



ARKAJAIN
University
Jharkhand

21

2nd Semester End Term Examination: 2021-22.

Subject : Ocular Physiology

Roll No:

Course : B. Optometry

Full Marks : 50

Time : 3 Hours.

Instructions to the Candidates:

- Read the question paper very carefully.
- Start writing from 2nd page onwards; **Don't Write On The 1st Page Backside.**
- Question Paper is divided into Three Parts -A, B & C.
- Part-A is containing 10 multiple choice questions.
- Part- B containing SIX questions out of which FOUR questions are to be answered.
- Part C containing FOUR questions out of which TWO questions are to be answered.
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PART - A

Multiple Choice Questions

[10x1=10]

1. The size of normal pupil is
a) 2-4mm
b) 1-2mm
c) 5-8mm
d) None of these
2. The Outermost layer of tear film is
a) Aqueous
b) Lipid
c) Mucin
d) Amino acid
3. The primary colours are all except
a) Yellow
b) Blue
c) Red
d) Green
4. Gland of Wolf ring is a _____ gland
a) Lacrimal
b) Salivary
c) Accessory
d) Pituitary
5. Dioptric value of cornea is _____
a) - 40 D
b) +15D
c) +43 D
d) -17D
6. The muscle responsible for Blinking of eye
a) Medial Rectus
b) Ciliary Muscle
c) Sphincter Pupillae
d) Orbicularis oculi

7. Nerve supply of Cornea is _____ nerve
- a) Oculomotor
 - b) Optic
 - c) Trigeminal
 - d) Trochlear
8. Depth of anterior chamber is
- a) 2.5mm
 - b) 3mm
 - c) 3.5mm
 - d) 4mm
9. Light peak is
- a) Light-sensitive
 - b) Light-insensitive
 - c) Both
 - d) None of these
10. _____ is the fibrous coat
- a) Cornea
 - b) Retina
 - c) Sclera
 - d) Uvea

PART - B

Answer any FOUR out of SIX

[4x5=20]

1. Write a short note on protective mechanisms of human eye.
2. VEP
3. Structural and optical changes that occur with accommodation.
4. Advantages of Binocular Single Vision.
5. Coats of eyeball
6. Write a short note on ocular movements.

PART - C

Answer any TWO out of FOUR

[2x10=20]

1. Write a detailed answer on Extra ocular muscles, their actions and nerve supply..
2. Draw the diagram of Visual pathway and explain it.
3. Explain the theories of colour vision
4. Explain corneal transparency

1-c-7



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PART - A

Multiple Choice Questions

[10x1=10]

1. Antero posterior diameter of eyeball is.
a) 21 mm
b) 27 mm
c) 40 mm
d) 24 mm
2. Choroid is a _____ layer
a) Vascular
b) Membranous
c) Crystalline layer
d) Muscular layer
3. Meibomian glands are
a) Endocrine glands
b) Modified sebaceous glands
c) Modified sweat glands
d) None of the above.
4. Sclera has
a) 2 parts
b) 3 parts
c) 5 parts
d) 6 parts
5. Middle vascular coat of eyeball consists of following except.
a) Choroid
b) Ciliary Body
c) Iris
d) Retina

6. The lacrimal gland is located in the _____ part of the root of the orbit
- a) Antero lateral
 - b) Lateral
 - c) Iris
 - d) Retina
7. End of spinal cord is called
- a) Pars plicata
 - b) Medulla oblongata
 - c) Conus medullaris
 - d) Pons
8. Adduction is caused by _____
- a) LR
 - b) MR
 - c) SO
 - d) IR
9. Fovea centralis is a depressed oval structure located _____ to optic disc
- a) Nasal
 - b) Temporal
 - c) Superior
 - d) Inferior
10. Formation of aqueous humor is by
- a) Ciliary muscle
 - b) Ciliary process
 - c) Choroid
 - d) Retina

PART - B

Answer any FOUR out of SIX

[4x5=20]

1. Parts of Conjunctiva.
2. Actions of EOM.
3. Short note on Cerebrum & Brain stem.
4. Crystalline lens.
5. Structure of cornea.
6. Lacrimal apparatus diagram.

PART - C

Answer any TWO out of FOUR

[2x10=20]

1. Explain in brief about Spinal cord.
2. Explain the various muscles of the eyelid.
3. Write in details about Segment of the eye.
4. Write in details about tear production.

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PART - A

Multiple Choice Questions

[10x1=10]

1. A type of collagen named Vitrosin is found in.
a) Vitreous humour
b) corneal stroma
c) Lens cortex
d) Aquous humour
2. Example of second order neuron is
a) Ganglion cell
b) Amacrine
c) Bipolar cell
d) Horizontal cell
3. Pigment Lutin is found within.....
a) Macula
b) Optic nerve
c) Pupil
d) Uvea.
4. pH of Tear in open eye condition is.....
a) 8
b) 2
c) 7
d) 11
5. Total number of cranial nerves is.
a) Ten
b) Twelve
c) Thirty
d) None

6. Corneal hydration is maintained by
a) Stroma
b) Bowman's
c) Epithelium
d) Endothelium
7. Obesity may lead to
a) Diabetes
b) Hypertension
c) Both
d) None
8. Anti Diuretic Hormones is also called as
a) Prolactin
b) Aldosterone
c) Vasopressin
d) None of the above
9. Inactive Trypsinogen is converted into active Trypsin by
a) Enteropeptidase
b) Enteroreductase
c) Enterokinase
d) None
10. RI of cornea is
a) 1.33
b) 1.37
c) 1.87
d) 1.1

PART - B

Answer any FOUR out of SIX

[4x5=20]

1. Immune system of anterior segment.
2. Application of radioisotope in medicine.
3. Write short notes on serum creatinin and urea.
4. What is bilirubin? Write short notes on Gilbert syndrome.
5. Dialysis.
6. Describe emulsions briefly.

PART - C

Answer any TWO out of FOUR

[2x10=20]

1. Explain function and composition of Tears.
2. Explain Diabetes and its metabolic regulation.
3. Explain carbohydrates and its metabolism.
4. Explain Hormone and its metabolism.

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1-c-7



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2nd Semester End Term Examination: 2021-22.

Subject : Geometrical Optics 2
Course : B. Optometry
Full Marks : 50
Roll No:
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PART - A

Multiple Choice Questions

[10x1=10]

1. The average axial length of human eyeball is
a) 24mm
b) 12mm
c) 58mm
d) None of these
2. The ___ has the refractive power of +43 D
a) Aqueous
b) Tear film
c) Cornea
d) Vitreous
3. IOL stands for
a) Inter orbital lesion
b) Intra ocular Lens
c) Immediate ocular label
d) None of the above
4. ___ means artificial lens has been implanted
a) Pseudophakic
b) Aphakic
c) Ametropic
d) Emmetropic
5. Dioptic value of lens is ___
a) -17D
b) +15D
c) +43D
d) +17D
6. Manifest hyperopia includes ___
a) Absolute Hyperopia
b) Ciliary Hyperopia
c) Facultative Hyperopia
d) Both a and c

7. means unequal power in both eyes
- a) Ametropia
 - b) Anisometropia
 - c) Amblyopia
 - d) Astigmatism
8. _____ is the chart used in pediatric age group
- a) Lea symbol
 - b) Allen Picture cards
 - c) Teller Acuity
 - d) All of the above
9. _____ occurs in nuclear cataract cases, which is a kind of index myopia
- a) Myopic shift
 - b) Sclerosis
 - c) Both
 - d) None of these
10. _____ causes cycloplegia
- a) Antibiotics
 - b) Mydriatics
 - c) Cycloplegics
 - d) None of the above

PART - B

Answer any FOUR out of SIX

[4x5=20]

1. Write a short note on vergence.
2. Components of Visual acuity.
3. Irregular astigmatism- Describe
4. Write briefly about Aphakia.
5. Mention the factors affecting visual acuity
6. Near vision charts.

PART - C

Answer any TWO out of FOUR

[2x10=20]

1. Draw a detailed diagram of schematic and reduced eye.
2. Susan needs +2.00 D to see distance clearly. However, she can tolerate up to +4.00D without getting blurred distance vision. Her cycloplegic refraction is +6.00D sphere. What are the values in dioptries of her?
 - a) Absolute
 - b) Manifest
 - c) Facultative
 - d) Latent
3. Classify various types of Regular astigmatism.
4. Explain Presbyopia with reference to Accommodation.

19/07



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 - None of these
10. _____ causes cycloplegia
- Antibiotics
 - Mydriatics
 - Cycloplegics
 - None of the above

PART - B

[4x5=20]

Ans ver any **FOUR out of **SIX****

- Write a short note on vergence.
- Components of Visual acuity.
- Irregular astigmatism- Describe
- Write briefly about Aphakia.
- Mention the factors affecting visual acuity
- Near vision charts.

PART - C

[2x10=20]

Ans ver any **TWO out of **FOUR****

- Draw a detailed diagram of schematic and reduced eye.
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