1. Causes of hypopyon include?

a) Retinitis pigmentosa

b) Fungal keratitis

c) Episcleritis

d) Bacterial keartitis

e) Multiple sclerosis

Correct Answer - B:D:E

Answer- B, D, E

- Hypopyon refers to accumulation of polymorphonuclear leucocytes in the lower angle of anterior chamber. It is usually accompanied by redness of the conjunctiva and the underlying episclera.

2. Superior rectus palsy causes?

a) Hypotropia to same side

b) Head tilt to opposite side

c) Blapheroptosis

d) Diplopia while looking on same side

e) Hypertropia on opposite side

Correct Answer - A:B:D

Answer- A, B, D

- Muscle paralysed- Superior rectus palsy
- Deviation of eye- Infero- medially (left) (Hypotropia)
- Maximum diplopia while looking- left (temporal) and superior to left eye to the left
- Head position- Tilted to the right and turned

3. True regarding tarsal plate is/are?

a) Acts a skeleton for eyelids

b) Wider in upper eyelids

c) Have Mebomian glands

d) Attached to lateral palpebral superiosis ligaments

e) Inferior plate is semilunar in shape

Correct Answer - A:B:C:D

Answer- A, B, C, D

- The tarsi (tarsal plates) are located directly above the lid margins.
- The medial and lateral ends of the tarsi are attached to the orbital rims by the medial and lateral palpebral ligaments.
- The superior tarsus is larger and wider.
- The lower border of the superior tarsus forms the posterior lid margin
- The inferior tarsus is elliptical in form.
- They may contain Meibormian glands and eyelash follicles.

4. In Field defects seen in pituitary adenoma is

a) Bitemporal hemianopia

b) Binasal hemianopia

c) Quadronopian

d) Pie in the sky

e) Amaurosis in one eye & temporal heminopia in other eye

Correct Answer - A:B:C:D

Answer- A, B, C, D

- Central (sagittal) chiasmatic iesions → Bitemporal hemianopia
- Lateral chiasmatic lesions → Binasal hemianopia
- Lesion to chiasma produces upper temporal quandarantic visual field defect (upper temporal quandarantic hemianopia)
- Initially pituiatry lesions causes visual field in one of upper quadrant, it is also called 'pie in the sky' .

5. Advantage of continuous curvilinear capsulorhexis over can opener technique-

a) Preferred method of anterior capsulotomy in phaco emulsification

b) More chances of posterior capsular opacification

c) Keeps the nucleus in place

d) Resists radial tears

e) Helps in stabilizing and centering the lens implant

Correct Answer - A:C:D:E

Answer- A, C, D, E, Preferred method of anterior capsulotomy in phaco emulsification (C) Keeps the nucleus in place (D) Resists radial tears (E) Helps in stabilizing and centering the lens implant

- Can-opener's technique. In it an irrigating cystitome (or simply a 26 gauge needle, bent at its tip) is introduced into the anterior chamber and multiple small radial cuts are made in the anterior capsule for 360 degree.
- Condnuous circular capsulorhexis (CCC)- Recently this is the most commonly performed procedure. In this the anterior capsule is torn in a circular fashion either with the help of an irrigating bent-needle cystitome or with a capsulorrhexis forceps.
- Can-opener capsulotomy can be used with phacoemulsificotion.
- CCC resists radial tears
- CCC stabilizes the nucleus.
- CCC also helps stabilize and centre the lens implant.

6. True about component of vision 2020-

a) Cataract surgery should be performed at primary level

b) Retinal surgery should be performed at tertiary level

c) Need to develop 10 centre of excellence at tertiary level and 100 training centre at advanced tertiary level

d) Ophthalmia neonatorum is included in childhood blindness

e) Primary vision center covers a population of 50000

Correct Answer - B:D:E

Answer- B,Retinal surgery should... D,Ophthalmia neonatorum... E,Primary vision center...

- At the primary level, the health worker screens for cataract and, reports those with vision less than a locally determined guideline.
- At the secondary level, cataract surgery should be perfomed with equal emphasis on the quality and quantity of surgery
- At the tertiary level lies the provision of facilities for surgical treatment of complicated cases such as congenital cataract, subluxated lens, complicated cataracts and cataract associated with systemic diseases.
- The Government of India has adopted 'Vision 2020: Right to Sight' under 'National Programme for Control of Blindness'.

Target diseases identified for intervention under 'Vision 2020'initiative in India included-

1. Cataract,
2. Childhood blindness,
3. Refractive errors and low vision,
4. Corneal blindness,
5. Diabetic retinopathy,

5. Glaucoma, and
7. Trachoma (focal)

Childhood blindness-

- Common causes of childhood blindness are ophthalmia neonatorum, injuries, congenital cataract.

Eye care infrastructure development-

- Primary level Vision Centre: There is a need to develop 20000 vision centres.
- Secondary level- secondary level populatian of 500000
- Each advanced tertiary Level center of excellence will cater to a population of 50 millions.

7. True about Nodular episcleritis-

a) Can be associated with SLE

b) Take longer time to resolve than diffuse variety

c) More symptomatic than diffuse type

d) Painless

e) Elevated hard nodule

Correct Answer - A:B:C:E

Answer- A,Can be associated with SLE B,Take longer time to resolve than diffuse variety C,More symptomatic than diffuse type E,Elevated hard nodule

- This is a benign inflammatory affectation of the deep subconjunctival connective tissues, including the superficial
- scleral lamellae, and frequently affects both eyes.

Two types of presentations may occur:

1. simple or diffuse episcleritis; and
2. nodular episcleritis.

- In nodular episcleritts a circumscribed nodule of dense leucocytic infiltration which is is hard, tender and immovable.
- Nodular episleritis tends to be more symptomatic and takes longer to resolve.
- Nodular episcleritis is characterized by a pink or purple flat nodule.
- Both episcleritis and scleritis are mainly seen in adults can be associatedwith other conditions such as rheumatoid arthritis and systemic lupus erythematosus (SLE).
- There may be little or no pain.

8. True about phthisis bulbi-

a) Size of eye decreases

b) Removed by enucleation operation especially if painful

c) IOP increases in late stage

d) Calcification may occur in Bowman's layer of cornea

e) None

Correct Answer - A:B:D

Answer- A, B, D, Size of eye decreases (B) Removed by enucleation operation especially if painful (D) Calcification may occur in Bowman's layer of cornea

- It is the final stage end result of any form of chronic uveitis.
- As a result of it the eye becomes soft, shrinks and eventually becomes a small atrophic globe (phthisis bulbi).
- Commonly the retinal pigmented epithelium may undergo a metaplasia leading to intraocular ossification (calcification) in the end- stage of phthisis bulbi.
- Enucleation +/- prosthesis insertlon is performed if there is associated chronic pain or for cosmetic reasons.

9. Which type of cataract is/are associated with Myotonic dystrophy:

a) Posterior subcapsular

b) Anterior subcapsular

c) Nuclear cataract

d) Cortical cataract

e) All of the above

Correct Answer - A

Answer- A. Posterior subcapsular

- Myotonlc dystrophy is associated with, posterior subcapsular type of presenile cataract. Christmas tree cataract is typically seen in this condition.

10. What is the WHO criteria for defining blindness :

a) < 3/60 vision with available correction

b) < 6/60 vision with available correction

c) < 3/60 vision with best correction

d) <6/60 vision with best correction

e) <3/60 vision without correction

Correct Answer - C

Answer- C. < 3/60 vision with best correction

- As per WHO, blindness is defined as Visual acuity of less than 3/60 in the better eye with best possible correction.

11. True about Acanthamoebic keratitis-

a) More in those wearing rigid gas permeable than soft contact lenses user

b) Can occur as opportunistic infection in patients with herpetic keratitis

c) Can be cultured on non-nutrient agar enriched with E. coli

d) Painful condition

e) Radial kerato-neuritis may occur

Correct Answer - B:C:D:E

Answer- B,Can occur as opportunistic infection.. C,Can be cultured on non-nutrient... D,Painful condition E,Radial kerato-neuritis may occur

- Corneal infection with acanthamoeba results from direct corneal contact with any material or water contaminated with the organism.
- Its occurrence is frequently associated with the wearing of soft contact lenses.
- Acanthamoeba keratitis can also occur as opportunistic infection in patients with herpetic keratitis, bacterial keratitis, bullous keratopathy and neuroparalytic keratitis.

Symptoms-

- Very severe pain
- Initial lesions of acanthamoeba keratitis are in the form fine epithelial and subepithelial opacities, and radial kerato-neuritis.
- Laboratory diagnosis: Culture on non-nutrient agat (E.coli enriched)

12. Which of the following is the feature of sodium fluorescein angiography compared to indocyanine green angiography:

a) In choroidal circulation it passes freely across the endothelium

b) Diffuse freely through retinal capillaries

c) Albumin binding is less than indocyanine green

d) Bind < 50% to albumin

e) Stimulated by a longer wavelength of light

Correct Answer - A:C

Answer- A, C, In choroidal circulation it passes freely across the endothelium (C) Albumin binding is less than indocyanine green

- Upon entering the circulation, approximately 8O% of the dye moleculcs bind to plasma proteins.
- Indocyanine green: binds primarily (95%) to albumin.
- In the choroidal circulation, fluorescein passes freely across the endothelium of the capillaries to the extravascular spaces
- A physiological barrier to the dye presents the passage across Bruch's membrane and the intact retinal pignent epithelium.
- The fundus camera has a mechanism to use blue light (420-49O nm wavelength) for exciting the fluorescein present in blood vessels.

13. True about ferritin line in eye:

a) Ferry's Line-corneal epithelial iron line at the edge of filtering blebs

b) Stockers Line-Corneal epithelial iron line at the edge of pterygium

c) Hudson-Stahli line- visible all around the base of cone in Keratoconus

d) Fleischer's ring: Horizonatl corneal epithelial iron line at the inferior one third of cornea due to aging

e) Coat's white ring- A form of iron deposit at the level of Bowman's layer of cornea

Correct Answer - A:B:E

Answer- A,Ferry's Line-corneal epithelial... B,Stockers Line-Corneal epithelial... E,Coat's white ring- A form of iron deposit ...

- Ferry's Line = corneal epithelial iron line at the edge of filtering blebs.
- Stockers Line-Corneal epithelial iron line at the edge of pterygium
- Hudson-Stahil Line= Horizontal corneal epithelial iron line at the inferior one third of cornea due to aging.
- Fleischer's ring: Visible all around the base of cone in Keratoconus
- Coat's ring: remnants of a foreign body. The remnants are fine iron deposits in the cornea.

14. Cause(s) of cystoid macular edema is/are

a) Diabetes mellitus

b) After cataract surgery

c) Retinitis pigmentosa

d) Rheugmatogenous retinal detachment

e) Pilocarpine drop

Correct Answer - A:B:C

Answer- A,Diabetes mellitus B,After cataract surgery C,Retinitis pigmentosa

Causes of macular edema are-

- Metabolic alteration: - Diabetes, retinitis pigmentosa , Inherited cystoid macular edema (CME).
- Ischemia; - CRVO, Diabetic retinopathy, severe hypertensive retinopathy, HELLP syndrome, vasculitis.
- Mechanical force : - Vitreous traction on the macula.
- Inflammation : - Intermediate uveitis, Post-operative CME, choroidal inflammatory diseases.
- Pharmacotoxicity: - Epinephrine (in Aphakia), Betaxolal, Latanoprost.

15. Which of the following is/are primary glaucoma

a) Infantile glaucoma

b) Open angle glaucuma

c) Steroid induced glaucoma

d) Aphakic glaucoma

e) Phacogenic glaucoma

Correct Answer - A:B

Answer- A,Infantile glaucoma B,Open angle glaucuma

Primary adult glaucomas

- Primary open angle glaucoma
- Primary angle closure glaucoma
- Primary mixed mechanism glaucoma
- Primary congenital / developmental (without associated anomalies):- Congenital, Infantile,Juvenile

16. True about discharge from eye

a) Epiphora is due excessive secretion of tear

b) Mucopurulent discharge in acute conjunctivitis

c) Mucopurulent discharge in acute iridocyclitis

d) Watery discharge in acute congestive glaucoma

e) None

Correct Answer - B:D

Answer- B,Mucopurulent discharge in acute conjunctivitis D,Watery discharge in acute congestive glaucoma

Acute conjuctivitis-

- Discharge- Mucopurulent
- Coloured halos- May be present

Acute iridocylitis-

- Discharge- Watery
- Coloured halos- Absent

Acute congestive glucoma-

- Discharge- Watery
- Coloured halos- Present
- Obstruction to the outflow of normally secreted tears or due to lacrimal pump failure --> Epiphora
- Excessive secretion of tears → hyperlacrimation

17. True about adenovirus conjunctivitis -

a) One of the most common cause of viral conjunctivitis

b) It is less contagious than other viral conjunctivitis

c) Pharyngoconjunctival fever is caused by 3 & 7 types

d) May cause hemorrhagic conjunctivitis

e) Conjunctival follicles

Correct Answer - A:C:D:E

Answer- A,One of the most common cause of viral conjunctivitis C,Pharyngoconjunctival fever is caused by 3 & 7 types D,May cause hemorrhagic conjunctivitis E,Conjunctival follicles

- Viral conjunctivitis is most frequently caused by an adenovirus.
- Pharyngoconjunctivial fever (PCF) is caused by adenovirus serovars 3,4 and 7.
- The spread of this highly contagious disease is facilitated by the ability of viral particles.
- Prominent conjunctival hyperaemia and follicles.
- Severe inflammation maybe associated with conjunctival heamorrhages (usually petechial in adenoviral infection), Chemosis,membranes (rare) and pseudomembranes.

18. Ocular findings in vitamin A deficiency

a) Parenchymatous conjunctival xerosis

b) X-2 is conjunctival xerosis

c) Earliest symptom is night blindness

d) Conjunctival xerosis is earliest ocular sign

e) All

Correct Answer - C:D

Answer- C,Earliest symptom is night blindness D,Conjunctival xerosis is earliest ocular sign

- The most characteristic and specific signs of vitamin A deficiency are eye lesions.
- Xerophthalmia (dry eye)
- It has following sequential stages night blindness (earliest ocular symptom), conjunctival xerosis (earliest ocular sign), Bitot's spot, corneal xerosis and Keratomalacia with corneal ulcer.
- Xerosis of conjunctiva refers to a condition where the conjunctiva becomes dry and lusterless.

19. Ectopia lentis is associated with all except -

a) Homocystinuria

b) Weil - Marchesani syndrome

c) Marfan syndrome

d) Cockayne syndrome

e) Osteogenesis imperfecta

Correct Answer - D:E

Answer- (D) Cockayne syndrome (E) Osteogenesis imperfecta

- More common:
- Marfan syndrome
- Homocystinuria
- Weil-Marchesani syndrome
- Sulfite oxidase deficiency
- Hyperlysinemia

20. Unilaterally dilated pupil is seen in

a) Homer's syndrome

b) Adie's pupil

c) Argyll Roberston pupil

d) 61h Cranial nerve palsy

e) 3rd nerve palsy

Correct Answer - B:E

Answer- B,Adie's pupil E,3rd nerve palsy

- Mydriatic eye drops (Atropine, scopolamine)
- Postganglionic mydriasis (Adie's pupil)
- Preganglionic mydriasis (3rd nerve palsy)
- Acute angle closure gloucoma
- Ocular Prosthesis
- Trauma : postraumatic iridocyclitis
- Physiological anisocor

21. Feature of mycotic corneal ulcer -

a) Feathery margins

b) Non-sterile hypopyon

c) Satellite lesions

d) Ulcer serpens

e) Deep involvement

Correct Answer - A:B:C:E

Answer- (A) Feathery margins (B) Non-sterile hypopyon (C) Satellite lesions (E) Deep involvement

- Greyish -white dry looking ulcer with the elevated rolled out feathery & hyphate margins.
- Feathery finger like extension into surrounding stroma under intact epithelium.
- A sterile immune ring (yellow line) of Wesseley.
- Multiple small satellite lesions.
- Non-sterile (infected) hypopyon (Pseudohypopyon) containing fungus.
- Perforation is rare and corneal vascularization is conspicuously absent

22. True about fundoscopic finding is/are

a) Lateral margin of optic disc is normally blurred

b) Optic disc is horizontally oval

c) Loss of spontaneaus retinal venous pulsation is seen in increased intracranial tension

d) Blurring starts from nasal margin in increased intracranial tension

e) None

Correct Answer - C:D

Answer- C,Loss of spontaneaus retinal... D,Blurring starts from nasal...

- Signs of papilloedema (increased intracranial tension)
- Blurring or obscuration of disc margin (First sign). Blurring starts at upper and lower nasal margins and extends around nasal side, while temporal margin is last to involve.
- Venous engorgment and venous congestion.
- There is filling of physiological cup with gradual obliteration ofphysiological cup.

23. All are true about central retinal artery occlusion (CRAO) except

a) Most commonly occurs due to thromboembolus

b) Anterior chamber paracentesis is used for treatment

c) Sudden painful loss of vision

d) Occurs due to obstruction of retinal artery at the level of lamina cribrosa

e) Macular area shows cherry-red spot

Correct Answer - C

Answer- C. Sudden painful loss of vision

- Patient notices sudden painless loss of vision.
- Patients's with a patent cilioretinal artery may retain central vision as the macula is spared.
- Emboli are the most common cause of retinal artery occlusion.
- Obstruction occurs at the level of lamina cribrosa.
- The larger retinal arteries are constuicted and look like thin threads while the smaller vessels are scarcely visible.
- The fundus appears milky white because of retinal edema.
- There is cherry-red spot at the macula.
- Blood column within the retinal veins is segmented (Cattle tracking)

24. Which of the following is/are true about medial longitudinal fasciculus (MLF) and its lesion except -

a) Unilateral lesion result in adduction palsy of opposite eye

b) MLF connects sixth cranial nerve nucleus of one side with the third cranial nerve nucleus of the other side

c) MLF is responsible for conjugate eye movements

d) It is an integral component of saccadic eye movements

e) Abducting nystagmus of the eye contralateral to the

Correct Answer - A

Answer- A. Unilateral lesion result in adduction palsy of opposite eye

- Voluntary horizontal gaze in one direction begins with the contralateral frontal eye fields
- Contralateral paramedian pontine reticular formation (PPRF), which is the organizing center for lateral gaze in the brain stem
- Medial rectus muscle weakness impsilateral to the side of the lesion with paresis of adduction or adduction lag.

25. Not true about blue sclera

a) Seen in osteogenesis impertca

b) Does not seen in Ehlers-danlos syndrome

c) Blue colour is produced by underlying uveal pigment

d) Seen in marfan's syndrome

e) Sclera is thin

Correct Answer - B

Answer- B. Does not seen in Ehlers-danlos syndrome

- Blue Sclera is characterized by marked, generalized blue discolouration of sclera due to thinning, The uveal pigment shines through the thin sclera and produces the blue colour.

Causes of blue Sclera:

- Pseudoxanthoma elasticum
- Osteogenesis imperfecta
- Ehlers-Danlos syndrome
- Marfan's syndrome
- Alkaptonuria
- Hypophosphatasia
- Juvenile paget's disease
- Normal in newborns
- Van der Hoeve's syndrome

26. Corneal ulcer is defined as

a) Erosion of epithelium only

b) Erosion of endothelium only

c) Erosion of epithelium + underlying inflammation

d) Loss of endothelium with loss of corneal sensation

e) None

Correct Answer - C

Answer- C. Erosion of epithelium + underlying inflammation

- Corneal ulcer refers to discontinuation in normal epithelial surface of cornea associated with necrosis of the surrounding corneal tissue

27. Which of the following is/are true about secondary cataract -

a) Treatment of thickened capsule can be done by discission with cystitome

b) Treatment by Nd-YAG laser posterior capsulotomy

c) More common after intracapsular catract extraction than extracapsular cataract extraction

d) Posterior capsular opacification (PCO)

e) Anterior subcapsular cataract

Correct Answer - A:B:D

Answer- (A) Treatment of thickened capsule can be done by discission with cystitome (B) Treatment by Nd-YAG laser posterior capsulotomy (D) Posterior capsular opacification (PCO)

- Opacification of the posterior capsule is caused by postoperative proliferation of cells in the capsular bag and is the most common complication of ECCE.
- After cataract, if thin, can be cleared centrally by Nd: YAG laser capsulotomy.
- Discission with cystitome or zeigler's knife may also be used.

28. Post operative endophthalmitis in cataract surgery can be prevented by use of

a) Pre-operative oral antibiotics

b) Intra-operative IV antibiotics

c) Use of povidone-iodine solution to paint the lids before surgery

d) Cleaning and sterilization of operation theatre

e) Postop topical antibiotics

Correct Answer - C:D:E

Answer- C,Use of povidone-iodine solution to paint the lids before surgery D,Cleaning and sterilization of operation theatre E,Postop topical antibiotics

- The pre- operative topical antibiotic should be started 3 days prior to surgery.
- Preferred antibiotics are fourth generation fluoroquinolones (gatifloxacin, moxifloxacin).
- The topical antiseptic povidone iodine 5% instilled as a single drop l0- 30 minutes before surgery is one of the most effective measure to decrease this bacterial flora.
- Method of prophylaxysis against postoperative endophthalmitis is by use of providone solution on the skin and in conjunctival sac.
- Post- operatively topical antibiotics (eye drops) are given along with steroids for l0 -14 days.

29. Which of the following can be ophthalmic complication of DM except -

a) Papillopathy

b) Snowflake cataract

c) Retinopathy

d) Rhegmatogenous retinal detachment

e) Cystoid macular oedema

Correct Answer - D

Answer- D. Rhegmatogenous retinal detachment

Ocular manifestations of diabetic retinopathy are-

1) Non- proliferative diabetic retinopathy (NPDR)-

- Microaneurysms
- Retinal hemorrhage
- Retinal edema (Retinal thickening)- macular edema.

2) Proliferative diabetic retinopathy (PDR)

- Hallmark of PDR is the occurance of neovascularization

3) Diabetic maculopathy

- Cataract (Snowflake snow storm)
- Myopia (when there is sudden increase in blood sugar level)
- Rarely hypermetropia
- Cranial nerve palsy: 3rd (most common),4th, 5th,7th.
- Diabetic papillopathy

30. True about inferior opthalmic vein -

a) Smaller than superior ophthalmic vein

b) Connected to the pterygoid venous plexus

c) Formed at lateral wall and floor of orbit

d) Pass through superior orbital fissure

e) Empties into superior ophthalmic vein

Correct Answer - A:B:D:E

Answer- (A) Smaller than superior ophthalmic vein
(B) Connected to the pterygoid venous plexus (D) Pass through superior orbital fissure (E) Empties into superior ophthalmic vein

1. The inferior ophthalamic vein begins as a venous network near the anterior part of orbital floor near medial wall of orbit.
2. It is smaller than Superior ophthalamic vein.

Divided into two branches-

1. Inferior orbital fissure to join pterygoid venous plexus
2. Superior orbital fissure to drain into either superior ophthalmic vein or into cavernous sinus.

31. Which of the following statement(s) is/are true about eyelid glands -

a) Moll are modified sebaceous

b) Tarsal glands are meibomian glands

c) Gland of zeis are sweat gland

d) Meibomian glands are modified sebaceous glands

e) External hordeolum is an acute suppurative inflammation of gland of Zeis

Correct Answer - B:D:E

Answer- (B) Tarsal glands are meibomian glands (D) Meibomian glands are modified sebaceous glands (E) External hordeolum is an acute suppurative inflammation of gland of Zeis

- An eyelid is a thin fold of skin that covers and protects the anterior surface of eyeball.

Eye lid contains many glands as-

1. Meibomian glands- These are also known as tarsal glands
2. Glands of Zeis : These are sebaceous glands
3. Glands of Moll- These are modified sweat glands
4. Accessory lacrimal glands of Wolfring

Stye (Hordeolum externum)-

- Onset is acute
- Effected gland is Zeis's gland
- Type of inflammation suppurative
- C/F- Acute pain and hard swelling

Treatment-

- Hot fomentation, antibiotics

32. All are true about congenital ptosis except

a) Stimulus deprivation amblyopia may occur if treatment is delayed

b) Lid lag on downgaze

c) Prominence of lid crease

d) Loss of lid crease

e) Associated with weakness of the levator palpebrae superioris

Correct Answer - C

Answer- C. Prominence of lid crease

- Ptosis is drooping ofupper eyelid.
- Congenital myogenis ptosis-
- It is the most common type of ptosis.
- Associated with congenital weakness of levator palpebrae sperioris.
- Characterised by drooping of eye lids with absent lid crese and lid lag on downgaze.

33. Cause(s) of in Mydriasis:

a) Organophosphorus poisoning

b) Homer syndrome

c) Oculomotor nerve palsy

d) Parasympathetic stimulation

e) All

Correct Answer - C

Answer- C. Oculomotor nerve palsy

- Carbolic acid, Chloral hydrate, Organophosphorus, Morphine (opiate) and 'New Horn' i.e. neurosyphilis/tabes dorsalis (spinal miosis or small, irregular Argyll Robertson pupil) and Horner's syndrome, Oculomotor nerve palsy.
- Atropine and cocaine cause mydriasis.

34. Which of the following is/are not the feature(s) of corneal ulcer due to herpes virus:

a) Rose Bengal staining of margin of ulcer

b) Decreased corneal sensitivity

c) Fluorescein staining of floor of the ulcer

d) Ring infiltration

e) All

Correct Answer - A:B:C

Answer- A,Rose Bengal staining of margin of ulcer B,Decreased corneal sensitivity C,Fluorescein staining of floor of the ulcer

- "Dendritic ulcer base stains with fluorescein & the margins with rose Bengal.
- Fluorescein installation illuminated by blue light shows up corneal ulceration at an early stage.
- The cornea is relatively insensitive. In severe forms, dendritic ulcers develop.

35. True about primary open angle glaucoma:

a) Also k/a Chronic simple glaucoma

b) Hypermeteropeas are more predisposed

c) Polygenic inheritance

d) Laser iridotomy is used for treatment

e) Fundus examination reveals large cup

Correct Answer - A:C:E

Answer- (A) Also k/a Chronic simple glaucoma (C) Polygenic inheritance (E) Fundus examination reveals large cup

- Also known as chronic simple glaucoma of adult onset and is typically characterized by slowly progressive raised intraocular pressure.
- Associated with characteristic optic disc cupping and specific visual field defects.

Pathogenesis-

- Heredity: POAG has a polygenic inheritance.
- Age- elderly between 5th and 7th decades.
- Myopes are more predisposed than the normals.
- Diabetics have a higher prevalence of POAG.
- POAG is more in hyPertensives.
- C/F
- patients usually complain of frequent changes in presbyopic glasses.
- Patients develop delayed dark adaptation.
- Fundus examination show large cup. (0.6 or more)
- Laser iridotomy is used for treatment of primary angle closure glaucoma.

36. Cloudy cornea is/are seen:

a) Klinefelter syndrome

b) Turner syndrome

c) Megalocornea

d) Mucopolysaccharidosis

e) All

Correct Answer - D
Answer- D. Mucopolysaccharidosis
S-Sclerocornea

- T-Trauma
- U-Ulcer
- M- Mucopolysaccharidosis
- P-Peter anomaly
- ED- Congenital hereditary endothelial dystrophy

37. True about iris:

a) Eye colour is due to relative number of melanocytes

b) Stroma is responsible for pigmentation

c) Sphincter pupillae is supplied by parasympathetic fibres

d) Dilator pupillae is supplied by sympathetic fibres

e) Stroma is covered on its anterior surface by two layers of pigmented epithelium

Correct Answer - A:B:C:E

Answer- A,Eye colour is due to relative number of melanocytes B,Stroma is responsible for pigmentation C,Sphincter pupillae is supplied by parasympathetic fibres E,Stroma is covered on its anterior surface by two layers of pigmented epithelium

- Eye color is determined by the relative number of melanocyte in the stroma and of course the density of melanin granules produced.
- Iris is composed of a stroma cantaining branched connective tissue cells, usually pigmented but largely unpigmented in blue irides.
- The stroma is covered on its posterior surface by two layers of pigmented epithelium.
- The iris is richly supplied by sensory nerve fibres derived from the trigeminal nerve.
- The sphincter pupillae is supplied by parasympathetic autonomous secretomotor nerve fibres derived from the oculomotor nerve, while the motor fibres of the dilator muscle arc defived from the cervical sympathetic chain.

38. Not feature of Fuch's heterochromiciridocyclitis:

a) White nodules on the anterior surface of the iris

b) Koppeprecipitates present at back of cornea

c) Granulomatous type of low grade anterior uveitis

d) Topical corticosteroids are used for treatment

e) All

Correct Answer - C

Answer- C. Granulomatous type of low grade anterior uveitis

- Fuchs' heterochromiciridocyclitis is a chronic nongranulornatous type of low grade anterior uveitis.

The disease is characterised by:

- Heterochromia of iris,
- Diffuse stromal iris atrophy,
- Fine KPs at back of cornea,
- Faint aqueous flare,
- Absence of posterior synechiae
- Topical corticosteroids are all that is required.

39. Which of the following vitamin deficiency can cause centrocecal scotoma:

a) Vit A

b) Vit E

c) B6

d) B2

e) B12

Correct Answer - E

Answer- E. B12

- Field defect involving both the macula and the blind spot.
- Seen in optic nerve disease.
- Typical of vitamin B12 deficiency optic neuropathy.
- Damage to papillomacular fibers causes a cecocentral scotoma may develop in optic neuritis, nutritional optic neuropathy,
- toxic optic neuropathy, Leber's hereditary optic neuropathy, and compressive optic neuropathy.

40. True about electroretinogram:

a) a wave- arises from rods and cones

b) b wave - d/t activity of bipolar cells

c) b-wave response is subnormal in early cases of retinitis pigmentosa

d) c wave - representing metabolic activity of pigment epithe-lium

e) Best disease shows abnormal ERG

Correct Answer - A:B:C:D

Answer- (A) a wave- arises from rods and cones (B) b wave - d/t activity of bipolar cells (C) b-wave response is subnormal in early cases of retinitis pigmentosa (D) c wave - representing metabolic activity of pigment epithe-lium

- The changes induced by the stimulation of light in the resting potential of the eye are measured by electroretinography. It is extinguished or absent in complete failure of function of rods and cones, e.g. pigmentary retinal dystrophy, complete occlution of retinal artery, complete retinal detachment, advanced siderosis etc.

1. Negative 'a' wave represent the activity in rods and cones.
2. Positive 'b' wave arises in inner retinal layers.
3. Positive 'c' wave is associated with the pigmentary epithelium

41. True about Ciliary body:

a) It forms aqueous humour

b) Anterior smooth part is called pars plana

c) Ciliary processes are finger-like projections from the pars plicata part

d) Ciliary muscles help in accommodation

e) All

Correct Answer - A:C:D

Answer- (A) It forms aqueous humour (C) Ciliary processes are finger-like projections from the pars plicata part (D) Ciliary muscles help in accommodation

- Ciliary body is forward continuation of the choroid at ora serrata.
- It is triangular in shape

The inner side of the triangle is divided into two Parts:

1. anterior part -pals Plicata (finger-like ciliary processes)
2. posterior part- pars plana (smooth part)

- Microscopic structure- five layers
- Supraciliary lamina
- Stroma of the ciliary body
- Layer of pigmented epithelium
- Layer of non-pigmented epithelium
- Internal limiting membrane
- Functions of ciliary body.

1. Formation of aqueous humour.
2. Ciliary muscles help in accommodation

42. Which of the following statement(s) is/are true about Jones dye test:

a) Done for assessment of epiphora

b) Positive test-1: primary hypersecretion

c) Negative test-1: partial obstruction or failure of lacrimal pump mechanism

d) Positive test-2: failure of lacrimal pump mechanism

e) Negative test-2: partial obstruction

Correct Answer - A:B:C

Answer- (A) Done for assessment of epiphora (B) Positive test-1: primary hypersecretion (C) Negative test-1: partial obstruction or failure of lacrimal pump mechanism

- Jones dye tests are of no value in the presence of total obstruction.
- Dye-stained cotton bud indicates adequate drainage & primary hypersecretion
- Unstained cotton bud indicates either a partial obstruction or failure of lacrimal pump mechanlsm
- Primary test is negative inferior meatus and lacrimal syringing is performed
- Negative test partial obstruction
- Negative test indicates presence of lacrimal pump failure.

43. True about Kayser-Fleischer ring -

a) Deposition of copper

b) Deposition of iron

c) Found in Wilson disease

d) Deposition under Descemet's membrane of the cornea

e) None

Correct Answer - A:C:D

Answer- (A) Deposition of copper (C) Found in Wilson disease (D) Deposition under Descemet's membrane of the cornea

- Kayser-Fleischer rings take the form of a crescentic rusty-brown discoloration of the deepest layer of the cornea (Descemet membrane)
- Kayser-Fleischer rings are a sign of Wilson's disease, which involves abnormal copper handling by the liver resulting in copper accumulation in the body.
- Characterised by abnormalities of the basal ganglia of the brain, liver cirrhosis, splenomegaly, involuntary movements, muscle rigidity, psychiatric disturbances, dystonia and dysphagia.

44. Ectopia lentis is/are associated with:

a) Homocystinuria

b) Alport syndrome

c) Lowe syndrome

d) Marfan syndrome

e) Sulphite oxidase deficiency

Correct Answer - A:D:E

Answer- (A) Homocystinuria (D) Marfan syndrome (E) Sulphite oxidase deficiency

- Marfan syndrome
- Homocystinuria
- Weil-Marchesani syndrome
- Sulfite oxidase deficiency
- Hyperlysinemia

45. True about congenital esotropia:

a) Amblyopia may develops

b) Angle of deviation is usually fixed & large

c) Surgery should be done after 2 year

d) Onset only after 1 year of age

e) May be associated with inferior oblique overaction

Correct Answer - A:B:E

Answer- (A) Amblyopia may develops (B) Angle of deviation is usually fixed & large (E) May be associated with inferior oblique overaction

- Age of onset, is usually 1 -2 months of age, but occur any time in first 6 months of life.
- Angle of deviation is usually constant & fairly large.
- Amblyopia develops in 25-40 % of cases
- Associations include inferior oblique overaction dissociated vertical deviation (DVD).

Treatment-

- Time of surgery: Surgery should be done b/w 6 months to 2 years (preferably before 1 yr of age)

46. Periosteum of orbit is strongly attached to:

a) Medial wall of orbit

b) Lateral wall of orbit

c) Floor of orbit

d) Roof of orbit

e) Sutures lines

Correct Answer - E

Answer- (E) Sutures lines

Periorbita: It is the periosteal lining of orbital walls. The periorbita is attached to the suture lines, fissures and foramina of the orbit. Posteriorly the periorbita is continuous with the optic nerve sheath.

47. Poor prognostic factor for retinoblastoma includes:

a) > 4 mm size of tumour

b) > 2mm size of tumor

c) Associated glaucoma

d) Undifferentiated tumour cells

e) Sclera involvement

Correct Answer - A:C:D:E
Answer- (A) > 4 mm size of tumour (C) Associated glaucoma (D) Undifferentiated tumour cells (E) Sclera involvement
(>4mm size of tumor) might have poor prognosis
Children with retinoblastoma who develop glaucoma tend to have a worse prognosis.
Optic nerve involvement, undifferentiated tumour cells and massive choroidal invasion.

48. True about A-V pattern heterotropia squint:

a) The terms A or 'V' pattern squint are labelled when the amount of deviation in squinting eye varies by more than 10° and 15°, respectively, between upward and downward gaze.

b) The terms A! or 'V' pattern squint are labelled when the amount of deviation in squinting eye varies by more than 20° and 25°, respectively, between upward and downward gaze.

c) Usually, overaction of the inferior oblique or weakness of superior oblique leads to a A pattern & overaction of the superior oblique or weakness of inferior oblique to an V pattern

d) Usually, overaction of the inferior oblique or weakness of superior oblique leads to a V pattern & overaction of the superior oblique or weakness of inferior oblique to an A pattern

e) Oblique muscle dysfunction is the commonest cause of AV pattern

Correct Answer - A:D:E

Answer- (A) The terms A or 'V' pattern squint are labelled when the amount of deviation in squinting eye varies by more than 10° and 15°, respectively, between upward and downward gaze. (D) Usually, overaction of the inferior oblique or weakness of superior oblique leads to a V pattern & overaction of the superior oblique or weakness of inferior oblique to an A pattern (E) Oblique muscle dysfunction is the commonest cause of AV pattern

The terms K or 'V' pattern squint are labelled when the amount of deviation in squinting eye varies by more than

deviation in squinting eye varies by more than
l0 and 15, respectively, between upward and downward gaze.
A and'V' esotropia:In A esotropia the amount of deviation increases in upward gazn and, decreases in downward gaze.
The reverse occurs in'V' esotropia.
'A and'V' exotropia:In "A" exotropia the amount of deviation decreases in upward gaze arad, increases in downward gaze.
The reverse occurs in'V' exotropia.

49. True about congenital esotropia:

a) Onset is only after 1 year of age

b) Amblyopia may develop

c) Angle of deviation is usually fixed & large

d) Surgery should done after 2 years

e) None

Correct Answer - B:C

Answer- (B) Amblyopia may develop (C) Angle of deviation is usually fixed & large

As a rule, the deviation is equal to or larger than 35 prism diopters (17.5°)Q and is comitant, measuring roughly the same in all gaze positions, distance and near (i.e. large & stable angle of deviation)

Amblyopia develops in 25-40% of cases

Treatment: Surgery is treatment of choice

Time of surgery: Surgery shotldbe done b/w 6 months to 2 years (preferably before 1 yr of age)

50. True about lens of eye:

a) Avascular

b) Growth takes place throughout life

c) Derive its nutrition from aqueous humour

d) Transparent

e) Ectodermal in origin

Correct Answer - A:B:D:E

Answer- (A) Avascular (B) Growth takes place throughout life (D) Transparent (E) Ectodermal in origin

Lens is a transparent, bi-convex, crystalline structure.

Lens capsule: Thickest at pre- equator region & thinnest at the posterior pole.

"The lens grow in size continuously throughout life.

The lens of the eye is developed from a thickened area of surface ectoderm, the lens placode.

Source of nutrient supply: The crystalline lens, being an avascular structure.

51. Features of ocular ischemic syndrome includes all except:

a) Microaneurysm

b) Dot & blot haemorrhage

c) More common in elderly women than men

d) Disc edema

e) Amaurosis fugax

Correct Answer - C:D

Answer- (C) More common in elderly women than men (D) Disc edema

Ocular ischaemic syndrome refers to a rare condition resulting from chronic ocular hypoperfusion secondary to carotid artery stenosis.

Risk factors- male gender, old age (60-90 years) smoking, for carotid stances hypertension,

Clinical features-

- Amaurosis fugax
- Retinal artery occlusion
- Transient cerebral ischaemic attacks
- Usually unilateral
- Pain-ocular or periorbital
- Fundus examination may reveal:
- Retina show midperipheral dot and blot haemorrhages, microaneurysms and cotton wool spots.

52. All are ocular emergency except:

a) Eye injury

b) Sympathetic ophthalmitis

c) Retinal artery occlusion

d) CRVO

e) Bacterial endophthalmitis

Correct Answer - D

Answer- (D) CRVO

Comon ophthalmic emergencies are :-

- Acute congestive glaucoma
- Ruptured globe
- Ulcerative or traumatic corneal diseases
- Optic neuritis
- Hyphema
- Endophthalmitis
- Acute blindness
- Orbital cellulitis
- Eyelid or conjunctival laceration
- Central retinal arterial occlusion (CRAG)
- Anterior lens subluxation
- Retinal detachment

53. All are true regarding cornea except:

a) Endothelium help in maintaining dehydrated state

b) Oxygen is mostly derived by epithelium directly from the air through tear film

c) Glucose supply for corneal metabolism is mainly derived from the aqueous

d) Corneal thickness is more at center than periphery

e) Richly vascular

Correct Answer - D:E

Answer- (D) Corneal thickness is more at center than periphery (E) Richly vascular

Outer & fibrous coat of EYEBALL.

Transparent, anterior 1/6th segment of eyeball.

Non-vascular

Most of the refraction in eye occur at anterior surface of cornea (air-tear interface) ,i.e., Anterior surface of cornea is the most important refractive structure of eye.

The most actively metabolising layers of the cornea are epithelium & endothelium.

54. Lateral wall of orbit is/are formed by:

a) Lesser wing of sphenoid

b) Frontal process of zygomatic bone

c) Greater wing of sphenoid

d) Lacrimal bone

e) Maxilla

Correct Answer - B:C

Answer- (B) Frontal process of zygomatic bone (C) Greater wing of sphenoid

The lateral wall is the thickest wall of the orbit, important because it is the most exposed surface, highly vulnerable to blunt force trauma.

Anterior surface of greater wing of sphenoid

Orbital surface of frontal process of zygomatic bone

55. True about Leber optic neuropathy:

a) X-linked disease

b) Primarily affects male

c) Disc become pale & atrophic

d) Transmitted from mother to child

e) Mitochondrial inheritance

Correct Answer - B:C:D:E

Answer- (B) Primarily affects male (C) Disc become pale & atrophic (D) Transmitted from mother to child (E) Mitochondrial inheritance

Leber's hereditary optic neuropathy is characterized by sequential subacute optic neuropathy in males aged 11-30 years.

The underlying genetic abnormality is a point mutation in mitochondrial DNA.

Since mitochondrial DNA is exclusively derived from mother.

It is characterizeed by bilateral, painless, subacute visual failure that develops during young adult life.

They develop blurring affecting the central visual field of one eye.

Visual loss is bilateral at onset.

Later in atrophic phase, disc becomes atrophic and pale.

56. Risk factor for cystoid macular edema include (s) all except:

a) Hypertensive retinopathy

b) Vitreous loss

c) Diabetes mellitus

d) Cataract surgery is an important cause

e) Lower incidence with intracapsular cataract extraction than extracapsular cataract extraction

Correct Answer - E

Answer- E. Lower incidence with intracapsular cataract extraction than extracapsular cataract extraction

Causes of macular edema are-

- Metabolic alteration: - Diabetes, retinitis pigmentosa , Inherited cystoid macular edema (CME).
- Ischemia; - CRVO, Diabetic retinopathy, severe hypertensive retinopathy, HELLP syndrome, vasculitis.
- Mechanical force : - Vitreous traction on the macula.
- Inflammation : - Intermediate uveitis, Post-operative CME, choroidal inflammatory diseases.
- Pharmacotoxicity: - Epinephrine (in Aphakia), Betaxolal, Latanoprost.

57. Feature (s) of Infantile glaucoma is/are except:

a) Aniridia may be associated

b) Treatment includes trabeculotomy

c) Buphthalmos can occur

d) Cornea is thin & clear

e) May be associated with Sturge-weber syndrome

Correct Answer - B

Answer- B. Treatment includes trabeculotomy

Congenital ptosis is usually a result of a localized dystrophy of the levator muscle in which the striated muscle fibers
are replaced with fibrous tissue.
The lid crease is decreased or absent.
Amblyopia may occur in children with ptosis.
If a droopy eyelid is present at birth or within the first year of life, the condition is called congenital ptosis.
It is associated with congenital weakens (maldevelopment) of the levator palpebrae superioris (LPS).
Treatment includes trabeculotomy.

58. True about Arcus senilis:

a) Fatty infiltration

b) Axial corneal degeneration

c) Deposition occur in stroma of peripheral cornea

d) Amyloid deposit

e) Involve limbus

Correct Answer - A:C

Answer- (A) Fatty infiltration (C) Deposition occur in stroma of peripheral cornea

It refers to an an ndar lipid infiltration of corneal periphery.

Affects elderly patients.

The areas of the cornea & sclera near the limbus & perivascular areas ofthe sclera are never involved

Lipid accumulation is found in the peripheral corneal stroma.

59. True about moderate flare uveitis:

a) Categorised as grade 1+

b) Categorised as grade 2+

c) Categorised as grade 3+

d) Hazy cornea

e) Clear iris detail

Correct Answer - B:E

Answer- (B) Categorised as grade 2+ (E) Clear iris detail

It is due to leakage of protein particles into the aqueous humour from damaged blood vessels.

The flare is graded from '0' to +4 -

- 0- no aqueous flare
- +1 just detectable
- +2 moderate flare with clear iris details
- +3 marked flare
- +4 intense flare

60. True about orbital rhabdomyosarcoma-

a) Arise from pleuripotent mesenchymal cell

b) Origin from skeletal muscle cell

c) Usually B/1

d) Female predisposition

e) More common in children

Correct Answer - A:E

Answer- (A) Arise from pleuripotent mesenchymal cell (E) More common in children

It is a highly malignant tumour of the orbit arising from the extraocular muscles.

Usually occurring below the age of 15 years.

The tumour commonly involves the superionasal quadrant.

Male: female ratio of 5: 3

Primary orbital RMS originates from primitive pleuripotential mesenchymal cells.

61. All are true about treatment of Age related macular degeneration except:

a) Intravitreal anti-VEGF therapy

b) Laser abalation

c) Photodynamic therapy (PDT)

d) Transpupillary thermotherapy

e) Prognosis after treatment for non-exudative variety is very good

Correct Answer - E

Answer- E. Prognosis after treatment for non-exudative variety is very good

- Age-related macular degeneration (ARMD), also called senile macular degeneration, is a bilateral disease of persons of older individuals.

Treatment-

- Role of dietary supplements and antioxidants in prevention or treatment of ARMD.
- Intravitreal anti-VEGF therapy (Bevacizumab, Ranibizumab, Pegaptanib) is the treatment choice.
- Photodynamic therapy (PDT) is the 2nd treatment of choice.
- TransPupillary thermotherapy (TTT) with a diode laser
- Double frequency & YAG 532 nm photocoagulation
- Surgical treatment in the form of submacular surgery
- Pharmacologic modulation with antiangiogenic agent.

62. Causes(s) of shallow anterior chamber is/are :

a) Anterior sublaxation of lens

b) Pupil block due to vitreous bulge after ICCE

c) Anterior dislocation of lens in anterior chamber

d) Aphakia

e) Myopia

Correct Answer - A:B

Answer- (A) Anterior sublaxation of lens (B) Pupil block due to vitreous bulge after ICCE

Primary narrow angle glaucoma

Hypermetropia

Postoperative shallow anterior chamber (after intraocular surgery due to wound leak or ciliochoroidal detachment).

Malignant glaucoma

Anterior perforations (perforating injuries or perforation of corneal ulcer).

Anterior subluxation of lens

Intumescent (swollen) lens

63. True about pigmentary glaucoma :

a) More common in females

b) More common in myopes

c) Slit-like transillumination defects in the mid periphery is pathognomonic feature

d) Occur due to clogging up of the trabecular meshwork

e) None

Correct Answer - C:D

Answer- (C) Slit-like transillumination defects in the mid periphery is pathognomonic feature (D) Occur due to clogging up of the trabecular meshwork

It is a type of secondary open-angle glaucoma where in clogging up of the trabecular meshwork occurs by the pigment particles.

The condition typically occurs in young myopic males.

C/F

Deposition of pigment granules in iris, posterior surface of the cornea, trabecular meshwork, ciliary zonules and the crystalline lens.

Iris transillumination shows radial slit-like transillumination defects in the mid periphery (pathognomonic feature).

64. Uveitis is/are seen as side-effect of caused by:

a) Latanoprost

b) Moxifloxacin

c) Cidofovir

d) Rifabutin

e) All

Correct Answer - B:C:D

Answer- (B) Moxifloxacin (C) Cidofovir (D) Rifabutin

Rostaglandin-Analogues → bimatoprost and travoprost

Rifabutin

Cidofovir

Moxifloxacin

Drug Induced Uveitis

Systemic Drugs

1. Ritabutin
2. Bisphosphonales
3. Sulphonamides
4. D i el hylcarbanrklZi ne
5. C i do lovir

Topical Drugs

1. Metipranobol
2. Miolics
3. Proslaglandirts

Intracameral Drugs

1. Gicobvir
2. Aniibidics
3. Lfrakhase

Vaccines