination – 29-May-2024

Time: Three Hours **Max. Marks: 100 Marks**

OPTOMETRIC OPTICS AND DISPENSING (RS-4)
Q.P. CODE: 3346

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

LONG ESSAYS (Second Question Choice) **2 x 10 = 20 Marks**

1. Explain the specifications required while ordering a single vision, bifocals and progressive lens
2. Explain various types of frames and its parts, materials and measurements

Or

Give the sum of these two lenses plano – 3.25 DC x 180 and Plano – 3.25 DC x 45

SHORT ESSAYS (Question No 5 & 10 choice) **10 x 5 = 50 Marks**

3. Prentice rule and Fresnel prisms
4. Datum system of measurement
5. Write on Spherometer and Sag formula

Or

Lenticular lenses

6. Draw a neat diagram of PAL and label its parts
7. Write on cross-cylinders and give examples
8. PAL measurement
9. Write on vertex distance and its calculation method
10. Pupillometer

Or

A prison made from 1.66 index material is shown to deviate light 6 degree, what is its apical angle?

11. Explain Lens material defects
12. Write a note on selecting frame for children

SHORT ANSWER **10 x 3 = 30 Marks**

13. Ptosis spectacle
14. High plus lens design
15. How can you repair a broken spectacle bridge?
16. Types of bifocals
17. Geneva lens measure
18. ARC coating
19. Measurement of monocular PD
20. Frame selection for high minus lenses
21. Benefits of scratch resistant glass lenses
22. Difference between glass and plastic photochromatic lens

*****

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Optometry Degree Examination - 19-May-2023

Time: Three Hours **Max. Marks: 100 Marks**

VISUAL OPTICS (RS-4)
Q.P. CODE: 3347

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

LONG ESSAYS (Second Question Choice) **2 x 10 = 20 Marks**

1. Explain in detail about the principle, clinical procedure, characteristic of reflex in retinoscopy.
2. Define astigmatism. Write in detail about the aetiology and optical condition of astigmatism.

   OR

   What is contrast? What is contrast threshold? Explain about types of contrast sensitivity loss with example

SHORT ESSAYS (Question No 5 & 10 choice) **10 x 5 = 50 Marks**

3. Write in detail about the construction of log MAR visual acuity chart.
4. Write short note on various methods of dynamic retinoscopy.
5. What are the various methods of estimating the near addition amongst the presbyopic patients?

   OR

   Importance of concave mirror retinoscopy in clinical practice.
6. Explain the clinical fundus findings in pathological myopia.
7. Axial vs refractive ametropia.
8. Write in detail about the clinical application of Jackson Crossed Cylinder.
9. Write short note on clinical signs, symptoms and complications of hypermetropia.
10. Define range and amplitude of accommodation. What are the accommodative anomalies seen in clinical practice?

    OR

    What is clock dial chart? Write about its clinical importance.
11. Write in detail about the pediatric visual acuity charts available in clinical practice.
12. What is Phoropter? What are the advantages and disadvantages of phoropter over trial set?

SHORT ANSWER **10 x 3 = 30 Marks**

13. Explain Donder's Reduced eye concept.
14. Define the following terms: a) Conjugacy b) Catoptric power c) Anisometropia
15. How many Purkinje images are present in the eye? Write down the locations of same within the eye.
16. What is radical retinoscopy? In which clinical conditions are this procedure indicated?
17. Enlist the cycloplegic drops used in clinical practice along with their advantages and disadvantages.
18. What is the significance of having a pair of eyes?
19. Differentiate between spectacles magnificence and relative spectacle magnification.
20. What is Biometry? Write down the formula used to calculate the IOL power.
21. What is Duochrome test? Write down the principle based on which it works.
22. What is jack in the box phenomenon? How can we overcome the same?

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Optometry Degree Examination – 22-May-2023

Time: Three Hours **Max. Marks: 100 Marks**

CEVS AND OPTOMETRIC INSTRUMENTS (RS-4)

Q.P. CODE: 3348

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

LONG ESSAYS (Second Question Choice) **2 x 10 = 20 Marks**

1. Outline the principles and details of various types of auto refractometers
2. Explain the principle, optics and procedure of a manual Bausch and Lomb Keratometer

   Or

   Enumerate different types of tonometers. Describe the techniques, advantages and disadvantages of any two methods

SHORT ESSAYS (Question No 5 & 10 choice) **10 x 5 = 50 Marks**

3. Explain the instrumentation and optics of streak retinoscope
4. What is Perimetry? Explain its different types
5. Explain A –Scan ultrasonography

   Or

   Explain the assessment of cornea done with slit lamp mention the color coding used for mentioning the corneal abnormalities
6. Explain the parts of trial frame. What is trial case and mention its contents inside it?
7. Describe construction of Snellen visual acuity chart
8. Describe about pupil evaluation
9. Explain Scheiner's disc principle and its clinical use
10. What are the side effects of Fundus Fluorescence Angiography?

    Or

    Explain how ocular rigidity affects Schiotz tonometry
11. Source of error in lensometry
12. What are the different types of maps available in topography?

SHORT ANSWER **10 x 3 = 30 Marks**

13. Use of placido disc
14. Two type of colour arrangement test
15. Optical principles of Gonioscopy
16. How to calculate the near add and intermediate add power based on the age? Describe with an example
17. What are the advantages and disadvantages of non-contact tonometer?
18. What is the formula for calculating the true intra ocular pressure?
19. Explain categories of visual acuity measurement
20. What is ROPLAS?
21. What are the uses of A scan?
22. a) K_1 =42.50 x 180
    b) K_2 = 43.5 x 90

    Mention the type of astigmatism and calculate the amount of astigmatism

*****

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Optometry Degree Examination - 24-May-2023

Time: Three Hours **Max. Marks: 100 Marks**

MICROBIOLOGY, PATHOLOGY & PHARMACOLOGY (RS-4)
Section A: MICROBIOLOGY & PATHOLOGY (50 Marks)
Q.P. CODE: 3349

Your answers should be specific to the questions asked
Draw neat, labeled diagrams wherever necessary
(Note: Both QP Codes 3349 and 3350 are to be answered within total duration of 3 hours)

LONG ESSAYS (First Question Choice) **1 x 10 = 10 Marks**

1. Write in detail about different types of bacterial culture media.
   OR
   Define sterilization. Enumerate different methods of sterilization using Moist heat method. Write briefly on any one of them.

SHORT ESSAYS (Question No 5 choice) **5 x 5 = 25 Marks**

2. Acanthamoeba keratitis.
3. Give a brief account of disinfection.
4. Types of inflammation.
5. Describe Miliary Tuberculosis
   OR
   Conjunctivitis.
6. Cytomegalovirus.

SHORT ANSWER **5 x 3 = 15 Marks**

7. Define cataract. Write any two types of cataract.
8. Define thrombocytopenia.
9. Name two sexually transmitted diseases.
10. Name two universal precautions used in hospital.
11. Define anemia.

.....

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Optometry Degree Examination – 24-May-2023

Time: Three Hours **Max. Marks: 100 Marks**

MICROBIOLOGY AND PATHOLOGY, PHARMACOLOGY (RS-4)
Section B – PHARMACOLOGY (50 marks)
Q.P. CODE: 3350

Your answers should be specific to the questions asked
Draw neat, labeled diagrams wherever necessary
(Both QP codes 3349 and 3350 are to be answered within total duration of 3 hours)

LONG ESSAYS (First Question Choice) **1 x 10 = 10 Marks**

1. Classify different routes of drug administration. Write the advantages and disadvantages of sublingual route with example

   Or

   Classify drugs used in glaucoma. Mention the merits and demerits of timolol in glaucoma

SHORT ESSAYS (Question No 5 choice) **5 x 5 = 25 Marks**

2. Write the uses and adverse effect of angiotensin converting enzyme inhibitors
3. Bioavailability
4. Uses of anticholinesterases agents
5. Write the uses and adverse effects morphine

   Or

   Write briefly on Vitamin A
6. Mydriatics

SHORT ANSWER **5 x 3 = 15 Marks**

7. Mention a miotic drug and write its one use and one adverse effect
8. Name three anti-inflammatory drugs and mention three uses
9. Name any three ocular infections and mention one drug used for each
10. Mention any three glucocorticoids and write three uses
11. Drugs used allergic disorders of eye

*****

Rajiv Gandhi University of Health Sciences, Karnataka

II year B.Sc. Optometry Degree Examination – 23-Nov-2023

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. What are toric lenses? Explain the toric transposition with an illustration
2. Classification and parts of spectacle frames
3. Oblique cross cylinders in formula method
   Lens 1: Plano – 3.00 D cyl x 10
   Lens 2: Plano – 2.00 D cyl x 30
4. Explain aberrations in ophthalmic lens

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

5. Explain about Aspheric lenses in detail
6. Tinted lenses
7. What are fused bifocals?
8. The steps involved in inspecting the quality of lenses
9. Photochrome lenses
10. Lenticular lenses
11. Rotary prisms and effective prism power in near vision

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

12. Sphero-cylindrical lenses
13. Transpose to negative shero-cylindrical format
    a) -4.25 DC x 90 / -7.50 DC x 180
    b) +5.50 DC x 140 / +6.25 DC x 50
14. Specific gravity
15. Anti-static coating
16. Vein and cord lens defect
17. Prentice's rule
18. Transverse test
19. Abbe value
20. What is the purpose of measuring the ED size in boxing system?
21. Composition of Barium crown glass

*****

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Optometry Degree Examination - 28-Nov-2023

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 refractive anomalies and their causes.
2. Write a note on subjective refraction.
3. Define Aniseikonia and write note on sign, symptoms and management of it.
4. Explain accommodative anomalies and its management.

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

5. Write a note on Presbyopia.
6. Relationship between corneal curvature, axial length and refractive error
7. Write a note on fogging technique.
8. Describe visual acuity measurement procedure.
9. Write a note on static Retinoscopy.
10. What is accommodative spasm? How you will manage in case of accommodative spasm?
11. Convert 6/60, 6/18, 6/9 in feet, decimal, MAR notation.

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

12. Define Pseudophakia.
13. Bell Retinoscopy.
14. Aphakia.
15. Latent Hyperopia.
16. Jack in box phenomenon.
17. Find out far point of uncorrected myopic eye having -2.50Dsph power.
18. Anisometropia.
19. The use of MEM Retinoscopy.
20. Relative spectacle magnification.
21. Iseikonic lenses.

*****

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Optometry Degree Examination – 02-Dec-2023

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

CEVS AND OPTOMETRIC INSTRUMENTS (RS-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. Explain in detail about various components of Humphrey visual field report with a neat diagram
2. Explain the different phases of Fundus Fluorescein angiography. Describe the optics of fundus fluorescein angiography
3. Differences between direct and indirect ophthalmoscope
4. Explain the optics of slit lamp along with the parts in any two different models available

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

5. Explain the steps involved in vision testing for distance and near along with an example for documentation for different types of charts
6. Explain the steps involved in examining the pupil. Describe the abnormalities that can be found while examining the pupil
7. Write short note on types of tonometers and how do they differ in their principles
8. Write the difference between normalized and absolute scale in corneal topography
9. Explain electrooculogram under clinical procedure and indications
10. Explain the ptosis assessments along with their normal values
11. explain negative relative accommodation and positive accommodation along with their procedure and normal values

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

12. Uses of A scan
13. Mention the indications of Amsler grid test
14. What is the principle of lensometer?
15. Mention the names of different types of gonioscopes with an example
16. What is SRK formula?
17. Convert to net retinoscopy, provided the working distance is 79 cm
    a) +4.75 DC x 95 / +6.50 DC x 5
    b) +8.50 DS / -6.50 DC x 115
18. What is are accessories of slit lamp?
19. What is phoropter?
20. What is BAT and describe the uses of it?
21. Name the places of placing electrodes in EOG procedure

*****

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Optometry Degree Examination - 05-Dec-2023

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. Give an account of Gram positive bacteria.
2. Define and classify sterilization. Give detailed account of moist heat method of sterilization.
3. Define leukemia. Classification of leukemia. Explain chronic myeloid leukemia.

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

4. Acanthamoeba keratitis.
5. Cells in inflammation.
6. Enumerate the difference between lepromatous and tuberculoid leprosy.

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

7. Exudates.
8. Define transport media. Give examples.
9. Necrosis.
10. Phagocytosis.
11. Define embolism.

*****

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Optometry Degree Examination – 05-Dec-2023

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 corticosteroids. Describe pharmacological effects of glucocorticoids and mineralocorticoids
2. Explain various methods of drug administration in ophthalmic treatment
3. Explain various drugs used in ocular infections

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

4. Describe source of drugs
5. Write a short note on β blockers
6. Describe role of immunomodulators and anti-inflammatory drugs in ophthalmic practice

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

7. Define bio-availability
8. Drug tolerance
9. Pharmacokinetics
10. Dyes used in ocular diagnosis
11. Define Miotics and mydriatics

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Optometry Degree Examination - 23-Nov-2023

Time: Three Hours **Max. Marks: 100 Marks**

OPTOMETRIC OPTICS & DISPENSING (RS-4)
Q.P. CODE: 3346
(QP contains two pages)

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

LONG ESSAYS (Second Question Choice) **2 x 10 = 20 Marks**

1. Explain lens surfacing.

2. What are Ophthalmic prisms? Mention its types, advantages, limitations and uses with appropriate examples.

   Or

   Using formula method. Describe how to find the resultant. Spherocylinder lens power when these two obliquely crossed cylinders are combined, Lens 1 : plano –2.00 DC x 180,
   Lens 2 : -2.00 DS +2.00DC x 135

SHORT ESSAYS (Question No 5 & 10 choice) **10 x 5 = 50 Marks**

3. What are the possible faults in lenses?

4. Write a note on Vertex power and vertex distance.

5. Explain antireflection coating.

   Or

   Draw a neat diagram of progressive addition lenses and label permanent and temporary marketing?

6. Write a note on Fresnel prism.

7. Describe oblique astigmatism and distortion.

8. Mention briefly about transmission, reflection and shadowing lens quality inspection techniques.

9. Explain magnification in high plus lenses.

10. Write a note on Fused Bifocals and its manufacturing?

    Or

    What is the center thickness for a lens with the following dimensions, lens power +3.00 D, Refractive index =1.53, lens form is plano convex, Edge thickness is zero, lens diameter is 50mm

11. What are Anisekonic lenses?

12. What is inter-pupillary distance? How to measure it and what are the implications of them?

Rajiv Gandhi University of Health Sciences, Karnataka

SHORT ANSWER **10 x 3 = 30 Marks**

13. Best form lenses.
14. Base curve.
15. Polycarbonate lens.
16. Properties of cross cylinders.
17. Abbe – value.
18. Types of progressive Addition Lenses.
19. Sag height and sag depth.
20. Advantages of glass lenses.
21. Facial wrap.
22. Executive bifocals.

*****

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Optometry Degree Examination - 28-Nov-2023

Time: Three Hours **Max. Marks: 100 Marks**

VISUAL OPTICS (RS-4)
Q.P. CODE: 3347

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

LONG ESSAYS (Second Question Choice) **2 x 10 = 20 Marks**

1. Define myopia and explain the clinical features (signs and symptoms) and management strategies for myopia.
2. What is the principle of retinoscopy? Explain the optics of retinoscopy with the stages involved among myopes with the help of ray diagram.

   OR

   Write in details about pediatric visual acuity charts used in clinical practice

SHORT ESSAYS (Question No 5 & 10 choice) **10 x 5 = 50 Marks**

3. Write in detail about the properties of Gullstrand's schematic eye.
4. Explain the aetiology and clinical features of presbyopia.
5. Define visual acuity and write four differences between log MAR visual acuity chart Snellen's chart.

   OR

   Classify regular astigmatism with examples
6. Short note on trial box and its accessories.
7. Write in detail about the steps involved in subjective refraction.
8. Classify hypermetropia based on the accommodation involved.
9. Explain the optics of astigmatism with the help of Sturm's Conoid.
10. What is lag of accommodation? Name and explain the clinical procedure performed to estimate the lag of accommodation.

    OR

    Fogging procedure.
11. What is Mohindra's retinoscopy? Differentiate Mohindra's retinoscopy from routine static retinoscopy.
12. Describe the mechanism of accommodation.

SHORT ANSWER **10 x 3 = 30 Marks**

13. What are the impacts of anisometropia on binocular vision?
14. Write a note on clinical tests available to evaluate aniseikonic patients.
15. What are the disadvantages of aphakic glasses?
16. Define contrast sensitivity. What are the two formulae used in construction of the contrast sensitivity charts?
17. Enlist the factors that influences the process of Emmetropization.
18. Explain briefly about the clinical test performed to estimate the near point of convergence.
19. What is cycloplegic refraction? What are the clinical indications to perform the cycloplegic refraction?
20. Explain the retinal image blur with the help of depth of focus and depth of field.
21. Enumerate the various causes of refractive anomalies.
22. What is binocular balancing? List down the various methods of binocular balancing in clinical practice.

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Optometry Degree Examination – 02-Dec-2023

Time: Three Hours **Max. Marks: 100 Marks**

CEVS AND OPTOMETRIC INSTRUMENTS (RS-4)
Q.P. CODE: 3348

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

LONG ESSAYS (Second Question Choice) **2 x 10 = 20 Marks**

1. Differentiate log MAR with Snellen visual acuity chart. Explain in detail about construction of log MAR visual acuity chart.
2. Define tonometry. Write the principles used in the same. Write shortly about the Indentation tonometers.
   OR
   Define VEP. Explain the instrumentation theory of the same.

SHORT ESSAYS (Question No 5 & 10 choice) **10 x 5 = 50 Marks**

3. Explain the principle of OCT, differentiate anterior OCT with posterior OCT.
4. Discuss the fixed area (variable force) Goldmann applanation Tonometer.
5. Write about A-scan ultrasonography.
   OR
   Write a note on Badal principle.
6. Short note on Aberrometer.
7. Write about common color vision defects.
8. Write a note on tangent screen visual field testing.
9. Describe the different illumination techniques used in a slit lamp examination.
10. Short note on trial set.
    OR
    Explain the doubling principle used in keratometry. What are the sources of error in Keratometry?
11. Explain various theories of color vision.
12. Discuss the basic differences between Manual kinetic perimetry (Goldmann perimeter) and automated static perimetry (Humphrey perimeter)

SHORT ANSWER **10 x 3 = 30 Marks**

13. HRR (Hardy Rand Rittler) test.
14. The importance of Pachymetry (CCT) in relation to glaucoma.
15. Explain the uses of Ardren gratings.
16. Blind spot significance.
17. Uses of fluorescein dye in optometry.
18. Explain the need of maintaining accurate working distance for performing retinoscopy.
19. What will be the effect of Hypofluorescein in case of applanation tonometry?
20. Potential Acuity meter.
21. Differentiate between anopia and anomaly. Name any one test that screens for congenital colour defect.
22. Give three uses of B scan.

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Optometry Degree Examination - 05-Dec-2023

Time: Three Hours **Max. Marks: 100 Marks**

MICROBIOLOGY, PATHOLOGY & PHARMACOLOGY (RS-4)
Section A: MICROBIOLOGY & PATHOLOGY (50 Marks)
Q.P. CODE: 3349

Your answers should be specific to the questions asked
Draw neat, labeled diagrams wherever necessary
(Note: Both QP Codes 3349 and 3350 are to be answered within total duration of 3 hours)

LONG ESSAYS (First Question Choice) **1 x 10 = 10 Marks**

1. Enumerate the virus causing eye infection. Add a note on herpetic keratitis.
   OR
   Define sterilization. Explain the various methods involved in moist heat.

SHORT ESSAYS (Question No 5 choice) **5 x 5 = 25 Marks**

2. Fusarium.
3. Congenital toxoplasmosis.
4. Tuberculosis.
5. Laboratory diagnosis of Leprosy.
   OR
   Acanthamoeba keratitis.
6. Write in detail about gram negative bacteria.

SHORT ANSWER **5 x 3 = 15 Marks**

7. What is inflammation?
8. Name any two fungi causing Eye infections.
9. Necrosis.
10. Name two disinfectants used in hospital.
11. Phagocytosis.

*****

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Optometry Degree Examination - 05-Dec-2023

Time: Three Hours **Max. Marks: 100 Marks**

MICROBIOLOGY, PATHOLOGY AND PHARMACOLOGY (RS – 4)
Section B: PHARMACOLOGY (50 Marks)
Q.P. CODE: 3350

Your answers should be specific to the questions asked
Draw neat, labeled diagrams wherever necessary
(Note: Both QP Codes 3349 and 3350 are to be answered within total duration of 3 hours)

LONG ESSAYS (Question No. 1 choice) **1 x 10 = 10 Marks**

1. Name the parenteral method of drug administration mention the advantage and disadvantages of intra-venous route of drug administration
   OR
   Classify anti-hypertensive drugs. Describe mechanism of action, adverse effects and uses of B blockers

SHORT ESSAYS (Question No. 5 choice) **5 x 5 = 25 Marks**

2. Describe multi drug regimen in leprosy
3. Write short note on source of drugs
4. Write a note on drug delivery system
5. General and ocular complication of corticosteroids
   OR
   Mechanism of action of aldosterone
6. Anti-diabetic drugs

SHORT ANSWERS **5 x 3 = 15 Marks**

7. Chemotherapy
8. Ocular toxicology
9. Uses of trace elements in ophthalmic practice
10. Define sedative and hypnotics with example for each
11. Osmotic pump

*****