

**CP-3849**

**B.Sc. DEGREE EXAMINATION  
NOVEMBER 2011**

**11**

**Optometry  
GENERAL ANATOMY AND PHYSIOLOGY  
(2008 onwards)**

Time : 3 Hours

Maximum : 70 Marks

**Part A**

(5 × 6 = 30)

Answer any **five** of the following questions.

1. Draw and label – Liver, Pancreas.
2. Draw and explain vertebral column.
3. Explain arteries and arterioles.
4. Explain endocrine system.
5. Blood flow through heart. Explain.
6. Explain ovarian cycle and Menstruation cycle
7. Draw and label the bones of the skull.
8. Explain blood grouping.

**Part B**

(4 × 10 = 40)

Answer any **four** of the following questions.

9. Explain the stages of digestion.
  10. Draw the longitudinal section of the eye.
  11. Write in detail on muscular system.
  12. Write in detail on urinary system.
  13. Explain central nervous system.
  14. Explain respiratory system.
  15. Tabulate the actions of twelve cranial nerves.
-

**CP-3850**

B.Sc. DEGREE EXAMINATION, NOV 2011

**12**

**Optometry**  
**GENERAL AND OCULAR BIOCHEMISTRY**  
**(2008 Onwards)**

Time : 3 Hours

Maximum : 70 Marks

**Part A**

(5 × 6 = 30)

Answer any **five** questions.

1. What are competitive and non competitive inhibitors?
2. Explain water soluble vitamins.
3. Explain biochemical functions of vitreous.
4. Explain amino acids.
5. Explain about hypoglycemia.
6. What is Haemoglobin? How will you estimate it?
7. Explain polysaccharides?
8. What are the essential and non essential amino acids?

**Part B**

(4 × 10 = 40)

Answer any **four** questions.

9. Give the metabolic pathway of Glycolysis.
  10. Discuss about blood grouping.
  11. Discuss about aqueous humour.
  12. Explain about the lens.
  13. Discuss about Ketone bodies.
  14. Fat soluble vitamins.
  15. Explain about the mechanism of enzyme action.
-

CP-3851

B.Sc. DEGREE EXAMINATION

13

NOVEMBER 2011

Optometry  
GEOMETRICAL OPTICS

(2008 onwards)

Time : 3 Hours

Maximum : 70 Marks

**Part A**

(5 × 6 = 30)

Answer any **five** questions.

1. Explain the concept of wavefront and convergence.
2. Describe prism dioptors.
3. What is core and cladding in optical fibre?
4. Describe in detail lateral magnification for refraction at a spherical surface.
5. Define Snell's law. What are the conditions for getting total internal reflection?
6. Write short note on Fermat's principle.
7. Describe geometrical and optical path length of rays.
8. What are the advantages of optical fibres used as wave guide?

**Part B**

(4 × 10 = 40)

Answer any **four** questions.

9. Define the Law's of reflection based on Fermat's principle.
10. Explain in detail the medical and industrial application of optical fibres.
11. Derive the relation between  $u$ ,  $v$  and  $R$  for Refraction at concave surface.
12. Derive an equation for equivalent focal length of two thin coaxial lenses separated by a distance.
13. Show that deviation produced by thin lens is independent of object.
14. Explain in detail reflecting prisms.
15. Describe in detail the refraction at convex surface.

CP-3852

B.Sc. DEGREE EXAMINATION

14

NOVEMBER 2011

Optometry

ENGLISH AND COMMUNICATION SKILLS

(2008 onwards)

Time : 3 Hours

Maximum : 70 Marks

**Part A**

(5 × 6 = 30)

Answer any **five** questions.

1. Explain :
  - (a) Kinds of sentences
  - (b) Subject and predicate.
2. Structure of sentences.
3. Write a paragraph on 'Pollution'.
4. What are the characteristics of a good essay?
5. Write a letter to your friend reporting the murder of a girl student in Delhi University on woman's day.
6. What are the public speaking skills?
7. How do you prepare for a presentation?
8. What are the objectives of Interpersonal skills?

**Part B**

(4 × 10 = 40)

Answer any **four** questions.

9. Write an essay on simple, compound and complex sentences.
10. Define phrase and clause and their functions.
11. Write an essay on 'Essay-writing'.
12. Write a letter to a Forwarding Agency complaining that a container of materials sent through the agency has not reached the destination.
13. Imagine that you had a conversation with the superintendent of police after they arrested an accused in connection with 'honour killing'. Write the interview in a form of Newspaper report.
14. What are the features of effective speaking?
15. What are the different skills assessed during a group discussion?

**CP-3853**

B.Sc. DEGREE EXAMINATION, NOV 2011

**15**

**Optometry  
NUTRITION  
(2008 onwards)**

Time : 3 Hours

Maximum : 70 Marks

**Part A**

(5 × 6 = 30)

Answer any **five** questions.

1. Essential amino acids.
2. Functions of cholesterol.
3. Classification of carbohydrate.
4. Write a note on respiratory Quotient.
5. Iron deficiency anaemia.
6. Vitamin – D.
7. Diet in pregnancy.
8. Night blindness.

**Part B**

(4 × 10 = 40)

Answer any **four** questions.

9. Discuss about Fat soluble Vitamin.
  10. Role of carbohydrate in diet.
  11. Discuss BMR (BASAL METABOLIC RATE).
  12. Discuss the methods of assessment of nutritional status.
  13. Discuss about proteins
    - (a) Classification
    - (b) Properties
    - (c) Structure
    - (d) Estimation of protein.
  14. Discuss about
    - (a) Energy units
    - (b) ICMR and WHO definition of reference man and reference women.
    - (c) Determination of energy requirement.
  15. Discuss in detail:
    - (a) Function of fat
    - (b) Role of PUFA (poly unsaturated fatty acid) in health.
-

**CP-3854**

**B.Sc. DEGREE EXAMINATION**

**31**

**NOVEMBER 2011**

**Optometry**

**VISUAL OPTICS**

(2008 onwards)

Time : 3 Hours

Maximum : 70 Marks

**Part A**

(5 × 6 = 30)

Answer any **five** questions.

1. Hypermetropia.
2. NPA.
3. Presbyopia.
4. Scientific estimation of Near Vision Add.
5. Spectacle refraction and ocular Refraction.
6. Astigmatism.
7. J.C.C.
8. Aberrations of Cornea and lens.

**Part B**

(4 × 10 = 40)

Answer any **four** questions.

9. Explain about Retinoscopy.
  10. Explain about the spectacle refraction and ocular refraction. Give an example.
  11. Discuss Myopia.
  12. Contrast Sensitivity.
  13. Principles of Keratometry.
  14. Subjective verification tests.
  15. Discuss in detail about Accommodation.
-

**CP-3855**

B.Sc. DEGREE EXAMINATION, NOVEMBER 2011

**32**

**Optometry  
CLINICAL REFRACTION – I  
(2008 onwards)**

Time : 3 Hours

Maximum : 70 Marks

**Section A**

(5 × 6 = 30)

Answer any **five** questions.

1. Logmar.
2. Auto refractometer.
3. Dynamic Retinoscopy.
4. Importance of medical history.
5. Fogging.
6. JCC.
7. IPD.
8. Amplitude of accommodation.

**Section B**

(4 × 10 = 40)

Answer any **four** questions.

9. Visual assessment in children.
  10. Discuss straddling and break phenomenon.
  11. Discuss binocular balancing.
  12. Discuss presbyopia correction.
  13. Discuss duochrome test and fogging methods.
  14. Discuss cycloplegic refraction.
  15. Importance of medical/surgical/ocular history.
-

**CP-3856**

B.Sc. DEGREE EXAMINATION, NOV 2011

**33**

**Optometry**  
**OCULAR DISEASES — I**  
**(2008 onwards)**

Time : 3 Hours

Maximum : 70 Marks

**Part A**

(5 × 6 = 30)

Answer any **five** of the following questions.

1. Differentiate conjunctivitis and anterior uveitis.
2. Vitamin A deficiency.
3. Corneal opacities.
4. Secondary glaucoma.
5. Dry eye.
6. Congenital cataract.
7. Episcleritis.
8. Pterygium.

**Part B**

(4 × 10 = 40)

Answer any **four** of the following questions.

9. Write in detail on angle closure glaucoma.
  10. Write elaborately on senile cataract.
  11. Explain bacterial conjunctivitis.
  12. What is ptosis? Explain.
  13. Write on anterior uveitis.
  14. Keratoconus - Explain in detail.
  15. Discuss congenital deformities of lids.
-



**CP-3857**

B.Sc. DEGREE EXAMINATION, NOVEMBER 2011

**34**

**Optometry**  
**OPHTHALMIC INSTRUMENTATION — I**  
**(2008 onwards)**

Time : 3 Hours

Maximum : 70 Marks

**Section A**

(5 × 6 = 30)

Answer any **five** questions.

1. What are the advantages and disadvantages of snellen's visual acuity charts?
2. Explain the construction of binoculars.
3. Discuss the Welch-allyn retinoscope with a neat diagram.
4. Explain construction of refracting telescopes.
5. Additive lens principle.
6. Jacksons cross cylinder.
7. Radiuscopes.
8. What are the forms of trial case lenses available?

**Section B**

(4 × 10 = 40)

Answer any **four** questions.

9. Explain direct ophthalmoscope in detail.
10. Define microscopes. Discuss the types of microscopes in detail
11. Describe manual lensometer with a neat diagram.
12. List the contents of trial set. Explain any five contents in detail.
13. Describe keratometers in detail with its types.
14. Describe the principle and construction of objective autorefractor.
15. Explain construction and application of slit lamp biomicroscopes.

**CP-3858**

B.Sc. DEGREE EXAMINATION, NOVEMBER 2011

**35**

**Optometry  
GENERAL AND OCULAR PHARMACOLOGY  
(2008 onwards)**

Time : 3 Hours

Maximum : 70 Marks

**Part A**

(5 × 6 = 30)

Answer any **five** questions.

1. Newer drug delivery system.
2. Pharmacokinetics of drugs.
3. Classification of drugs.
4. Antibiotics.
5. Adrenergic blocking drugs.
6. NSAIDS.
7.  $\beta$ -Blockers.
8. Topical anaesthetics used in the Eye.

**Part B**

(4 × 10 = 40)

Answer any **four** questions.

9. Write in detail about routes of administration.
  10. Antifungal drugs and their uses of ophthalmology.
  11. Discuss about the pharmacological action, side effects and therapeutic uses of general anaesthetics.
  12. Central nervous system stimulants.
  13. Anti convulsants.
  14. Local Anaesthetics.
  15. Write in detail about the uses of steroids and immuno suppressants in the eye.
-

**CP-3859**

B.Sc. DEGREE EXAMINATION, NOV 2011

**51**

**Optometry**  
**CONTACT LENSES — I**  
**(2008 onwards)**

Time : 3 Hours

Maximum : 70 Marks

**Section A** (5 × 6 = 30)

Answer any **five** questions.

1. Discuss assessment of soft contact lens fit.
2. Brief on the history of contact lenses.
3. D k/t Explain.
4. How will you assess the fit of a RGP lens.
5. Write on the contraindications of contact lens.
6. Find the contact lens power when spectacles powers are +6.00 and 6.00D (d = 12mm).
7. Tear lens. Explain.
8. Discuss the initial RGP and soft lens selection based on Keratometry values.

**Section B** (4 × 10 = 40)

Answer any **four** questions.

9. Write on the advantages and disadvantages of contact lenses over spectacles.
  10. Write elaborately on contact lens manufacturing methods.
  11. Write in detail on patient selection and prefit assessment.
  12. Write in detail on indication of contact lenses.
  13. Discuss the role of slit lamp examination techniques in contact lens fitting.
  14. How is maintaining soft contact lenses different from RGP lenses.
  15. Discuss on verifying contact lenses, once received from the laboratory and modification possible.
-

**Optometry**  
**BINOCULAR VISION — I**  
**(2008 onwards)**

Time : 3 Hours

Maximum : 70 Marks

**Part A**

(5 × 6 = 30)

Answer any **five** questions.

1. Write a short note on "PANUM'S AREA".
2. Write a short note on "EXOPHORIA".
3. Describe the 'functions' and 'nerve supply' of all Extra Ocular Muscles.
4. Explain "Random Dot Stereogram" tests.
5. Write a short note on "FICK'S AXIS".
6. Write a short note on "VISUAL DIRECTIONS".
7. Describe the 'prismatic effect' in Spectacle Lenses.
8. Write a short note on "ANISOMETROPIA".

**Part B**

(4 × 10 = 40)

Answer any **four** questions.

9. Describe the symptoms, clinical investigation and management of "ANISEIKONIA".  
(2 + 4 + 4 = 10)
  10. Discuss in details about "Physiological Diplopia".
  11. Describe clinical features, clinical investigations and management of "Convergence Insufficiency".  
(3 + 3 + 4 = 10)
  12. Describe different "ocular movements".
  13. Describe different theories of "BINOCULAR FUSION".
  14. Describe the "GRADIENT" method of AC/A ratio measurement.
  15. Describe grades of "BINOCULAR VISION".
-

**CP-3861**

**B.Sc. DEGREE EXAMINATION  
NOVEMBER 2011**

**53**

**Optometry  
PEDIATRIC OPTOMETRY AND GERIATRIC OPTOMETRY  
(2008 onwards)**

Time : 3 Hours

Maximum : 70 Marks

**Section A**

(5 × 6 = 30)

Answer any **five** questions.

1. Explain the different tests to check visual acuity in a 3 year old child.
2. Explain the optometric management of children with Dyslexia.
3. What are the different types of convergence?
4. Write short notes on Fuchs dystrophy.
5. Write in detail on Lens related Glaucoma.
6. Explain refraction in pseudophakia.
7. Write short notes on Age Related macular degeneration.
8. Explain the treatment and problems encountered in treating anisometropia.

**Section B**

(4 × 10 = 40)

Answer any **four** questions.

9. Explain the changes in the eye because of senescence.
10. Write on the clinical features and management of Accommodative Esotropia.
11. Explain Visually Evoked Response.
12. Write in detail on Nystagmus.
13. Write in detail on diabetic retinopathy.
14. What are the structural anomalies to be looked for while examining the orbit and eyelids?
15. Write the method and interpretation of cover tests.

**Optometry**  
**BIOSTATISTICS**  
**(2008 onwards)**

Time : 3 Hours

Maximum : 70 Marks

**Part A**

(5 × 6 = 30)

Answer any **Five** questions.

1. Explain in brief any three methods of random sampling.
2. In a town with a population of 50,000, there are 2,000 births and 200 infant deaths in the year 2000. Of these 85 infants died in the first 28 days of life and 35 of them died in the first week of life. There were 110 still births in the same year. Calculate infant mortality rate, pre-natal, neonatal and post neonatal mortality rates.
3. Calculate the Arithmetic Mean, Harmonic Mean, Median and Mode from the following data :  
25, 20, 40, 10, 25.
4. Find the quartiles and coefficient of quartile deviation from the following data :  
1,7,4,6, 8, 12, 10, 14, 16, 18,5.
5. Find :
  - (a) Mean values of  $x$  and  $y$  and
  - (b) Correlation coefficient from the following regression equations :  
 $8x - 10y = -66$  and  $40x - 18y = 214$ .
6. Two cards are drawn from a well shuffled pack. Find the probability that
  - (a) Both are kings and
  - (b) One king and one queen.
7. What is the probability that a family with five children will have
  - (a) 3 boys and 2 girls and
  - (b) All boys?
8. Explain bed occupancy rate.

**Part B**

(4 × 10 = 40)

Answer any **four** questions.

9. The following are the marks obtained by 40 students.  
40 36 43 57 81 90 92 74 66 85  
41 57 34 63 84 93 71 55 56 63  
39 44 59 43 90 82 88 72 73 45  
53 64 79 85 95 68 65 69 83 80  
Construct a frequency table with class interval 10 and calculate the Arithmetic Mean.
10. Compute coefficient of variance from the following data :
 

Class	5-15	15-25	25-35	35-45	45-55
Frequency	8	12	15	9	6
11. Calculate the coefficient of correlation from the following data by Spearman's Rank Correlation method.  
Series  $x$  : 20 11 24 18 20 22  
Series  $y$  : 24 9 20 22 9 11
12. Two dices are thrown. Find the probability that :
  - (a) The total of the numbers on the dices is 8,
  - (b) The first dice shows 6,
  - (c) The total of the numbers on the dices is greater than 8 and
  - (d) Both dices show the same number.

13. Find both regression equations from the following data and estimate the value of  $y$  when  $x=13$ .

$x$ :	2	4	6	8	10	12	14
$y$ :	4	2	5	10	4	11	12

14. The weekly wages of 1,000 workers are normally distributed around a mean of Rs. 70 and standard deviation of Rs. 5. Estimate the number of workers whose weekly wages will be
- Between Rs. 70 and Rs. 72 and
  - More than 75. (Given  $P(0 \leq Z \leq 0.4) = 0.1554$  and  $P(0 \leq Z \leq 1) = 0.3413$ ).

15. A certain drug was administered to 456 people out of a total of 720 included in the sample to test its efficacy against typhoid. The results are given below :

	Typhoid	No Typhoid	Total
Drug administered	144	312	456
Drug not administered	192	72	264
Total	336	384	720

On the basis of these data, can it be concluded that the drug is effective in preventing typhoid. (Given for 1 degrees of freedom  $X_{0.05}^2 = 3.84$ ).

**CP-3863**

B.Sc. DEGREE EXAMINATION, NOVEMBER 2011

**55**

**Optometry  
HOSPITAL PROCEDURES  
(2008 onwards)**

Time : 3 Hours

Maximum : 70 Marks

**Section A**

(5 × 6 = 30)

Answer any **five** questions.

1. Contraindications for eye donation.
2. (a) Mention common disease that affect eyes.  
(b) How will you store donated eyes?
3. Steam sterilisation.
4. What are all the advantages of maintenance?
5. Medical recording and its importance.
6. Importance of housekeeping in a hospital.
7. Activities of optometry department in a eye hospital.
8. Responsibility of a hospital personnel when collecting a specimen.

**Section B**

(4 × 10 = 40)

Answer any **four** questions.

9. Process of eye donation.
  10. Mention five ophthalmic equipment.
  11. Function of medical record department.
  12. Activities of human resource department.
  13. Collection of culture specimen of urine, blood and sputum.
  14. Functions of reception service in a hospital.
  15. Procedure of taking on appointment for a patient in a hospital.
-



**CP-4018**

B.Sc. DEGREE EXAMINATION, NOV 2011

**21**

**Optometry**  
**ANATOMY OF THE EYE AND ORBIT**  
**(2008 onwards)**

Time : 3 Hours

Maximum : 70 Marks

**Section A**

(5 × 6 = 30)

Answer any **five** questions.

1. Optic vesicle and optic stalk.
2. Anatomy of the ciliary body.
3. Draw and name parts of visual pathway.
4. Draw and name parts of lens.
5. Apex of orbit and superior orbital fissure.
6. Anatomy, relation of lacrimal gland.
7. Light reflex.
8. Ciliary ganglion.

**Section B**

(4 × 10 = 40)

Answer any **four** questions.

9. Describe in detail the anatomy of cornea with suitable diagrams.
  10. Describe in detail the anatomy of bony orbit.
  11. Write in detail about anatomy of anterior chamber.
  12. Describe in detail about origin, course, and applied anatomy of superior rectus and LPS.
  13. Describe the anatomy of retina in detail.
  14. Describe the nucleus, course applied anatomy of III cranial nerve.
  15. Describe the visual pathway in detail. Add a note on its blood supply and its importance.
-

Time : 3 Hours

Maximum : 70 Marks

**Section A**

(5 × 6 = 30)

Answer any **five** questions.

1. Explain versions and vergence.
2. Write briefly on types of visual acuity and factors affecting visual acuity.
3. Describe the functions of rods and cones.
4. Brief on the measurement of IOP.
5. Explain VEP.
6. (a) Write the functions of lens.  
(b) Changes in ageing lens
7. Explain tear film.
8. Discuss Contrast sensitivity tests.

**Section B**

(4 × 10 = 40)

Answer any **four** questions.

9. Tabulate the actions of extra ocular muscles in primary gaze.
  10. Discuss the types of colour vision defects and tests available to detect them.
  11. Light reflex — draw and explain.
  12. Write the ocular changes in accommodation. Also explain Far point, Near point and Amplitude of accommodation.
  13. Describe how corneal transparency is maintained.
  14. Explain formation, circulation and drainage of aqueous humour.
  15. Write in detail on physiology of Optic Nerve.
-

**Optometry**  
**PHYSICAL OPTICS**  
**(2008 onwards)**

Time : 3 Hours

Maximum : 70 Marks

**Section A**

(5 × 6 = 30)

Answer any **five** questions.

1. Differentiate between wave velocity and groups velocity.
2. Explain Lloyd's single mirror method of producing interference fringes.
3. Explain the double refraction in a calcite crystal.
4. With a neat diagram, explain Wollaston prism.
5. Using Huygen's wave theory of light, explain the phenomenon of reflection of a plane wavefront incident on a plane reflecting surface.
6. What is the dispersive power of a diffraction grating? Explain.
7. Explain the action of a quarter wave plane.
8. Give the characteristics of laser beam.

**Section B**

(4 × 10 = 40)

Answer any **four** questions.

9. Describe a method to determine the velocity of light.
  10. Give the theory of finding the wavelength of light by Newton's rings method.
  11. Explain Fraunhofer diffraction at a single slit.
  12. Give the theory of a zone plate and explain how it can be constructed.
  13. Describe methods of producing polarised light by reflection, refraction and by double refraction.
  14. Explain how you will analyse a give light whether it is partially polarised, circularly polarised or elliptically polarised.
  15. Describe with suitable diagrams the recording and reconstruction of the image in a hologram.
-

NOVEMBER 2011

Optometry  
COMPUTERS

(2008 onwards)

Time : 3 Hours

Maximum : 70 Marks

**Part A**

(5 × 6 = 30)

Answer any **five** questions.

1. Identify parts of a personal computer and write their functions.
2. Explain Binary Number system and decimal number system.
3. Classify software.
4. Briefly explain the items found on Accessories Menu.
5. Explain the purpose of desktop icons.
6. Explain the use of tools found on standard toolbar in MS-Word.
7. Explain cursor movement and editing operations in MS-Word.
8. How will you write the following formulae in worksheet cells?
  - (a)  $A1^2$
  - (b)  $\frac{A1 + B1}{C1 + D1}$
  - (c)  $\frac{A1 + B1}{C1^2}$ .

**Part B**

(4 × 10 = 40)

Answer any **four** questions.

9. Draw the block diagram of a PC and explain how components interact with each other.
10. Explain the function of any one input device and one output device.
11. With an example explain binary-to-octal-to-hexadecimal number system conversions.
12. Explain MS-Windows operating system and its GUI features.
13. Describe the steps in mailmerge operation in MS-Word.
14. Explain the steps in chart wizard in creating a bar chart for run scored by a cricket team in first 10 overs. Create a bar for each over.
15. Explain the basic concepts of Internet.

**CP-4022**

**B.Sc. DEGREE EXAMINATION**  
**NOVEMBER 2011**  
**Optometry**  
**MICROBIOLOGY AND PATHOLOGY**  
**(2008 onwards)**

**25**

Time : 3 Hours

Maximum : 70 Marks

**Section A**

(5 × 6 = 30)

Answer any **five** questions.

1. Normal ocular flora.
2. Short notes on :
  - (a) *Corynebacterium xerosis*.
  - (b) *Moraxella*
  - (c) *Haemophilus Aegyptus*.
3. Differentiate between prokaryotic and Eukaryotic cell.
4. Write a note on Adenovirus.
5. Chemical agents used for sterilisation.
6. Write a note on *Hardiolum intunum*.
7. Write a note on lacrimal gland tumor.
8. Write a note on *Acanthamoeba*.

**Section B**

(4 × 10 = 40)

Answer any **four** questions.

9. Give a note on *Mycobacterium tuberculosis* with its diagnosis, mode of infection, clinical manifestation, prophylaxis and treatment.
  10. Write a note on :
    - (a) *Fusarium*
    - (b) *Mucor*.
    - (c) *Candida*
    - (d) *Histoplasma*.With its clinical manifestation.
  11. Definition and methods of sterilization and disinfections.
  12. Write briefly about Retrioblastoma.
  13. Discuss pathology of lens induced glaucoma and uveitri.
  14. Discuss in detail about wound healing.
  15. Discuss in detail about ophthalmic neonatonum.
-

**Optometry**  
**DISPENSING OPTICS**  
**(2008 onwards)**

Time : 3 Hours

Maximum : 70 Marks

**Section A**

(5 × 6 = 30)

Answer any **five** questions.

1. Transpose the following :
  - (a)  $+1.25/-1.50 \times 90$
  - (b)  $-0.25/ - 0.50 \times 5$
  - (c)  $-8.25/- 1.75 \times 10$
  - (d)  $+3.00/+2.00 \times 95$
  - (e)  $-1.00/+1.00 \times 60$
2. Define refractive index. What are the different refractive indices available? What is the refractive index of polycarbonate lenses?
3. What are the different frame measurement systems? Explain in detail.
4. What are the categories of frame material?
5. What is ARC? What is the principle used and what is the use of ARC?
6. Discuss the advantages and disadvantages of Glass and plastic lenses.
7. How is a frame selected for a patient based on face shape, face colour?
8. What are absorptive lenses? Classify the type of tints.

**Section B** — (4 × 10 = 40 marks)Answer any **four** questions.

9. What is bifocals? What are the different types of bifocal designs?
  10. What are the steps involved in measuring monocular and near PD?
  11. Describe progressive lenses. Name two commercially available PAL'S Discuss the disadvantage of progressive lenses.
  12. What are impact resistant lenses? How are they made? What is the special group of people for whom it is advised?
  13. What are the process involved in surfacing a glass lens?
  14. What are the disadvantages of ordinary aphakic glass lens? What are the other options for aphakic patients?
  15. Write a note on photochromatic materials.
-

**Optometry**  
**OCULAR DISEASES — II**  
**(2008 onwards)**

Time : 3 Hours

Maximum : 70 Marks

**Part A**

(5 × 6 = 30)

Answer any **five** questions.

1. Vitreous Haemorrhage.
2. Indirect Ophthalmoscope.
3. Papilloedema.
4. Classification of optic neuritis.
5. Physiological nystagnus.
6. Horizontal gaze palsy.
7. Lesions of optic radiation.
8. Hypertensive Retinopathy.
  - (a) Clinical features
  - (b) Grading.

(3)

(2)

**Part B**

(4 × 10 = 40)

Answer any **four** questions.

9. 6<sup>th</sup> Nerve palsy
  - (a) Causes
  - (b) Clinical features
  - (c) Diplopia charting.
10. Visual field defects.
11. Myasthenia gravis
  - (a) Clinical features
  - (b) Invg
  - (c) Treatment.

(3)

(5)

(2)

(4)

(3)

(3)

12. Anisocoria.
13. Central retinal artery occlusion.
14. Optic atrophy.
15. Choose the correct answer :

- (a) Diagnostic test for Myasthenia gravis
  - (i) Electromyography
  - (ii) Electroencephalogram
  - (iii) Tensilon test.
- (b) In CRAO, the cherry red spot is due to
  - (i) Increase in retinal perfusion
  - (ii) Reflex vascular dilatation
  - (iii) The contrast between pale retina and the reddish choroid.
- (c) Diabetic 3<sup>rd</sup> Nerve palsy is
  - (i) Toxic
  - (ii) Compressive
  - (iii) Ischemic.

- (d) Field defect produced by the lesion of posterior visual pathway is
    - (i) Binasal hemianopia
    - (ii) Bitemporal hemianopia
    - (iii) Homonymous hemianopia.
  - (e) Mono-ocular transient visual loss is seen in
    - (i) Amaurosis fugax
    - (ii) Papilloedema
    - (iii) Retinal Mignaine
    - (iv) All of the above.
-



**CP-4025**

B.Sc. DEGREE EXAMINATION, NOV 2011

**43**

**Optometry**  
**CLINICAL REFRACTION — II**  
**(2008 onwards)**

Time : 3 Hours

Maximum : 70 Marks

**Part A**

(5 × 6 = 30)

Answer any **five** questions.

1. What are the various ways by which you can assess the vision of a preverbal child?
2. What are the essential details you should ask when taking a pediatric history?
3. List a minimum of 3 non strabismic binocular vision disorders with a short description.
4. What ocular problems do you expect in a child with cerebral palsy & what special tests would you perform?
5. List 5 conditions where the retinoscopic reflex is expected to be dull/distorted & the reason for the same.
6. Explain the cause of anisokonia.
7. List 10 conditions which can cause low vision.
8. Define the various types and causes of amblyopia.

**Part B**

(4 × 10 = 40)

Answer any **four** questions.

9. Describe the types of strabismus, its evaluation, diagnostic tests & management.
10. Describe the use of prisms in neuro-optometric rehabilitation with suitable examples for each.
11. How would you evaluate the visual functions of children with dyslexia & apart from routine examinations what additional visual functions would you assess?
12. Name any two common visual disorders of the geriatric population and describe its evaluation, diagnostic tests & management.
13. Describe how you would manage a patient who has Retinitis Pigmentosa in your low vision setup. Mention all the details about history, diagnostic tests, management and counseling.
14. Explain in detail the binocular balancing procedure & why there is a variation between monocular & binocular acceptance.
15. Explain the various management options for amblyopia.

**CP-4026**

B.Sc. DEGREE EXAMINATION, NOV 2011

**44**

**Optometry**  
**OPHTHALMIC INSTRUMENTATION - II**  
**(CBCS - 2008 onwards)**

Time : 3 Hours

Maximum : 70 Marks

**Section A**

(5 × 6 = 30)

Answer any **five** questions.

1. Orbscan.
2. Contrast sensitivity.
3. B.Scan.
4. Uratometry.
5. Auto refractometer.
6. Applanation tonometer.
7. Synaptophore.
8. Iol master.

**Section B**

(4 × 10 = 40)

Answer any **four** questions.

9. OCT.
  10. HUF.
  11. Femtosecond laser.
  12. 20 D Lens
  13. Interpretation of field defects.
  14. PAM.
  15. Yag Laser.
-

**CP-4027**

B.Sc. DEGREE EXAMINATION, NOVEMBER 2011

**62**

**Optometry**  
**BINOCULAR VISION – II**  
**(2008 onwards)**

Time : 3 Hours

Maximum : 70 Marks

**Part A**

(5 × 6 = 30)

Answer any **five** questions.

1. Draw and label cross section of Extra ocular muscles.
2. Tabulate the primary and secondary actions of EOM.
3. Cover test.
4. Corneal reflex test.
5. How will you treat a patient with fusion weakness?
6. Convergence.
7. Suppression.
8. ARC.

**Part B**

(4 × 10 = 40)

Answer any **four** questions.

9. Discuss BSV.
  10. Discuss Amblyopia.
  11. Heterophoria.
  12. Head tilt test.
  13. Exotropia.
  14. Hess charting and diplopia charting.
  15. Uses of prisms.
-