

INI CET Ophthalmology

Sample Paper – 3

Duration: 14 Minutes

Maximum Marks: 15

Instructions

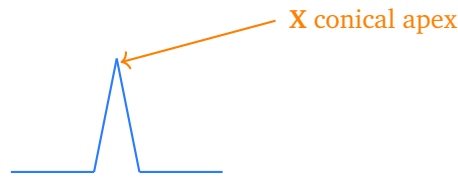
- This paper contains **15** Multiple Choice Questions (Single Best Response), modelled on the Ophthalmology content of **INI CET** (Institutes of National Importance Combined Entrance Test) conducted by AIIMS New Delhi.
- The **15-question** length matches the number of Ophthalmology items you actually 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 soft contact-lens wearer presents with a rapidly enlarging corneal ulcer, a greenish mucopurulent discharge and a hypopyon that has appeared within a day. The most likely causative organism is:
- (A) *Pseudomonas aeruginosa*
(B) Herpes simplex virus
(C) *Aspergillus* species
(D) Adenovirus
- Q2.** The schematic below shows a cornea that has become conical rather than domed, with the apex (marked X) bulging forward and producing a V-



shaped indentation of the lower lid on downgaze (Munson sign) together with irregular astigmatism. This condition is:



- (A) Corneal arcus
- (B) Band-shaped keratopathy
- (C) Keratoconus
- (D) Corneal oedema

Q3. A patient complains of a gritty, burning sensation and intermittent blurring; the tear film breaks up quickly and a Schirmer test wets only 3 mm of the strip in 5 minutes. The most likely diagnosis is:

- (A) Acute bacterial conjunctivitis
- (B) Vernal keratoconjunctivitis
- (C) Acute angle-closure glaucoma
- (D) Keratoconjunctivitis sicca (dry eye)

Lens and Glaucoma

Q4. A diabetic patient on long-term oral steroids complains of marked glare and poor vision in bright light and while reading, although distance vision in dim light is better. Slit-lamp examination shows an opacity just in front of the posterior capsule. The type of cataract is:

- (A) Nuclear sclerotic cataract
- (B) Anterior polar cataract
- (C) Cortical cataract
- (D) Posterior subcapsular cataract

Q5. Using Goldmann applanation tonometry, the normal range of intraocular pressure in a healthy adult eye is taken as:



- (A) 2 to 6 mmHg
- (B) 30 to 40 mmHg
- (C) 10 to 21 mmHg
- (D) 40 to 50 mmHg

Q6. A young man on prolonged topical corticosteroid drops for allergic eye disease is found to have a gradually rising intraocular pressure with an open drainage angle on gonioscopy. This is best described as:

- (A) Steroid-induced (secondary open-angle) glaucoma
- (B) Acute angle-closure glaucoma
- (C) Congenital glaucoma
- (D) Neovascular glaucoma

Retina and Vitreous

Q7. An elderly hypertensive patient develops sudden painless loss of vision in one eye. The fundus shows widespread flame-shaped haemorrhages in all four quadrants, dilated tortuous veins and disc swelling, giving a 'blood and thunder' appearance. The diagnosis is:

- (A) Central retinal vein occlusion
- (B) Central retinal artery occlusion
- (C) Age-related macular degeneration
- (D) Posterior vitreous detachment

Q8. A young adult reports difficulty seeing in dim light since childhood and progressive narrowing of the visual field. The fundus shows waxy disc pallor, attenuated arterioles and bone-spicule pigmentation in the mid-periphery. The diagnosis is:

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



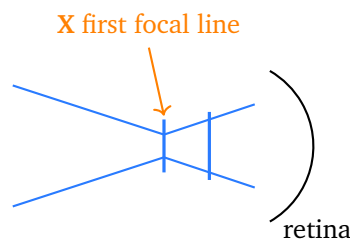
(D) Vitreous haemorrhage

Neuro-ophthalmology and Optics

Q9. A patient has permanent poor vision in one eye. The optic disc appears chalky-white and flat with sharp margins, and the pupillary light reaction is sluggish. This appearance indicates:

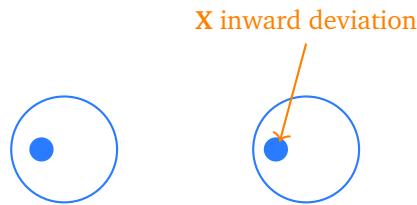
- (A) Papilloedema
- (B) Central serous retinopathy
- (C) Diabetic maculopathy
- (D) Optic atrophy

Q10. The ray diagram below shows parallel light passing through an eye whose cornea is more steeply curved in one meridian than the other, so that the rays form two separate focal lines (the nearer one marked X) instead of a single point. This refractive error, and its correcting lens, are:



- (A) Myopia, corrected with a concave (minus) lens
- (B) Astigmatism, corrected with a cylindrical lens
- (C) Hypermetropia, corrected with a convex (plus) lens
- (D) Emmetropia, needing no correction

Q11. The diagram shows both eyes in the primary position: the right eye is deviated inward towards the nose (marked X) and cannot be moved outward. The patient has horizontal double vision that worsens on looking to the right. This palsy, which can also be a false localising sign of raised intracranial pressure, involves the:



- (A) Third (oculomotor) nerve
- (B) Sixth (abducens) nerve
- (C) Fourth (trochlear) nerve
- (D) Facial (seventh) nerve

Uvea, Orbit and Ocular Adnexa

Q12. Several weeks after a penetrating injury to the right eye, a patient develops a bilateral granulomatous panuveitis, with the uninjured left (sympathising) eye now also inflamed. This condition is:

- (A) Acute bacterial endophthalmitis
- (B) Allergic conjunctivitis
- (C) Sympathetic ophthalmia
- (D) Episcleritis

Q13. A middle-aged woman with hyperthyroidism develops bilateral proptosis, upper lid retraction, lid lag on downgaze and restricted upgaze from an enlarged inferior rectus muscle. The most likely diagnosis is:

- (A) Orbital cellulitis
- (B) Cavernous sinus thrombosis
- (C) Thyroid eye disease (Graves ophthalmopathy)
- (D) Chalazion

Paediatric Ophthalmology and Emergencies

Q14. A 5-year-old child has reduced vision in one eye that does not improve with spectacles, despite a structurally normal eye, because a long-standing squint has suppressed that eye during visual development. The condition, treated by patching the good eye, is:



- (A) Retinoblastoma
- (B) Amblyopia (lazy eye)
- (C) Congenital cataract
- (D) Optic atrophy

Q15. A newborn develops a severe hyperacute purulent conjunctivitis with marked lid oedema within the first 2 to 3 days of life, and Gram-negative intracellular diplococci are seen on the discharge smear. The most likely cause is:

- (A) Gonococcal ophthalmia neonatorum
- (B) Chemical (silver nitrate) conjunctivitis
- (C) Chlamydial conjunctivitis
- (D) Herpes simplex conjunctivitis



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

Concept – contact-lens-related bacterial keratitis: Contact-lens wear is the leading risk factor for a particular aggressive bacterial corneal ulcer.

Step 1 – read the clues: A soft-lens wearer with a **rapidly** enlarging ulcer, greenish mucopurulent discharge and an early hypopyon points to **Pseudomonas aeruginosa**.

Step 2 – why it is so aggressive: Pseudomonas releases proteolytic enzymes that can melt the cornea within hours, so it is treated urgently with intensive topical fortified antibiotics.

Why the other options are wrong:

- B, herpes simplex: gives a dendritic ulcer with reduced corneal sensation, not a rapid greenish hypopyon ulcer.
- C, Aspergillus: is a fungal keratitis with feathery margins, typically after vegetable-matter trauma.
- D, adenovirus: causes epidemic keratoconjunctivitis, a watery follicular reaction, not a suppurative ulcer.

Final Answer: Pseudomonas aeruginosa ⇒ A

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

Q2.**Solution**

Concept – keratoconus: Keratoconus is a progressive non-inflammatory thinning that makes the cornea conical.

Step 1 – read the signs: A **conical cornea** with its apex bulging forward (marked X), a V-shaped lower-lid indentation on downgaze (**Munson sign**) and **irregular astigmatism** define keratoconus.

Step 2 – management: Early cases are corrected with rigid gas-permeable lenses; progression is halted by corneal collagen cross-linking, and advanced cases may need keratoplasty.

Why the other options are wrong:

- A, corneal arcus: is a peripheral lipid ring, not a conical shape.



- B, band-shaped keratopathy: is a horizontal band of calcium across the cornea.
- D, corneal oedema: is diffuse swelling with haze, not a cone.

Final Answer: Keratoconus $\Rightarrow$

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

Q3.

Solution

Concept – dry eye (keratoconjunctivitis sicca): A deficient or unstable tear film leaves the ocular surface poorly lubricated.

Step 1 – read the clues: A **gritty, burning** sensation, intermittent blurring, a rapid tear break-up time and a **Schirmer test** wetting only 3 mm in 5 minutes indicate keratoconjunctivitis sicca.

Step 2 – the tests: The Schirmer test measures aqueous tear production (a normal strip wets more than 10 to 15 mm), and a short tear film break-up time confirms instability.

Why the other options are wrong:

- A, bacterial conjunctivitis: gives sticky discharge and redness, not a low Schirmer reading.
- B, vernal keratoconjunctivitis: is an itchy allergic disease with cobblestone papillae.
- C, angle-closure glaucoma: is a painful red eye with haloes, not a dry gritty one.

Final Answer: Keratoconjunctivitis sicca $\Rightarrow$

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

Q4.

Solution

Concept – posterior subcapsular cataract (PSC): An opacity forming just in front of the posterior capsule sits on the visual axis.

Step 1 – match the picture: Marked **glare**, poor vision in bright light and while reading, and an opacity just anterior to the posterior capsule in a patient on **steroids** and with **diabetes** indicate a posterior subcapsular cataract.



Step 2 – why glare and near-vision trouble: Because the opacity lies at the nodal point on the visual axis, it disproportionately affects vision when the pupil constricts (bright light, reading).

Why the other options are wrong:

- A, nuclear sclerotic: is central and age-related, causing an index myopic shift, not axial glare.
- B, anterior polar: is a small congenital opacity at the front of the lens.
- C, cortical: gives spoke-like peripheral opacities.

Final Answer: Posterior subcapsular cataract ⇒

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

Q5.

Solution

Concept – normal intraocular pressure: Intraocular pressure is set by the balance of aqueous production and outflow.

Step 1 – recall the range: By Goldmann applanation tonometry the normal intraocular pressure is **10 to 21 mmHg** (mean about 16 mmHg).

Step 2 – the reference method: Goldmann applanation tonometry is the clinical gold standard, measuring the force needed to flatten a fixed corneal area.

Why the other options are wrong:

- A, 2 to 6 mmHg: is abnormally low (hypotony).
- B, 30 to 40 mmHg: is markedly raised, as in glaucoma.
- D, 40 to 50 mmHg: is dangerously high, as in an acute pressure crisis.

Final Answer: 10 to 21 mmHg ⇒

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

Q6.

Solution

Concept – steroid-induced glaucoma: Corticosteroids can raise intraocular pressure in susceptible ‘steroid responders’.

Step 1 – read the picture: Prolonged **topical steroids**, a gradually rising pressure and an **open angle** on gonioscopy define a secondary open-angle (steroid-



induced) glaucoma.

Step 2 – the mechanism: Steroids reduce aqueous outflow through the trabecular meshwork; stopping the steroid usually reverses the rise if caught early.

Why the other options are wrong:

- B, acute angle-closure: is a sudden painful crisis with a closed angle, not a gradual open-angle rise.
- C, congenital glaucoma: presents in infancy with buphthalmos and watering.
- D, neovascular glaucoma: follows retinal ischaemia with new vessels on the iris.

Final Answer: Steroid-induced open-angle glaucoma $\Rightarrow$ A

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

Q7.

Solution

Concept – central retinal vein occlusion (CRVO): Blockage of the central retinal vein backs up blood throughout the retina.

Step 1 – read the fundus: Sudden painless visual loss with **flame-shaped haemorrhages in all four quadrants**, dilated tortuous veins and disc swelling gives the classic ‘blood and thunder’ fundus of CRVO.

Step 2 – the risk factors: It is associated with hypertension, hyperviscosity and open-angle glaucoma; complications include macular oedema and neovascularisation.

Why the other options are wrong:

- B, central retinal artery occlusion: gives a pale retina with a cherry-red spot, not diffuse haemorrhages.
- C, age-related macular degeneration: causes gradual central loss, not a sudden haemorrhagic fundus.
- D, posterior vitreous detachment: causes floaters and flashes, not this picture.

Final Answer: Central retinal vein occlusion $\Rightarrow$ A

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



Q8.

Solution

Concept – retinitis pigmentosa: Retinitis pigmentosa is a hereditary rod-cone dystrophy that damages the peripheral rods first.

Step 1 – read the clues: Lifelong **night blindness** (nyctalopia), progressive **tunnel vision**, waxy disc pallor, attenuated arterioles and mid-peripheral **bone-spicule pigmentation** define retinitis pigmentosa.

Step 2 – why night blindness first: The rods, responsible for dim-light vision, degenerate earliest, so poor night vision and ring field loss precede central involvement.

Why the other options are wrong:

- A, diabetic retinopathy: shows microaneurysms and haemorrhages, not bone-spicule pigment.
- C, central serous retinopathy: is a localised macular detachment in young adults.
- D, vitreous haemorrhage: causes sudden floaters and a hazy view, not life-long night blindness.

Final Answer: Retinitis pigmentosa ⇒ **B**

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

Q9.

Solution

Concept – optic atrophy: Optic atrophy is the end result of irreversible optic nerve fibre loss.

Step 1 – read the disc: A **chalky-white, flat disc** with sharp margins, permanent poor vision and a sluggish pupil reaction indicates optic atrophy.

Step 2 – the mechanism: Loss of nerve fibres and their capillaries leaves the disc pale; the visual loss it causes is permanent.

Why the other options are wrong:

- A, papilloedema: is a *swollen* disc with blurred margins, not a pale flat one.
- B, central serous retinopathy: is a macular condition with a normal disc.
- C, diabetic maculopathy: affects the macula, not the disc colour.

Final Answer: Optic atrophy ⇒ **D**



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

Q10.

Solution

Concept – astigmatism: In astigmatism the corneal curvature differs between meridians, so there is no single focus.

Step 1 – read the ray diagram: Because one meridian is steeper, the rays form two separate focal lines (the first marked X) instead of a point; this defines astigmatism.

Step 2 – the correction: A cylindrical lens, which has power in only one meridian, brings the two focal lines together onto the retina.

Why the other options are wrong:

- A, myopia: focuses to a single point in front of the retina and needs a concave lens.
- C, hypermetropia: focuses to a single point behind the retina and needs a convex lens.
- D, emmetropia: focuses exactly on the retina and needs no correction.

Final Answer: Astigmatism, corrected with a cylindrical lens $\Rightarrow$ B

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

Q11.

Solution

Concept – sixth (abducens) nerve palsy: The sixth nerve supplies the lateral rectus, which abducts the eye.

Step 1 – read the signs: An eye deviated inward (marked X) that cannot abduct, with horizontal double vision worse on gaze to that side, indicates a sixth nerve palsy causing a convergent squint.

Step 2 – the false localising sign: Because of its long intracranial course, the sixth nerve is stretched by raised intracranial pressure, making its palsy a well-known false localising sign.

Why the other options are wrong:

- A, third nerve: gives ptosis, a 'down and out' eye and a dilated pupil.
- C, fourth nerve: affects the superior oblique, causing vertical diplopia and a



head tilt.

- D, facial nerve: causes lid weakness (lagophthalmos), not a squint.

Final Answer: Sixth (abducens) nerve $\Rightarrow$ **B**

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

Q12.

Solution

Concept – sympathetic ophthalmia: A penetrating injury to one eye can trigger an immune attack on both eyes.

Step 1 – read the history: A **bilateral granulomatous uveitis** developing weeks after a **penetrating injury** to one eye, with the uninjured (sympathising) eye now inflamed, defines sympathetic ophthalmia.

Step 2 – the mechanism and prevention: Exposure of hidden uveal antigens provokes an autoimmune response; early removal of a blind, badly injured eye and immunosuppression reduce the risk.

Why the other options are wrong:

- A, bacterial endophthalmitis: is an acute infective inflammation of the injured eye alone.
- B, allergic conjunctivitis: is an itchy surface reaction, not a bilateral panuveitis.
- D, episcleritis: is a benign, localised, self-limiting inflammation.

Final Answer: Sympathetic ophthalmia $\Rightarrow$ **C**

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

Q13.

Solution

Concept – thyroid eye disease (Graves ophthalmopathy): Autoimmune inflammation enlarges the extraocular muscles and orbital fat.

Step 1 – read the signs: **Bilateral proptosis**, upper **lid retraction**, lid lag on downgaze and restricted upgaze from an enlarged inferior rectus, in a hyperthyroid woman, define thyroid eye disease.

Step 2 – the restrictive myopathy: Swollen, fibrosed muscles (inferior and medial rectus most often) restrict movement, so upgaze and abduction are limited.



Why the other options are wrong:

- A, orbital cellulitis: is an acute painful febrile infection, usually unilateral.
- B, cavernous sinus thrombosis: is an acute emergency with multiple cranial nerve palsies.
- D, chalazion: is a painless meibomian lid cyst, not a cause of proptosis.

Final Answer: Thyroid eye disease ⇒

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

Q14.

Solution

Concept – amblyopia (lazy eye): Amblyopia is reduced vision in a structurally normal eye from abnormal visual development.

Step 1 – read the clues: Reduced vision that **does not improve with spectacles**, a normal eye and a long-standing squint that has **suppressed** the eye during the sensitive period define amblyopia.

Step 2 – the treatment: Occlusion (patching) of the better eye, or penalising it with atropine, forces use of the amblyopic eye; it works best when started young.

Why the other options are wrong:

- A, retinoblastoma: presents with leukocoria and a calcified mass, not a normal quiet eye.
- C, congenital cataract: has a visible lens opacity, so the eye is not structurally normal.
- D, optic atrophy: shows a pale disc and a genuine nerve lesion.

Final Answer: Amblyopia ⇒

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

Q15.

Solution

Concept – ophthalmia neonatorum: Ophthalmia neonatorum is conjunctivitis in the first month of life, and its timing hints at the cause.

Step 1 – read the clues: A **hyperacute** purulent conjunctivitis with marked lid oedema in the **first 2 to 3 days**, with **Gram-negative intracellular diplococci**,



indicates **gonococcal** ophthalmia neonatorum.

Step 2 – why urgency matters: *Neisseria gonorrhoeae* can penetrate an intact cornea and cause perforation, so it needs prompt systemic and topical treatment; Crede prophylaxis helps prevent it.

Why the other options are wrong:

- B, chemical conjunctivitis: appears within hours of silver nitrate and is mild and self-limiting.
- C, chlamydial conjunctivitis: presents later, around days 5 to 14, with a milder mucopurulent discharge.
- D, herpes simplex: is later still, with vesicles and possible keratitis, not Gram-negative diplococci.

Final Answer: Gonococcal ophthalmia neonatorum ⇒ A

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



Answer Key

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

