

B. Sc. OPTO. FIRST YEAR EXAMINATION, JUNE/JULY - 2013
HUMAN ANATOMY, PHYSIOLOGY & BIOCHEMISTRY
PAPER FIRST

[Time allotted: Three hours]

[Max Marks: 70]

Note: Attempt all questions

Draw suitable diagram wherever necessary

A : Short answer questions:

(7 x 8 = 56)

- Q. 1.** Enumerate the derivatives of the three germ layers in a developing embryo.
- Q. 2.** Write briefly the gross structure of an adult long bone with its blood supply. (4+3 = 7)
- Q. 3.** Give Difference between arteries and veins. Write a note on end arteries. (4+3 = 7)
- Q. 4.** Name the fat soluble vitamins. What are the sources of vitamin A in our diet? Give the functions and deficiency manifestations of vitamin A. (1+1+2+3=7)
- Q. 5.** Write short notes on – (3+2+2=7)
- a. Deficiency diseases of Iron & Calcium
 - b. Regulation of blood glucose
 - c. Functions of proteins
- Q. 6.** Discuss the visual field defects observed due to lesions in visual pathway with the help of diagram. (7)
- Q. 7.** Write short notes on: (3 x 3 = 9)
- a. Errors of refraction
 - b. Blood pressure & methods of measurement
 - c. Haemostasis
- Q. 8.** Draw a labeled diagram of Accommodation reflex. (5)

B. Sc. OPTO. FIRST YEAR EXAMINATION, JUNE/JULY - 2013
HUMAN ANATOMY, PHYSIOLOGY & BIOCHEMISTRY
PAPER FIRST (MCQ)

Time allotted for MCQ- 25 minutes

B : MCQs (Single response type):

(½ x 28 = 14)

Select the most appropriate answer and encircle the alphabet against it

ANATOMY

1. Voluntary (striated) muscle has:
 - a. Intercalated disc
 - b. Uninucleated
 - c. Spindle shaped
 - d. Long, cylindrical unbranched fibers
2. In our body organ of touch is:
 - a. Ear
 - b. Nose
 - c. Skin
 - d. Eye
3. Name of Sixth (6th) cranial nerve is:
 - a. Oculomotor
 - b. Trigeminal
 - c. Abducent
 - d. Facial
4. Spleen is related to:
 - a. Respiratory system
 - b. Excretory system
 - c. Central nervous system
 - d. Lymphatic system
5. Which artery of upper limb is commonly used to measure the Blood Pressure:
 - a. Radial artery
 - b. Axillary artery
 - c. Ulnar artery
 - d. Brachial artery
6. Pituitary gland is situated in:
 - a. Neck
 - b. Abdomen
 - c. Thorax
 - d. Cranial cavity
7. Shoulder joint is an example of:
 - a. Hinge joint
 - b. Ball & socket joint
 - c. Saddle joint
 - d. Ellipsoid joint
8. In adults spinal cord extends up to the level of:
 - a. Lower border of L3 vertebra
 - b. Upper border of L3 vertebra
 - c. Lower border of L1 vertebra
 - d. Upper border of L1 vertebra

BIOCHEMISTRY

9. A cataract patient with prolonged diabetes mellitus will have-
 - a. Only ketone bodies in urine
 - b. Both sugar and ketone bodies in urine
 - c. Only sugar in urine
 - d. None of the above
10. All are antioxidants except-
 - a. Vit. A
 - b. Vit. C
 - c. Vit. E
 - d. Vit. D
11. The normal pH of tear is-
 - a. 7.5 - 8
 - b. 7.35 - 7.55
 - c. 6.35 - 6.85
 - d. 7.1-7.3
12. Urea is formed from-
 - a. Lipid
 - b. Protein
 - c. Carbohydrate
 - d. Vitamin
13. If pH blood is 7.0 (Normal pH 7.35 - 7.55) it is known as-
 - a. Acidosis
 - b. Alkalosis
 - c. Neutral pH
 - d. Isoelectric pH
14. Gluconeogenesis is-
 - a. Synthesis of glucose from other carbohydrate sources
 - b. Synthesis of glycogen
 - c. Synthesis of glucose from non carbohydrate sources
 - d. Breakdown of glucose
15. Which hormone decreases blood glucose levels?
 - a. Glucagon
 - b. Insulin
 - c. Epinephrine
 - d. Glucocorticoids

P.T.O.

16. Which is not a lipoprotein?

- a. HDL
- b. LDL
- c. Albumin
- d. Chylomicron

17. Which is a ketone body?

- a. Palmitate
- b. Acetoacetate
- c. Acetate
- d. Glutamate

18. Which is not a plasma protein?

- a. Albumin
- b. Globulin
- c. Pepsin
- d. Fibrinogen

19. Deficiency of all can cause anemia except -

- a. Iron
- b. Calcium
- c. Vit. B 12
- d. Folic acid

20. Substrate binds to-

- a. Coenzyme
- b. Allosteric site on the enzyme
- c. Cofactor
- d. Active site on the enzyme

PHYSIOLOGY

21. Functional unit of excretory system is:

- a. Neuron
- b. Glomerulus
- c. Urinary bladder
- d. Nephron

22. Extra ocular muscles are all EXCEPT:

- a. Orbicularis oculi
- b. Superior rectus
- c. Superior oblique
- d. Lateral rectus

23. All are striated muscles EXCEPT:

- a. Skeletal muscle
- b. Cardiac muscle
- c. Smooth muscle
- d. Superior oblique

24. Mature RBCs has all EXCEPT:

- a. Cytoplasm
- b. Hemoglobin
- c. Carbonic anhydrase
- d. Nucleus

25. Glasses with cylindrical lenses help to correct:

- a. Presbyopia
- b. Myopia
- c. Hyperopia
- d. Astigmatism

26. Mucus in intestine is secreted by:

- a. Chief cells
- b. Paneth cells
- c. Gastric cells
- d. Parietal cells

27. Cardiac output is defined as volume of blood:

- a. Ejected by both ventricle per min.
- b. Ejected by both ventricle per stroke
- c. Ejected by each ventricle per stroke
- d. Ejected by each ventricle per min

28. Maximum amount of air expired out following deep inspiration is:

- a. Vital capacity
- b. Lung capacity
- c. Tidal volume
- d. Residual volume

B.Sc. OPTO. FIRST YEAR EXAMINATION, JUNE/JULY - 2013
OCULAR ANATOMY & PHYSIOLOGY
PAPER TWO

[Time allotted: Three hours]

[Max Marks: 70]

Note: Attempt all questions

Draw suitable diagram wherever necessary

A : Short answer questions:

(7 x 9 = 63)

Write Short notes on:

- Q. 1.** Anatomy of Retina
- Q. 2.** Anatomy of crystalline lens
- Q. 3.** Anatomy of Extraocular muscles
- Q. 4.** Anatomy of Lacrimal apparatus
- Q. 5.** Anatomy of Cornea
- Q. 6.** Colour vision
- Q. 7.** Accommodation
- Q. 8.** Light reflex
- Q. 9.** IOP

B.Sc. OPTO. FIRST YEAR EXAMINATION, JUNE/JULY- 2013
OCULAR ANATOMY & PHYSIOLOGY
PAPER TWO (MCQ)

Time allotted for MCQ- 15 minutes

B : MCQs (Single response type):

(½ x 14= 7)

Select the most appropriate answer and encircle the alphabet against it

1. Cornea consists of layers.
 - a. 6
 - b. 5
 - c. 4
 - d. 8
2. Presbyopia is compensated by:
 - a. Eye drops
 - b. Glasses
 - c. Both
 - d. None
3. IOP stands for:
 - a. Intra operative pressure
 - b. Intra ocular pressure
 - c. Intra orbital pressure
 - d. None of the above
4. Junction between cornea and conjunctiva:
 - a. Iris
 - b. Pupil
 - c. Sclera
 - d. Limbus
5. Binocular single vision hasgrades:
 - a. 4
 - b. 3
 - c. 2
 - d. 5
6. Lateral rectus Muscle is innervated by:
 - a. Upper branch of 3rd Nerve
 - b. Lower branch of 3rd Nerve
 - c. Fourth nerve
 - d. Sixth nerve
7. Aqueous humor is secreted by:
 - a. Ciliary body
 - b. Iris
 - c. Ora serrata
 - d. None of the above
8. The youngest lens fibers are present in:
 - a. Central core of the lens nucleus
 - b. Outer layer of the nucleus
 - c. Deeper layer of the cortex
 - d. Superficial layer of the cortex
9. The number of ciliary processes is about:
 - a. 20 - 30
 - b. 50 - 60
 - c. 70 - 80
 - d. 90 - 100
10. Nasolacrimal duct opens into:
 - a. Superior meatus
 - b. Middle meatus
 - c. Inferior meatus
 - d. Maxillary sinus
11. Thinnest wall of orbit is :
 - a. Medial wall
 - b. Floor
 - c. Roof
 - d. Lateral wall
12. Avascular coat in eye is:
 - a. Cornea
 - b. Choroid
 - c. Iris
 - d. Retina
13. Which structure continue to grow in the life time:
 - a. Cornea
 - b. Lens
 - c. Retina
 - d. Iris
14. Which of the following extraocular muscle has sympathetic innervation?
 - a. LPS
 - b. Muller's
 - c. SR
 - d. IR

B. Sc. OPTO. FIRST YEAR EXAMINATION, JUNE/JULY - 2013
OPTICS
PAPER THREE

[Time allotted: Three hours]

[Max Marks: 70]

Note: Attempt all questions

Draw suitable diagram wherever necessary

A : Short answer questions:

(9 x 7 = 63)

Write short notes on:

- Q. 1.** Anisometropia
- Q. 2.** Jackson Cross cylinder
- Q. 3.** Properties of Laser
- Q. 4.** Optics of human eye
- Q. 5.** Assessment of visual acuity in children
- Q. 6.** Properties of Ideal Frames
- Q. 7.** Astigmatism
- Q. 8.** Advantages and disadvantages of Aphakic spectacles
- Q. 9.** Optical prisms

B. Sc. OPTO. FIRST YEAR EXAMINATION, JUNE/JULY - 2013
OPTICS
PAPER THREE (MCQ)

Time allotted for MCQ- 15 minutes

(½ x 14= 7)

B : MCQs (Single response type):

Select the most appropriate answer and encircle the alphabet against it

1. Which is not the subjective methods of refraction?
 - a. Duochrome test
 - b. Jackson's cross cylinder test
 - c. Pin-hole test
 - d. Autorefractometer
2. Enumerate the changes which occur in a aphakic eye?
 - a. Eye becomes highly myopic
 - b. Total power of the eye is reduced to +44Ds from +60 Ds
 - c. Accommodation is reduced
 - d. Convergence is normal
3. German silver is also known as:
 - a. Aluminium
 - b. Nickel
 - c. Stainless steel
 - d. None
4. Progressive lens advantage over bifocal, not included?
 - a. No image jump
 - b. Better cosmeses
 - c. Cheaper
 - d. Larger field of view
5. Vergence can be positive when?
 - a. Diverging light travelling from left to right
 - b. Converging light travelling from left to right
 - c. Converging light travelling from right to light
 - d. None of the above
6. What will be a Focal length of +5 dioptre lens?
 - a. 15 cm
 - b. 40 cm
 - c. 30 cm
 - d. 20 cm
7. Presbyopia is due to:
 - a. Loss of Elasticity of lens capsule
 - b. Weakness of ciliary muscles
 - c. Weakness of suspensory ligament
 - d. All of the above
8. Aniseikonia refers to:
 - a. Difference in the corneal diameter
 - b. Difference in the image size (retinal image)
 - c. Difference in the refractive power
 - d. Difference in image colour
9. AGAINST movement red reflex is neutralized by
 - a. Plano
 - b. Cylindrical
 - c. Concave lenses
 - d. Convex
10. The following are true about reflection on a mirror:
 - a. shorter the radius of curvature of a spherical mirror, the stronger its refractive power.
 - b. the focal length of a convex mirror is half the length of the its radius of curvature
 - c. the image formed by a concave mirror is always magnified
 - d. the image formed by a convex mirror is always magnified
11. Contrast sensitivity:
 - a. measures the eye sensitivity to light
 - b. can be measured with Snellen's chart
 - c. may be reduced following LASIK
 - d. none of the above
12. Pinhole:
 - a. if less than 1mm diameter impairs the image quality
 - b. increases the need for the eye to focus
 - c. decreases the depth of focus
 - d. improves ametropia of less than 6 D
13. Which statement is false regarding diffraction:
 - a. it is best explained with the wave theory of light
 - b. it occurs when there is an obstruction to the light
 - c. both constructive and destructive interference occurs
 - d. it decreases with longer wavelength
14. Which statement is not correct with regards to the schematic eye of Gullstrand:
 - a. the human model eye is based on the principal of thick lenses
 - b. the eye is about 24.0 mm in axial length
 - c. the nodal points lie on either side of the posterior surface of the lens
 - d. the nodal points coincide with the principal points

B. Sc. OPTO. FIRST YEAR EXAMINATION, JUNE/JULY - 2013
BASIC ORTHOPTICS
PAPER FOUR

[Time allotted: Three hours]

[Max Marks: 70]

Note: Attempt all questions

Draw suitable diagram wherever necessary

A : Short answer questions:

(7 x 9 = 63)

Write Short notes on:

- Q. 1. Horopter
- Q. 2. Panum fusional space
- Q. 3. ARC
- Q. 4. Monocular cues
- Q. 5. Near vision complex
- Q. 6. Sherrington's law
- Q. 7. Binocular single vision
- Q. 8. Field of fixation
- Q. 9. Functions of extraocular muscles

B. Sc. OPTO. FIRST YEAR EXAMINATION, JUNE/JULY - 2013**BASIC ORTHOPTICS****PAPER FOUR (MCQ)****Time allotted for MCQ- 15 minutes****B : MCQs (Single response type):****(½ x 14= 7)**

Select the most appropriate answer and encircle the alphabet against it

1. Which of the following is not true for binocular single vision?
 - a. Provides stereoscopic vision
 - b. Is present since birth
 - c. Is the cause of diplopia in paralytic squint
 - d. Fusion is its second grade
2. Synergistic muscle is defined as
 - a. Muscle which have similar primary action in the same eye
 - b. Muscle which have opposite action in the same eye
 - c. Both
 - d. None
3. For levoversion, the yolk muscles are
 - a. Rt LR and Lt MR
 - b. Lt LR and Rt MR
 - c. Rt LR and Lt LR
 - d. Lt MR and Rt MR
4. For development of binocular single vision which of the following is required
 - a. Straight eyes since birth
 - b. Clear vision
 - c. Ability of visual cortex to promote binocular single vision
 - d. All
5. Method for measurement of AC/A ratio is
 - a. Heterophoria method
 - b. Gradient method
 - c. Haploscopic method
 - d. All of the above
6. Abduction is movement of eye in:
 - a. Medial gaze
 - b. Lateral gaze
 - c. Up gaze
 - d. Down gaze
7. Physiological insufficiency of accommodation is called
 - a. Accommodative squint
 - b. Ammetropia
 - c. Presbyopia
 - d. None
8. Position of pupil is
 - a. Normally slightly nasal and inferior
 - b. Normally slightly temporal and superior
 - c. Central
 - d. None of the above
9. Strabismic amblyopia is more common in patients of
 - a. Intermittent squint
 - b. Alternate squint
 - c. Constant squint
 - d. Latent squint
10. The muscle which make an angle of 51 degree with the optical axis is
 - a. SR
 - b. SO
 - c. IR
 - d. LR
11. Near reflex triad consist
 - a. Pupil constriction, divergence and accommodation
 - b. Pupil constriction, convergence and accommodation
 - c. All of the above
 - d. None of the above
12. Asthenopic symptoms are most marked with
 - a. Cyclophoria
 - b. Hyperphoria
 - c. Esophoria
 - d. Exophoria
13. Annulus of zinn gives origin to all except
 - a. SR
 - b. IR
 - c. MR
 - d. IO
14. In Maddox rod test, patient will see
 - a. At point light source at near target
 - b. At point light source at distance target
 - c. At 6/60 target
 - d. A and B

Regn. No.....

Paper Code: BO-101

B. Sc. OPTO. FIRST YEAR EXAMINATION, JUNE/JULY - 2015
ANATOMY, PHYSIOLOGY & BIOCHEMISTRY
PAPER FIRST

[Time allotted: Three hours]

[Max Marks: 70]

Note: Attempt all questions

Draw suitable diagram wherever necessary

A : Short answer questions:

(7 x 8 = 56)

ANATOMY

- Q. 1. Describe the extraocular muscles
- Q. 2. Write about the development of the eye
- Q. 3. Describe the anatomy of the eyeball

PHYSIOLOGY

- Q. 4. Write short notes on :
- a. Describe the type of blood cells and their functions.
 - b. Describe the type of blood vessels and their functions .
- Q. 5. Draw the visual pathway. Enumerate the functions of rods and cones
- Q. 6. Describe the structure of neurons and its function.

BIOCHEMISTRY

- Q. 7. What do you understand by fasting & post prandial blood glucose? Give their normal ranges. Which hormones help to regulate blood sugar levels. What are the ophthalmic changes seen in diabetic patients?

(2+1+2+2 marks)

- Q. 8. Write short notes on :

- a. Deficiency diseases of Iron and Calcium (2 marks)
- b. Essential fatty acids (1 marks)
- c. Vitamin A (2 marks)
- d. Functions of proteins (2 marks)

B. Sc. OPTO. FIRST YEAR EXAMINATION, JUNE/JULY - 2015
ANATOMY, PHYSIOLOGY & BIOCHEMISTRY
PAPER FIRST (MCQ)

Time allotted for MCQ- 25 minutes

B : MCQs (Single response type):

(½ x 28= 14)

Select the most appropriate answer and encircle the alphabet against it

ANATOMY

1. Patella is an example of:-
 - a. Flat bone
 - b. Irregular bone
 - c. Sesamoid bone
 - d. Pneumatic bone
2. The shoulder joint is an example of which type of synovial joint?
 - a. Ellipsoid
 - b. Ball & Socket
 - c. Pivot
 - d. Saddle
3. The arteries whose branches do not anastomose with branches of other arteries are called:
 - a. Muscular arteries
 - b. Elastic arteries
 - c. Arterioles
 - d. End arteries
4. All are true about skeletal muscle EXCEPT:-
 - a. Fibres show cross striations
 - b. Unbranched
 - c. Involuntary
 - d. Multinucleated
5. A neuron having two processes, one at each pole is called:
 - a. Pseudo-unipolar
 - b. Unipolar
 - c. Bipolar
 - d. Multipolar
6. Afferent lymph vessels in a lymph node enter through the:
 - a. Hilum
 - b. Periphery
 - c. Both of the above
 - d. None of the above
7. A muscle which acts opposite to the prime mover is:-
 - a. Antagonist
 - b. Agonist
 - c. Fixator
 - d. Synergist
8. The two ends of a growing long bone are known as:-
 - a. Diaphysis
 - b. Epiphysis
 - c. Metaphysis
 - d. Epiphyseal plate

PHYSIOLOGY

9. Normal RBC count in males in
 - a. 5-5.5 Lakhs/mm³
 - b. 1.4-4million/mm³
 - c. 4-11 million/mm³
 - d. 5-5.5 million/mm³
10. The structural and functional unit of nervous system
 - a. Neuroglia
 - b. Nephron
 - c. Neuron
 - d. Renshaw cell
11. _____ are called exchange vessels
 - a. Arteriole
 - b. Veins
 - c. Capillaries
 - d. Arteries
12. Normal respiratory rate is :
 - a. 6-8 Cycles/min
 - b. 30-40 Cycles/min
 - c. 12-16 Cycles/min
 - d. 72 Cycles/min
13. Urine is formed by the following processes except :
 - a. Ultra filtration
 - b. Tubular Reabsorption
 - c. Tubular secretion
 - d. Micturition
14. Opacity of lens is called :
 - a. Cataract
 - b. Myopia
 - c. Hypermetropia
 - d. Astigmatism
15. The Vascular layer of the eyes is :
 - a. Sclera
 - b. Choroid
 - c. Retina
 - d. Conjunctiva
16. The colour of eyes is due to :
 - a. Iris
 - b. Choroid
 - c. Cornea
 - d. Retina

BIOCHEMISTRY

17. Proteins are made up to-
 - a. Acetic acid
 - b. Amino acid
 - c. Carboxylic acid
 - d. Fatty acid
18. Gluconeogenesis is-
 - a. Synthesis of glucose from other carbohydrate sources
 - b. Synthesis of glycogen
 - c. Synthesis of glucose from non carbohydrate sources
 - d. breakdown of glucose
19. Deficiency of all can cause anemia **except**-
 - a. Iron
 - b. Calcium
 - c. Vit. B 12
 - d. Folic acid
20. Glycogen is polymer of -
 - a. Glucose
 - b. Lactose
 - c. Fructose
 - d. Galactose
21. Which hormone decreases blood glucose levels-
 - a. Glucagon
 - b. Insulin
 - c. Epinephrin
 - d. Glucocorticoids
22. Which is NOT a lipoprotein-
 - a. HDL
 - b. LDL
 - c. Albumin
 - d. Chylomicron
23. A cataract patient with prolonged diabetes mellitus will have-
 - a. Only ketone bodies in urine
 - b. Both sugar and ketone bodies in urine
 - c. Only sugar in urine
 - d. None of the above
24. Which is an antioxidant vitamin-
 - a. Vit. B6
 - b. Vit.C
 - c. Vit. B1
 - d. Vit. D
25. Which is NOT TRUE? Urea is -
 - a. Formed in the liver
 - b. Excreted by the kidney
 - c. Is an end product of protein metabolism
 - d. stored in the brain
26. Which is a plasma protein-
 - a. Albumin
 - b. Glucose
 - c. Cholesterol
 - d. DNA
27. Good Cholesterol is-
 - a. HDL
 - b. LDL
 - c. IDL
 - d. Chylomicron
28. Enzymes are-
 - a. Inorganic compounds
 - b. Proteins
 - c. Lipids
 - d. Carbohydrates

Regn. No.....

Paper Code: BO-102...

B.Sc. OPTO. FIRST YEAR EXAMINATION, JUNE/JULY - 2015
OCULAR ANATOMY & PHYSIOLOGY
PAPER TWO

[Time allotted: Three hours]

[Max Marks: 70]

Note: Attempt all questions

Draw suitable diagram wherever necessary

A : Short answer questions:

(7 x 9 = 63)

Write Short notes on:

- Q. 1. Anatomy of the Rods and cones.
- Q. 2. Anatomy of the upper eye lid
- Q. 3. Production and drainage of aqueous humour.
- Q. 4. Pathway of light reflex.
- Q. 5. Anatomy, actions and nerve supply of the extra ocular muscles.
- Q. 6. Anatomy of the Cornea.
- Q. 7. Anatomy of lacrimal sac.
- Q. 8. Physiology of colour vision.
- Q. 9. Mechanism of accommodation.

B.Sc. OPTO. FIRST YEAR EXAMINATION, JUNE/JULY- 2015**OCULAR ANATOMY & PHYSIOLOGY****PAPER TWO (MCQ)****Time allotted for MCQ- 15 minutes****B : MCQs (Single response type):****(½ x 14= 7)**

Select the most appropriate answer and encircle the alphabet against it

1. Medial rectus muscle is supplied by which cranial nerve?
 - a. Third
 - b. Fourth
 - c. Fifth
 - d. Sixth
2. Intra ocular pressure (IOP) in normal healthy individual is:
 - a. 0 – 10 mm of Hg
 - b. 11 – 20 mm of Hg
 - c. 21 – 30 mm of Hg
 - d. 31 – 40 mm of Hg
3. Which is true about normal crystalline lens:
 - a. It has embryonic nucleus
 - b. It is opaque
 - c. It is supplied by fourth cranial nerve
 - d. It is supplied by central retinal artery
4. Histologically, the cornea consists of how many layers?
 - a. Three
 - b. Four
 - c. Five
 - d. Six
5. Aqueous humour is found in:
 - a. Anterior chamber only
 - b. Posterior chamber only
 - c. Both anterior and posterior chamber
 - d. None of the above
6. The crystalline lens is dependent for its metabolism on:
 - a. Conjunctiva
 - b. Cornea
 - c. Aqueous humour
 - d. Central retinal artery
7. Moll's glands in the eyelids are:
 - a. Sebaceous glands
 - b. Sweat glands
 - c. Lacrimal glands
 - d. None of the above
8. Orbit is made up of how many bones?
 - a. 5
 - b. 6
 - c. 7
 - d. 8
9. Colour vision occurs due to :
 - a. Rods
 - b. Cones
 - c. Both
 - d. None
10. Visual cortex is
 - a. Parietal
 - b. Occipital
 - c. Temporal
 - d. Frontal
11. The number of ciliary processes is about:
 - a. 20 - 30
 - b. 50 – 60
 - c. 70 - 80
 - d. 90 – 100
12. Nasolacrimal duct opens into:
 - a. Superior meatus
 - b. Middle meatus
 - c. Inferior meatus
 - d. Maxillary sinus
13. Thinnest wall of orbit is :
 - a. Medial wall
 - b. Floor
 - c. Roof
 - d. Lateral wall
14. Which structure continue to grow in the life time?
 - a. Cornea
 - b. Lens
 - c. Retina
 - d. Iris

Regn. No.....

Paper Code: BO- 103...

B. Sc. OPTO. FIRST YEAR EXAMINATION, JUNE/JULY - 2015
OPTICS
PAPER THREE

[Time allotted: Three hours]

[Max Marks: 70]

Note: Attempt all questions

Draw suitable diagram wherever necessary

A : Short answer questions:

(9 x 7 = 63)

Write short notes on:

- Q. 1.** Snell's law
- Q. 2.** Schematic eye
- Q. 3.** Pediatric vision assessment
- Q. 4.** Anisometropia
- Q. 5.** Presbyopia
- Q. 6.** Simple Transposition
- Q. 7.** Multifocal lenses
- Q. 8.** Fresnel prism
- Q. 9.** Frame types and parts

B. Sc. OPTO. FIRST YEAR EXAMINATION, JUNE/JULY - 2015**OPTICS****PAPER THREE (MCQ)****Time allotted for MCQ- 15 minutes****B : MCQs (Single response type):****(½ x 14= 7)**

Select the most appropriate answer and encircle the alphabet against it

1. Presbyopia is due to:
 - a. Loss of Elasticity of lens capsule
 - b. Weakness of ciliary muscles
 - c. Weakness of suspensory ligament
 - d. All of the above
2. 1 mm shortening of the antero-posterior diameter of the eye results in _____ of hypermetropia
 - a. 3 D
 - b. 6 D
 - c. 4 D
 - d. 1 D
3. In Snell's law.
 - a. Angle of incidence is equal to angle of refraction
 - b. Angle of incidence is greater than angle of refraction
 - c. Angle of refraction is lesser than angle of incidence
 - d. None of the above
4. CR 39 means
 - a. Coloumbous resin
 - b. Columbia resin
 - c. Coated resin
 - d. None of the above
5. In prism
 - a. Rays is always directed toward the apex
 - b. Image is always directed towards the base
 - c. Image is always directed towards the apex
 - d. None of the above
6. In trifocals intermediate power is
 - a. Half of the distance power
 - b. One third of the distance power
 - c. Half of the add power
 - d. None of the above
7. The following transpositions are correct except:
 - a. PL / -2.00 X 180 = -2.00 / +2.00 X 90
 - b. +2.00 / -0.50 X 60 = +2.50 / +0.50 X 150
 - c. +7.00 / -2.00 X 78 = +5.00 / +2.00 X 168
 - d. -0.25 / -3.00 X 50 = -3.25 / +3.00 X 140
8. Light of single wavelength is called
 - a. Monochromatic
 - b. Heterochromatic
 - c. Chromatic
 - d. None of the above
9. Vergence can be positive when
 - a. Diverging light travelling from left to right
 - b. Converging light travelling from left to right
 - c. Converging light travelling from right to light
 - d. None of the above
10. When maxima and minima correspond with each other, resultant is
 - a. Destructive interference
 - b. Constructive interference
 - c. Diffraction
 - d. Polarisation
11. Emmetropia
 - a. Light coming from infinity are focused on retina
 - b. Light coming from infinity are focused behind the retina
 - c. Light coming from infinity are focused on retina with accommodation at rest.
 - d. None of the above
12. In aphakia pupil color is
 - a. Jet brown
 - b. Jet black
 - c. Black
 - d. Grayish
13. Which is not the subjective methods of refraction?
 - a. Duochrome test
 - b. Jackson's cross cylinder test
 - c. Pin-hole test
 - d. Autorefractometer
14. Crutch glasses are useful in
 - a. Trichiasis
 - b. Ptosis
 - c. Entropion
 - d. None of the above

Regn. No.....

Paper Code: BO-104...

B. Sc. OPTO. FIRST YEAR EXAMINATION, JUNE/JULY - 2015
BASIC ORTHOPTICS
PAPER FOUR

[Time allotted: Three hours]

[Max Marks: 70]

Note: Attempt all questions

Draw suitable diagram wherever necessary

A : Short answer questions:

(7 x 9 = 63)

Write Short notes on:

- Q. 1. Development of binocular vision
- Q. 2. Latent squint
- Q. 3. Synaptophore
- Q. 4. Abnormal retinal correspondence
- Q. 5. Hess screen
- Q. 6. Hirschberg test
- Q. 7. Convergence insufficiency
- Q. 8. Tests for stereopsis
- Q. 9. Yolk muscles of eye

B. Sc. OPTO. FIRST YEAR EXAMINATION, JUNE/JULY - 2015
BASIC ORTHOPTICS
PAPER FOUR (MCQ)

Time allotted for MCQ- 15 minutes

B : MCQs (Single response type):

(½ x 14= 7)

Select the most appropriate answer and encircle the alphabet against it

1. Strabismic amblyopia is more common in patients of :
 - a. Intermittent squint
 - b. Alternate squint
 - c. Constant squint
 - d. Latent squint
2. Adduction is caused by all except:
 - a. MR
 - b. SR
 - c. IR
 - d. SO
3. For levoversion the yolk muscles are:
 - a. Rt LR and Lt MR
 - b. Lt LR and Rt MR
 - c. Rt MR and Lt LR
 - d. Lt MR and Rt LR
4. For development of binocular single vision which of the following is required:
 - a. Straight eyes since birth
 - b. Clear vision
 - c. Ability of visual cortex to promote binocular single vision
 - d. All
5. First grade of binocular single vision is :
 - a. Simultaneous perception
 - b. Fusion
 - c. Steropsis
 - d. None
6. Annulus of zinn gives origin to all except:
 - a. SR
 - b. IR
 - c. MR
 - d. IO
7. Test to rule out ARC:
 - a. Bagolini striated glass test
 - b. After image test
 - c. Worth four dot test
 - d. All of the above
8. Hirschberg test is used to detect:
 - a. Squint
 - b. Field defects
 - c. Glaucoma
 - d. Optic atrophy
9. Physiological insufficiency of accommodation is called:
 - a. Asthenopia
 - b. Accommodative squint
 - c. Ammetropia
 - d. Presbyopia
10. Position of pupil is :
 - a. Normally slightly nasal and inferior
 - b. Normally slightly temporal and superior
 - c. Central
 - d. None of the above
11. Synergistic muscle is defined as
 - a. Muscle which have similar primary action in the same eye
 - b. Muscle which have opposite action in the same eye
 - c. Both
 - d. None
12. Method for measurement of AC/A ratio is
 - a. Heterophoria method
 - b. Gradient method
 - c. Haploscopic method
 - d. All of the above
13. The muscle which make an angle of 51 degree with the optical axis is
 - a. SR
 - b. SO
 - c. IR
 - d. LR
14. Near reflex triad consist
 - a. Pupil constriction, divergence and accommodation
 - b. Pupil constriction, convergence and accommodation
 - c. All of the above
 - d. None of the above

Regn. No.....

Paper Code: BO-101

B. Sc. OPTO. FIRST YEAR EXAMINATION, JUNE/JULY - 2016
ANATOMY, PHYSIOLOGY & BIOCHEMISTRY
PAPER FIRST

[Time allotted: Three hours]

[Max Marks: 70]

Note: Attempt all questions

Draw suitable diagram wherever necessary

A : Short answer questions:

(7 x 9 = 63)

ANATOMY

- Q. 1.** Write a note on Anatomy of eyeball.
- Q. 2.** Write about the difference between Artery and Vein.
- Q. 3.** Draw a well labelled diagram of neuron.

PHYSIOLOGY

- Q. 4.** Trace the visual pathway. Explain the effect of lesions at different levels in its course?
- Q. 5.** Write short notes on:
 - a.** Visual cycle
 - b.** Blood groups & significance of cross matching
- Q. 6.** Describe briefly :
 - a.** Circulatory shock and its types
 - b.** Enumerate the hormones secreted from pancreas. Discuss the functions of insulin & its applied aspect

BIOCHEMISTRY

- Q. 7.** How is blood glucose level regulated in the body? What is fasting & random blood sugar? Give their normal ranges.
- Q. 8.** What are the sources of Vitamin A in our diet? Give the biochemical functions and deficiency diseases of Vitamin A.
- Q. 9.** Write short notes on:
 - a.** Ketone bodies and their significance
 - b.** Functions of proteins

B. Sc. OPTO. FIRST YEAR EXAMINATION, JUNE/JULY - 2016
ANATOMY, PHYSIOLOGY & BIOCHEMISTRY
PAPER FIRST (MCQ)

Time allotted for MCQ- 15 minutes

B : MCQs (Single response type):

(½ x 14= 07)

Select the most appropriate answer and encircle the alphabet against it

ANATOMY

1. After decussation the optic nerve called as:
 - a. Optic chiasma
 - b. Optic nerve
 - c. Optic radiation
 - d. Optic tract
2. Ophthalmic artery is branch of:
 - a. External carotid artery
 - b. Internal carotid artery
 - c. Supraorbital artery
 - d. Middle meningeal artery
3. Sella turcica is found in:
 - a. Face
 - b. Neck
 - c. Cranial cavity
 - d. Orbit
4. Multinucleated fiber is:
 - a. Cardiac muscle fiber
 - b. Smooth muscle fiber
 - c. Skeletal muscle fiber
 - d. None of the above
5. Normal consistency of Vitreous humour is:
 - a. Jelly like
 - b. Watery
 - c. Solid
 - d. None
6. Appendix is lies in:
 - a. Left Hypochondrium
 - b. Epigastrium
 - c. Right iliac fossa
 - d. Left iliac fossa
 - e. Flat bone
 - f. Pneumatic bone

PHYSIOLOGY

7. Following are properties of synapse except:
 - a. Delay
 - b. Summation
 - c. Regeneration
 - d. Occlusion
8. Altitude sickness is due to:
 - a. Hypoxic hypoxia
 - b. Histotoxic hypoxia
 - c. Stagnant hypoxia
 - d. Anemic hypoxia
9. All are Striated Muscles except:
 - a. Biceps
 - b. Cardiac Muscle
 - c. Skeletal
 - d. Visceral muscle
10. O +VE Blood group will not have:
 - a. Antigen A
 - b. Antibody A & B
 - c. Antigen A & B
 - d. Antigen B
11. Glasses with convex lenses help to correct:
 - a. Presbyopia.
 - b. Myopia.
 - c. Hypermetropia.
 - d. Astigmatism.
12. Intrinsic factor is required for absorption of:
 - a. Iron
 - b. Vitamin C
 - c. Vitamin B1
 - d. Vitamin B12

BIOCHEMISTRY

13. Deficiency of all can cause anemia **except**:
 - a. Iron
 - b. Calcium
 - c. Vit. B 12
 - d. Folic acid
14. Which mucopolysaccharide is not present in the eye?
 - a. Hyaluronic acid
 - b. Chondroitin sulphate
 - c. Keratan sulphate
 - d. Heparin sulphate

Regn. No.....

Paper Code: BO-102...

B.Sc. OPTO. FIRST YEAR EXAMINATION, JUNE/JULY - 2016
OCULAR ANATOMY & PHYSIOLOGY
PAPER TWO

[Time allotted: Three hours]

[Max Marks: 70]

Note: Attempt all questions

Draw suitable diagram wherever necessary

A : Short answer questions:

(7 x 9 = 63)

Write Short notes on:

- Q. 1.** Anatomy of Lens
- Q. 2.** Anatomy of Cornea
- Q. 3.** Anatomy of Lacrimal apparatus
- Q. 4.** Bones and walls of Orbit.
- Q. 5.** Anatomy of Lids with a labelled diagram.
- Q. 6.** IOP
- Q. 7.** Colour vision
- Q. 8.** Accommodation
- Q. 9.** Extra ocular movements

B.Sc. OPTO. FIRST YEAR EXAMINATION, JUNE/JULY- 2016
OCULAR ANATOMY & PHYSIOLOGY
PAPER TWO (MCQ)

Time allotted for MCQ- 15 minutes

B : MCQs (Single response type):

(½ x 14= 7)

Select the most appropriate answer and encircle the alphabet against it

1. Junction between cornea and conjunctiva
 - a. Iris
 - b. Pupil
 - c. Sclera
 - d. Limbus
2. Sclera is thinnest
 - a. Posteriorly
 - b. Anteriorly
 - c. At the insertion of EOM
 - d. None of the above
3. Uveal tissue constitute
 - a. Nervous coat of the eyeball
 - b. Vascular coat of the eyeball
 - c. Fibrous coat of the eyeball
 - d. None of the above
4. Muscles of pupil are
 - a. Sphincter pupillae
 - b. Muscle
 - c. None of the above
 - d. All of the above
5. Pars plicata is the part of
 - a. Choroid
 - b. Retina
 - c. Ciliary body
 - d. Lens
6. Vascularized tissue of the eye is
 - a. Cornea
 - b. Uvea
 - c. lens
 - d. None of the above
7. ANTAGONIST of medial rectus is
 - a. Superior rectus
 - b. Lateral rectus
 - c. Inferior rectus
 - d. Inferior oblique
8. Cloquet canal runs from
 - a. Lens to optic disc
 - b. Optic disc to orbit
 - c. Iris to ciliary body
 - d. Lens zonules to ciliary body
9. Polycoria, is a condition with
 - a. Jet black pupil
 - b. Leucocoria
 - c. More than one pupil
 - d. None of the above
10. Most sensitive part of retina is
 - a. Optic disc
 - b. Macula
 - c. Fovea
 - d. Oraserrata
11. Lymphatic drainage of conjunctiva goes to
 - a. Submandibular nodes
 - b. Pre-auricular nodes
 - c. All of the above
 - d. None of the above
12. The number of ciliary processes is about:
 - a. 20 - 30
 - b. 50 - 60
 - c. 70 - 80
 - d. 90 - 100
13. Binocular single vision hasgrades
 - a. 4
 - b. 3
 - c. 2
 - d. 5
14. Ciliary ganglion is found in
 - a. Eye ball
 - b. Orbit
 - c. Eyelids
 - d. None

Regn. No.....

Paper Code: BO- 103...

B. Sc. OPTO. FIRST YEAR EXAMINATION, JUNE/JULY - 2016
OPTICS
PAPER THREE

[Time allotted: Three hours]

[Max Marks: 70]

Note: Attempt all questions

Draw suitable diagram wherever necessary

A : Short answer questions:

(9 x 7 = 63)

- Q. 1.** Explain diffraction and its types with diagram.
- Q. 2.** Write about the method used to assess visual acuity among illiterate adults.
- Q. 3.** What is total internal reflection? Where is this principle applied in Ophthalmology?
- Q. 4.** Explain strum's conoid with diagram.
- Q. 5.** Discuss factors affecting visual acuity.
- Q. 6.** Write about Prisms and their uses in Ophthalmology.
- Q. 7.** Explain Huygens wave theory.
- Q. 8.** Explain Donder's reduced eye.
- Q. 9.** Write a note on Aniseikonia.

Regn. No.....

Paper Code: BO- 103...

B. Sc. OPTO. FIRST YEAR EXAMINATION, JUNE/JULY - 2016

**OPTICS
PAPER THREE (MCQ)**

Time allotted for MCQ- 15 minutes

($\frac{1}{2} \times 14 = 7$)

B : MCQs (Single response type):

Select the most appropriate answer and encircle the alphabet against it

1. Wave length of visible portion of light is:
 - a. 400-700 nm
 - b. 300-400 nm
 - c. 700-900 nm
 - d. None of the above
2. Total dioptric power of eye is:
 - a. -40 D
 - b. +40 D
 - c. +60 D
 - d. -60 D
3. Optical axis is:
 - a. Line passing through the centre of cornea, centre of lens and nasal side of fovea
 - b. Line join the fixation Point, nodal point and fovea
 - c. Line join the centre of cornea, lens & optics disc
 - d. Line joining the fixation point and centre of rotation of eye
4. Positive angle kappa is seen in:
 - a. Pseudo exotropia
 - b. Myopia
 - c. Both
 - d. None of the above
5. Length of eye ball is:
 - a. 12 mm
 - b. 16 mm
 - c. 20 mm
 - d. 24 mm
6. Huygen's principle is seen in:
 - a. Polarisation
 - b. Diffraction
 - c. Reflection
 - d. Refraction
7. LASER:
 - a. Light amplification by stimulated emission of radiation
 - b. Light assisted by stimulated emission of radiation
 - c. Light assisted solar emission of radiation
 - d. None of the above
8. When ray is refracted from denser media to rarer media:
 - a. Refracted ray bends away from the normal
 - b. Refracted ray bends towards the normal
 - c. Ray does not deviate
 - d. None of the above
9. Centrad is:
 - a. Measurement of angular deviation of ray by a Prism
 - b. Denotes the strength of prism
 - c. Equivalent to 34.37747
 - d. All of the above
10. Prism are used in all ophthalmic instruments except:
 - a. Applanation tonometer
 - b. Keratometer
 - c. Koppe's gonioscope
 - d. Direct Ophthalmoscope
11. If the object is situated at infinite, the image formed by a convex lens is:
 - a. At the focal point
 - b. Center of curvature
 - c. Infinite
 - d. None of the above
12. Potential visual acuity meter is used for assessing :
 - a. Vision
 - b. Color vision
 - c. IOL power
 - d. Intraocular pressure
13. Degree of hypermetropia corrected by patient's accommodation effort is known as:
 - a. Facultative hypermetropia
 - b. Absolute hypermetropia
 - c. Manifest hypermetropia
 - d. None of the above
14. Axis myopia occurs due to :
 - a. Long eyeball
 - b. Strong dioptric power of eye
 - c. More curved cornea
 - d. Excessive use of accommodation

Regn. No.....

Paper Code: BO-104...

B. Sc. OPTO. FIRST YEAR EXAMINATION, JUNE/JULY - 2016
BASIC ORTHOPTICS
PAPER FOUR

[Time allotted: Three hours]

[Max Marks: 70]

Note: Attempt all questions

Draw suitable diagram wherever necessary

A : Short answer questions:

(7 x 9 = 63)

Write Short notes on:

- Q. 1.** Superior oblique muscle
- Q. 2.** Titmus stereo test
- Q. 3.** Grades of binocular vision
- Q. 4.** Types of suppression
- Q. 5.** Esotropia
- Q. 6.** Near point of convergence
- Q. 7.** AC/A ratio
- Q. 8.** Anomalies of accommodation
- Q. 9.** Angle kappa

B. Sc. OPTO. FIRST YEAR EXAMINATION, JUNE/JULY - 2016
BASIC ORTHOPTICS
PAPER FOUR (MCQ)

Time allotted for MCQ- 15 minutes

B : MCQs (Single response type):

(½ x 14= 7)

Select the most appropriate answer and encircle the alphabet against it

1. Inferior rectus inserts:
 - a. 6.6mm from limbus
 - b. 5.5mm from limbus
 - c. 7.5mm from limbus
 - d. 8.5mm from limbus
2. Third grade of binocular single vision is:
 - a. Fusion
 - b. Stereopsis
 - c. Simultaneous perception
 - d. None of the above
3. Critical period of visual development is:
 - a. First 2 months
 - b. First 1 year
 - c. First 3 years
 - d. None of the above
4. Normal values of NPC are:
 - a. 5-10cm
 - b. 7-10cm
 - c. 3-10cm
 - d. 3-7cm
5. At age of 45 years, near point is:
 - a. 25cm
 - b. 33cm
 - c. 7cm
 - d. 50cm
6. Quantitative measurement of actions of extraocular muscles is done by:
 - a. Hess screen
 - b. Lees screen
 - c. Lancaster red-green test
 - d. All of the above
7. Sensory adaptation includes:
 - a. Suppression
 - b. Monofixation syndrome
 - c. Amblyopia
 - d. All of the above
8. Uncrossed diplopia seen in :
 - a. Exotropia
 - b. Esotropia
 - c. Hypotropia
 - d. Hypertropia
9. Position of rest of eye normally is:
 - a. Convergent
 - b. Divergent
 - c. Intorted
 - d. Extorted
10. Hess screen :
 - a. Aids in diagnosis of ocular motility defects
 - b. Measures the deviation
 - c. Measures overaction of muscles
 - d. All of the above
11. Direct cover test confirms presence of:
 - a. Latent deviation
 - b. Paralytic squint
 - c. Manifest squint
 - d. Cyclodeviation
12. In Hirschberg test if corneal reflex is at limbus angle of squint is:
 - a. 7
 - b. 30
 - c. 45
 - d. 15
13. Chances of ARC are more if squint develops between age of:
 - a. 7-12yrs
 - b. 13-16yrs
 - c. 1-6yrs
 - d. 16-17yrs
14. Types of amblyopia are:
 - a. Strabismic
 - b. Anisometropic
 - c. Sensory deprivation
 - d. All of the above

Regn. No.....

lib
Paper Code: BOPT-101

B. Sc. OPTO. FIRST YEAR EXAMINATION, JUNE/JULY - 2017
ANATOMY, PHYSIOLOGY & BIOCHEMISTRY
PAPER FIRST

[Time allotted: Three hours]

[Max Marks: 70]

Note: Attempt all questions

Draw suitable diagram wherever necessary

A : Short answer questions:

(7 x 9 = 63)

ANATOMY

- Q. 1. Write about development of eye.
- Q. 2. Write about anatomy of eyeball.
- Q. 3. Explain the difference between skeletal, smooth & cardiac muscle.

PHYSIOLOGY

- Q. 4. Explain the direct and indirect light reflex with their pathways. What is Argyll Robertson pupil?
- Q. 5. Write short notes on:
 - a. Dark and light adaptation
 - b. Mechanics of respiration
 - c. Haemostasis
- Q. 6. Describe briefly:
 - a. Circulatory shock and its types
 - b. Enumerate the hormones secreted from pituitary. Discuss the functions of Thyroxine hormone.

BIOCHEMISTRY

- Q. 7. Classify lipids. Name the important products synthesized from cholesterol.
- Q. 8. Write short notes on:
 - a. Plasma proteins
 - b. Nucleic acids
- Q. 9. What are mucopolysaccharide? Explain with examples and their biological significance.

B. Sc. OPTO. FIRST YEAR EXAMINATION, JUNE/JULY - 2017
ANATOMY, PHYSIOLOGY & BIOCHEMISTRY
PAPER FIRST (MCQ)

Time allotted for MCQ- 15 minutes

B : MCQs (Single response type):

(½ x 14= 07)

Select the most appropriate answer and encircle the alphabet against it :

ANATOMY

1. Thin skin is found in:
 - a. Sole
 - b. Eyelid
 - c. Sole & palm
 - d. Palm
2. Optic chiasma is formed in:
 - a. In neck
 - b. In bony orbit
 - c. In eye ball
 - d. In cranial cavity
3. Retina has:
 - a. 11 layers
 - b. 10 layers
 - c. 12 layers
 - d. 09 layers
4. Nerve of vision is:
 - a. Occulomotor
 - b. Optic
 - c. Trochlear
 - d. Abducent
5. Maxilla is an example of:
 - a. Sesamoid bone
 - b. Long bone
 - c. Flat bone
 - d. Pneumatic bone
6. Normal consistency of aqueous humour is:
 - a. Jelly like
 - b. Watery
 - c. Solid
 - d. None

PHYSIOLOGY

7. Following are properties of synapse except:
 - a. Delay
 - b. Summation
 - c. Regeneration
 - d. Occlusion

8. Bluish discoloration of skin and mucosal membrane is called as:
 - a. Asphyxia
 - b. Anemia
 - c. Cyanosis
 - d. Dyspnea
9. All are involuntary muscles except:
 - a. Biceps
 - b. Cardiac muscle
 - c. Multiunit smooth muscle
 - d. Visceral muscle
10. AB +ve blood group will not have:
 - a. Antigen A
 - b. Antibody A & B
 - c. Antigen A & B
 - d. Antigen B
11. Glasses with cylindrical lenses help to correct:
 - a. Presbyopia.
 - b. Myopia.
 - c. Hyperopia.
 - d. Astigmatism.
12. Intrinsic factor is required for absorption of:
 - a. Iron
 - b. Vitamin C
 - c. Vitamin B1
 - d. Vitamin B12

BIOCHEMISTRY

13. Glycogen is a polymer of:
 - a. Glucose
 - b. Sucrose
 - c. Fructose
 - d. Galactose
14. Semi-essential fatty acid is:
 - a. Linoleic acid
 - b. Linolenic acid
 - c. Arachidonic acid
 - d. Palmitic acid

Regn. No.....

Paper Code: BOPT-102...

B. OPTOM. FIRST YEAR EXAMINATION, JUNE/JULY - 2017
OCULAR ANATOMY & PHYSIOLOGY

[Time allotted: Three hours]

[Max Marks: 70]

Note: Attempt all questions

Draw suitable diagrams wherever necessary

A : Short answer questions:

(7 x 9 = 63)

Write short notes on the following:

- Q. 1. Parts of optic nerve
- Q. 2. Transparency of cornea
- Q. 3. Blood supply of uveal tract
- Q. 4. Ocular movements
- Q. 5. Nerve supply of cornea
- Q. 6. Lymphatic drainage of conjunctiva
- Q. 7. Muscles of lids
- Q. 8. Colour vision
- Q. 9. Yoke muscles

B. OPTOM. FIRST YEAR EXAMINATION, JUNE/JULY - 2017
OCULAR ANATOMY & PHYSIOLOGY
(MCQ)

Time allotted for MCQ - 15 minutes

B : MCQs (Single response type):

(½ x 14= 7)

Select the most appropriate answer and encircle the alphabet against it.

1. Thickness of cornea at periphery:
 - a. 1.0 mm
 - b. 0.75 mm
 - c. 5.2 mm
 - d. 0.5 mm
2. Diameter of lens is:
 - a. 11 mm
 - b. 10 mm
 - c. 5 mm
 - d. 6 mm
3. Lens capsule is thinnest at:
 - a. Posterior pole
 - b. Equator
 - c. Midperiphery
 - d. Anterior pole
4. Thinnest wall of orbit is:
 - a. Roof
 - b. Medial
 - c. Floor
 - d. Lateral
5. True about adenoid layer:
 - a. Not present at birth
 - b. Develops after 1 year
 - c. Most developed in bulbar conjunctiva
 - d. None
6. 4th cranial nerve supply is:
 - a. Lateral rectus
 - b. Inferior oblique
 - c. Superior oblique
 - d. Superior rectus
7. Lymphatic drainage of medial conjunctiva goes to:
 - a. Submandibular nodes
 - b. Preauricular nodes
 - c. All of the above
 - d. None of the above
8. Refractive index of lens is:
 - a. 1.39
 - b. 1.37
 - c. 1.31
 - d. 1.32
9. Lacrimal gland is located on:
 - a. Medial side
 - b. Superotemporal
 - c. Inferior
 - d. Nasal
10. 6th cranial nerve supply is:
 - a. Lateral rectus
 - b. Inferior oblique
 - c. Superior oblique
 - d. Superior rectus
11. Medial rectus inserts:
 - a. 6.6 mm from limbus
 - b. 5.5 mm from limbus
 - c. 7.5 mm from limbus
 - d. 8.5 mm from limbus
12. Which is outer most part of the tear film?
 - a. Aqueous
 - b. Mucin
 - c. Lipid
 - d. All of the above
13. Medial rectus is:
 - a. Adductor
 - b. Abductor
 - c. Elevator
 - d. Depressor
14. Orbital volume is:
 - a. 30 cc
 - b. 20 cc
 - c. 10 cc
 - d. 12 cc

Regn. No.....

Paper Code: BOPT- 103...

B. OPTOM. FIRST YEAR EXAMINATION, JUNE/JULY - 2017
OPTICS

[Time allotted: Three hours]

[Max Marks: 70]

Note: Attempt all questions
Draw suitable diagrams wherever necessary

A : Short answer questions:

(9 x 7 = 63)

Write notes on the following -

- Q. 1. Interference.
- Q. 2. Principles of reflection.
- Q. 3. Spherical aberrations.
- Q. 4. Donder's reduced eye.
- Q. 5. Image formation through a biconvex lens.
- Q. 6. Total internal reflection.
- Q. 7. Simple transposition.
- Q. 8. Anisoconia.
- Q. 9. Optics of prism and its application in ophthalmology.

B. OPTOM. FIRST YEAR EXAMINATION, JUNE/JULY - 2017**OPTICS
(MCQ)****Time allotted for MCQ - 15 minutes****B : MCQs (Single response type):****(½ x 14= 7)**Select the most appropriate answer and **encircle** the alphabet against it

1. Which is **not** an error of refraction :
 - a. Myopia & hypermetropia
 - b. Presbyopia
 - c. Astigmatism
 - d. None of the above
2. In concave lenses:
 - a. The centre is thick and the periphery is thin
 - b. The object appears magnified when held close to it
 - c. Image moves with the direction of the movement of the lens
 - d. All of the above
3. When ray is refracted from rarer media to denser media:
 - a. Refracted ray bends away from the normal
 - b. Refracted ray bends towards the normal
 - c. Ray does not deviate
 - d. None of the above
4. AGAINST movement red reflex is neutralized by:
 - a. Plano
 - b. Cylindrical
 - c. Concave lenses
 - d. Convex
5. In emmetropia:
 - a. Light coming from infinity are focused on retina
 - b. Light coming from infinity are focused behind the retina
 - c. Light coming from infinity are focused on retina with accommodation at rest.
 - d. None of the above
6. The factors responsible for corneal transparency **do not** include:
 - a. The cornea is vascular
 - b. The cornea contain high population of goblet cell
 - c. The stroma is formed of fine collagenous fiber of the refractive index.
 - d. The cornea is detergescent
7. What is the optimal size of pinhole?
 - a. 1.5 mm
 - b. 2.0 mm
 - c. 0.5 mm
 - d. 0.3 mm
8. Objective method of retinoscopy does **not** include:
 - a. Autorefractometer
 - b. Keratometry
 - c. Placido disc
 - d. Retinoscopy
9. The following refers to the amount of light arriving at a given point:
 - a. Illuminance
 - b. Brightness
 - c. Shininess
 - d. None
10. The image formed by a prism is:
 - a. Magnified
 - b. Laterally inverted
 - c. Deviated towards the apex
 - d. None
11. The catoptric images :
 - a. Are formed at the refracting interfaces of the eye
 - b. Can be used to measure the ocular accommodation
 - c. Are all virtual images
 - d. Are all erect images
12. Interferometry refers to the technique of estimation:
 - a. Glaucoma
 - b. Visual acuity
 - c. Mature cataract
 - d. None of the above
13. Light ray passing through a prism obeys :
 - a. Donder law
 - b. Snell law
 - c. Listing law
 - d. Hering law
14. Light of single wavelength is called:
 - a. Monochromatic
 - b. Heterochromatic
 - c. Chromatic
 - d. None of the above

Regn. No.....

Paper Code: BOPT-104...

B. OPTOM. FIRST YEAR EXAMINATION, JUNE/JULY - 2017
BASIC ORTHOPTICS

[Time allotted: Three hours]

[Max Marks: 70]

Note: Attempt all questions

Draw suitable diagrams wherever necessary

A : Short answer questions:

(7 x 9 = 63)

Write short notes on the following:

- Q. 1. Test for suppression.
- Q. 2. Etiopathogenesis of strabismus.
- Q. 3. Synaptophore.
- Q. 4. Abnormal retinal correspondence.
- Q. 5. Panum's area.
- Q. 6. WFDT.
- Q. 7. AC/A ratio.
- Q. 8. Asthenopia.
- Q. 9. Stereopsis.

B. OPTOM. FIRST YEAR EXAMINATION, JUNE/JULY - 2017
BASIC ORTHOPTICS
(MCQ)

Time allotted for MCQ - 15 minutes

B : MCQs (Single response type):

(½ x 14= 7)

Select the most appropriate answer and encircle the alphabet against it:

1. At birth the eye is:
 - a. Myopic
 - b. Hypermetropic
 - c. Emmetropic
 - d. None of the above
2. Amblyopia can be due to:
 - a. Congenital cataract
 - b. Alternate squint
 - c. None of the above
 - d. All of the above
3. Abduction is caused by all except:
 - a. LR
 - b. IR
 - c. SO
 - d. IO
4. For levoversion the yoke muscles(s) are:
 - a. Rt LR and Lt MR
 - b. Lt LR and Rt MR
 - c. Rt MR only
 - d. Lt MR only
5. For development of binocular single vision which of the following is required:
 - a. Straight eyes since birth
 - b. Clear vision
 - c. Ability of visual cortex to promote binocular single vision
 - d. All of the above
6. First grade of binocular single vision is:
 - a. Simultaneous perception
 - b. Fusion
 - c. Steropsis
 - d. None
7. Shortest muscle is:
 - a. SR
 - b. IR
 - c. MR
 - d. IO
8. In double Maddox rod test patient will see :
 - a. At point light source at near or distant target
 - b. Used for testing cyclophoria
 - c. Used for testing ARC
 - d. Both a and b as above
9. Test to rule out diplopia:
 - a. Bagolini striated glass test
 - b. After image test
 - c. Worth four dot test
 - d. All of the above
10. Hirschberg test is used to detect:
 - a. Squint
 - b. Field defects
 - c. Glaucoma
 - d. Optic atrophy
11. Physiological insufficiency of accommodation is called:
 - a. Asthenopia
 - b. Accommodative squint
 - c. Ammetropia
 - d. Presbyopia
12. Action of inferior oblique is:
 - a. Intorsion
 - b. Extorsion
 - c. Convergence
 - d. None of the above
13. RLR & LMR act as yoke muscle for :
 - a. Levoversion
 - b. Dextroversion
 - c. Levodepression
 - d. Cycloversion
14. Test to rule out ARC is:
 - a. WFDT
 - b. 4 prism base out test
 - c. After image
 - d. None of the above