

INI CET Ophthalmology

Sample Paper – 4

Duration: 14 Minutes

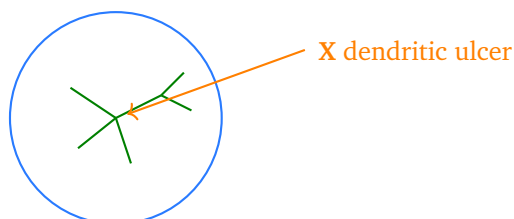
Maximum Marks: 15

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 patient with a painful, watering red eye shows a branching, tree-like ulcer on the cornea that stains vividly with fluorescein (marked X). Treatment with topical steroids alone is dangerous. The most likely diagnosis is:



- (A) Fungal keratitis
- (B) Herpes simplex dendritic keratitis



- (C) Bacterial corneal ulcer
- (D) Marginal (catarrhal) keratitis

Q2. Corneal transplantation (keratoplasty), in which diseased cornea is replaced by healthy donor tissue, is most appropriately indicated for:

- (A) Acute mucopurulent conjunctivitis
- (B) A refractive error that is fully correctable by spectacles
- (C) A dense central corneal scar (leucoma) that reduces vision
- (D) A subconjunctival haemorrhage

Q3. A painless, bright red, flat patch under the conjunctiva with completely normal vision, no discharge and no photophobia, which clears on its own over a couple of weeks, is:

- (A) Anterior uveitis
- (B) Subconjunctival haemorrhage
- (C) Acute angle-closure glaucoma
- (D) Bacterial conjunctivitis

Lens and Glaucoma

Q4. A tall patient with long limbs, arachnodactyly and Marfan syndrome shows a lens displaced upward (superotemporally). This finding is:

- (A) Ectopia lentis (a subluxated lens)
- (B) A mature cataract
- (C) Posterior vitreous detachment
- (D) Primary open-angle glaucoma

Q5. In an eye with an occludable, anatomically narrow angle that is at risk of an attack of angle-closure glaucoma, the recommended prophylactic (preventive) procedure is:

- (A) Pan-retinal photocoagulation



- (B) Laser peripheral iridotomy
- (C) Immediate phacoemulsification of a clear lens
- (D) Topical antibiotic drops

Q6. Greyish-white, flaky, dandruff-like deposits on the anterior lens capsule and at the pupillary margin, associated with a secondary open-angle glaucoma, indicate:

- (A) A diabetic cataract
- (B) Anterior uveitis
- (C) Fuchs endothelial dystrophy
- (D) Pseudoexfoliation glaucoma

Retina and Vitreous

Q7. The standard management of proliferative diabetic retinopathy, in which new fragile vessels (retinal neovascularisation) have formed, is:

- (A) Observation alone with no intervention
- (B) Topical antibiotics
- (C) Immediate cataract surgery
- (D) Pan-retinal photocoagulation with anti-VEGF therapy

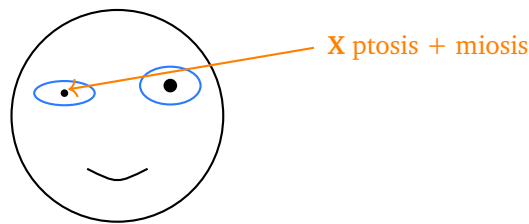
Q8. A long-standing hypertensive patient's fundus shows arteriovenous nipping, arteriolar narrowing and flame-shaped haemorrhages, graded by the Keith-Wagener-Barker system. This is:

- (A) Diabetic retinopathy
- (B) Hypertensive retinopathy
- (C) Retinitis pigmentosa
- (D) Central serous retinopathy

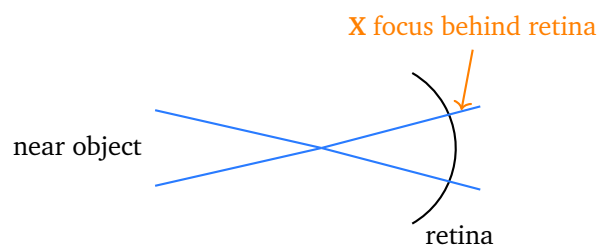
Neuro-ophthalmology and Optics



- Q9.** The face below shows mild drooping of the upper lid (ptosis), a constricted (miotic) pupil and loss of sweating on the same side (marked X). This triad points to a lesion of the sympathetic pathway, called:



- (A) Horner syndrome (a sympathetic pathway lesion)
(B) Third nerve (oculomotor) palsy
(C) Acute angle-closure glaucoma
(D) Adie's tonic pupil
- Q10.** The ray diagram below shows light from a near object failing to come to a focus on the retina in a 48-year-old (the focus falls behind the retina, marked X), so that near print is blurred and a convex reading add is needed. This age-related loss of accommodation is:



- (A) Presbyopia, corrected with a convex (plus) reading add
(B) Myopia, corrected with a concave (minus) lens
(C) Acute angle-closure glaucoma
(D) A mature cataract
- Q11.** On the swinging flashlight test, when the torch is swung to the affected eye its pupil paradoxically dilates rather than constricts, indicating reduced conduction in the afferent (optic nerve) pathway, for example in optic neuritis. This sign is:
- (A) A third nerve palsy

- (B) Horner syndrome
- (C) An Argyll Robertson pupil
- (D) A relative afferent pupillary defect (Marcus Gunn pupil)

Uvea, Orbit and Ocular Adnexa

Q12. A focal necrotising retinochoroiditis appearing as a fluffy white lesion beside an old pigmented scar, the commonest infective cause of posterior uveitis, is due to:

- (A) Chlamydia trachomatis
- (B) Staphylococcus aureus
- (C) Toxoplasma gondii
- (D) Herpes zoster of the eyelid

Q13. An eyelid whose margin is turned inward, so that the lashes rub against and abrade the cornea, is termed:

- (A) Ectropion
- (B) Ptosis
- (C) Entropion
- (D) Lagophthalmos

Paediatric Ophthalmology and Emergencies

Q14. A child has a squint in which the angle of deviation stays the same in every direction of gaze and all eye movements are full; the cover test shows a constant angle. This is a:

- (A) Concomitant (non-paralytic) squint
- (B) Paralytic (incomitant) squint
- (C) Nystagmus
- (D) Retinoblastoma



- Q15.** The correct first-aid for a suspected open globe (penetrating) eye injury with a lacerated cornea is:
- (A) Apply firm pressure padding to stop the bleeding
 - (B) Wash the eye vigorously and pull out any protruding object
 - (C) Cover with a rigid protective shield without pressure and refer urgently
 - (D) Instil steroid drops and review the next week



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

Concept – herpes simplex dendritic keratitis: Herpes simplex virus infects the corneal epithelium and produces a characteristic branching ulcer.

Step 1 – read the sign: A branching, tree-like (**dendritic**) ulcer that stains brightly with fluorescein (marked **X**) is the hallmark of herpes simplex epithelial keratitis.

Step 2 – the key warning: It is treated with topical antivirals such as aciclovir; **steroids alone are contraindicated** because they let the virus spread and can cause a geographic ulcer.

Why the other options are wrong:

- A, fungal keratitis: gives a greyish ulcer with feathery margins and satellite lesions, not a dendrite.
- C, bacterial ulcer: is a round ulcer with a dense stromal infiltrate and often a hypopyon.
- D, marginal keratitis: is a peripheral hypersensitivity infiltrate near the limbus, not a central dendrite.

Final Answer: Herpes simplex dendritic keratitis ⇒ **B**

Answer: (B) [Go Back to Q1](#)

Q2.**Solution**

Concept – indications for keratoplasty: Corneal transplantation replaces diseased cornea with clear donor tissue to restore vision or integrity.

Step 1 – pick the valid indication: A **dense central corneal scar (leucoma)** that blocks the visual axis is a classic optical indication for keratoplasty.

Step 2 – the range of indications: Keratoplasty is also done for keratoconus, bullous keratopathy, corneal dystrophies and to save an eye with a corneal perforation (therapeutic/tectonic graft).

Why the other options are wrong:

- A, acute conjunctivitis: is a self-limiting surface infection needing drops, not a graft.



- B, a spectacle-correctable refractive error: needs glasses, not surgery.
- D, subconjunctival haemorrhage: resolves on its own and never needs a transplant.

Final Answer: A dense central corneal scar (leucoma) ⇒ C

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

Q3.

Solution

Concept – subconjunctival haemorrhage: A small conjunctival vessel bleeds into the potential space under the conjunctiva.

Step 1 – read the picture: A **painless, bright red, flat patch** with normal vision, no discharge and no photophobia is a subconjunctival haemorrhage.

Step 2 – the course: It is harmless and resolves spontaneously over one to two weeks as the blood is reabsorbed; only recurrent episodes need a check of blood pressure and clotting.

Why the other options are wrong:

- A, anterior uveitis: is a painful, photophobic eye with circumcorneal congestion, not a flat red patch.
- C, angle-closure glaucoma: is a painful red eye with haloes and a hard globe.
- D, bacterial conjunctivitis: has diffuse redness with sticky discharge, not a discrete blood patch.

Final Answer: Subconjunctival haemorrhage ⇒ B

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

Q4.

Solution

Concept – ectopia lentis in Marfan syndrome: Weak or ruptured zonular fibres let the lens slip out of its normal position.

Step 1 – read the clues: A tall Marfan patient with a lens displaced **upward (superotemporally)** has ectopia lentis (a subluxated lens).

Step 2 – the mechanism: The fibrillin defect in Marfan syndrome weakens the zonules, and the classic direction of dislocation is up and out (contrast with homocystinuria, where the lens goes down).



Why the other options are wrong:

- B, mature cataract: is a white opaque lens in its normal position, not a displaced one.
- C, posterior vitreous detachment: is separation of the vitreous, causing floaters, not lens displacement.
- D, open-angle glaucoma: is a painless optic neuropathy, unrelated to lens position.

Final Answer: Ectopia lentis (subluxated lens) $\Rightarrow$ A

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

Q5.

Solution

Concept – prophylaxis of angle-closure glaucoma: Angle closure happens when the peripheral iris blocks aqueous drainage; a bypass channel prevents it.

Step 1 – name the procedure: A **laser peripheral iridotomy** makes a small hole in the peripheral iris, letting aqueous pass forward and holding the angle open.

Step 2 – why it works: By relieving pupillary block it prevents the acute pressure rise, so it is offered prophylactically to occludable narrow angles and to the fellow eye after an attack.

Why the other options are wrong:

- A, pan-retinal photocoagulation: treats proliferative retinal disease, not a narrow angle.
- C, phacoemulsification of a clear lens: is not the first-line prophylaxis, though lens extraction can help selected cases.
- D, topical antibiotics: treat infection and do nothing for the angle.

Final Answer: Laser peripheral iridotomy $\Rightarrow$ B

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



Q6.

Solution

Concept – pseudoexfoliation glaucoma: An abnormal fibrillar material is deposited on anterior segment structures and clogs the trabecular meshwork.

Step 1 – read the sign: Greyish-white, **flaky dandruff-like deposits** on the anterior lens capsule and pupillary margin define pseudoexfoliation.

Step 2 – the glaucoma link: The material and released pigment block the meshwork, raising pressure and causing a secondary open-angle glaucoma that is often asymmetric and aggressive.

Why the other options are wrong:

- A, diabetic cataract: is a lens opacity, not surface flakes with glaucoma.
- B, anterior uveitis: gives keratic precipitates and cells, not dandruff-like capsular deposits.
- C, Fuchs endothelial dystrophy: affects the corneal endothelium (guttata), not the lens capsule.

Final Answer: Pseudoexfoliation glaucoma ⇒ D

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

Q7.

Solution

Concept – proliferative diabetic retinopathy (PDR): Retinal ischaemia drives growth of fragile new vessels that bleed and can detach the retina.

Step 1 – name the treatment: **Pan-retinal photocoagulation** (scatter laser) plus **anti-VEGF** injections is the standard management of PDR with neovascularisation.

Step 2 – how it helps: Laser ablates ischaemic peripheral retina to cut the VEGF drive, and anti-VEGF agents directly shrink the new vessels and reduce macular oedema.

Why the other options are wrong:

- A, observation alone: risks vitreous haemorrhage and tractional detachment.
- B, topical antibiotics: treat infection and have no role in retinopathy.
- C, cataract surgery: does not address the retinal neovascularisation.

Final Answer: Pan-retinal photocoagulation with anti-VEGF ⇒ D



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

Q8.

Solution

Concept – hypertensive retinopathy: Chronically raised blood pressure damages the retinal arterioles in a recognisable sequence.

Step 1 – read the fundus: Arteriovenous nipping, arteriolar narrowing (silver/copper wiring) and flame-shaped haemorrhages are the signs of hypertensive retinopathy.

Step 2 – the grading: The Keith-Wagener-Barker system grades severity from I (mild arteriolar narrowing) to IV (papilloedema of malignant hypertension).

Why the other options are wrong:

- A, diabetic retinopathy: features microaneurysms, dot-blot haemorrhages and hard exudates, not AV nipping.
- C, retinitis pigmentosa: shows bone-spicule pigmentation and night blindness.
- D, central serous retinopathy: is a focal macular serous detachment in young adults.

Final Answer: Hypertensive retinopathy ⇒ **B**

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

Q9.

Solution

Concept – Horner syndrome: Interruption of the oculosympathetic pathway produces a classic triad on the affected side.

Step 1 – read the triad: Ptosis (from loss of Muller's muscle), miosis (unopposed parasympathetic constriction) and anhidrosis (marked X) define Horner syndrome.

Step 2 – the pathway: The three-neuron sympathetic chain (hypothalamus to spinal cord to superior cervical ganglion to the eye) may be interrupted by a Pan-coast tumour, carotid dissection or brainstem lesion.

Why the other options are wrong:

- B, third nerve palsy: gives ptosis with a *dilated* pupil and a 'down and out'



eye, not miosis.

- C, angle-closure glaucoma: is a painful red eye with a mid-dilated pupil.
- D, Adie's tonic pupil: is a large pupil with slow light response, not the Horner triad.

Final Answer: Horner syndrome $\Rightarrow$ A

Answer: (A) [Go Back to Q9](#)

Q10.

Solution

Concept – presbyopia: With age the crystalline lens stiffens and the ciliary muscle weakens, so accommodation for near tasks fails.

Step 1 – read the ray diagram: Light from a near object cannot be brought forward onto the retina; the focus falls *behind* the retina (marked X), so near print is blurred.

Step 2 – the correction: A **convex (plus) reading add** supplies the extra converging power the eye can no longer generate, restoring clear near vision. It typically begins around 40 years of age.

Why the other options are wrong:

- B, myopia: blurs *distance* vision and needs a concave lens, and is not age-related loss of accommodation.
- C, angle-closure glaucoma: is a painful red eye, not a refractive problem.
- D, cataract: is a lens opacity causing general blur, not a pure accommodation defect.

Final Answer: Presbyopia, corrected with a convex reading add $\Rightarrow$ A

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

Q11.

Solution

Concept – relative afferent pupillary defect (RAPD): The swinging flashlight test compares the afferent (light-detecting) input of the two optic nerves.

Step 1 – read the sign: When the torch swings to the **affected** eye its pupil *dilates* instead of constricting, because that optic nerve carries a weaker signal. This is a **relative afferent pupillary defect (Marcus Gunn pupil)**.



Step 2 – what it localises: An RAPD indicates disease of the optic nerve or extensive retina (for example optic neuritis or a central retinal artery occlusion), on the side that dilates.

Why the other options are wrong:

- A, third nerve palsy: is an *efferent* problem giving a fixed dilated pupil, not this swinging-light response.
- B, Horner syndrome: gives a small pupil with a normal light reaction.
- C, Argyll Robertson pupil: accommodates but does not react to light (light-near dissociation), which is a different sign.

Final Answer: Relative afferent pupillary defect (Marcus Gunn pupil) ⇒ D

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

Q12.

Solution

Concept – toxoplasma retinochoroiditis: Toxoplasma gondii is the commonest infective cause of posterior uveitis worldwide.

Step 1 – read the lesion: A focal **necrotising retinochoroiditis** appearing as a fluffy white lesion next to an old pigmented scar (a reactivated congenital focus) is due to **Toxoplasma gondii**.

Step 2 – the clinical picture: The overlying vitreous haze gives the classic ‘head-light in the fog’ appearance; treatment is with anti-toxoplasma drugs, adding steroids when the macula or disc is threatened.

Why the other options are wrong:

- A, Chlamydia trachomatis: causes trachoma, a conjunctival not a posterior uveitis disease.
- B, Staphylococcus aureus: causes lid and surface infections, not this retinochoroiditis.
- D, herpes zoster of the lid: causes a vesicular skin rash and anterior segment disease, not a retinochoroidal scar.

Final Answer: Toxoplasma gondii ⇒ C

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



Q13.

Solution

Concept – entropion: Entropion and ectropion describe opposite malpositions of the eyelid margin.

Step 1 – match the definition: An eyelid margin turned **inward**, so the lashes rub the cornea (trichiasis), is an **entropion**.

Step 2 – why it matters: The rubbing lashes cause corneal abrasion, discomfort and, if untreated, scarring; management ranges from taping and lubrication to lid-tightening surgery.

Why the other options are wrong:

- A, ectropion: is the *opposite*, an outward-turning lid margin causing watering and exposure.
- B, ptosis: is drooping of the upper lid, not a margin that turns in.
- D, lagophthalmos: is incomplete eyelid closure, not inturning of the margin.

Final Answer: Entropion $\Rightarrow$

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

Q14.

Solution

Concept – concomitant squint: Childhood squints are divided into concomitant (non-paralytic) and incomitant (paralytic) types.

Step 1 – read the sign: When the **angle of deviation stays the same in all directions of gaze** and eye movements are full, the squint is **concomitant (non-paralytic)**, the common childhood type.

Step 2 – how it is detected: The cover test shows a constant angle; management addresses refractive error (glasses), any amblyopia (patching) and then surgical alignment if needed.

Why the other options are wrong:

- B, paralytic squint: has a deviation that *varies* with gaze and limited movement, often with diplopia.
- C, nystagmus: is rhythmic to-and-fro eye oscillation, not a fixed squint angle.
- D, retinoblastoma: is an intraocular tumour presenting with leukocoria, though it can occasionally cause a squint.



Final Answer: Concomitant (non-paralytic) squint $\Rightarrow$

Answer: (A) [Go Back to Q14](#)

Q15.

Solution

Concept – open globe (penetrating) injury: A full-thickness corneal or scleral wound risks extrusion of intraocular contents, so pressure must be avoided.

Step 1 – name the first step: Cover the eye with a **rigid protective shield without applying any pressure** and refer urgently for surgical repair.

Step 2 – why pressure is dangerous: Any pressure or manipulation can force out the uvea, vitreous or lens and worsen the injury; give nothing by mouth (in case of anaesthesia), start antibiotics and update tetanus cover.

Why the other options are wrong:

- A, firm pressure padding: can extrude intraocular contents and is harmful.
- B, vigorous washing and removing a protruding object: can pull out ocular tissue and must never be done.
- D, steroid drops and delayed review: dangerously delays repair of an open globe.

Final Answer: Cover with a rigid shield without pressure and refer urgently $\Rightarrow$

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



Answer Key

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

