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0718E336

Candidate's Seat No : _____

Second Year B.Optomety Examination
Basic Optics (Dispensing Optics I & Optometric Optics)

Date : 24-07-2019, Wednesday]

[Max. Marks : 80

[Time : 3 Hours

- Instructions :** (1) Figure to the right indicates marks.
(2) Draw diagram wherever necessary.
(3) Write legibly.
(4) Use separate answer books for each section.

SECTION A:

Q-1 A. Write in short: (05 Marks)

1. Explain the features of amber tint.
2. Explain VPS technology?
3. Explain about Experio lens.
4. Explain gold flash coating on frame
5. Explain disadvantage of Benjamin bifocal

Q.1 B Fill in the blanks: (05 marks)

1. Power of the lens is $+4.50\text{Dcyl X } 90^\circ$, lens is decentered 2mm Up, _____ is the prismatic effect.
2. Specific Gravity of Polycarbonate is _____.
3. Omni focal lens means _____.
4. In Glass photo chromatic lenses, the grain size of silver halide is _____.
5. Airwear in Essilor lenses means _____ Material.

Q.2 Write in detail: (any five) (30 Marks)

1. What are the difficulties faced by patient wearing progressive spectacle for the first time and how will you manage them.
2. What are the guidelines for selecting frame and lens shape.
3. Write a note on A. Recumbent spectacles
B. Hemianopic spectacles

[P.T.O.]

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C. Swimming goggles

4. Note on Gold as a spectacle frame material.
5. Explain faults in lens material and its surface.
6. Write a note on glazing of ophthalmic lenses

SECTION B

Q.3 A Write about each of the following

(05 Marks)

1. Anti-fog lenses
2. Dielectric coating
3. Aluminum frame
4. Polaroid lens
5. Abbe value of polycarbonate

Q.3 B fill in the blanks

(05 Marks)

1. _____ is a latest lens material, which is more advance than polycarbonate
2. _____ is the abbe value of trivex.
3. _____ is known as base curve
4. Jack in the box phenomenon is seen in _____ condition.
5. _____ is the use of polariscope.

Q. 4 Write notes on any five out of six (with details and diagrams)

(30 Marks)

1. Write a note on photochromic glasses.
 2. Write a note on temporary and permanent marking on progressive lenses.
 3. Write a note on Polaroid glasses.
 4. Write a note on different types of glare and its management.
 5. Write a note on any four types of bifocal glasses.
 6. Mirror coating.
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0718E347

Candidate's Seat No : _____

Second Year B.Optomety Examination
Pharmacology & Nutrition

Date : 26-07-2019, Friday]
[Time : 3 Hours

[Max. Marks : 80

- Instructions :** (1) Figure to the right indicates marks.
(2) Draw diagram wherever necessary.
(3) Write legibly.
(4) Use separate answer books for each section.

SECTION-1

Q1. Choose one correct answer:

10 marks

1. The effect of pilocarpine include all EXCEPT:
 - a) increased tension in the zonules
 - b) increased incidence of retinal tear
 - c) contraction of the ciliary body
 - d) increased thickness of the lens

2. True statement about carbonic anhydrase inhibitors include:
 - a) at least 50% of the carbonic anhydrase needs to be inhibited before the intraocular pressure shows a significant drop
 - b) they inhibit carbonic anhydrase found in the non-pigmentary ciliary epithelium.
 - c) transient hypermetropia is a feature
 - d) it can cause thinning of the cornea if given topically

3. The following is FALSE about latanoprost:
 - a) it is a prostaglandin F2a analogue
 - b) it causes conjunctival hyperaemia
 - c) it causes miosis
 - d) it causes a breakdown of the blood ocular barrier

4. The following anti-epileptic drugs can cause visual field defect:
 - a) carbamazepine
 - b) phenytoin
 - c) sodium valporate
 - d) vigabatrin

5. A highly ionized drug
 - a) Is excreted mainly by the kidneys
 - b) Crosses the placental barrier easily
 - c) Is well absorbed from the intestine
 - d) Is highly protein bound

[P.T.O.]

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6. Atropine mediates cycloplegia by acting on which receptor in the eye

- a) alpha adrenergic receptor
- b) GABA receptor
- c) nicotinic cholinergic receptor
- d) muscarinic cholinergic receptor

7. The most widely used ocular anaesthetic is

- a) cocaine
- b) lignocaine
- c) benzocaine
- d) Bupivacaine

8. Cephalosporin of choice for treatment of pseudomonas infection

- a) cefotaxime
- b) ceftazidime
- c) cefixime
- d) cefuroxime

9. The drug of choice for the treatment of Night blindness in a child is

- a) Vitamin D
- b) Vitamin C
- c) Vitamin E
- d) Vitamin A

10. All of the following are adverse effects of steroid on long term use except:

- a) Fall in intraocular pressure.
- b) Thinning of sclera
- c) Cataract
- d) Delayed wound healing

Q2. Answer the following questions (5 out of 6) (6 marks each)

30 marks

- a. Tropicamide
- b. Timolol in glaucoma
- c. Antiseptic and disinfectants
- d. Tetracyclines
- e. Factors affecting drug absorption
- f. Contact lens solution

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SECTION-2

Q-3 Choose one correct answer:

10 marks

1. Ratio of LD50 to ED50 indicates:
 - a) Margin of safety
 - b) Duration of drug action
 - c) Time of onset of action
 - d) Volume of distribution

2. Oral route has all of the following advantages, EXCEPT
 - a) Economical
 - b) Safe
 - c) Suitable for emergency
 - d) Ease of administration

3. Sublingual route of administration is suitable for:
 - a) Noradrenaline
 - b) Glyceryl trinitrate
 - c) Propranolol
 - d) Benzyl penicillin

4. Receptors are usually:
 - a) Lipids
 - b) Proteins
 - c) DNA
 - d) Carbohydrates

5. The most effective drug to treat trachoma in an Child is
 - a) Penicillin G
 - b) Ciprofloxacin
 - c) Tetracycline
 - d) Sulphacetamide Sodium

6. The drug which is given in as Ocusert is
 - a) Pilocarpine
 - b) Atropine
 - c) Physostigmine
 - d) Homatropine

[P.T.O.]

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7. Which of the following is not the function of dietary fibers:

- a) To decrease blood cholesterol level
- b) To increase peristaltic movements of intestine
- c) To decrease the mass of feces
- d) To decrease the chances of colon cancer

8. Highest SDA is observe in which food stuffs:

- a) Protein rich
- b) Lipid rich
- c) Carbohydrate rich
- d) Fiber rich

9. Cataract occurs due to the deposition of:

- a) Inositol
- b) Lipositol
- c) Sorbitol
- d) All of the above

10. Goiter occurs due to the deficiency of:

- a) Copper
- b) Magnesium
- c) Iron
- d) Iodine

Q-4 Answer the following (5 out of 6)

(6 marks each)

(30 marks)

- a. Ophthalmic dyes
 - b. Vitamin A in eye
 - c. Management of dry eye
 - d. Management of keratitis
 - e. Zero order drug delivery system
 - f. Corticosteroids in eye
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**Second Year B.Optomtry Examination
Pathology & Microbiology**

Date : 30-07-2019, Tuesday]

[Max. Marks : 80

[Time : 3 Hours

- Instructions :** (1) Figure to the right indicates marks.
(2) Draw diagram wherever necessary.
(3) Write legibly.
(4) Use separate answer books for each section.

Section: I (Pathology)

Q: 1 Write the most appropriate answer

10

1. The rarely metastasizing tumour is:
 - a) Adenocarcinoma
 - b) Basal cell carcinoma
 - c) Squamous cell carcinoma
 - d) Melanoma
2. After extravasating from the blood, leukocytes migrate toward sites of infection or injury by a process called:
 - a) Phagocytosis
 - b) Diapedesis
 - c) Margination
 - d) Chemotaxis
3. Tumour stage is based on all of the following EXCEPT:
 - a) Extent of spread to regional lymphnodes
 - b) Size of primary lesion
 - c) Degree of differentiation
 - d) Blood borne metastasis
4. Following test denotes the coagulation factor deficiency of extrinsic pathway:
 - a) Activated partial thromboplastin time
 - b) Bleeding time
 - c) Thrombin time
 - d) Prothrombin time
5. All of the following are tissue fixatives EXCEPT:
 - a) Formalin
 - b) Xylene
 - c) Bouin's fluid
 - d) Zenker's fluid
6. Metaplasia is characterized by:
 - a) Increase in the size of cells
 - b) Shrinkage in the size of the cells
 - c) Increase in the number of cells
 - d) Replacement of one adult cell type by another adult cell type

(P.T.O.)

0719E357(a)

7. Pick up macrocytic anemia from the following:
 - a) Iron deficiency anemia
 - b) β - thalassemia trait
 - c) Megaloblastic anemia
 - d) Anemia of chronic diseases
8. Molluscum contagiosum of the eyelid is:
 - a) Viral infection
 - b) Malignant tumour
 - c) Benign tumour
 - d) Parasitic infection
9. Which of the following is X-linked recessive disorder?
 - a) Hemophilia A
 - b) Sickle cell anemia
 - c) β - thalassemia
 - d) Neurofibromatosis
10. Following pigment is deficient in albinism:
 - a) Hemozoin
 - b) Bilirubin
 - c) Lipofuscin
 - d) Melanin

Q-2: Write notes on (Any Five)

30

1. Biochemical examination of urine
2. Retinoblastoma
3. Diabetic retinopathy
4. Pathophysiology of glaucoma
5. Eye changes associated with Vitamin A deficiency
6. Chronic myeloid leukemia

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SECTION B: Microbiology

3. Choose the correct answer from following Multiple Choice Questions. (10)

1. When examined microscopically, the Staphylococci are arranged characteristically in
(a) Grape-like cluster (b) Chains (c) Pairs (d) Singly
2. The ocular lesion producing platyhelminths is
(a) Taenia solium (b) Diphyllbothrium latum (c) Ecchinococcus granulosus (d) Hymenolepis nana
3. The parasite causing chronic keratitis in contact lens user is
(a) Acanthamoeba (b) E. histolytica (c) N. fowleri (d) B. coli
4. The pyocyanin pigment which impart bluish-green colour on Nutrient agar is produced by
(a) Pseudomonas aeruginosa (b) Staphylococcus aureus (c) Gonococci (d) Pneumococci
5. All of the following are examples of RNA possessing Human Viruses EXCEPT
(a) Picornavirus (b) Flavivirus (c) Adenovirus (d) Human immunodeficiency virus
6. The follicular conjunctivitis is the manifestation of infection caused by
(a) Human herpes virus (b) Cytomegalovirus (c) Epstein-Barr virus (d) Varicella
7. The selective media used for isolation of Corynebacterium diphtheriae is
(a) MacConkey agar (b) Thiosulphate Citrate Bile Sucrose Agar (c) Tellurite blood agar
(d) Deoxycholate Citrate Agar
8. The Mycotic keratitis is the infection of cornea usually caused by
(a) Exophiala werneckii (b) Microsporium gypseum (c) Trichophyton mentagrophytes
(d) Fusarium
9. The Major class of antibody appears in tears, saliva and colostrum is
(a) IgM (b) IgA (c) IgD (d) IgE
10. The method of sterilization used to make article free from micro-organisms including spores is
(a) Pasteurisation (b) Inspissation (c) Filtration (d) Steam under pressure

(P.T.O.)

4. Answer the following questions. (Any five)

(30)

1. Classify bacterial flagella according to their arrangement. Describe its structure and method for demonstration.
 2. Enlist the Chemical disinfectants. Describe anyone of them
 3. Define Immunity. Describe artificial active immunity.
 4. Describe morphology, cultural characteristics and laboratory diagnosis of staphylococcus aureus
 5. Enlist the agents causing Ocular fungal infection. Describe morphology, cultural characteristic and laboratory diagnosis of anyone of them.
 6. Enlist the agents causing Ocular parasitic infection. Describe morphology and laboratory diagnosis of anyone of them.
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Second Year B.Optomtry Examination
Ocular Diseases I & II

Date : 01-08-2019, Thursday]
[Time : 3 Hours

[Max. Marks : 80

- Instructions :** (1) Figure to the right indicates marks.
(2) Draw diagram wherever necessary.
(3) Write legibly.
(4) Use separate answer books for each section.

Section 1

Q 1. Choose the correct answer (5)

- 1) Distichiasis is
 - a. Misdirected eyelashes
 - b. Accessory row of eyelashes
 - c. Downward drooping of upper lid
 - d. Outward protrusion of lower lid
- 2) Dense scar of cornea with incarceration of iris is known as
 - a. Adherent leucoma
 - b. Dense leucoma
 - c. Ciliary staphyloma
 - d. Iris bombe
- 3) Phlycten is due to
 - a. Endogenous allergy
 - b. Exogenous allergy
 - c. Degeneration
 - d. None of the above
- 4) Corneal sensation are diminished in
 - a. Herpes simplex
 - b. Conjunctivitis
 - c. Fungal infections
 - d. Marginal keratitis
- 5) Tranta's spots are noticed in cases of
 - a. Active trachoma
 - b. Bulbar spring catarrh
 - c. Corneal phlycten
 - d. Vitamin A deficiency

Q 2 Answer briefly (5)

- 1) What are the signs of fungal corneal ulcer?
- 2) Mention two common signs of keratoconus.
- 3) What is the causative organism of trachoma?
- 4) Mention two signs of third nerve palsy in eye.
- 5) Commonest cause of unilateral exophthalmos.

Q 3. Write note on following (any five) (30)

- 1) Clinical features and etiology of cataract.
- 2) Signs of pathological myopia.
- 3) What is the aetiopathology of ptosis
- 4) Describe the stages of senile cataract
- 5) Describe layers of tear film and function of tear film
- 6) Types of tonometry.

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Section 2

Q 4 Choose the correct answer.

(5)

- 1) Night blindness is caused by
 - a. Central retinal vein occlusion
 - b. Dystrophy of retinal rods
 - c. Dystrophy of Retinal cones
 - d. Retinal Detachment

- 2) The most common Primary Intraocular Malignancy in adult is
 - a. Retinoblastoma
 - b. Choroidal melanoma
 - c. Squamous cell carcinoma of conjunctiva
 - d. Iris neavus

- 3) Commotion retinae is seen in
 - a. Concussion injury
 - b. Papilloedema
 - c. Central retinal vein thrombosis
 - d. Central retinal artery occlusion

- 4) Retrobulbar optic neuritis is characterised by
 - a. Marked swelling of optic disc
 - b. Impaired direct light reflex in the affected eye
 - c. Impaired consensual light reflex in the affected eye
 - d. Normal visual acuity

- 5) "Hundred days" Glaucoma is seen in
 - a. Central retinal artery occlusion
 - b. Branched retinal artery occlusion
 - c. Central retinal vein occlusion
 - d. Branched retinal vein occlusion

Q 5. Give short answer to each

(5)

- a. Define retinal detachment
- b. Full form of NPDR
- c. Risk factors for retinopathy of prematurity (ROP)
- d. Amaurotic cat eye reflex is seen in
- e. Commonest cause of posterior staphyloma

Q 6. Write short notes on (any five)

(30)

- a. Age related macular degeneration
 - b. Iridocyclitis – define, symptoms and signs
 - c. Complications of cataract surgery
 - d. Acute angle closure glaucoma
 - e. Enucleation – indications and surgical steps
 - f. Xerophthalmia
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Second Year B.Optomtry Examination
Visual Optics-Part I & II

Date : 03-08-2019, Saturday]

[Max. Marks : 80

[Time : 3 Hours

- Instructions :** (1) Figure to the right indicates marks.
(2) Draw diagram wherever necessary.
(3) Write legibly.
(4) Use separate answer books for each section.

SECTION A

Q.1 Short Questions

(1 X 10 = 10marks)

- _____ is a subjective test used to verify over & under correction of prescription.
- If glow is neutralize at 1 meter with -2.25DS lens, then _____ will be its gross retinoscopy value.
- Skiascope is used for _____.
- _____ Purkinje image is used in placido disc.
- Instrumental myopia is _____.
- For 5 D of myopia with 10 cm of near point of accommodation, _____ & _____ are range and amplitude of accommodation.
- Myopic lenses will _____ the accommodation.
- Surface power can be measured using _____ instrument.
- Define amplitude of accommodation.
- Latent hypermetropia can be measured with _____.

Q.2 Answer the following in brief (Any Five)

(5 X 6 = 30marks)

- Role of ocular media in refractive error.
- Toric transposition for +10.00/-2.50x 180°, BC= -4.00Ds. And write its steps.
- If examiner is getting neutralize glow with -2.75 DS at a W.D. of 13.33 cm along 20° meridian & meridian perpendicular to that is getting neutralize at a W.D. of 0.50 meter. What can be the Net retinoscopy of this patient if he is atropinised?
- In optical outlet, you are handed the following power crosses written by your senior optometrist:-

Convert them into spectacle prescription with plus cyl. Notation. (Assuming optom is performing retinoscopy at W.D. of arm length under Cyclopentolate)

RE	-2.50	-0.75	LE
	+8.50		
	90°	-9.00	120°

- Regular astigmatism
- State Knapp's law. Explain its importance in correction of ametropia.

[P.T.O.]

0819E374(2)

SECTION B

Q.1 Short Questions

(1 X 10 = 10marks)

- 1) Far point of 8Dsph Myopia is at _____.
- 2) If patient can see 20/400 letter from 4 feet distance, what is patient's visual acuity?
- 3) Principles of Maddox rod is _____.
- 4) _____ is etiology for irregular astigmatism.
- 5) Artiphakia is defined as _____.
- 6) Antimetropia is defined as _____.
- 7) The Retinoscopy reflex originates at _____ layer of retina.
- 8) High contrast can increase visual acuity. (true/false)
- 9) As per schematic eye, axial length is 24mm and secondary focal point is at 24.38mm, so what will be the refractive condition of the eye.
- 10) Keratometry is 40 D, axial length is 22.5 mm and refractive error is -3.50DS. Identify type of myopia _____?

Q.2 Answer the following in brief (Any Five)

(5 X 6 = 30marks)

1. Note on Cycloplegic refraction.
 2. If subjective and retinoscopy value of refraction for a patient does not matches, what could be the causes? How will you manage the case?
 3. Compare Snellen's chart with LOG MAR visual acuity chart.
 4. Explain procedure of Flip cylinder.
 5. Explain pathological myopia in detail.
 6. Explain binocular balancing and Duochrome test.
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