

# INI CET Ophthalmology

## Sample Paper – 6

Duration: 14 Minutes

Maximum Marks: 15

### Instructions

- This paper contains **15** Multiple Choice Questions (Single Best Response), modelled on the Ophthalmology content of **INI CET** (Institutes of National Importance Combined Entrance Test) conducted by AIIMS New Delhi.
- The **15-question** length matches the number of Ophthalmology items you actually meet in the real 200-question paper.
- Each correct answer carries **+1 mark**. There is **negative marking of one-third (0.33) mark** for every incorrect answer; unattempted questions carry no penalty.
- Every question has **exactly one best answer**. Choose the single most appropriate option.
- Attempt this practice paper in one timed sitting of about **14 minutes**, the pace the real computer-based test demands.

### Cornea, Conjunctiva and Anterior Segment

- Q1.** A worker presents after a metallic corneal foreign body. On examination there is a superficial iron particle with a surrounding brown ring in the corneal stroma. The correct management is to:
- (A) Remove the foreign body and its rust ring under slit-lamp guidance, then give topical antibiotic cover
- (B) Leave the foreign body untouched and patch the eye for a week
- (C) Instil atropine only and review in a month
- (D) Perform an emergency penetrating keratoplasty
- Q2.** A patient with long-standing chronic uveitis develops a horizontal grey-



white band of opacity across the interpalpebral cornea, containing calcium salts. This band-shaped keratopathy is caused by:

- (A) Lipid deposition in the corneal periphery
- (B) A viral epithelial infection
- (C) Calcium deposition in the Bowman layer, linked to chronic ocular inflammation or hypercalcaemia
- (D) Copper deposition in Descemet membrane

**Q3.** Comparing episcleritis with scleritis, the feature that identifies the more serious, sight-threatening scleritis is:

- (A) A mild, painless localised redness that fades within days
- (B) Severe boring pain with deep-vessel congestion that can threaten sight
- (C) A watery discharge with itching and a normal white sclera
- (D) A superficial redness that blanches promptly with topical phenylephrine

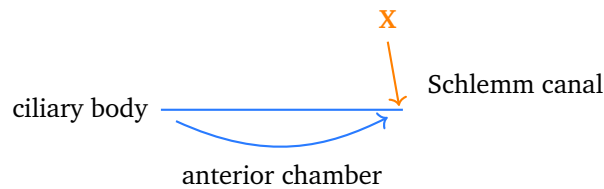
### Lens and Glaucoma

**Q4.** Some months after uncomplicated cataract surgery, a patient reports gradual blurring. The posterior capsule behind the intraocular lens has become opaque (after-cataract). The definitive treatment is:

- (A) Nd:YAG laser posterior capsulotomy
- (B) A second phacoemulsification procedure
- (C) Long-term topical steroid drops
- (D) Systemic acetazolamide

**Q5.** The schematic below traces aqueous humour leaving the eye. Aqueous produced by the ciliary body flows through the pupil into the anterior chamber and drains at the point marked **X**, the main resistance site of conventional outflow. Structure **X** is:





- (A) The corneal endothelium
- (B) The trabecular meshwork draining into the canal of Schlemm
- (C) The lens capsule
- (D) The retinal pigment epithelium

**Q6.** An elderly patient with a long-standing hypermature cataract develops a sudden painful red eye with very high intraocular pressure and an open angle. Leaked lens proteins are clogging the trabecular meshwork. This is:

- (A) Primary open-angle glaucoma
- (B) Acute anterior uveitis
- (C) Central retinal vein occlusion
- (D) Phacolytic (lens-induced) glaucoma

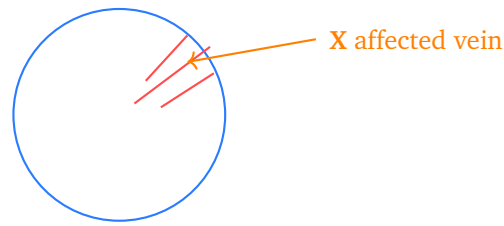
### Retina and Vitreous

**Q7.** A patient reports that straight lines look wavy (metamorphopsia) and a central grey patch. On the Amsler grid the lines bend around the centre, and fundus examination shows a small round defect at the fovea. The diagnosis is:

- (A) Primary open-angle glaucoma
- (B) Vitreous haemorrhage
- (C) Bacterial conjunctivitis
- (D) Macular hole

**Q8.** The fundus shows superficial flame-shaped haemorrhages confined to one wedge-shaped sector of the retina, respecting the horizontal midline and lying along a single vein (marked X). This indicates:





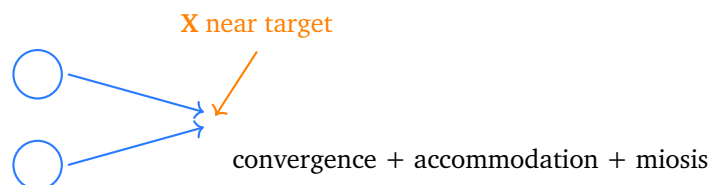
- (A) Central retinal artery occlusion
- (B) Branch retinal vein occlusion
- (C) Acute angle-closure glaucoma
- (D) Optic atrophy

### Neuro-ophthalmology and Optics

**Q9.** A young adult with multiple sclerosis fails to adduct the left eye on right gaze, while the right (abducting) eye shows nystagmus; convergence is preserved. This internuclear ophthalmoplegia is caused by a lesion of the:

- (A) Optic chiasma
- (B) Ciliary ganglion
- (C) Medial longitudinal fasciculus
- (D) Retinal pigment epithelium

**Q10.** The schematic shows the response when a subject looks from a distant to a near target (point X). The near reflex triad, and the nerve carrying its efferent limb, are:



- (A) Convergence, accommodation and pupillary constriction, driven by the oculomotor (third cranial) nerve
- (B) Divergence, relaxation of accommodation and pupillary dilatation, driven by the sympathetic supply



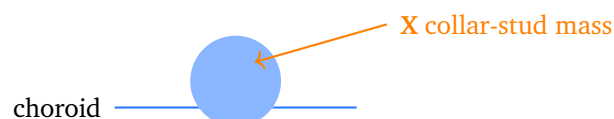
- (C) Upgaze, blinking and lacrimation, driven by the facial nerve
- (D) Abduction of both eyes, driven by the abducens nerve

**Q11.** A patient has anisocoria with one widely dilated pupil that does not react to light. If the dilatation is due to a compressive third nerve palsy rather than to pharmacological (atropine-like) blockade, you would expect:

- (A) No ptosis and full eye movements in either case
- (B) A pupil that constricts briskly to pilocarpine in pharmacological blockade
- (C) Equal pupils once the patient is in the dark
- (D) Associated ptosis and a 'down-and-out' eye, with the pupil still constricting to pilocarpine

### Uvea, Orbit and Ocular Adnexa

**Q12.** The schematic shows a pigmented choroidal tumour that has broken through the Bruch membrane to take a 'collar-stud' (mushroom) shape under the retina, marked X. This commonest primary intraocular malignancy of adults is:



- (A) Choroidal (uveal) melanoma
- (B) Retinoblastoma
- (C) Choroidal naevus
- (D) Retinal astrocytoma

**Q13.** When classifying a drooping upper lid (ptosis), the type in which the levator palpebrae superioris muscle itself is dystrophic or poorly developed, giving reduced levator function, is termed:

- (A) Aponeurotic ptosis
- (B) Myogenic ptosis



- (C) Neurogenic ptosis
- (D) Mechanical ptosis

### Paediatric Ophthalmology and Emergencies

- Q14.** An infant has a congenital nasolacrimal duct obstruction with watering and discharge since birth. If conservative massage and antibiotics fail, the usual age at which syringing and probing is performed is:
- (A) Within the first week of life
  - (B) At about 3 months of age
  - (C) At about 12 months of age (around one year)
  - (D) Only after the fifth birthday
- Q15.** A few days after intraocular (cataract) surgery a patient returns with a very painful red eye, marked loss of vision and a layer of pus (hypopyon) in the anterior chamber. The emergency management of this acute endophthalmitis is:
- (A) Reassurance and review after one week
  - (B) Topical antibiotic drops alone
  - (C) Urgent vitreous tap for culture with intravitreal antibiotic injection
  - (D) Immediate enucleation of the eye



**Detailed Solutions****Q1.****Solution**

**Concept – corneal foreign body and rust ring:** An iron-containing corneal foreign body oxidises and leaves a rust ring in the surrounding stroma.

**Step 1 – the correct action:** The particle and its **rust ring** should be removed under slit-lamp guidance (a needle tip or a rotating burr), followed by topical antibiotic cover.

**Step 2 – why remove the rust:** Retained rust keeps the epithelium from healing and provokes inflammation, so it is cleared along with the foreign body.

**Why the other options are wrong:**

- B, leave and patch: leaves a reactive iron deposit that delays healing.
- C, atropine only: treats spasm but ignores the foreign body itself.
- D, keratoplasty: is far too aggressive for a superficial foreign body.

**Final Answer:** Remove the foreign body with its rust ring ⇒ **A**

**Answer: (A)** [Go Back to Q1](#)

**Q2.****Solution**

**Concept – band-shaped keratopathy:** This is a horizontal band of corneal opacity in the interpalpebral zone.

**Step 1 – name the deposit:** It is due to **calcium salt (hydroxyapatite) deposition** in the Bowman layer of the cornea.

**Step 2 – the associations:** It follows chronic ocular inflammation (for example long-standing uveitis) and systemic hypercalcaemia.

**Why the other options are wrong:**

- A, lipid deposition: describes an arcus or lipid keratopathy, not a calcium band.
- B, viral infection: gives dendritic or disciform keratitis, not a calcific band.
- D, copper in Descemet: is the Kayser-Fleischer ring of Wilson disease.

**Final Answer:** Calcium deposition in the Bowman layer ⇒ **C**

**Answer: (C)** [Go Back to Q2](#)



Q3.

**Solution**

**Concept – episcleritis versus scleritis:** Both inflame the outer eye coats, but they differ sharply in pain and prognosis.

**Step 1 – pick the danger sign:** Scleritis causes severe, boring pain with deep scleral-vessel congestion and can threaten sight.

**Step 2 – the contrast:** Episcleritis is a mild, often painless, self-limiting redness that does not damage the eye.

**Why the other options are wrong:**

- A, mild painless fading redness: describes episcleritis, not the serious disease.
- C, watery itchy eye: is allergic conjunctivitis.
- D, blanches with phenylephrine: is the superficial episcleral vessels, again episcleritis.

**Final Answer:** Severe boring pain, sight-threatening ⇒ **B**

**Answer: (B)** [Go Back to Q3](#)

Q4.

**Solution**

**Concept – after-cataract (posterior capsular opacification):** Residual lens epithelial cells proliferate on the retained posterior capsule and cloud it after surgery.

**Step 1 – name the treatment:** An Nd:YAG laser posterior capsulotomy opens a clear central window in the opaque capsule.

**Step 2 – why it works:** It is a quick, non-invasive outpatient laser procedure that restores the visual axis without further surgery.

**Why the other options are wrong:**

- B, repeat phacoemulsification: the natural lens is already gone; there is nothing to emulsify.
- C, steroid drops: do not clear an established opacified capsule.
- D, acetazolamide: lowers intraocular pressure and is irrelevant here.

**Final Answer:** Nd:YAG laser posterior capsulotomy ⇒ **A**

**Answer: (A)** [Go Back to Q4](#)





Q5.

**Solution**

**Concept – conventional aqueous outflow:** Aqueous drains from the anterior chamber angle through a filter into a collecting canal.

**Step 1 – read the schematic:** Structure X, the main resistance site, is the **trabecular meshwork**, which passes aqueous into the canal of Schlemm.

**Step 2 – the pathway:** Ciliary body → posterior chamber → pupil → anterior chamber → trabecular meshwork → Schlemm canal → episcleral veins.

**Why the other options are wrong:**

- A, corneal endothelium: keeps the cornea clear but does not drain aqueous.
- C, lens capsule: encloses the lens and has no drainage role.
- D, retinal pigment epithelium: lies at the back of the eye, unrelated to aqueous outflow.

**Final Answer:** Trabecular meshwork into Schlemm canal ⇒ **B**

**Answer: (B)** [Go Back to Q5](#)

Q6.

**Solution**

**Concept – phacolytic (lens-induced) glaucoma:** A hypermature cataract can leak lens proteins that block the drainage angle.

**Step 1 – read the clues:** A hypermature cataract, sudden pressure rise, an *open* angle and leaked lens protein define **phacolytic glaucoma**.

**Step 2 – the mechanism:** Soluble lens proteins and swollen macrophages clog the trabecular meshwork, raising the pressure; removing the cataract is curative.

**Why the other options are wrong:**

- A, open-angle glaucoma: is chronic and painless, not tied to a leaking cataract.
- B, anterior uveitis: shows keratic precipitates and a small pupil, not lens protein overload.
- C, vein occlusion: causes painless visual loss with retinal haemorrhages, not a hard painful eye.

**Final Answer:** Phacolytic (lens-induced) glaucoma ⇒ **D**



**Answer: (D)** [Go Back to Q6](#)

Q7.

### Solution

**Concept – macular hole:** A full-thickness defect at the fovea distorts central vision.

**Step 1 – read the signs:** **Metamorphopsia** (wavy lines) on the Amsler grid, a central scotoma and a small round foveal defect point to a macular hole.

**Step 2 – why the distortion:** Loss of foveal tissue displaces the surrounding photoreceptors, so straight lines appear bent around the centre.

**Why the other options are wrong:**

- A, open-angle glaucoma: affects the peripheral field, not central distortion.
- B, vitreous haemorrhage: gives floaters and a hazy view, not a discrete foveal hole.
- C, bacterial conjunctivitis: is a red discharging eye, not a macular problem.

**Final Answer:** Macular hole  $\Rightarrow$  **D**

**Answer: (D)** [Go Back to Q7](#)

Q8.

### Solution

**Concept – branch retinal vein occlusion (BRVO):** Blockage of one retinal vein floods only the sector it drains.

**Step 1 – read the fundus:** Flame-shaped haemorrhages confined to a *wedge-shaped sector*, respecting the horizontal midline and lying along one vein (**X**), define BRVO.

**Step 2 – the site:** The obstruction is typically at an arteriovenous crossing, where the stiff artery compresses the vein.

**Why the other options are wrong:**

- A, artery occlusion: gives a pale retina with a cherry-red spot, not sectoral haemorrhages.
- C, angle-closure glaucoma: is a painful red eye, not a fundus haemorrhage pattern.
- D, optic atrophy: is a pale flat disc without haemorrhages.



**Final Answer:** Branch retinal vein occlusion  $\Rightarrow$  **B**

**Answer: (B)** [Go Back to Q8](#)

**Q9.**

### Solution

**Concept – internuclear ophthalmoplegia (INO):** Horizontal gaze needs the two eyes yoked by a brainstem pathway.

**Step 1 – localise the lesion:** Failure of adduction in one eye with abducting nystagmus in the other, and preserved convergence, is caused by a lesion of the **medial longitudinal fasciculus**.

**Step 2 – the cause:** In a young adult, bilateral or unilateral INO strongly suggests **multiple sclerosis**.

**Why the other options are wrong:**

- A, optic chiasma: causes a bitemporal field defect, not a gaze palsy.
- B, ciliary ganglion: affects pupil and accommodation (a tonic pupil), not conjugate gaze.
- D, retinal pigment epithelium: is a retinal layer, unrelated to eye movements.

**Final Answer:** Medial longitudinal fasciculus  $\Rightarrow$  **C**

**Answer: (C)** [Go Back to Q9](#)

**Q10.**

### Solution

**Concept – the near reflex triad:** Fixating on a near target triggers three linked responses.

**Step 1 – list the triad:** **Convergence** of the eyes, **accommodation** of the lens and pupillary **constriction (miosis)** together make up the near reflex.

**Step 2 – the efferent nerve:** All three are driven by the **oculomotor (third cranial) nerve**, its parasympathetic fibres reaching the ciliary and sphincter muscles via the ciliary ganglion.

**Why the other options are wrong:**

- B, divergence and dilatation: is the opposite (distance) response, not the near reflex.



- C, upgaze and lacrimation: mixes unrelated facial-nerve functions.
- D, abduction by the abducens: moves eyes apart, the reverse of convergence.

**Final Answer:** Convergence, accommodation and miosis via the third nerve ⇒ A

Answer: (A) [Go Back to Q10](#)

Q11.

### Solution

**Concept – anisocoria and the dilated fixed pupil:** A fixed dilated pupil may be due to a third nerve palsy or to a topical mydriatic drug.

**Step 1 – read the third nerve signs:** A compressive third nerve palsy adds **ptosis** and a ‘**down-and-out**’ eye, and the pupil still *constricts to pilocarpine*.

**Step 2 – the pharmacological contrast:** An atropine-like blockade paralyses the sphincter, so the pupil does *not* constrict to standard pilocarpine, and there is no ptosis or motility defect.

**Why the other options are wrong:**

- A, no ptosis in either: ignores the ptosis of a third nerve palsy.
- B, constricts in pharmacological blockade: is the reverse; the blocked pupil resists pilocarpine.
- C, equal pupils in the dark: a fixed dilated pupil stays large, so anisocoria persists.

**Final Answer:** Ptosis, down-and-out eye, pupil constricts to pilocarpine ⇒ D

Answer: (D) [Go Back to Q11](#)

Q12.

### Solution

**Concept – choroidal (uveal) melanoma:** This is the commonest primary intraocular malignancy in adults.

**Step 1 – read the schematic:** A pigmented choroidal mass that breaks through the Bruch membrane to form a **collar-stud (mushroom)** shape under the retina (X) is a choroidal melanoma.

**Step 2 – why the shape:** Once the tumour ruptures Bruch membrane it mushrooms into the subretinal space, giving the classic collar-stud outline.



**Why the other options are wrong:**

- B, retinoblastoma: is the commonest intraocular malignancy of *children*, not adults.
- C, choroidal naevus: is a small flat benign pigmented lesion, not a mushroom mass.
- D, retinal astrocytoma: is a benign glial tumour, not the collar-stud melanoma.

**Final Answer:** Choroidal (uveal) melanoma ⇒ A

Answer: (A) [Go Back to Q12](#)

**Q13.**

**Solution**

**Concept – classification of ptosis:** Ptosis is grouped by the tissue at fault, and levator function guides both diagnosis and surgery.

**Step 1 – match the description:** A dystrophic or poorly developed **levator muscle** with reduced levator function is **myogenic ptosis** (including congenital ptosis).

**Step 2 – the other types:** Aponeurotic ptosis is a stretched or dehiscenced aponeurosis with good levator function; neurogenic ptosis follows nerve lesions (for example a third nerve palsy or Horner syndrome).

**Why the other options are wrong:**

- A, aponeurotic: the muscle works well; the tendon has slipped, typically in the elderly.
- C, neurogenic: the muscle is normal but its nerve supply fails.
- D, mechanical: a lid mass or scar physically weighs the lid down.

**Final Answer:** Myogenic ptosis ⇒ B

Answer: (B) [Go Back to Q13](#)



Q14.

**Solution**

**Concept – congenital nasolacrimal duct obstruction:** Most congenital duct blocks open on their own during the first year.

**Step 1 – the conservative phase:** Lacrimal sac massage (Criglers) and topical antibiotics are used first, as spontaneous resolution is common.

**Step 2 – timing of probing:** If watering persists, syringing and **probing** is usually done at about **one year (12 months)** of age.

**Why the other options are wrong:**

- A, first week: far too early; most ducts open without any intervention.
- B, 3 months: still within the window for spontaneous resolution and massage.
- D, after five years: an unnecessary delay that risks recurrent dacryocystitis.

**Final Answer:** Probing at about one year of age ⇒ **C**

**Answer: (C)** [Go Back to Q14](#)

Q15.

**Solution**

**Concept – acute postoperative endophthalmitis:** Infection inside the eye after surgery is a sight-threatening emergency.

**Step 1 – read the signs:** A very painful red eye, marked visual loss and a **hypopyon** days after cataract surgery indicate acute endophthalmitis.

**Step 2 – the emergency management:** Perform an urgent **vitreous tap for culture** and give **intravitreal antibiotics** without delay.

**Why the other options are wrong:**

- A, reassurance and review: dangerously delays treatment of a rapidly blinding infection.
- B, topical drops alone: penetrate poorly into the vitreous cavity.
- D, immediate enucleation: is a last resort, not the initial management.

**Final Answer:** Vitreous tap with intravitreal antibiotics ⇒ **C**

**Answer: (C)** [Go Back to Q15](#)



**Answer Key**

| Q  | Ans | Q  | Ans | Q  | Ans | Q  | Ans | Q  | Ans |
|----|-----|----|-----|----|-----|----|-----|----|-----|
| 1  | A   | 2  | C   | 3  | B   | 4  | A   | 5  | B   |
| 6  | D   | 7  | D   | 8  | B   | 9  | C   | 10 | A   |
| 11 | D   | 12 | A   | 13 | B   | 14 | C   | 15 | C   |

