

C-0078

Sub. Code

91412

B.Sc. DEGREE EXAMINATION, APRIL 2019

First Semester

Optometry

GENERAL ANATOMY AND PHYSIOLOGY

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Name the functional unit of brain and lung.
2. Define hypoxia.
3. Define inspiration and expiration.
4. Define blood pressure.
5. Name the parts of male reproductive system.
6. Define ABO system.
7. Types of hemoglobin.
8. Name the sympathetic hormones.
9. Functions of skin.
10. Differences between arteries and veins.

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) Functions of WBC

Or

(b) Function of lymphs

12. (a) Cardiac muscle

Or

(b) Bones of skull

13. (a) Hemoglobin

Or

(b) Blood group

14. (a) Draw cross sections of kidney and name the parts.

Or

(b) Draw a skull and name the parts.

15. (a) Reflex action

Or

(b) Functions of placenta

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Essay on erythropoiesis

Or

(b) Anatomy of ear

17. (a) Menstrual cycle

Or

(b) Cardiac cycle

18. (a) Mechanism of respiration

Or

(b) Anatomy of respiratory system

C-0079

Sub. Code

91413

B.Sc. DEGREE EXAMINATION, APRIL 2019

First Semester

Optometry

GENERAL AND OCULAR BIOCHEMISTRY

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define phospholipide.
2. Define hydrogenation.
3. Define isotope.
4. Define Tears.
5. Define Atherosclerosis.
6. Define stereoisomerism.
7. Draw the Harworth structure of glucose & Fructose.
8. Define Transamination.
9. Define Vitamins.
10. Define Xerosis.

Part B**(5 × 5 = 25)**Answer **all** questions.

11. (a) Water soluble vitamins.

Or

(b) Polysaccharides.

12. (a) Aqueous Humor.

Or

(b) PUFA.

13. (a) Short notes on lens.

Or

(b) Structure of proteins.

14. (a) Enzyme mechanism activity.

Or

(b) Fatty acids biosynthesis.

15. (a) Properties of proteins.

Or

(b) Write about fat soluble vitamins.

Part C**(3 × 10 = 30)**Answer **all** questions.

16. (a) Biochemical function of cornea & lens.

Or

(b) Haemoglobin

17. (a) Explain detail about blood grouping.

Or

(b) Explain detail about ketone bodies

18. (a) TCA CYCLE.

Or

(b) Glycolysis cycle.

C-0080

Sub. Code

91414

B.Sc. DEGREE EXAMINATION, APRIL 2019

First Semester

Optometry

GEOMETRICAL OPTICS

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define wavelength.
2. Define Power.
3. Define critical angle.
4. Define light.
5. Define velocity.
6. Define optical path length.
7. Define Refractive index.
8. Define prism dioptre.
9. Define optical density.
10. Define focal length.

Part B $(5 \times 5 = 25)$ Answer **all** questions.

11. (a) Write about dispersion and dispersive power.

Or

- (b) Write the uses of optical fibres.

12. (a) Write about dual nature of light.

Or

- (b) Write about wavelength.

13. (a) Write vergence and its types.

Or

- (b) Write about cardinal points.

14. (a) Explain refraction through concave surface.

Or

- (b) Write about total internal reflection.

15. (a) Write about conjugate points.

Or

- (b) Write about wavefront.

Part C $(3 \times 10 = 30)$ Answer **all** questions.

16. (a) Write about prisms, its types, prism diopetre.

Or

- (b) Explain Matrix theory.

17. (a) Derive law of reflection at a plane surface using fermat's principle.

Or

- (b) Write about types of aberrations with neat diagrams.

18. (a) Derive relationship between U, V, R for refraction at concave surface.

Or

- (b) Explain about magnification and its types.
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C-0081

Sub. Code

91415

B.Sc. DEGREE EXAMINATION, APRIL 2019

First Semester

Optometry

NUTRITION

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Name four essential amino acids.
2. What is basal Metabolic Rate (BMR)?
3. Define Energy.
4. Name two dietary sources of vitamin C.
5. Define Atherosclerosis.
6. Name fat Soluble Vitamins.
7. Functions, food sources of vitamin A.
8. Define Protein energy Malnutrition (PEM)
9. Define Satiety Value.
10. Macro and Micro Minerals Associated with eye.

Part B**(5 × 5 = 25)**Answer **all** questions.

11. (a) Specific Dynamic Action (SDA) of food.

Or

- (b) Write short notes on Complications of obesity.

12. (a) Explain food Groups.

Or

- (b) Mention the Lipid rich and Low Lipid foods.

13. (a) Recommended Dietary Allowance.

Or

- (b) Balanced Diet.

14. (a) Discuss in detail about mean birth weight scores.

Or

- (b) Deficiency and excess of calcium intake.

15. (a) Classify Carbohydrates.

Or

- (b) Iron Metabolism.

Part C**(3 × 10 = 30)**Answer **all** questions.

16. (a) Diet plan for diabetes Mellitus.

Or

- (b) Essay on Water soluble-Vitamins.

17. (a) Essential and Non-Essential Amino Acids.

Or

(b) Explain about the relationship between hypercholesterolemia and Cardiac Diseases.

18. (a) Assessment of Nutritional Status.

Or

(b) Vitamin A Deficiency.

C-0082

Sub. Code

91416

B.Sc. DEGREE EXAMINATION, APRIL 2019

First Semester

Optometry

COMPUTERS

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. What is computer?
2. Write the types of computers.
3. What is binary number system?
4. Write the digits of octal number system.
5. What is the purpose of control panel in windows?
6. What are desktop icons?
7. What is meant by chart in Excel?
8. Write any two animations that can be added to a power point presentation.
9. What is E-mail?
10. What is the purpose of Antivirus software?

Part B**(5 × 5 = 25)**Answer **all** questions.

11. (a) Write short notes on peripheral devices and their functions.

Or

- (b) Write down the types of computers and their functions.

12. (a) Explain the binary number system and arithmetic on them.

Or

- (b) With an example, explain the procedure to convert an octal number to decimal number.

13. (a) Write short notes on the classification of computers and their importance.

Or

- (b) Briefly explain the functions of program manager.

14. (a) Explain any five math functions in MS Excel and their use.

Or

- (b) Write down the steps to add different transition effects between slides in slide show.

15. (a) Explain the steps by step procedure in sending and receiving E-mail.

Or

- (b) Briefly explain about viruses and antivirus software.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Describe decimal number system and explain how integer and decimal numbers are represented with positional weightage.

Or

- (b) Explain the procedure to convert a binary number to octal number through an example.

17. (a) Describe the steps in mail merging. Illustrate with an example.

Or

- (b) Write down the steps to create and edit a presentation in a power point.

18. (a) Explain in detail the step by step procedure to create a student database in Excel to store marks scored by them in 5 subjects. Write steps to draw bar chart and pie chart showing their total marks.

Or

- (b) Discuss in detail about the preventive measures to avoid virus infection.

C-0083

Sub. Code

91422

B.Sc. DEGREE EXAMINATION, APRIL 2019

Second Semester

Optometry

OCULAR ANATOMY

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Optic Disc.
2. Superior orbital fissure.
3. Vitreous humour.
4. Photoreceptors.
5. Optic canal.
6. Contents of the orbit.
7. Conjunctiva.
8. Glands of the eye.
9. Draw a labelled structure of Eye Ball.
10. PALPEBRAE.

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) Discuss Crystalline lens.
Or
(b) Discuss CORNEA.
12. (a) Describe OPTIC NERVE.
Or
(b) Discuss Extraocular Muscles.
13. (a) Discuss Second layer of eye ball.
Or
(b) Describe Circle of Willis.
14. (a) Discuss Boundaries of Orbit.
Or
(b) TEAR FILM.
15. (a) Discuss Fourth Cranial Nerve.
Or
(b) Ciliary Ganglion.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Discuss Visual Pathway in detail.
Or
(b) Trace the Sixth Cranial Nerve.

17. (a) Discuss Aqueous Humour in detail.

Or

(b) Describe Lacrimal Apparatus.

18. (a) Discuss Oculomotor Nerve.

Or

(b) Describe the sensitive layer of eye ball.

C-0084

Sub. Code

91423

B.Sc. DEGREE EXAMINATION, APRIL 2019

Second Semester

Optometry

OCULAR PHYSIOLOGY

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Enumerate types of color blindness.
2. Mention the methods of testing visual Acuity.
3. Define Stereopsis.
4. Mention blood – Ocular barriers.
5. Name the theories of color vision.
6. Define amplitude of Accomodation.
7. What are VERSIONS?
8. What is Horopter?
9. Mention the mechanism of corneal transparency.
10. What is Diplopia?

Part B**(5 × 5 = 25)**Answer **all** questions.

11. (a) Discuss Refractive Errors.

Or

(b) Discuss Contrast Sensitivity.

12. (a) Discuss Accommodation reflex.

Or

(b) Dark Adaptation.

13. (a) Waddes visual cycle.

Or

(b) Electroretinogram.

14. (a) Visual evoked potential.

Or

(b) Vitreous Humour.

15. (a) Layers of Retina.

Or

(b) Field of vision.

Part C**(3 × 10 = 30)**Answer **all** questions.

16. (a) Discuss visual pathway in detail.

Or

(b) Discuss Lacrimal Apparatus.

17. (a) Discuss Crystalline lens.

Or

(b) Discuss Aqueous humour.

18. (a) Explain grades of BSV.

Or

(b) Explain ERG EOG and VER.

C-0085

Sub. Code

91424

B.Sc. DEGREE EXAMINATION, APRIL 2019

Second Semester

Optometry

PHYSICAL OPTICS

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define wave velocity.
2. State Hygen's law of refraction.
3. Define interference.
4. What is antireflection coating?
5. What is diffraction?
6. Define dispersive power.
7. Define polarization.
8. What is birefringence?
9. Define spontaneous emission.
10. Define radiometry.

Part B**(5 × 5 = 25)**Answer **all** questions.

11. (a) Write a brief note on dual nature of light.

Or

- (b) Describe the superposition of two simple harmonic waves.

12. (a) Write a short note on colours of thin films.

Or

- (b) Explain in brief Lloyd's mirror experiment.

13. (a) Explain the principle of plane transmission grating.

Or

- (b) Write a short note on dispersive power of grating.

14. (a) Write a short note on Nicol prism act as analyser for polarised light.

Or

- (b) Explain in brief principle of Walleston prism.

15. (a) How to construct a Hologram explain with neat diagram?

Or

- (b) Explain in brief omission and absorption spectra.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Explain with a neat diagram Hygens principle for the law of reflection and refraction.

Or

- (b) How we find the velocity of light? Explain with principle and construction by anyone method.
17. (a) Give the detail idea about zone plate.

Or

- (b) Describe in detail interference due to wedge shaped films.
18. (a) Discuss in detail various sources of spectrum.

Or

- (b) Write in detail resolution of optometric instrument – Microscope, bianocular.
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C-0086

Sub. Code

91425

B.Sc. DEGREE EXAMINATION, APRIL 2019

Second Semester

Optometry

MICROBIOLOGY AND PATHOLOGY

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Mention any two beneficial effect of skin normal flora.
2. Illustrate the steps involved in potassium hydroxide mount.
3. Write the clinical characteristics of syphilis.
4. Mention any two GIT pathogens.
5. Name any two RNA viruses.
6. Define the cyst.
7. What is scar?
8. Define a granulation tissue.
9. Define ciliary melanoma.
10. What is orbit?

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) What are antibodies? Explain the structure and functions.

Or

- (b) Write the steps involved in Gram's staining.

12. (a) Discuss briefly on the ocular lesions of C. diphtheriae and C. xerosis.

Or

- (b) Explain the ocular lesions of gram negative cocci.

13. (a) Draw a neat structure of virus and label it.

Or

- (b) Describe shortly on hypersensitivity reaction.

14. (a) List out the agents involved in tissue injury.

Or

- (b) Elaborate the role of vascular component involved in tissue repair.

15. (a) Mention the inflammatory disease of Eye lids.

Or

- (b) Give an account on lacrimal gland tumors.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Write short notes on
- (i) Collection of ocular sample.
 - (ii) Culture and sensitivity test.

Or

- (b) Explain the clinical lesions and treatment of gram positive cocci.
17. (a) Describe the clinical importance and ocular lesions of acanthameoba and filaria.

Or

- (b) Write the clinical importance and ocular lesions of candida and histoplasma.
18. (a) Elaborate the clinical features of retinoblastoma.

Or

- (b) Discuss the various types of cataract.
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C-0087

Sub. Code

91432

B.Sc. DEGREE EXAMINATION, APRIL 2019

Third Semester

Optometry

VISUAL OPTICS

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Visual acuity.
2. Spatial and temporal resolution.
3. Define Aphakia.
4. Amplitude of Accommodation.
5. Depth of focus and field.
6. Spectacle refraction.
7. Uses of Retinoscopy.
8. Define subjective refraction.
9. Define distortion.
10. Note on prisms.

Part B**(5 × 5 = 25)**Answer **all** questions.

11. (a) Note on basic aspects of vision.

Or

- (b) Brief note on schematic and reduced eye.

12. (a) Accommodation and its mechanism.

Or

- (b) Presbyopia in detail.

13. (a) What is ocular refraction?

Or

- (b) What is spectacle refraction?

14. (a) Clinical application of Retinoscopy.

Or

- (b) What is Binocular balancing?

15. (a) Contrast sensitivity in brief.

Or

- (b) Explain Seidel aberration.

Part C**(3 × 10 = 30)**Answer **all** questions.

16. (a) Science of measuring visual performances.

Or

- (b) Explain magnification.

17. (a) Retinoscopy in detail.

Or

(b) What is plyopia and its anamolies in detail.

18. (a) Aphakia and Pseudophakia in brief.

Or

(b) Explain JCC.

C-0088

Sub. Code

91433

B.Sc. DEGREE EXAMINATION, APRIL 2019

Third Semester

Optometry

OCULAR DISEASE — I

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define 'Dry Eye'.
2. Chalazion.
3. Episcleritis.
4. Mention the signs of Bacterial Keratitis.
5. What is intraocular pressure?
6. Explain clinical features of viral conjunctivitis.
7. Which type of conjunctivitis is an ocular emergency.
8. Explain normal tension glaucoma.
9. Clinical features of congenital blue dot cataract.
10. Explain the difference between papillae and follicles.

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) Orbital cellulitis.
Or
(b) Cavernous Sinus Hemangioma.
12. (a) Hyperacute bacterial conjunctivitis.
Or
(b) Viral kerato conjunctivitis.
13. (a) Scleritis.
Or
(b) Congenital nasolacrimal duct obstruction.
14. (a) Anterior Blepharitis.
Or
(b) Pterygium.
15. (a) Keratoconus.
Or
(b) Sub conjunctival haemorrhage.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Elaborate about Vitamin A deficiency.
Or
(b) Describe the clinical features and management of Primary Open Angle Glaucoma.

17. (a) Describe the clinical features and management of Anterior Uveitis.

Or

- (b) Describe the signs of Grave's Eye Disease.

18. (a) Describe the clinical features, signs and symptoms of the types of senile cataract.

Or

- (b) Acute and Chronic Dacryocystitis.
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C-0089

Sub. Code

91434

B.Sc. DEGREE EXAMINATION, APRIL 2019

Third Semester

Optometry

OPTOMETRIC INSTRUMENTS — I

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define Straddling.
2. Uses of red and green filters in ophthalmology.
3. Define axis meridia of cylindrical lens.
4. Base of the prism is denoted as _____.
5. Uses of ICC.
6. Define direct illumination of slit lamp.
7. Write all cool colours in orbscan.
8. Define extended keratometer.
9. $43.5\text{ D} \times 90^\circ/47.00\text{ D} \times 180^\circ$, write in with-the-rule astigmatism form.
10. Principle of applanation tonometry.

Part B**(5 × 5 = 25)**Answer **all** questions.

11. (a) Short notes on LogMAR chart.

Or

(b) Short notes on Snellen chart.

12. (a) Write about pupillometer.

Or

(b) Write about pachymetry.

13. (a) Filters in slit-lamp.

Or

(b) Brightness acuity test.

14. (a) Colour vision assessment.

Or

(b) Potential acuity meter.

15. (a) Write about compound microscope.

Or

(b) Orbscan.

Part C**(3 × 10 = 30)**Answer **all** questions.

16. (a) Write about trial set.

Or

(b) Write about Indirect Ophthalmoscope.

17. (a) Write notes on Auto-refractometer.

Or

(b) Write notes on spectrometer.

18. (a) Retinoscope, write about its procedure, uses, neutralization and difficulties.

Or

(b) Write about vision analyser.

C-0090

Sub. Code

91435

B.Sc DEGREE EXAMINATION, APRIL 2019

Third Semester

Optometry

GENERAL AND OCULAR PHARMACOLOGY

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer ALL questions.

1. Mention any two disadvantages of Liver first pass mechanism of oral route.
2. What is an universal antidote?
3. What is a lead compound?
4. Define therapeutic index.
5. Give a short note on the therapeutic uses of hypnotics.
6. Write the structure of cocaine.
7. What is ganglion?
8. Mention the parasympathetic nerves.
9. Define hypertonic solution.
10. How is a drug increases out flow of aqueous humor?

Part B

(5 × 5 = 25)

Answer ALL questions.

11. (a) Illustrate the factors influencing the drug absorption.

Or

- (b) Explain the phase II reactions of drug metabolism.

12. (a) Mention the mode of action of a – protein coupled drug receptor.

Or

- (b) Give an account on the manifestation of ADR.

13. (a) Write short notes on anticonvulsent drug.

Or

- (b) Illustrate the gaseous anesthetic.

14. (a) Mention any two anti cholinergic drugs with their therapeutic function.

Or

- (b) Illustrate the classification and functions of adrenergic receptors.

15. (a) Write short notes on Ophthalmic diagnostic agents.

Or

- (b) Discuss briefly on ocular cortico –steroid drugs.

Part C

(3 × 10 = 30)

Answer ALL questions.

16. (a) Write an essay on barrier system and drug administration to the ocular region.

Or

- (b) How do you improve the drug distribution? Explain the factors influencing drug distribution.

17. (a) Write short notes on

(i) Mechanism of ion channel receptor

(ii) NSAID

Or

- (b) Elaborate the chemistry of narcotic and non – narcotic analgesic drug.

18. (a) Describe in detail note on anti – adrenergic drugs and their functions.

Or

- (b) Discuss on classification and functions of antibiotics.

C-0091

Sub. Code

91436

B.Sc. DEGREE EXAMINATION, APRIL 2019

Third Semester

Optometry

CLINICAL EXAMINATION OF VISUAL SYSTEM

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Maddox rod.
2. Chrono retinoscopy.
3. Past ocular history.
4. Pupillary anomalies based on shape.
5. Schiemer's II.
6. Schiemer's principle.
7. Polarized filters.
8. Presbyopia.
9. Presbyopic add based on age.
10. Saccades.

Part B**(5 × 5 = 25)**Answer **all** questions.

11. (a) Explain cover tests.

Or

(b) Angle grading by Van Heuc technique.

12. (a) Lid eversion examination.

Or

(b) Stereopsis.

13. (a) Explain different phenomenon of retinoscopy.

Or

(b) Maddox V test.

14. (a) Cycloplegic refraction.

Or

(b) Explain NRA – PRA.

15. (a) Amsler chart.

Or

(b) Explain HVID.

Part C**(3 × 10 = 30)**Answer **all** questions.

16. (a) Explain about various visual acuity charts.

Or

(b) Explain dynamic retinoscopy.

17. (a) Different methods of monocular subjective refraction.

Or

(b) Measurement of IPD.

18. (a) Explain about direct ophthalmoscopy.

Or

(b) Write notes on Gonioscopy.

C-0092

Sub. Code

91442

B.Sc. DEGREE EXAMINATION, APRIL 2019

Fourth Semester

Optometry

OPTOMETRIC OPTICS

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define light.
2. Define cylindrical lens.
3. Vertex distance.
4. Prentice rule.
5. Define refractive index.
6. Define plastic lens.
7. Advantages of PAL.
8. Calculation of refractive index.
9. What is ARC?
10. What is Glazing?

Part B**(5 × 5 = 25)**Answer **all** questions.

11. (a) Lenses and its terminologies.

Or

(b) Define Light and its properties.

12. (a) Aberration in ophthalmic lenses.

Or

(b) Transposition and its rules with eg.

13. (a) Manufacturing of Ophthalmic blanks in brief.

Or

(b) Properties of lens in detail.

14. (a) Hi-index lenses.

Or

(b) Bifocals and their manufacturing.

15. (a) Types of coatings in brief.

Or

(b) What is Glazing and Edging?

Part C**(3 × 10 = 30)**Answer **all** questions.

16. (a) What are the lens enhancements in detail?

Or

(b) Manufacturing and surfacing process from blocks to lens.

17. (a) What are the form of lenses?

Or

(b) Magnification and minification in high plus and high minus lenses.

18. (a) Derive definitional, properties and its units.

Or

(b) PAL in detail.

C-0093

Sub. Code

91443

B.Sc. DEGREE EXAMINATION, APRIL 2019

Fourth Semester

Optometry

OCULAR DISEASE — II

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Tests for malingering.
2. Asteroid hyalosis.
3. Tritanomaly.
4. Fundus fluorescein angiography.
5. Two uses of OCT.
6. Cup disc ratio.
7. Horner's syndrome.
8. Forced Auction test.
9. 'Pie in the sky'.
10. Lattice degeneration.

Part B

(5 × 5 = 25)

Answer **all** questions

11. (a) Tractional retinal detachment.

Or

(b) Xerophthalmia.

12. (a) Direct ophthalmoscopy.

Or

(b) Central Retinal Artery occlusion.

13. (a) Papillitis.

Or

(b) RAPD.

14. (a) List the difference between Kier, Behr and Wolfram syndrome.

Or

(b) Optic disc Drusen.

15. (a) Chloroquine toxicity.

Or

(b) Nutritional Amblyopia.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Retinitis pigmentosa.

Or

(b) Papilledema.

17. (a) Visual pathway lesions and the corresponding field defects. Explain with a diagram.

Or

(b) Write notes on supranuclear disorder of eye movements.

18. (a) Park's three step test.

Or

(b) Write detailed notes on different types of Nystagmus and the treatment.

C-0094

Sub. Code

91444

B.Sc. DEGREE EXAMINATION, APRIL 2019

Fourth Semester

Optometry

OPTOMETRIC INSTRUMENTS – II

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Ishihara chart is helpful to find colour deficiency.
2. EMG
3. Principle of Applanation tonometer
4. Berman's locator
5. Write about Retroillumination in slit lamp.
6. Scheiner's principle.
7. Principle of B-scan.
8. What is false positive in HFA?
9. Mention the uses of Gonioscope.
10. Write about Schimer's II.

Part B**(5 × 5 = 25)**Answer **all** questions.

11. (a) HFA interpretation.
Or
(b) Flouroscein staining in Optometry practices.
12. (a) VEP
Or
(b) Perimetry
13. (a) Write about Van Herrick grading.
Or
(b) B-Scan
14. (a) Explain about fitters used in slit lamp.
Or
(b) Cryo technique.
15. (a) Explain about Baush and Lomb Keratometer.
Or
(b) Javel Schiotz keratometer.

Part C**(3 × 10 = 30)**Answer **all** questions.

16. (a) Explain about direct ophthalmoscope.
Or
(b) Tonometer.

17. (a) Write about colour vision testing.

Or

(b) ERG.

18. (a) Explain about the procedures, optics, neutralization and advantages in Retinoscopy.

Or

(b) FFA interpretation.

C-0095

Sub. Code

91451

B.Sc. DEGREE EXAMINATION, APRIL 2019

Fifth Semester

Optometry

CONTACT LENS — I

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. FDA classification of contact lens material is based on _____ and _____.
2. Write the formula to calculate the Back Vertex power of contact lens.
3. Dk/t of Dw and EW lenses.
4. Write any two advantages of contact lens over spectacles.
5. Define the term DK, Dk/t.
6. Write the differences between Hydrogel and Silicone hydrogel lenses.
7. Name the instruments used to check Base curve, power and diameter of the contact lenses.
8. Mention the deposits seen in SU and RGP lens.

- 9. What is CARS Rule?
- 10. Write the rule of thumb of RGP and SU.

Part B (5 × 5 = 25)

Answer **all** questions.

- 11. (a) Write the indications and contra indications of SU and RGP.

Or

- (b) List out the slit lamp examination techniques.

- 12. (a) Explain in detail on SU fitting.

Or

- (b) Mr.X has a spectacle correction of

RE: $-5'00\text{DS}/-2'00\text{DC} \times 180$ and Keratometer
LE: $-3'00\text{DS}/-1'75\text{DC} \times 10$

Write the lens options and fitting procedure.

- 13. (a) Write notes on FDA classification of contact lens material.

Or

- (b) Write the manufacturing techniques of SU.

- 14. (a) Write the signs and symptoms of steep and flat soft contact lens fitting.

Or

- (b) Write the complications of soft contact lens.

15. (a) Calculate the BVP of contact lens. Spectacle power is +12.00DS, Vertex distance is $d = 12$ mm.

Or

- (b) Write the preliminary measurements for SU, RGP contact lens.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Write the anatomy and physiology of cornea in detail.

Or

- (b) Discuss the accommodation, vergence and magnification – CL Vs Spectacles.

17. (a) Explain in detail on the contact lens terminology.

Or

- (b) Write the types of astigmatism and the lens options for each type of astigmatism.

18. (a) Explain in detail on the effects of saggital height, base curve, diameter of soft contact lens.

Or

- (b) Spherical RGP fitting – Discuss in detail.

C-0096

Sub. Code

91452

B.Sc. DEGREE EXAMINATION, APRIL 2019

Fifth Semester

Optometry

BINOCULAR VISION — I

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. What is tonic convergence?
2. Name some monocular clues.
3. What is physiological diplopia?
4. Explain motor fusion.
5. What is lang's test?
6. How will you find out true convergence?
7. Define vergence.
8. Write the origin of inferior redus muscle.
9. Define cyclopean eye.
10. What is after image test?

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) What are the grades of binocular single vision?

Or

- (b) Define horopter.

12. (a) Explain the physiology of ocular movements.

Or

- (b) Explain hering's and sherrington's laws.

13. (a) What are TNO plates, explain.

Or

- (b) Explain vectogram test.

14. (a) Explain the mechanism of accommodation.

Or

- (b) Explain the mechanism of convergence.

15. (a) Explain diplopia and confusion.

Or

- (b) Explain retinal revalry.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Write about the types of convergence.

Or

- (b) Write about the anomalies of accommodation.

17. (a) Anatomy and physiology of superior oblique.

Or

(b) Anatomy and physiology of superior rectus.

18. (a) Explain about the management of amblyopia.

Or

(b) Write down the laws of ocular motility.

C-0097

Sub. Code

91453

B.Sc. DEGREE EXAMINATION, APRIL 2019

Fifth Semester

Optometry

PEDIATRIC AND GERIATIC OPTOMETRY

(2016 – onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Albinism
2. Night Blindness
3. Allen cards
4. Lid crease distance
5. Myopic crescent
6. Modified K rinsky test
7. Two uses of synoptophore
8. Stenopic slit
9. Drug correction
10. Optical Aids for near vision

Part B**(5 × 5 = 25)**Answer **all** questions.

11. (a) Explain CSM test.
Or
(b) Congenital stationary Night Blindness.
12. (a) Blepharophimosis.
Or
(b) Congenital Glaucoma.
13. (a) Occlusion Therapy.
Or
(b) Synoptophore.
14. (a) Tests to measure stereopsis.
Or
(b) Cycloplegic Refraction.
15. (a) Multifocal lenses.
Or
(b) Anatomical changes in aging cornea.

Part C**(3 × 10 = 30)**Answer **all** questions.

16. (a) Describe in detail about Myopia.
Or
(b) Write in detail about Birth History.

17. (a) Discuss in detail about Vitamin A deficiency and its complications in young children.

Or

(b) Explain about the broad classification of strabismus and its compensatory treatments.

18. (a) Write in detail about ARMD.

Or

(b) Give notes on Rehabilitation in children with severe visual Impairments.

C-0098

Sub. Code

91454

B.Sc. DEGREE EXAMINATION, APRIL 2019

Fifth Semester

Optometry

DISPENSING OPTICS

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Photochromics.
2. Components of spectacle prescription.
3. Define spectacles.
4. Use of temple position.
5. What are the frame selection of professional requirements?
6. List of PAL markings.
7. Define axis marking.
8. Lensometer.
9. Accessories of spectacles.
10. Counseling on wearing spectacles.

Part B**(5 × 5 = 25)**Answer **all** questions.

11. (a) What is transposition? Explain rules with eg.

Or

- (b) Note on tinted lens.

12. (a) Frames and its materials.

Or

- (b) Note on special purpose frames.

13. (a) Criterias for selecting frames.

Or

- (b) Measurements for frame and lens marking.

14. (a) Note on axis marking and prism marking.

Or

- (b) Note on patients complaints regarding frame and lens.

15. (a) What is meant by final checking of spectacles?

Or

- (b) Counseling on wearing and maintenance of spectacles.

Part C**(3 × 10 = 30)**Answer **all** questions.

16. (a) Tinted lens in detail.

Or

- (b) History of spectacles.

17. (a) Recording and ordering of lenses in detail.

Or

(b) PAL in detail.

18. (a) Detail on spectacle repairs.

Or

(b) Brief on :

(i) pupillary center

(ii) slevets

(iii) facial wrap

(iv) polaeoid.

C-0099

Sub. Code

91455

B.Sc. DEGREE EXAMINATION, APRIL 2019

Fifth Semester

Optometry

PUBLIC HEALTH AND COMMUNITY OPTOMETRY

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. List any two signs of Blepharitis.
2. Define Infant Mortality Rate.
3. List any two clinical signs of Trachoma.
4. List any two causes of avoidable Blindness.
5. Define specificity.
6. Define Morbidity.
7. Discuss the role of IAPB in prevention of blindness.
8. What are the two important causes of childhood Blindness.
9. VISION 2020 was launched in the year _____ by _____.
10. What is the use of Amsler Grid?

Part B**(5 × 5 = 25)**Answer **all** questions.

11. (a) Discuss in brief about the primary level of prevention.

Or

- (b) Explain about the physical dimension of Health.

12. (a) Enumerate the mortality indicators.

Or

- (b) Give brief notes on Avoidable Blindness.

13. (a) Describe the role of optometrists in school eye health programme.

Or

- (b) Discuss in brief about community eye programs.

14. (a) Give a brief picture on epid emiology of blindness in India.

Or

- (b) Discuss about the screening for age related macular Degeneration.

15. (a) Discuss about the steps for prevention of infections eye diseases in community eye care.

Or

- (b) Discuss in brief about Nutritional Blindness.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Describe the principles of primary eye care.

Or

- (b) Explain about the scope and role of Teleptometry practice in public Health.

17. (a) Explain about the community based rehabilitation programs.

Or

- (b) Discuss about the levels of Disease prevention in detail. Give a suitable example.

18. (a) How will you organise a cataract screening camp in your locality? Discuss the legal implications.

Or

- (b) Describe the organizational structure of national programme for control of blindness in India. Add note on functions of District blindness control society.

C-0100

Sub. Code

91456

B.Sc. DEGREE EXAMINATION, APRIL 2019

Fifth Semester

Optometry

BIO-STATISTICS

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. What is biostatistics? Point out its importance.
2. Define mortality and also explain any one measure of mortality.
3. Explain simple random sampling.
4. Write briefly about testing at hypothesis.
5. Write mean deviation formula.
6. Define Spearman Rank Correlation.
7. Write any two properties of binomial distribution.
8. Write any two uses of chi-square test.
9. Define Hospital statistics.
10. Define bed occupancy rate.

Part B**(5 × 5 = 25)**Answer **all** questions.

11. (a) What do you understand by Bio-statistics?

Or

- (b) Explain crude death rate.

12. (a) Explain simple random sampling.

Or

- (b) How to determine sample size? Explain.

13. (a) Distinguish between primary data and secondary data.

Or

- (b) Calculate median for the following data :

Weight (kg) : 10 20 30 40 50 60 70

No. of students : 4 7 12 15 13 5 4

14. (a) Write the conditions for binomial distribution.

Or

- (b) Write any five characteristics of Poisson distribution.

15. (a) How to collect hospital statistics?

Or

- (b) How estimate patient census?

Part C $(3 \times 10 = 30)$ Answer **all** questions.

16. (a) Compute the crude and standardised death rates of the two population.

Age-group (Years)	A		B	
	Population	Deaths	Population	Deaths
Below 5	15,000	360	40,000	1,000
5 – 30	20,000	400	52,000	1,040
Above 30	10,000	280	8,000	240
Total	45,000	1,040	1,00,000	2,280

Or

- (b) Explain Infant Mortality rate in detail.
17. (a) Find the S.D. for the number of days patients admitted in a hospital.

Days of confinement	5	6	7	8	9
No. of patients	18	14	9	3	1

Or

- (b) Calculate mean, median and mode for the following data :

C.I :	10-20	20-30	30-40	40-50
Frequency :	17	18	15	12

18. (a) Calculate Karl Pearson coefficient of correlation for the following data :

Weight (kg) : 70 75 80 85 90 95

BP (systolic) : 120 125 140 145 150 160

Or

- (b) Calculate two regression equations for the following data :

X: 10 12 14 16 18

Y: 5 10 15 20 25

C-0101

Sub. Code

91461

B.Sc. DEGREE EXAMINATION, APRIL 2019

Sixth Semester

Optometry

CONTACT LENS — II

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define Contact Lens.
2. List any two conjunctival complications of using contact lens.
3. What are the therapeutic indications of CL?
4. Give few points of Thiomersal.
5. What are hybrid lenses?
6. What are Monovision lenses?
7. What is a continuous wear lens?
8. Draw and list the uses of Type B prosthetic CL.
9. What is orthokeratology?
10. What is TALO test?

Part B**(5 × 5 = 25)**Answer **all** questions.

11. (a) Write the benefits of contact lenses over spectacles.

Or

- (b) Discuss about the lens classification according to lens wear modality.

12. (a) Write the indications of Bandage contact lens.

Or

- (b) How do you go about fitting lenses in pediatric patients?

13. (a) Write the types of prosthetic lens and their indications.

Or

- (b) What is residual astigmatism? Also discuss the types of astigmatism.

14. (a) Write the complications of silicone hydrogel contact lenses.

Or

- (b) What is monovision? What is modified monovision? Explain.

15. (a) Write the suitable lens options for irregular cornea. Mention the conditions as well.

Or

- (b) Write the toric cl-stabilization techniques.

Part C**(3 × 10 = 30)**Answer **all** questions.

16. (a) Write the soft toic contact lens fitting.

Or

(b) Discuss the lens fit in Keratonas.

17. (a) Explain in detail about the significance of lens care components.

Or

(b) Write notes on any two contact lens advancements.

18. (a) Explain the insertion and removal techniques of RGP and SCL.

Or

(b) Write the do's and don't of contact lens.

C-0102

Sub. Code

91462

B.Sc. DEGREE EXAMINATION, APRIL 2019

Sixth Semester

Optometry

BINOCULAR VISION – II

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Notes on Ill-sustained accommodation.
2. Write about pleoptics.
3. Write about total penalization.
4. Write notes on eccentric fixation.
5. What are the actions of superior oblique muscle?
6. Write down the sings of Duane's retraction syndrome.
7. Explain about simulated divergence excess.
8. What is orthophoria?
9. Write about patching therapy.
10. What is positive angle kappa?

Part B**(5 × 5 = 25)**Answer **all** questions.

11. (a) Write notes about Double Maddox rod test.

Or

- (b) Write about cover test.

12. (a) Explain about synaptophore.

Or

- (b) Explain Maddox wing.

13. (a) Prisms for exercise.

Or

- (b) Management of accommodative esotropia.

14. (a) Uses of prism bar.

Or

- (b) Uses of red and green goggles in orthoptic workup.

15. (a) Write about A-V pattern.

Or

- (b) Explain Krimsky test.

Part C**(3 × 10 = 30)**Answer **all** questions.

16. (a) Explain Hess charting.

Or

- (b) Explain park 3 steps test with example.

17. (a) Write about the vision therapy for suppression.

Or

(b) Write about the vision therapy for amblyopia.

18. (a) Write about management of convergence insufficiency.

Or

(b) Write about management of Divergence insufficiency.

C-0103

Sub. Code

91463

B.Sc. DEGREE EXAMINATION, APRIL 2019

Sixth Semester

Optometry

LOW VISION AID

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Impairment.
2. Approach magnification.
3. Bioptic telescope.
4. Bar magnifier.
5. Log MAR.
6. Signature guide.
7. Confrontation test.
8. V-max.
9. Name few optical aids.
10. Define low vision.

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) Explain classification of low vision.
Or
(b) Write on relation between disorder, impairment and handicapped.
12. (a) Keplerian telescope.
Or
(b) Write about prism confections.
13. (a) Bar magnifiers.
Or
(b) Write short notes on environmental modification done for low vision patients.
14. (a) Braille system.
Or
(b) Achromatopsia.
15. (a) Write on diabetic retinopathy in LVA.
Or
(b) Explain visual rehabilitation and training given for low vision patients.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Explain pre clinical assessments of low vision patients.
Or
(b) Write on electronic magnifier.

17. (a) Different types of telescopes available in low vision clinic.

Or

- (b) Write about visual acuity assessment in low vision patients.

18. (a) Explain various education guidance available for low vision patients.

Or

- (b) Write on retinal disease in relation to low vision.

C-0104

Sub. Code

91464

B.Sc. DEGREE EXAMINATION, APRIL 2019

Sixth Semester

Optometry

OCCUPATIONAL OPTOMETRY

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. What is photophthalmia?
2. List any two properties of laser.
3. What is the first aid for chemical injury to eye?
4. List the indications for protective glasses.
5. Define risk.
6. Define occupational hygiene.
7. Discuss about measurement of illumination.
8. Power of a contact lens is determined by _____ and _____.
9. Define vision standards.
10. Effects on UV radiation on eye.

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) What are the objectives of occupational medicine?

Or

- (b) Give notes on international labour organisation.

12. (a) Explain the role of WHO in occupational health.

Or

- (b) Discuss the roles of optometrist in occupational health.

13. (a) Give notes on mechanical ocular hazards.

Or

- (b) Discuss the hazards of lasers.

14. (a) How to analyse the following

- (i) Size of the detail
- (ii) Size of the working area
- (iii) Working distance.

Or

- (b) List the benefits of occupational screening.

15. (a) Explain in brief about the types of eye protection.

Or

- (b) Discuss in brief about occupational health in welding operations.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Discuss in detail about National occupational health associations and its major activities.

Or

- (b) Discuss about the occupational diseases commonly seen in public and the suitable interventions.

17. (a) Explain in detail about electromagnetic radiation and its effect on eye.

Or

- (b) Explain in detail about occupational ocular Hazards.

18. (a) Write in detail about visual task analysis.

Or

- (b) Describe in detail about Light sources, advantages and disadvantages.

C-0105

Sub. Code

91465

**B.Sc. DEGREE EXAMINATION,
APRIL 2019**

Sixth Semester

Optometry

SYSTEMIC DISEASE AFFECTING THE EYE

(2016 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Arterial hypertension.
2. Risk factors of diabetes retinopathy.
3. Jone's Major criteria in rheumatic heart disease.
4. Characteristics of benign neoplasm's.
5. Kerato conjunctivitis sicca.
6. Enclation.
7. Cotton wool spots.
8. Clinical features of leprosy.
9. Vitamin 'A' deficiencies.
10. Dermatomyositis.

Part B**(5 × 5 = 25)**Answer **all** questions.

11. (a) Hypertensive retino pathy.
Or
(b) Sub acute bacterial endocarditic.
12. (a) Neoplasia.
Or
(b) Arthritis Rheumatoid.
13. (a) Malaria.
Or
(b) Retinoblastoma.
14. (a) Optic neuritis.
Or
(b) How does hyperflyoidism affect eye?
15. (a) Embolism in ophthalmine circulation.
Or
(b) Hansen's disease and eye.

Part C**(3 × 10 = 30)**Answer **all** questions.

16. (a) Define diabetes mellitus. Explain its causes, classification, clinical manifestation , diagrams and management.
Or
(b) How does vitamin deficiency affect eyes?

17. (a) Explain about neurological eye disorders.

Or

(b) Write in detail about visual pathway lesions.

18. (a) Cardiovascular disease and eye. Explain.

Or

(b) How does tuberculosis affect eye?

C-0106

Sub. Code

91411

B.Sc. DEGREE EXAMINATION, APRIL 2019

First Semester

Optometry

GENERAL ANATOMY AND PHYSIOLOGY

(Upto 2015 batch)

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any **five** questions.

1. Name the bones of Skull – Cranium and facial.
2. Write on Female reproductive system.
3. Functions of Bile.
4. Erythropoiesis.
5. Write on Cartilage and its types.
6. Role of lymphatics in human body.
7. Electrocardiogram.
8. Systemic circulation.

Part B

(4 × 10 = 40)

Answer any **four** questions.

9. Enumerate the 12 cranial nerves and their functions
10. Anatomy of Brain with a diagram.

11. Components of Blood and its functions.
 12. Differentiate between Arteries, Veins and Capillaries.
 13. Draw and explain Urinary System.
 14. Draw Stomach and explain its anatomy, gastric juice and blood supply.
 15. Write about Pituitary Gland and Thyroid Gland.
-

C-0107

Sub. Code

91412

B.Sc. DEGREE EXAMINATION, APRIL 2019

First Semester

Optometry

GENERAL AND OCULAR BIOCHEMISTRY

(Upto 2015 Batch)

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any **five** questions.

1. What is a vitamin explain about the physiological function of Vitamin B.
2. Write short notes on Ketone bodies.
3. Brief about MM Equation.
4. Write about the Biochemical function of tear film.
5. Which vitamin causes night blindness explain.
6. Explain about the types of diabetes mellitus.
7. What is Gluconeogenesis?
8. Brief the procedure to estimate the urine sugar.

Part B

(4 × 10 = 40)

Answer any **four** questions.

9. Explain in detail about the metabolism of carbohydrates based on glycolysis.
 10. Write a detailed note on biochemistry and immunology of Aqueous humour.
 11. Elaborate the biochemical test to assess (a) Bleedingtime (b) clotting time.
 12. What is an aminoacid, classify and brief about its metabolism.
 13. Explain about the β -oxidation of saturated fatty acid.
 14. Classify proteins with suitable examples and mention its properties.
 15. Brief about the procedure of TC and DC.
-

C-0108

Sub. Code

91413

B.Sc. DEGREE EXAMINATION, APRIL 2019

First Semester

Optometry

GEOMETRICAL OPTICS

(Upto 2015 Batch)

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any **five** questions.

1. Write note on Geometrical and Optical path length.
2. Describe Snell's law in detail.
3. Write note on Spherical aberration.
4. Write note on uses of Optical Fibres.
5. Derive Lens maker's formula.
6. Define Speed, Wavelength and Frequency of light.
7. Write note on Reflecting Prisms.
8. Give brief note on Wavefront and Rays.

Part B

(4 × 10 = 40)

Answer any **four** questions.

9. State and explain Fermat's principle. Derive law of reflection at plane surface.
10. Derive the formula for equivalent focal length of two thin lenses separated by a distance.

11. Write briefly on Cardinal points of optical system.
 12. Describe Lateral and Axial magnification.
 13. Describe in detail refraction at convex surface.
 14. Write about refraction by plane parallel slab of glass.
 15. Explain Dual nature of light in detail.
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C-0109

Sub. Code

91414

B.Sc. DEGREE EXAMINATION, APRIL 2019

First Semester

Optometry

ENGLISH

(Upto 2015 batch)

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any **five** questions.

1. What is the difference between simple, compound and complex sentences?
2. What is called sentence structure?
3. Write a note on hints development.
4. Write a paragraph on "Computer".
5. What are the basic structure for writing a report?
6. Differentiate personal and official letter.
7. How do you make your speech more effective?
8. What is called controversial topic? Give examples.

Part B

(4 × 10 = 40)

Answer any **four** questions.

9. What are the four types of phrasal verb? Explain briefly with examples.
10. Write a letter to the editor of a newspaper about the importance of moral instruction to students.
11. Write a story using the hints given below :
Young man – riding a horse to town – on the way – lame beggar – “Please take me to town” – they reach town – “horse is mine” says beggar – they go to king’s officer – young man covers horse’s head – “horse blind in one eye. Which one”? – “left”, says beggar – horse not blind – beggar punished.
12. Write an essay on features of effective speech.
13. What are the salient aspects of presentation skills? Explain.
14. Explain the following :
 - (a) Interpersonal skills
 - (b) Persuasive skills
15. Prepare a group discussion on “pollution”.

C-0110

Sub. Code

91415

B.Sc. DEGREE EXAMINATION, APRIL 2019

First Semester

Optometry

NUTRITION

(Upto 2015 Batch)

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any **five** questions.

1. Explain clinical method in assessing nutritional status.
2. Nutrient requirements during pregnancy.
3. Write the sources, functions, deficiency of iron.
4. Write about Vitamin C.
5. Explain Amino acids and its types.
6. Write notes on balanced diet.
7. Write about lipoproteins.
8. Explain the measurements of energy.

Part B

(4 × 10 = 40)

Answer any **four** questions.

9. Explain about Atherosclerosis.
10. Explain the various food groups.

11. Write about carbohydrates, its sources, types and its functions.
 12. Explain about energy expenditure.
 13. Write about Fat soluble vitamins.
 14. Explain Diet Planning.
 15. Write about macronutrients and its function in ocular health.
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C-0111

Sub. Code

91421

B.Sc. DEGREE EXAMINATION, APRIL 2019

Second Semester

Optometry

ANATOMY OF THE EYE AND ORBIT

(Upto 2015 Batch)

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any **five** questions.

1. Write notes on anatomy of vitreous
2. Write about macula lutea and fovea centralis.
3. Write the microscopic structure of lacrimal gland.
4. Write about anatomy of oblique muscles.
5. Write the microscopic structure of ciliary body.
6. Write about IV CN.
7. Write about anatomy of choroid.
8. Write about surgical spaces of the orbit.

Part B

(4 × 10 = 40)

Answer any **four** questions.

9. Explain about Apex of the orbit.
10. Write about parts of conjunctiva.

11. Write about anatomy, blood supply, nerve supply of eyelids.
 12. Explain the nerve arrangement of visual pathway.
 13. Write in detail about zonules and its arrangement.
 14. Explain anatomy of Retina.
 15. Explain about crystalline Lens.
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C-0112

Sub. Code

91422

B.Sc. DEGREE EXAMINATION, APRIL 2019

Second Semester

Optometry

PHYSIOLOGY OF THE EYE

(Upto 2015 batch)

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any **five** questions.

1. Write about the function of tears.
2. Write a note on ERG
3. Explain lens transparency.
4. Functions of aqueous humor.
5. Write a note on colour vision.
6. Write a note on measurement of visual acuity.
7. Explain about Gullstrand mechanical model of accommodation.
8. With a neat diagram, explain pupillary light reflex.

Part B

(4 × 10 = 40)

Answer any **four** questions.

9. Draw a tabular column and write the extraocular muscles, their functions and nerve supply.
 10. Explain about factors influencing IOP and measurement of IOP.
 11. Explain in detail about aqueous outflow system (aqueous drainage).
 12. Discuss about neurophysiology of perception.
 13. Explain about factors affecting corneal transparency.
 14. Explain about monocular and binocular eye movements.
 15. Explain about grades of binocular vision and advantages of binocular vision.
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C-0113

Sub. Code

91423

B.Sc. DEGREE EXAMINATION, APRIL 2019

Second Semester

Optometry

PHYSICAL OPTICS

(Upto 2015 batch)

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any **five** questions.

1. Write note on Dual nature of Light.
2. Lloyd's mirror experiment.
3. Write note on Antireflection coating.
4. Write about Elliptical polarization.
5. Explain diffraction by single slit.
6. Describe Young's double slit experiment.
7. Describe Rayleigh criterion.
8. Give brief account on determination of velocity of light.

Part B

(4 × 10 = 40)

Answer any **four** questions.

9. State and explain Huygen's principle. Explain law of refraction at plane surface.
10. Write about Holography, its principle, construction and application.

11. Write note on Analysis of unknown polarization of light.
12. Describe construction and working of Halfwave plate.
13. What is Simple harmonic wave? Obtain the mathematical representation of simple harmonic wave.
14. Give note on :
 - (a) Polarizer
 - (b) Retarder.
15. What is Interference of light? State the condition for production of interference fringes.

C-0114

Sub. Code

91424

B.Sc. DEGREE EXAMINATION, APRIL 2019

Second Semester

Optometry

COMPUTERS

(Upto 2015 Batch)

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any **five** questions.

1. Draw a block diagram showing the functional components of a computer and explain them briefly.
2. Explain about anyone keyboard layout and write the purpose of keys.
3. Convert the following binary number to octal and hexadecimal : 100100100100.
4. Describe the elements on a window of any application.
5. Write steps to create, edit, save and print a file in Word software.
6. Explain different types of addressing used in formulas entered in Excel worksheet.
7. Describe the applications of internet.
8. Write steps to format numeric and character data in Excel.

Part B $(4 \times 10 = 40)$

Answer any **four** questions.

9. Explain the working principle of hard disk storage.
10. Create a table to represent the numbers from 1 to 15 in decimal, octal and hexa decimal number systems
11. Describe the components of Windows operating system.
12. Explain various formatting options in word to format a document.
13. Explain the step by step procedure to merge a letter with data from a datasheet.
14. Write steps to create student worksheet with data REGNO, NAME, AGE, MARK and sort the data MARK and AGE.
15. Explain in detail about E-mail handling.

C-0115

Sub. Code

91425

B.Sc. DEGREE EXAMINATION, APRIL 2019

Second Semester

Optometry

MICROBIOLOGY AND PATHOLOGY

(upto 2015 Batch)

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any **five** questions.

1. What is analysis and fixing of slides?
2. Brief about the procedure of corneal scraping.
3. Write short notes on heat radiation and filtration.
4. Brief about culture and sensitivity.
5. What is tissue inflammatory pathway explain?
6. Define ocular immunology and explain.
7. Write short notes on lacrimal gland tumors.
8. Write about any one ocular parasite, mode of infection, diagnosis and treatment.

Part B

(4 × 10 = 40)

Answer any **four** questions.

9. Write a detailed note on four types of hyper sensitivity reaction.
 10. Give a note on mycobacterium tuberculosis and leprae mode of infection, prophylaxis and treatment.
 11. Write and explain the types of hardeolum.
 12. Define microbiology and its clinical applications.
 13. Write about the pathology of conjunctirtis.
 14. Give an account of enterobacteria and its clinical application.
 15. What is a virus add a brief note on poxvirus and Rubella virus?
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C-0116

Sub. Code

91431

B.Sc. DEGREE EXAMINATION, APRIL 2019

Third Semester

Optometry

VISUAL OPTICS

(Upto 2015 Batch)

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any **five** questions.

1. Draw and explain schematic eye.
2. Explain emmetropisation and ametropia.
3. Explain types of presbyopia.
4. Explain Schiener disc experiment.
5. Explain duochrome test and use of duochrome test in refraction.
6. Explain Strims's conoid with diagram.
7. Explain Knapp's law.
8. What is magnification? Explain relative spectacle magnification.

Part B

(4 × 10 = 40)

Answer any **four** questions.

9. What is hypermetropia? Explain sign, symptoms and management of hypermetropia.
10. What is astigmatism? Explain sign, symptoms and management of astigmatism.
11. Explain fogging and cycloplegic refraction. Explain the purpose of fogging and role of cycloplegics in refraction.
12. What is presbyopia? Explain sign, symptoms and management of presbyopia.
13. Explain different methods of checking color vision.
14. Explain chromatic aberration and spherical aberration in detail. Explain how it overcome in the eye.
15. What is vertex distance? Calculate effective power for spectacle prescription reading as $-9.00\text{D}_{\text{sph}}/-1.00\text{D}_{\text{cyl}} \times 180$ having vertex distance of 12 mm.

C-0117

Sub. Code

91432

B.Sc. DEGREE EXAMINATION, APRIL 2019

Third Semester

Optometry

CLINICAL REFRACTION — I

(Upto 2015 batch)

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any **five** questions.

1. Explain in detail about LogMar chart.
2. List out the questions to be asked and importance of medical history and family history.
3. What are the uses of AR?
4. Write a note on JCC.
5. Explain about fogging and importance of fogging.
6. Explain importance of IPD and mention the various methods of measuring IPD.
7. Explain about Mohindra- near retinoscopy and Radical retinoscopy.
8. Write a note on stenopic slit and pinhole.

Part B

(4 × 10 = 40)

Answer any **four** questions.

9. Dynamic retinoscope.
 - (a) What is dynamic retinoscopy?
 - (b) What are the uses of doing dynamic retinoscopy?
 - (c) What is the normal physiologic lag?
 - (d) If we get against, what does it mean?
10. Why and when should cycloplegic refraction be done? Explain the step by step procedure of cycloplegic refraction.
11. Explain about Borish delayed spherical end point and Sudden unfogging.
12. Explain in detail about duochrome test with an example.
13. Define presbyopia. Write about different methods of calculating near add.
14. What is binocular refraction? List the methods of binocular refraction. Discuss the advantages and disadvantages of the methods.
15. What is amplitude of accommodation? Explain the methods of measuring amplitude of accommodation.

C-0118

Sub. Code

91433

B.Sc. DEGREE EXAMINATION, APRIL 2019

Third Semester

Optometry

OCULAR DISEASES — I

(Upto 2015 Batch)

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any **five** questions.

1. Write notes on dacryocystitis.
2. Write about aqueous cells, flare and its gradings.
3. Explain keratoconus in detail.
4. Write about buphthalmos.
5. Write about Posterior Capsular Opacification.
6. Write about staphyloma.
7. Explain the artificial drainage devices in glaucoma.
8. Write about episcleritis.

Part B

(4 × 10 = 40)

Answer any **four** questions.

9. Explain about ptosis, its types, investigations and treatment.

10. Write about Primary Open Angle Glaucoma.
 11. Explain VKH.
 12. Write about Viral keratitis.
 13. Write in detail about LASIK.
 14. Explain Allergic conjunctivitis.
 15. Explain the procedure of phacoemulsification.
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C-0119

Sub. Code

91434

B.Sc. DEGREE EXAMINATION, APRIL 2019

Third Semester

Optometry

OPHTHALMIC INSTRUMENTATION – I

(Upto 2015 Batch)

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any **five** questions.

1. Snellen chart.
2. Explain the construction, parts, working of Telescope.
3. Write note on one position keratometer.
4. Write about different trial frame designs.
5. Write note on Binoculars.
6. Indirect ophthalmoscope.
7. Describe objective type Autorefractometer.
8. Write note on projectors.

Part B

(4 × 10 = 40)

Answer any **four** questions.

9. Write in detail about different Slit lamp illumination techniques.
 10. Write about principle and procedure of JCC.
 11. Lensometer.
 12. Retinoscope.
 13. Write in detail about Keratometer.
 14. Direct ophthalmoscope.
 15. Explain about simple and compound microscope.
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C-0120

Sub. Code

91435

B.Sc. DEGREE EXAMINATION, APRIL 2019

Third Semester

Optometry

GENERAL AND OCULAR PHARMACOLOGY

(Upto 2015 batch)

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any **five** questions.

1. What is biotransformation of drugs?
2. Write short notes on SAR.
3. Write about immuno suppressants used in eye.
4. Brief about acute drug poisoning.
5. Explain the pharmacological action of β -blockers.
6. Brief about topical NSAIDS used in Eye.
7. Explain the classification of drugs.
8. What is bioavailability of drug explain?

Part B

(4 × 10 = 40)

Answer any **four** questions.

9. Discuss in detail on mode of action of local anaesthetics used in eye.
 10. Elaborate the advantages and disadvantages of general route of administration.
 11. What is new drug delivery system explain?
 12. Explain in detail about adrenergic drugs.
 13. Describe the process of pharmacokinetics.
 14. Write about the mechanism of action of any five antiviral drugs used in eye.
 15. Write about the preparation and packaging of ophthalmic drugs.
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C-0121

Sub. Code

91441

B.Sc. DEGREE EXAMINATION, APRIL 2019

Fourth Semester

Optometry

DISPENDING OPTICS

(Upto 2015 Batch)

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any **five** questions.

1. What is base curve? Explain best form lenses.
2. What is refractive index of material? Explain the relationship of refractive index and ophthalmic lenses. What are the disadvantages of high index lenses?
3. What are trifocal lenses? Explain the difference between trifocal lenses and progressive lenses and explain the difference between occupational trifocal lenses and a normal trifocal lenses.
4. List out the difference between tempered glass and normal glass. Explain any one process of toughening.
5. What are Fresnel lenses? Explain the advantages and disadvantage of Fresnel lenses and process of dispensing of Fresnel lenses.
6. What is hard coating? Explain methods of hard coating and how to identify hard coating over an ophthalmic lens.

7. Explain :
 - (a) Splay angle
 - (b) Pantoscopic tilt
 - (c) Face form.
8. What are the methods to check PD?

Part B

(4 × 10 = 40)

Answer any **four** questions.

9. What are aberration? Explain aberration of ophthalmic lenses.
10. What are bifocal lenses? Explain different types of bifocal lenses available. What is image jump? Compare image jump between round, flat top and executive bifocal.
11. What are absorptive lenses? Explain the process of tinting in mineral and plastic lenses. Explain features of green, yellow and pink color. Explain the indication and contraindication of each color.
12. What are special purpose frames? What are
 - (a) Lorgnette
 - (b) Pince — nez
 - (c) Clip — ons
 - (d) Ptosis frames
 - (e) Recumbent spectacle.
13. Explain the process of dispensing in pediatric age group.

14. What is anti — reflection coating? Explain the process of manufacturing ARC and working of antireflection coating. Explain pros and cons of ARC.
 15. Explain different types of temples and nose bridge. Explain different types of end piece.
-

C-0122

Sub. Code

91442

B.Sc. DEGREE EXAMINATION, APRIL 2019

Fourth Semester

Optometry

OCULAR DISEASES – II

(Upto 2015 batch)

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any **five** questions.

1. Write notes on Retinitis Pigmentosa.
2. Write about IV CN palsy.
3. Explain Branch Retinal Artery Occlusion.
4. Write about amblyopia.
5. Write about Myotonic Dystrophy.
6. Write about Argyll Robertson Pupil.
7. Explain the stages of retinopathy of prematurity.
8. Write about Central serous Retinopathy.

Part B

(4 × 10 = 40)

Answer any **four** questions.

9. Explain about papilloedema and its stages.
10. Write about Chiasmal Diseases.

11. Explain demyelinating optic neuritis.
 12. Write about horizontal gaze palsy.
 13. Write in detail about Diabetic Retinopathy.
 14. Explain types of optic neuropathies.
 15. Explain about nystagmus and its classifications.
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C-0123

Sub. Code

91443

B.Sc. DEGREE EXAMINATION, APRIL 2019

Fourth Semester

Optometry

CLINICAL REFRACTION — II

(upto 2015 batch)

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any **five** questions.

1. Explain the various treatment options of amblyopia.
2. Write a note on refraction in aphakia.
3. What is neuro optometric Rehabilitation? Which kind of patients will be benefited by it?
4. Write a note on accommodative esotropia.
5. Write a note on evaluation, diagnosis and management of dyslexia.
6. Explain about refraction and treatment options for congenital cataract.
7. Write a note on sports vision.
8. What is anisometropia? How can it be managed?

Part B

(4 × 10 = 40)

Answer any **four** questions.

9. Explain the various visual acuity tests for new born, preverbal, preschool and illiterate patients.
 10. What are the causes of irregular corneal astigmatism? Explain various treatment options.
 11. What is low vision? Explain about various optical and non optical aids.
 12. Discuss the procedure and importance of binocular subjective refraction.
 13. Discuss about diagnosis and management of glaucoma.
 14. What is nystagmus? write in detail about refraction in nystagmus.
 15. Explain in detail about convergence anomalies and various treatment options.
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C-0124

Sub. Code

91444

B.Sc. DEGREE EXAMINATION, APRIL 2019

Fourth Semester

Optometry

OPHTHALMIC INSTRUMENTATION — II

(up to 2015 batch)

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any **five** questions.

1. Write note on Schiottz tonometry.
2. Give applications of LASER in ophthalmology.
3. Write note on importance of performing pachymetry.
4. Write about A scan.
5. Explain Pellirobson chart.
6. Confrontation Test.
7. Describe Spectrometer.
8. Write note on Argon Laser.

Part B

(4 × 10 = 40)

Answer any **four** questions.

9. Write in detail about Potential acuity meter.
10. Write about Slit lamp its parts and different attachments in it.

11. Automated Perimetry.
 12. B scan.
 13. Write about glare testing in adults.
 14. FFA.
 15. Color vision testing.
-

C-0125

Sub. Code

91451

B.Sc. DEGREE EXAMINATION, APRIL 2019

Fifth Semester

Optometry

CONTACT LENSES – I

(Upto – 2015 Batch)

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any **five** questions.

1. Explain important milestone in the development of contact lens.
2. Explain the advantages of contact lens over spectacle.
3. Explain FDA classification and ideal properties of RGP contact lenses.
4. Explain indication along with reasons of RGP contact lens.
5. Explain the methods of selecting base curve and total diameter in RGP contact lens.
6. Calculate the contact lens power for prescription reading as follows + 8.50Dsph/– 2.50Dcyl × 90.
7. How to modify TD and BC of RGP contact lens once manufactured?
8. What is TACO test? Explain the significance of TACO test.

Part B

(4 × 10 = 40)

Answer any **four** questions.

9. Explain the slit lamp techniques and the importance of slit lamp in contact lens fitting.
 10. Explain keratometry in contact lens practice and describe extended keratometry.
 11. Explain pre – fitting evaluation of RGP contact lens.
 12. Explain manufacturing technique of soft contact lens.
 13. Explain fitting characteristic of steep, ideal and flat fit soft contact lenses.
 14. Explain the importance of movement in contact lens and role of tears lens in RGP lens.
 15. Explain care and maintenance of RGP contact lens.
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C-0126

Sub. Code

91452

B.Sc. DEGREE EXAMINATION, APRIL 2019

Fifth Semester

Optometry

BINOCULAR VISION – I

(Upto 2015 Batch)

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any **five** questions.

1. Explain horopter and Vieth – Muller circle.
2. Explain Panum's space and significance of Panum's space.
3. Explain management of anisometropia.
4. Explain signs, symptoms and classification of aniseikonia.
5. Explain test for fusion.
6. Explain Donders' law and Hering's law.
7. Explain vestibular ocular and opt kinetic reflexes.
8. Explain Arc of contact, muscle plane and axis of rotation.

Part B

(4 × 10 = 40)

Answer any **four** questions.

9. Explain grades of BSV and assessment of BSV.
 10. What are monocular clues? Explain different types of monocular clues.
 11. What is accommodative esotropia? Explain sign, symptoms and management of refractive type of accommodative esotropia.
 12. Explain physiology of movement of vertical recti and oblique muscle.
 13. What is local and global stereopsis? Explain titmus fly test and random dot test.
 14. Draw and tabulate actions, nerve supply, blood supply, muscle length and origin of EOM.
 15. What is physiological diplopia? Explain the use of physiological diplopia in orthoptic management.
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C-0127

Sub. Code

91453

B.Sc. DEGREE EXAMINATION, APRIL 2019

Fifth Semester

Optometry

**PEDIATRIC OPTOMETRY AND GERIATRIC
OPTOMETRY**

(Upto 2015 Batch)

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any **five** questions.

1. OKN and its significance.
2. Congenital Glaucoma.
3. Aphakia and its correction.
4. Explain TORCH.
5. Down's syndrome.
6. Write on Amsler grid and its significance.
7. Visual milestones.
8. Presbyopia and different ways of management.

Part B

(4 × 10 = 40)

Answer any **four** questions.

9. Different ways to evaluate visual acuity in paediatric population.
 10. Write on Congenital Lid abnormalities.
 11. Write about Geriatric counselling with respect to ageing changes and diseases in eyes.
 12. Write in detail about Retinoblastoma.
 13. Senile Cataracts- its types and management.
 14. Spectacle dispensing considerations in paediatric population
 15. Write on stages of Hypertensive Retinopathy and its management.
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C-0128

Sub. Code

91454

B.Sc. DEGREE EXAMINATION, APRIL 2019

Fifth Semester

Optometry

BIOSTATISTICS

(Upto 2015 onwards)

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any **five** questions.

1. Explain specific death rate.
2. Describe the direct method of standardizing death rate.
3. List the applications of systematic sampling.
4. Explain the difference between primary and secondary data.
5. How to calculate bed occupancy rate?
6. What are the conditions for normal distribution?
7. Explain in brief about infant mortality rate and its advantages.
8. Discuss the median for Raw Data.

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

9. Write detailed notes on collection of Hospital statistics.
 10. Explain the systematic sampling.
 11. Calculate the mean and standard deviation of following frequency distribution.
Class : 0-10 10-20 20-30 30-40 40-50 50-60
 f : 11 29 18 4 5 3
 12. Explain about chi-square test.
 13. Explain in detail about probability sampling.
 14. Discuss about multiple linear regression.
 15. Explain Crude Death Rate in detail.
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C-0129

Sub. Code

91455

B.Sc. DEGREE EXAMINATION, APRIL 2019

Fifth Semester

Optometry

HOSPITAL PROCEDURES

(Upto 2015 batch)

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any **five** questions.

1. Benefits of good house keeping in a hospital.
2. Arrangements of Medical Records.
3. Duties of a Medical Record Officer.
4. Activities of a bio engineering department.
5. List the postings in patient services department.
6. Storage procedure of donor eye.
7. Importance of calibration of ophthalmic equipments.
8. Discuss about the specimen collection in pathology lab.

Part B

(4 × 10 = 40)

Answer any **four** questions.

9. Discuss about the sterilization procedures in a pathology lab.
10. Discuss about the activities of a biochemistry lab.

11. Activities of correspondence department – Explain.
 12. What are the daily activities of an optometrist in a tertiary care setup?
 13. Discuss about the legal requirement and importance of a Medical record.
 14. What is the role of Human Resource Manager?
 15. What are the activities of a Microbiology Lab?
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C-0130

Sub. Code

91461

B.Sc. DEGREE EXAMINATION, APRIL 2019

Sixth Semester

Optometry

CONTACT LENSES — II

(Upto 2015 batch)

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any **five** questions.

1. Discuss about the stabilisation methods used in Toric soft CL.
2. Discuss in detail about the apical bearing, touch and three point touch.
3. Write notes on disposable contact lenses.
4. List out the implications of CL fitting in pediatric population.
5. Discuss about some of the recent advancements in contact lens.
6. Write notes on implications of prosthetic eye wear.
7. Discuss about SPKs.
8. Explain about High DR RGP Lens materials.

Part B

(4 × 10 = 40)

Answer any **four** questions.

9. Write a note on therapeutic lenses.
 10. Explain soft tonic a fitting with an example.
 11. Discuss in detail on presbyonic contact lens fitting.
 12. Write the complications of Silicone hydrogel contact lenses.
 13. Write the Insertion and Removal techniques of SCl and RGP Ce.
 14. Write the importance of disinfecting agents.
 15. Write the types of peosthetic lenses and their indications.
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C-0131

Sub. Code

91462

B.Sc. DEGREE EXAMINATION, APRIL 2019

Sixth Semester

Optometry

BINOCULAR VISION – II

(Upto 2015 batch)

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any **five** questions.

1. Write about Hess charting.
2. Explain Krimsky and modified Krimsky.
3. Explain worth 4 dot test.
4. Explain stereopsis and titmus fly test.
5. Use of Prisms in vision therapy.
6. Explain the types of squint.
7. What is AC/A ratio and its formula?
8. Define sixth nerve palsy.

Part B

(4 × 10 = 40)

Answer any **four** questions.

9. Explain diplopia charting.
10. Write about the assessment of amblyopia.

11. Write about the assessment of suppression.
 12. Define accommodative infacility, etiology and its management.
 13. Explain penalization.
 14. Write about Duane's retraction syndrome.
 15. Write about synaptophore.
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C-0132

Sub. Code

91463

B.Sc. DEGREE EXAMINATION, APRIL 2019

Sixth Semester

Optometry

LOW VISION AIDS

(Upto 2015 batch)

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any **five** questions.

1. Explain grades of low vision.
2. Write notes on galilean and keplerian telescopes.
3. Write on CCTV.
4. Explain assessment of visual acuity in low vision patients.
5. Write about history taking on low vision.
6. Explain eccentric viewing strategies.
7. Write about special school for low vision patients.
8. Write Ambler chart.

Part B

(4 × 10 = 40)

Answer any **four** questions.

9. Define low vision and write about statistical studies on low vision.
10. Explain spectacle magnifies and its uses.

11. Write about electronic magnifies.
 12. Briefly explain various retinal diseases in relation to low vision.
 13. Write counselling of a low vision patient.
 14. Write note on non optical aids.
 15. Write about geriatric low vision rehabilitation.
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C-0133

Sub. Code

91464

B.Sc DEGREE EXAMINATION, APRIL 2019

Sixth Semester

Optometry

SYSTEMIC DISEASES AFFECTING THE EYE

(Upto 2015 batch)

Time : 3 Hours

Maximum : 70 Marks

Part A

(5 × 6 = 30)

Answer any FIVE questions.

1. Explain in short about complications of CNS, Cardio vascular systems, Renal and ocular.
2. In short write Types of Diabetes mellitus.
3. Sub – acute Bacterial Endocardities.
4. Write briefly about the characteristics of benign and Malignant tumors.
5. Briefly write Rheumatoid Arthritis and its Management.
6. Write notes on Leprosy and Eye.
7. Add a note on Demyelinating diseases.
8. Pappilloedema. Explain.

Part B**(4 × 10 = 40)**

Answer any FOUR questions.

9. Explain in detail about Malaria and its Complication.
 10. Ophthalmic complication of Diabetes mellitus.
 11. Explain about ocular oncology in detail.
 12. Enlist and explain the ocular complications of connective tissue diseases.
 13. Describe Hypertensive Retinopathy.
 14. Write about thyroid eye disease.
 15. Genetic disorders related to Eye
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