

CP-6256

Sub. Code

11

B.Sc. DEGREE EXAMINATION, NOVEMBER 2015

Optometry

GENERAL ANATOMY AND PHYSIOLOGY

Time : 3 Hours

Maximum : 70 Marks

Section A

(5 × 6 = 30)

Answer any **five** questions.

1. Classify WBC's and write their functions.
2. Name the male reproductive hormones and write their functions.
3. Draw and write a short note on spleen.
4. Define cardiac cycle and describe its various phases.
5. Define epistaxis.
6. Classify endocrine glands and give its functions. Add a note on acromegaly and gigantism.
7. Describe about structure of skeletal muscle.
8. Draw a diagram to show the cross-section of kidney.

Section B

(4 × 10 = 40)

Answer any **four** questions.

9. Short note on diaphragm.
10. Describe about various lesion in visual pathway.

11. Name the ascending tracts and describe about them.
 12. List the functions of saliva.
 13. Draw a neat diagram of conducting system of heart.
 14. Write a short note on liver.
 15. Describe about skull bones.
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CP-6257

Sub. Code

12

B.Sc. DEGREE EXAMINATION, NOVEMBER 2015

Optometry

GENERAL AND OCULAR BIOCHEMISTRY

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any **five** questions.

1. General properties of protein.
2. Role of Retinol in vision.
3. What are the competitive and Non-competitive inhibitor?
4. Explain about bleeding and clotting time.
5. Classification of carbohydrate.
6. How will you estimate Blood urea?
7. Explain about water soluble vitamins.
8. Bio chemical functions of vitreous.

Part B

(4 × 10 = 40)

Answer any **four** questions.

9. Mechanism of Enzyme action. Derive Michalis – Menten equation.
10. Biochemical functions of cornea and lens.
11. Give the metabolic pathway of Glycolysis.

12. [Explain](#) in detail about Ketone bodies.
 13. [Discuss](#) in detail about Fat soluble vitamins.
 14. [Discuss](#) about blood grouping.
 15. [Discuss](#) about Blood and Urine Sugar.
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CP-6258

Sub. Code

13

B.Sc. DEGREE EXAMINATION, NOVEMBER 2015

Optometry

GEOMETRICAL OPTICS

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any **five** questions.

1. Explain Huygen's principle of Wavefront?
2. Write down the Image characteristics of a convex lens when object is placed
 - (a) between 'F' and 'C' of convex lens
 - (b) Beyond 'C'.
3. Describe the terms :
 - (a) Lateral Magnification
 - (b) Axial Magnification.
4. Write different forms of Lenses.
5. Derive the equation $\frac{1}{f} = \frac{1}{u} + \frac{1}{v}$ for thin lenses.
6. What are the Lens aberrations? Explain at least two types of Lens aberrations?
7. Describe six cardinal points of human eye.
8. Find the equivalent focal length of two thin co-axial lenses separated by distance.

Part B

(4 × 10 = 40)

Answer any **four** questions.

9. Describe in detail :
- (a) Critical angle
 - (b) Total Internal reflection. Give few examples of total Internal reflection.
10. (a) Explain Snell's Law of reflection and refraction.
(b) Explain Fermat's principle of Least time.
11. Write down the Geometric theory of light propagation in optical fibre and also uses of optical fibre.
12. Explain in detail the refraction by plane parallel glass slab with neat diagram.
13. Explain the terms :
- (a) Frequency
 - (b) Wavelength
 - (c) Prism dioptre
 - (d) Dispersion.
14. Derive the lens makers formula and write two applications of lens makers formula.
15. (a) Calculate the Image distance of an object placed at a distance of 20 cm from a convex lens of power +2D.
(b) If lateral Magnification of object is by factor of 5 what would be the axial Magnification of an object?

CP-6259

Sub. Code

14

B.Sc. DEGREE EXAMINATION, NOVEMBER 2015**Optometry****ENGLISH AND COMMUNICATION SKILLS**

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any **five** questions.

1. What are the kinds of sentences?
2. Write short notes on subject and predicate.
3. Write a paragraph on "Friends".
4. What are the characteristics of a good essay?
5. How do you classify litters? Give examples.
6. Explain public speaking skills.
7. How do you prepare for group discussions?
8. Are persuasive skills essential? Why?

Part B

(4 × 10 = 40)

Answer any **four** questions.

9. Discuss the structure of sentences.
10. Write an essay on "Your Mother".
11. Prepare a report of your college day.

12. Write a friendly letter to your cousin thanking him for the excellent birthday gift.
 13. Mention the important tips for preparing a presentation.
 14. How do you effective presentation skills contribute to success?
 15. Write a group discussion on “Environmental awareness”.
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CP-6260

Sub. Code

15

B.Sc. DEGREE EXAMINATION, NOVEMBER 2015**Optometry****NUTRITION**

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any **five** questions.

1. Classify nutrients.
2. Essential fatty acids.
3. Classification of proteins.
4. Short notes on antioxidants.
5. Atherosclerosis.
6. Classification of vitamins.
7. Iron deficiency.
8. Body mass index and Ideal body weight.

Part B

(4 × 10 = 40)

Answer any **four** questions.

9. Protein energy malnutrition.
10. Vitamin - A- sources, RDA functions and deficiency.
11. Balanced diet and planning.

12. Functions, sources of carbohydrates.
 13. Nutritional status assessment methods.
 14. Essential and non-essential amino acids.
 15. Minerals and eye disorders.
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CP-6261

Sub. Code

21

B.Sc. DEGREE EXAMINATION, NOVEMBER 2015

Optometry

ANATOMY OF THE EYE AND ORBIT

Time : 3 Hours

Maximum : 70 Marks

Section A

(5 × 6 = 30)

Answer any **five** questions.

1. Anatomy of the cornea.
2. Anatomy of the conjunctiva.
3. Gross anatomy of Iris.
4. Lacrimal Drainage System.
5. Contents of orbit.
6. Development of lens.
7. Anatomy of sclera.
8. Glands of eyelids.

Section B

(4 × 10 = 40)

Answer any **four** questions.

9. Anatomy of the walls of orbit.
10. Anatomy of visual pathway.

11. Anatomy of extraocular muscles.
 12. Describe angle of anterior chamber. Add a note on aqueous secretion and drainage.
 13. Blood supply of eye ball.
 14. Anatomy of lid.
 15. Anatomy of retina.
-

CP-6262

Sub. Code

22

B.Sc. DEGREE EXAMINATION, NOVEMBER 2015

Optometry

PHYSIOLOGY OF THE EYE

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any **five** questions.

1. Write in short about the Hexose Monophosphate Shunt.
2. Write in short about the grades of Binocular Single Vision.
3. Write in detail about the Form Sense of Vision.
4. Write in short about Rhodopsin Bleaching.
5. Write in short about the functions of Aqueous Humour.
6. Write in short about the Ganglion Cells.
7. Write in short about the components of Visual Acuity.
8. Write in short about the functions of Tear Film.

Part B

(4 × 10 = 40)

Answer any **four** questions.

9. Write in detail about the Tear Film Dynamics.
10. Write in detail about the pupillary reflex along with its abnormalities.

11. Write in detail about the Photochemical and Neurological basis of Color Vision.
 12. Write in detail about the mechanism of Accommodation.
 13. Write in detail about Contrast Sensitivity along with its measurements.
 14. Write in detail about ElectroRetinoGram.
 15. Write in detail about the formation of Aqueous Humour.
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CP-6263

Sub. Code

23

B.Sc. DEGREE EXAMINATION, NOVEMBER 2015

Optometry

PHYSICAL OPTICS

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any **five** questions.

1. Obtain the differential equation for a simple harmonic motion.
2. Explain visibility of fringes.
3. State and explain Rayleigh's criterion.
4. Write a note on real prism.
5. Discuss the principle of Laser.
6. Explain the interference in Wedge-Shaped Films.
7. Briefly discuss about Airy pattern.
8. What are birefringence? Explain.

Part B

(4 × 10 = 40)

Answer any **four** questions.

9. State Huygen's principles. Give Huygen's explanation for the reflection and refraction of a plane wave at a plane surface.
10. Describe Fresnel's biprism experiment to determine the wave length of a monochromatic light source.

11. Give the theory of diffraction at a double slit.
 12. Describe the production of linearly, circularly and elliptically polarized light.
 13. Explain the working principle and applications of Laser.
 14. Describe in detail, any one method for the determination of velocity of light.
 15. Briefly explain the following :
 - (a) Zone plate
 - (b) Quarter wave plate.
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CP-6264

Sub. Code

24

B.Sc. DEGREE EXAMINATION, NOVEMBER 2015

Optometry

COMPUTERS

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any **five** questions.

1. What are the different kinds of input devices? Explain any two of them.
2. How will you convert a binary number to the decimal form?
3. What is system software? Explain.
4. Describe the functions of an operating system.
5. Describe the procedure to print a file.
6. How can you enter a formula in formula bar?
7. What is World Wide Web? How it is different from Internet?
8. What is the structure of an e-mail address? Explain.

Part B

(4 × 10 = 40)

Answer any **four** questions.

9. Describe the different types of computers.
10. Convert F9A.BC3 into decimal and binary.

11. Classify the operating system and explain.
 12. What is meant by editing a document? What are the possible ways available to edit a document? Explain.
 13. Describe the different types of charts available in Excel.
 14. Explain how your home computer can be connected to the internet.
 15. Write short notes on :
 - (a) Title bar
 - (b) Menu bar
 - (c) Status bar.
-

CP-6265

Sub. Code

25

B.Sc. DEGREE EXAMINATION, NOVEMBER 2015

Optometry

MICROBIOLOGY AND PATHOLOGY

Time : 3 Hours

Maximum : 70 Marks

Section A

(5 × 6 = 30)

Answer any **five** questions.

1. Write a short note on normal ocular flora.
2. Define staining and write the procedure of potassium hydroxide mount.
3. Explain briefly about chlamydiae.
4. Write a note on keratoconnus.
5. Define virology and write about rubella virus.
6. Define ocular immunology and types of reaction.
7. Write a note on two different methods of sterilization.
8. Write a note on filaria and its clinical importance.

Section B

(4 × 10 = 40)

Answer any **four** questions.

9. Explain briefly on fusarium, mucor, candida and histoplasma with its clinical manifestation.
10. Write briefly on :
 - (a) Retinoblastoma
 - (b) Squamous all carcinoma.

11. Explain briefly on inflammatory and hypersensitivity reactions.
 12. Write briefly on spirochetes diagnosis, mode of infection, clinical manifestation, prophylaxis and treatment.
 13. (a) Define microbiology and its clinical applications.
(b) Explain about AC and vitreous tapings specimen collection.
 14. Explain lens induced glaucoma and pathway of cataracts.
 15. Write about gram positive cocci,
Staphylococci, Streptococci, Pneumococci and its clinical importance.
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CP-6266

Sub. Code

31

B.Sc. DEGREE EXAMINATION, NOVEMBER 2015

Optometry

VISUAL OPTICS

Time : 3 Hours

Maximum : 70 Marks

Section A

(5 × 6 = 30)

Answer any **five** questions.

1. Schematic eye.
2. Refractive Index of the ocular media.
3. Presbyopia.
4. Spectacle refraction.
5. Types of myopia.
6. JCC.
7. Chromatic aberration.
8. Snellen's chart.

Section B

(4 × 10 = 40)

Answer any **four** questions.

9. Principle and use of Retinoscopy.
10. Classification of astigmatism and correction.

11. Progressive myopia and Juvenile stress myopia.
 12. Correction of hypermetropia.
 13. Optical defects of the eye.
 14. Keratometry and Pachometry.
 15. Refractive error in aphakia and correction of aphakia by a contact lens.
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CP-6267

Sub. Code

32

B.Sc. DEGREE EXAMINATION, NOVEMBER 2015

Optometry

CLINICAL REFRACTION – I

Time : 3 Hours

Maximum : 70 Marks

Section A

(5 × 6 = 30)

Answer any **five** questions.

1. Importance of spectacle history.
2. Differentiate Snellen's and LogMAR visual acuity chart.
3. Discuss about fogging technique.
4. Explain fan and block test.
5. Write about Jackson cross cylinder.
6. Write about Duo-chrome test.
7. Write about Auto-refractometer.
8. Write about Worth-four dot test.

Section B

(4 × 10 = 40)

Answer any **four** questions.

9. Write about dynamic retinoscopy techniques.
10. Write in detail about "static retinoscopy".

11. Discuss different methods of measurement of amplitude of accommodation.
 12. Write on the different factors to be considered while prescribing for presbyopia.
 13. Discuss about hypermetropia.
 14. Write in detail about visual acuity.
 15. Define astigmatism. How will you evaluate "Astigmatic" patients subjectively?
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CP-6268

Sub. Code

33

B.Sc. DEGREE EXAMINATION, NOVEMBER 2015

Optometry

OCULAR DISEASES – I

Time : 3 Hours

Maximum : 70 Marks

Section A

(5 × 6 = 30)

Answer any **five** questions.

1. Corneal opacity.
2. Blepharitis.
3. Dislocation of the lens.
4. Complications of cataract surgery.
5. Exophthalmos.
6. Diabetic retionpathy.
7. Scleritis.
8. Pterygium.

Section B

(4 × 10 = 40)

Answer any **four** questions.

9. Age related cataract and its management.
10. Bacterial and fungal corneal ulcers.

11. Primary open angle glaucoma and normo tensive glaucoma.
 12. Granulomatous and allergic conjunctivitis.
 13. Congenital and developmental cataract.
 14. Keratoconus.
 15. Dry eye syndrome.
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CP-6269

Sub. Code

34

B.Sc. DEGREE EXAMINATION, NOVEMBER 2015

Optometry

OPHTHALMIC INSTRUMENTATION – I

Time : 3 Hours

Maximum : 70 Marks

Section A

(5 × 6 = 30)

Answer any **five** questions.

1. Explain about projectors and its working principle.
2. Explain about “Telescope”.
3. Differentiate between spot and streak retinoscope.
4. Differentiate between objective and subjective auto refractometer.
5. Differentiate between Snellen’s and LogMAR visual acuity chart.
6. Define spectacle. Write about “Trial frame” and its construction.
7. Write about form of lens.
8. Explain about “Additive lens principle”.

Section B

(4 × 10 = 40)

Answer any **four** questions.

9. Explain about “indirect ophthalmoscope”.
10. Explain about “Refionocope”.

11. Write in detail about “Keratometer”.
 12. Write in detail about “Lensometer”.
 13. Write in detail about “Slif-Lamp”.
 14. What is JCC? Explain about “JCC”.
 15. Explain in detail about “Spectrometer”.
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CP-6270

Sub. Code

35

B.Sc. DEGREE EXAMINATION, NOVEMBER 2015

Optometry

GENERAL AND OCULAR PHARMACOLOGY

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any **five** questions.

1. Explain the ocular routes of drug administration.
2. Explain the nature and sources of drugs.
3. Describe the treatment of acute drug poisoning.
4. Explain the action of cocaine, procaine and their effectiveness and their disadvantages.
5. Explain pharmacotherapy of insomnia and hypnotics.
6. Explain mydriatics, cycloplegic miotics. Explain the difference between mydriatics and cycloplegic. Give example of all the drugs.
7. Explain the preparation and packing of ophthalmic drugs.
8. What is hyper osmotic agents?

Part B

(4 × 10 = 40)

Answer any **four** questions.

9. What are corticosteroids? Explain their mode of action? List out the different types of corticosteroids used in ophthalmic management.
 10. Write briefly new drug delivery system.
 11. What are beta blockers? Explain their mode of action. Explain the role of beta blockers in ophthalmic condition. List of different types of beta blockers drug used in ophthalmic practice.
 12. What are antibiotics? Write the classification of antibiotics and explain the broad spectrum of antibiotics.
 13. Explain the types of diagnostic drugs used in ophthalmic practice.
 14. Explain adverse drug reaction in man.
 15. Write down about Analgesics and Antipyretics.
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CP-6271

Sub. Code

41

B.Sc. DEGREE EXAMINATION, NOVEMBER 2015.

Optometry

DISPENSING OPTICS

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any **five** questions.

1. Fused Trifocal Lenses.
2. Explain about Abbe Value.
3. Prentice's rule with example.
4. Curve Variation Factor.
5. Luminous Transmission Factor.
6. Fresnel Prism.
7. Differentiate between Hard and Soft Progressive Lenses with diagram.
8. Toric lens.

Part B

(4 × 10 = 40)

Answer any **four** questions.

9. Write in detail about Absorptive Lenses.
10. Anti-Reflection Coating with its principle.
11. Write in detail about manufacturing of Plastic Lenses.

12. Faults that can occur on surface of Ophthalmic Lenses.
 13. Write in detail about Protective and toughened lenses
 14. Write in detail about Frame Materials.
 15. Write in detail about Bi-focal Lenses.
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CP-6272

Sub. Code

42

B.Sc. DEGREE EXAMINATION, NOVEMBER 2015

Optometry

OCULAR DISEASES – II

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any **five** questions.

1. Enumerate the stages of Hypertensive retinopathy.
2. Argyll Roberson Pupil.
3. Signs of 3rd Nerve Palsy.
4. Evaluations to be done for thyroid ophthalmoplegia.
5. List down the conditions give rise to RAPD.
6. Differentiate between Papilloedema and optic disc swelling.
7. Clinical features of Myasthenia gravis.
8. Pathogenesis of Toxic Amblyopia.

Part B

(4 × 10 = 40)

Answer any **four** questions.

9. Discuss on Diabetic Retinopathy.
10. Write in detail about Retinitis Pigmentosa.

11. Discuss about Amblyopia, its classification evaluation and treatment.
 12. Discuss about changes occur in progressive myopia.
 13. Discuss on Sturge-Weber syndrome.
 14. Write in detail about Nystagmus, its types and clinical features.
 15. Discuss on 4th Cranial Nerve Palsy with diagram.
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CP-6273

Sub. Code

43

B.Sc. DEGREE EXAMINATION, NOVEMBER 2015

Optometry

CLINICAL REFRACTION — II

Time : 3 Hours

Maximum : 70 Marks

Section A

(5 × 6 = 30)

Answer any **five** questions.

1. Explain about preferential looking test.
2. What are the various ways by which you assess the vision of a preverbal child?
3. What is Microtropia-Test for detecting Microtropia.
4. List a minimum of 3 Non-Strabismus Binocular vision disorder with a short description.
5. Explain Biochrome test.
6. Write short note on Age related macular degeneration.
7. What are mydriatic and cycloplegic? Mention their advance effect.
8. How amplitude of accommodation and near point of convergences measured. Discuss about AC/A ratio.

Section B

(4 × 10 = 40)

Answer any **four** questions.

9. Explain types of Exotropia.
10. Sensory and motor evaluation in strabismus patient – Explain.

11. Classification of Amblyopia. Explain the various management options of Amblyopia.
 12. Explain specific test to be performed for a sports person.
 13. Describe the use of prism in Neuro-Optometric rehabilitation with suitable examples.
 14. Explain in detail on Binocular balancing procedure. Why there is a variation between monocular and binocular acceptance.
 15. Explain the procedure for finding out cylindrical end point in subjective refraction.
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CP-6274

Sub. Code

44

B.Sc. DEGREE EXAMINATION, NOVEMBER 2015

Optometry

OPHTHALMIC INSTRUMENTATION — II

Time : 3 Hours

Maximum : 70 Marks

Section A

(5 × 6 = 30)

Answer any **five** questions.

1. Schiottz tonometer.
2. Explain contrast sensitivity tests.
3. Application of B-Scan.
4. Interpretation of normal FFA.
5. Importance of PAM.
6. Kinetic perimetry.
7. What is LASER? Give its principle.
8. Explain two methods of color vision testing.

Section B

(4 × 10 = 40)

Answer any **four** questions.

9. What is tonometry? Describe the different tonometers and their applications.
10. Describe different types of Laser and their uses. Add a note on its safety.

11. Explain the procedure of A-Scan and its importance.
 12. Explain the types of perimetry. Add a note on Humphrey Field Analyser.
 13. Write in detail about FFA.
 14. Write in detail on field defects in glaucoma.
 15. Explain the principles, types and clinical importance of pachometer.
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CP-6275

Sub. Code

51

B.Sc. DEGREE EXAMINATION, NOVEMBER 2015

Optometry

CONTACT LENSES — I

Time : 3 Hours

Maximum : 70 Marks

Section A

(5 × 6 = 30)

Answer any **five** questions.

1. Discuss fitting of hard contact lens.
2. Discuss RGP lenses.
3. Extended heratometry.
4. Aberrations.
5. Discuss lens coating.
6. Classify lens tints.
7. What are the types of impact resistant lenses?
8. Anti reflection coating.

Section B

(4 × 10 = 40)

Answer any **four** questions.

9. Discuss polychromatic materials.
10. Discuss progressive lenses.
11. Complications of contact lenses.

12. How to give lens for Aphatic patient?
 13. Aspheric lenses – advantages and benefits.
 14. Discuss history and development of contact lenses.
 15. Discuss common misbeliefs and facts about contact lenses.
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CP-6276

Sub. Code

52

B.Sc. DEGREE EXAMINATION, NOVEMBER 2015

Optometry

BINOCULAR VISION — I

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any **five** questions.

1. Explain the following with diagram.
 - (a) Horopter
 - (b) Panum's space
 - (c) Common subjective visual direction.
2. Explain the concept of fusion and stereopsis.
3. Define vergence. What is convergence explain the components of convergence?
4. Explain the methods to correct aniseikonia optically.
5. What is convergence insufficiency? Explain the signs symptoms and clinical features of it.
6. Explain the method to assess stereopsis with help of synoptophre.
7. Explain the basic kinematics right MR.
8. Explain the following
 - (a) Saccades
 - (b) Pursuits
 - (c) Drifts
 - (d) Tremors.

Part B

(4 × 10 = 40)

Answer any **four** questions.

9. What are monocular clues? Explain different types of monocular clues.
 10. What is physiological diplopia? Explain the significance of physiological diplopia in othoptics.
 11. Explain the signs, symptoms and management of fully refractive type accommodative esotropia.
 12. Explain the management of anisometropia.
 13. Explain the gross anatomy and physiology, action, blood supply, nerve supply and course of insertion of all extra ocular muscle.
 14. Explain the basic kinematics of LSO and RIO with diagram.
 15. Explain convergence through a spectacle.
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CP-6277

Sub. Code

53

B.Sc. DEGREE EXAMINATION, NOVEMBER 2015.

Optometry

**PEDIATRIC OPTOMETRY AND GERIATRIC
OPTOMETRY**

Time : 3 Hours

Maximum : 70 Marks

Section A

(5 × 6 = 30)

Answer any **five** questions.

1. Write about "APGAR" score.
2. What is OKN? Explain about "OKN" test.
3. Define Myopia. Write about compensatory treatments for myopia.
4. Define Aphakia. Write about advantages and disadvantages of "Aphakic Spectacle Correction".
5. Write about "Senile Refractive Power" changes in the eye.
6. Write about Congenital cataract.
7. Write short notes on "Congenital ptosis".
8. Write about "Grades of Binocular single vision".

Section B

(4 × 10 = 40)

Answer any **four** questions.

9. Write about “Pediatric History Taking” in optometric clinic.
 10. Explain about Amblyopia.
 11. Explain about “Hypermetropia”.
 12. Explain about “Senile Cataract” and its optometric work-up.
 13. Write in detail about “Primary Open Angle Galucoma” and it’s optometric management.
 14. Write in detail about “ARMD” and it’s optometric management.
 15. Write about “Spectacle Dispensing” in elderly patients.
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CP-6278

Sub. Code

54

B.Sc. DEGREE EXAMINATION, NOVEMBER 2015

Optometry

BIO-STATISTICS

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any **five** questions.

1. Briefly explain Bio-Statistics.
2. Explain Type-I and Type-II errors in testing the significance difference.
3. From the following data calculate the mean :
Marks : 20 30 40 50 60 70
No. of students : 8 12 20 10 6 4
4. Explain positive correlation, negative correlations and zero correlation with examples.
5. Write a notes on :
 - (a) Regression analysis
 - (b) Regression lines.
6. Find the probability of getting an ace (or) a queen from an ordinary deck of playing cards.
7. In a Binomial distribution with mean 5, standard deviation 2, find n .
8. Write the properties of normal curve.

Part B $(4 \times 10 = 40)$ Answer any **four** questions.

9. Find the standard and coefficient of variation for following data :

Class-Interval : 10-15 15-20 20-25 25-30 30-35 35-40 40-45

Frequency : 4 6 8 12 7 5 2

10. The scores of two golferers X and Y in 10 marks are given below. Who is better and who more consistent.

X : 74 75 78 72 78 77 79 81 79 76

Y : 87 84 80 88 89 85 86 82 79

11. Find the coefficient of correlation between industrial production and export using the following data :

Production X : 55 56 58 59 60 60 62

Export Y : 35 38 37 39 44 43 44

12. From the following data find the regression equation of X on Y :

X : 25 28 35 32 31 36 29 38 34 32

Y : 43 46 49 41 36 32 31 30 33 39

13. A machine manufacturing screw is known to produce 5% defective. In a random sample of 15 screws, what is the probability that the there are exactly three defectives.

14. Assume that mean height of soldiers to be 68.22 inches with a variance of 10.8 inches how many soldiers in a regiment of 1000 would you expect to be over 6 feet tall.
15. Use χ^2 -test to test the effectiveness of inoculation in preventing the attack of small box from the following :

Data	Attacked	Not attacked	Total
Inoculated	25	220	245
Not inoculated	90	160	250
Total	115	380	495

CP-6279

Sub. Code

55

B.Sc. DEGREE EXAMINATION, NOVEMBER 2015

Optometry

HOSPITAL PROCEDURES

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any **five** questions.

1. Explain about storage of eye.
2. Write short notes on steam sterilization
3. Medical coding
4. Advantages of maintaining medical record.
5. What are all the activities of Optometry department in a hospital?
6. Explain about urine collection
7. Importance of biochemistry department in a hospital.
8. (a) What are the Common disease that affect cornea.
(b) Who are eligible to donate eyes?

Part B

(4 × 10 = 40)

Answer any **four** questions.

9. Explain about process of ye donation.
 10. Explain about care and maintenance of any five Ophthalmic equipments.
 11. What are all the activities of HRD?
 12. Explain about patient services available in a hospital.
 13. Duties of housekeeping departments in a hospital.
 14. Functions of medical record department.
 15. Explain about correspondence in a hospital.
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CP-6280

Sub. Code

61

B.Sc. DEGREE EXAMINATION, NOVEMBER 2015**Optometry****CONTACT LENSES —II**

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any **five** questions.

1. Dis-advantages of Extended wear Lenses
2. History taking in Pediatric contact Lens fitting
3. Soft Bifocal Contact Lens
4. List and explain action of Dis-infectants in MPS
5. Mechanism of Lipid deposition in Soft Contact Lenses
6. Therapeutic Contact Lenses
7. Rose-K lenses
8. Hydrogen per-oxide system.

Part B

(4 × 10 = 40)

Answer any **four** questions.

9. Write in detail about Composition of Multi-purpose Solution and its actions.
10. Explain briefly about Complications Occur in Soft Contact Lenses and its management.

11. Write in detail about Cosmetic Contact Lenses
 12. Toric Contact Lenses available in the market
 13. Handling of Conventional and High water content Disposable Soft Lenses
 14. Stabilization techniques involved in Soft Toric Contact Lenses
 15. Explain briefly about RGP Lenses fitting in Keratoconus.
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CP-6281

Sub. Code

62

B.Sc. DEGREE EXAMINATION, NOVEMBER 2015**Optometry****BINOCULAR VISION – II**

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any **five** questions.

1. What is prism bar? Explain the significance of prism bar in diagnostic part of orthoptics.
2. What is Maddox rod? Explain the construction and diagnostic use of Maddox rod.
3. Explain Krinsky and modified Krinsky test.
4. A patient comes to your clinic with following features.
 - (a) Right hyper tropia
 - (b) Maximum deviation in the dextro side.
 - (c) Head tilt towards the dextro side. Find out the muscle paralysed with help Bilshowskyi head tilt test.
5. Explain the classification of squint.
6. Explain uses of prisms in orthoptics.
7. Explain management of suppression.
8. Explain penalisation and different form of penalisation.

Part B

(4 × 10 = 40)

Answer any **four** questions.

9. Explain the construction, principle, diagnostic use and therapeutic use of synoptophore.
 10. Explain the procedure and care to be taken while doing diplopia charting? Explain the feature of RSR muscle palsy on diplopia charting.
 11. Explain different mechanisms leading to squint.
 12. Explain the management of Harmonious of Unharmonious ARC.
 13. What is Amblyopia? How will you do management of amblyopia with central fixation.
 14. Explain the management of convergence Insufficiency.
 15. Explain how will you assess grades of BSV?
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CP-6282

Sub. Code

63

B.Sc. DEGREE EXAMINATION, NOVEMBER 2015

Optometry

LOW VISION AIDS

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any **five** questions.

1. Telemicroscope.
2. Pelli – roboson chart.
3. Glare testing.
4. Log-MAR Chart.
5. Leber's Congenital Anomaly.
6. Contact Lens Telescope.
7. Confrontation Field Examination.
8. Fresnel Magnifiers.

Part B

(4 × 10 = 40)

Answer any **four** questions.

9. Differentiate Galilean and Keplerian Telescope.
10. Write in detail about Spectacle Magnifiers.

11. Write in detail about Non-Optical Devices.
 12. Rehabilitaion for ARMD patients.
 13. Determination and Calculation of Magnification for Distance, Intermediate and Near.
 14. Multi-disciplinary actions in community based rehabilitation.
 15. Write in detail about Eccentric Viewing strategies in visual Rehabilitation.
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CP-6283

Sub. Code

64

B.Sc. DEGREE EXAMINATION, NOVEMBER 2015**Optometry****SYSTEMIC DISEASES AFFECTING THE EYE**

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any **five** questions.

1. Hypertensive retinopathy.
2. Complications of Diabetes mellitus.
3. Embolism in ophthalmic circulation.
4. Differentiate benign and malignant tumour.
5. Retinoblastoma.
6. Grave's Ophthalmopathy.
7. How does leprosy affect eyes?
8. Papilledema.

Part B

(4 × 10 = 40)

Answer any **four** questions.

9. Define Diabetes Mellitus. Explain its causes, classification, clinical manifestation, diagnosis and management.
10. How does connective tissue disorder affect eyes?

11. Write in detail about hypothyroidism.
 12. Importance of vitamins in the health of the eye.
 13. Write in detail about visual pathway lesions.
 14. Explain about genetic disorder and eye.
 15. Malaria.
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