

INI CET Ophthalmology

Sample Paper – 5

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 who rinses lenses in tap water develops a slowly progressive keratitis with severe pain out of all proportion to the signs and a ring-shaped stromal infiltrate. The most likely organism is:
- (A) Acanthamoeba
(B) Staphylococcus aureus
(C) Herpes simplex virus
(D) Chlamydia trachomatis
- Q2.** A malnourished child has a dry, lustreless conjunctiva, foamy triangular patches at the limbus (Bitot spots) and softening of the cornea (keratomalacia). The deficiency responsible is:



- (A) Vitamin C
- (B) Vitamin A
- (C) Vitamin D
- (D) Vitamin K

Q3. A child presents with a small pinkish-white nodule at the limbus with a leash of dilated vessels running up to it. It represents a delayed hypersensitivity reaction and is classically associated with tuberculosis. The diagnosis is:

- (A) Acute bacterial conjunctivitis
- (B) Pterygium
- (C) Phlyctenular conjunctivitis
- (D) Episcleritis

Lens and Glaucoma

Q4. Regarding congenital cataract, choose the single most accurate statement:

- (A) It is never linked to any maternal infection during pregnancy
- (B) Galactosaemia is not a recognised metabolic cause
- (C) Maternal rubella and galactosaemia are recognised causes, and a dense visually significant cataract should be removed early to prevent stimulus-deprivation amblyopia
- (D) Surgery should always be delayed until the child is at least five years old

Q5. The clinical technique that uses a special mirrored contact lens to visualise and grade the iridocorneal (drainage) angle, distinguishing open-angle from angle-closure glaucoma, is:

- (A) Applanation tonometry
- (B) Direct ophthalmoscopy



- (C) Automated perimetry
- (D) Gonioscopy

Q6. Several weeks after an ischaemic central retinal vein occlusion, new vessels grow on the surface of the iris (rubeosis iridis) and over the drainage angle, blocking aqueous outflow and raising the intraocular pressure. This secondary glaucoma is called:

- (A) Primary open-angle glaucoma
- (B) Phacomorphic glaucoma
- (C) Neovascular glaucoma
- (D) Pigmentary glaucoma

Retina and Vitreous

Q7. A young, otherwise healthy man under work stress notices a central blur with distortion of straight lines (metamorphopsia) and a smaller, dimmer image in one eye; OCT shows a shallow serous detachment of the neurosensory retina at the macula. The diagnosis is:

- (A) Central retinal artery occlusion
- (B) Central serous chorioretinopathy
- (C) Primary open-angle glaucoma
- (D) Optic neuritis

Q8. A patient with proliferative diabetic retinopathy develops sudden floaters and loss of vision; on examination the red reflex is lost and the fundus cannot be seen clearly. The most likely cause is:

- (A) Cataract
- (B) Papilloedema
- (C) Anterior uveitis
- (D) Vitreous haemorrhage

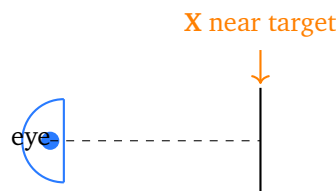
Neuro-ophthalmology and Optics



Q9. A pupil that is small, irregular, accommodates (constricts to a near target) but does not react to a bright light, classically seen in neurosyphilis ('accommodation is retained, the light reflex is lost'), is called:

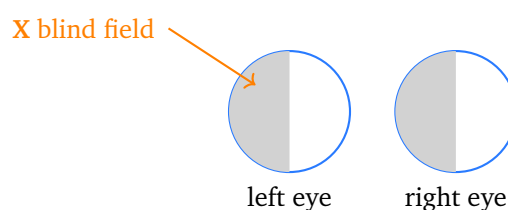
- (A) Argyll Robertson pupil
- (B) Marcus Gunn pupil
- (C) Adie's tonic pupil
- (D) Horner's pupil

Q10. The schematic below shows an eye shifting fixation from a distant object to a near target at the point marked X. The three components of the near (accommodation) reflex triggered by this are:



- (A) Convergence of the eyes, pupillary constriction and increased curvature (thickening) of the lens
- (B) Divergence of the eyes, pupillary dilatation and flattening of the lens
- (C) Elevation of both eyes, lid retraction and lens flattening
- (D) Abduction of the eyes, pupillary constriction and thinning of the lens

Q11. The visual-field chart below shows loss of the same (left) half of the field in both eyes (shaded, marked X) from a right post-chiasmal lesion, that is, a homonymous hemianopia. A feature that specifically points to an occipital (rather than an optic tract) lesion is:

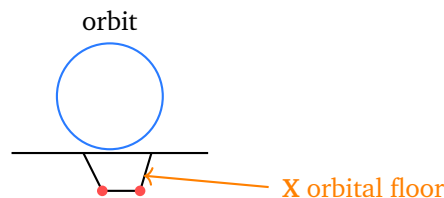


- (A) Complete blindness of the right eye

- (B) Bitemporal loss of the field
- (C) An isolated central scotoma only
- (D) Macular (central) sparing of the field

Uvea, Orbit and Ocular Adnexa

- Q12.** Choose the single most accurate statement about the uveal tract of the eye:
- (A) It comprises the iris, ciliary body and choroid, and the ciliary body secretes the aqueous humour
 - (B) It comprises only the retina and optic nerve
 - (C) The choroid produces the aqueous humour
 - (D) The cornea is part of the uveal tract
- Q13.** A young man struck in the eye by a cricket ball has a sunken eye (enophthalmos), restricted upgaze with vertical double vision on looking up, and numbness of the cheek and upper lip. The schematic marks the fractured bone with X. The diagnosis is:



- (A) Acute angle-closure glaucoma
- (B) Orbital cellulitis
- (C) Orbital blow-out (floor) fracture
- (D) Anterior uveitis

Paediatric Ophthalmology and Emergencies

- Q14.** A 4-month-old infant has had a constantly watering eye since birth with occasional discharge but no redness or photophobia. Pressure over the lacrimal sac reveals reflux, and the condition is usually managed initially by Crigler (lacrimal sac) massage. The diagnosis is:



- (A) Congenital glaucoma
- (B) Congenital nasolacrimal duct obstruction
- (C) Acute conjunctivitis
- (D) Foreign body in the eye

Q15. A patient presents within minutes of sudden, total, painless loss of vision in one eye; the fundus shows a pale retina with a cherry-red spot, indicating central retinal artery occlusion. The single best immediate step, done at once because the retina survives only minutes of ischaemia, is:

- (A) Patch the eye and review the next day
- (B) Immediate ocular (digital) massage together with measures to lower the intraocular pressure
- (C) Prescribe reading glasses
- (D) Instil a mydriatic and wait a week



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

Concept – Acanthamoeba keratitis: Acanthamoeba is a free-living protozoan found in soil and water, including tap water and swimming pools.

Step 1 – read the clues: A **contact lens wearer**, exposure to **contaminated (tap) water**, **severe pain out of proportion** to the signs and a **ring-shaped stromal infiltrate** together point to **Acanthamoeba keratitis**.

Step 2 – why the pain is so severe: The organism causes a radial keratoneuritis along the corneal nerves, producing pain far greater than the visible signs suggest.

Why the other options are wrong:

- B, Staphylococcus aureus: gives an acute bacterial ulcer with more discharge, not this indolent ring infiltrate.
- C, herpes simplex: causes a dendritic ulcer with reduced corneal sensation.
- D, Chlamydia trachomatis: causes trachoma, a chronic conjunctival disease, not this keratitis.

Final Answer: Acanthamoeba ⇒ A

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

Q2.**Solution**

Concept – vitamin A deficiency (xerophthalmia): Vitamin A is essential for the health of the conjunctival and corneal epithelium and for rod photoreceptor function.

Step 1 – read the signs: A **dry lustreless conjunctiva** (xerosis), foamy triangular **Bitot spots** and **keratomalacia** (corneal softening) are the hallmark eye signs of **vitamin A deficiency**.

Step 2 – the wider picture: The same deficiency causes night blindness (nyctalopia) and, untreated, leads to corneal melting and blindness; treatment is vitamin A supplementation.

Why the other options are wrong:

- A, vitamin C: deficiency causes scurvy with bleeding gums, not xerophthalmia.



- C, vitamin D: deficiency causes rickets, not these eye signs.
- D, vitamin K: deficiency causes bleeding tendencies, not corneal xerosis.

Final Answer: Vitamin A $\Rightarrow$

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

Q3.

Solution

Concept – phlyctenular conjunctivitis: A phlycten is a small nodule caused by a delayed (type IV) hypersensitivity reaction to a microbial protein.

Step 1 – read the signs: A **pinkish-white limbal nodule** with a leash of vessels running to it, arising as a hypersensitivity reaction and classically linked to **tuberculosis** (also staphylococcal protein), is **phlyctenular conjunctivitis**.

Step 2 – management: Topical steroids settle the inflammation, and any underlying cause such as tuberculosis or malnutrition is treated.

Why the other options are wrong:

- A, acute bacterial conjunctivitis: gives diffuse redness and discharge, not a localised limbal nodule.
- B, pterygium: is a fibrovascular growth of chronic sun exposure in adults, not a hypersensitivity nodule.
- D, episcleritis: is a sectoral episcleral inflammation, not a limbal phlycten with a vessel leash.

Final Answer: Phlyctenular conjunctivitis $\Rightarrow$

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

Q4.

Solution

Concept – congenital cataract: A congenital cataract is a lens opacity present at or soon after birth and is a treatable cause of childhood blindness.

Step 1 – recall the causes: Recognised causes include **maternal rubella** (part of the congenital rubella syndrome) and metabolic disorders such as **galactosaemia**, along with hereditary and idiopathic cases.

Step 2 – timing of surgery: A **dense, visually significant cataract must be removed early** (in the first weeks to months of life) to allow visual development and



prevent irreversible stimulus-deprivation amblyopia. This is exactly what option C states.

Why the other options are wrong:

- A: maternal rubella is a well-known cause, so 'never linked' is false.
- B: galactosaemia is a classic metabolic cause, so this is false.
- D: delaying surgery to age five would cause dense amblyopia; early surgery is required.

Final Answer: Rubella and galactosaemia are causes and dense cataracts need early surgery ⇒

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

Q5.

Solution

Concept – gonioscopy: The iridocorneal angle cannot be seen directly because of total internal reflection at the cornea, so a mirrored contact lens is used.

Step 1 – name the technique: **Gonioscopy** uses a special mirrored (goniolens) contact lens on the slit lamp to visualise and grade the drainage angle.

Step 2 – its value: It distinguishes an **open angle** (open-angle glaucoma) from a **closed or narrow angle** (angle-closure glaucoma), which guides treatment.

Why the other options are wrong:

- A, applanation tonometry: measures intraocular pressure, not the angle.
- B, direct ophthalmoscopy: examines the retina and disc, not the angle.
- C, automated perimetry: maps the visual field, not the angle.

Final Answer: Gonioscopy ⇒

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

Q6.

Solution

Concept – neovascular glaucoma: Chronic retinal ischaemia releases vascular endothelial growth factor (VEGF), which drives the growth of new vessels.

Step 1 – follow the sequence: Ischaemic retinal disease (here a **central retinal vein occlusion**) → VEGF release → new vessels on the iris (**rubeosis iridis**) and



over the angle → blocked outflow and raised pressure.

Step 2 – name it: This secondary glaucoma from angle neovascularisation is **neovascular glaucoma**. Anti-VEGF and pan-retinal photocoagulation address the underlying ischaemia.

Why the other options are wrong:

- A, open-angle glaucoma: is primary, with an open normal angle and no rubeosis.
- B, phacomorphic glaucoma: is caused by an intumescent (swollen) cataractous lens.
- D, pigmentary glaucoma: is caused by pigment shed from the iris blocking the trabecular meshwork.

Final Answer: Neovascular glaucoma ⇒ C

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

Q7.

Solution

Concept – central serous chorioretinopathy (CSCR): CSCR is a localised serous detachment of the neurosensory retina at the macula, linked to stress and corticosteroids.

Step 1 – read the clues: A young stressed man with **central metamorphopsia**, a smaller and dimmer image (micropsia) and a serous macular detachment on OCT is the classic picture of **central serous chorioretinopathy**.

Step 2 – course: Most cases resolve spontaneously over a few months; removing stress and steroids helps.

Why the other options are wrong:

- A, central retinal artery occlusion: causes sudden total painless loss with a cherry-red spot, not distortion.
- C, open-angle glaucoma: causes painless peripheral field loss, not central metamorphopsia.
- D, optic neuritis: causes painful visual loss with a relative afferent pupillary defect, not a serous macular detachment.

Final Answer: Central serous chorioretinopathy ⇒ B

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



Q8.

Solution

Concept – vitreous haemorrhage: Fragile new vessels of proliferative diabetic retinopathy can bleed into the vitreous cavity.

Step 1 – read the clues: A diabetic with **proliferative retinopathy**, **sudden floaters**, loss of vision and a **lost red reflex** with an obscured fundus view indicates a **vitreous haemorrhage**.

Step 2 – management: Small bleeds may clear with observation; persistent or dense haemorrhage needs vitrectomy, and the underlying retinopathy is treated with laser.

Why the other options are wrong:

- A, cataract: causes gradual painless blurring, not sudden floaters with a lost red reflex.
- B, papilloedema: is disc swelling from raised intracranial pressure, not a sudden loss of the red reflex.
- C, anterior uveitis: is a painful red eye with photophobia, not painless floaters.

Final Answer: Vitreous haemorrhage ⇒ D

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

Q9.

Solution

Concept – Argyll Robertson pupil: This is a classic sign of neurosyphilis in which the pupillary light reflex is lost but the near (accommodation) reflex is retained.

Step 1 – read the description: A **small, irregular** pupil that **accommodates but does not react to light** is an **Argyll Robertson pupil** ('light-near dissociation').

Step 2 – the memory aid: Think of the 'prostitute's pupil': it accommodates but does not react, and it is bilateral in neurosyphilis.

Why the other options are wrong:

- B, Marcus Gunn pupil: is a relative afferent pupillary defect (a swinging-torch sign), not light-near dissociation.
- C, Adie's tonic pupil: is a large, slowly reacting pupil in a young woman from ciliary ganglion damage.



- D, Horner's pupil: is a small pupil with ptosis and anhidrosis from a sympathetic lesion, and it reacts to light.

Final Answer: Argyll Robertson pupil $\Rightarrow$ A

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

Q10.

Solution

Concept – the near (accommodation) reflex: Shifting fixation from a distant to a near object triggers a coordinated three-part response.

Step 1 – list the three components: **Convergence** of the two eyes (medial recti), **pupillary constriction** (to increase depth of focus) and **increased curvature (thickening) of the lens** through ciliary muscle contraction.

Step 2 – match the option: Only option A lists all three correctly (convergence, constriction and lens thickening).

Why the other options are wrong:

- B: divergence, dilatation and flattening are the opposite (the far response), not the near reflex.
- C: elevation and lid retraction are not part of the near reflex.
- D: the eyes converge (adduct), not abduct, and the lens thickens rather than thins.

Final Answer: Convergence, constriction and lens thickening $\Rightarrow$ A

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

Q11.

Solution

Concept – homonymous hemianopia and macular sparing: A lesion behind the chiasma (optic tract, radiation or occipital cortex) causes loss of the same half-field in both eyes.

Step 1 – read the field: Loss of the same (left) half of the field in both eyes is a **homonymous hemianopia**, here from a right-sided post-chiasmal lesion.

Step 2 – localise within the pathway: The macula (central field) has a large, dual-blood-supply representation at the occipital pole, so an **occipital lesion** characteristically spares the central few degrees, giving **macular sparing**. This favours



an occipital rather than an optic tract lesion.

Why the other options are wrong:

- A, monocular blindness: results from an optic nerve lesion in front of the chiasma.
- B, bitemporal loss: results from a chiasmal (midline) lesion.
- C, central scotoma only: is a macular or optic nerve defect, not a hemianopia.

Final Answer: Macular sparing of the field ⇒ D

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

Q12.

Solution

Concept – the uveal tract: The uvea is the pigmented, vascular middle coat of the eye.

Step 1 – recall the parts: From front to back it is the **iris**, the **ciliary body** and the **choroid**.

Step 2 – link to aqueous humour: The **ciliary body** (its ciliary processes) secretes the aqueous humour that nourishes the avascular lens and cornea and maintains intraocular pressure. Option A states both facts correctly.

Why the other options are wrong:

- B: the retina and optic nerve are neural structures, not the uveal tract.
- C: the choroid nourishes the outer retina; it does not produce the aqueous humour.
- D: the cornea is part of the outer fibrous coat, not the uvea.

Final Answer: Iris, ciliary body and choroid, with the ciliary body making aqueous ⇒ A

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



Q13.

Solution

Concept – orbital blow-out fracture: A blunt object larger than the orbital rim raises orbital pressure and fractures the weakest wall, usually the thin floor.

Step 1 – read the triad: **Enophthalmos** (a sunken eye), **restricted upgaze with diplopia** (from entrapment of the inferior rectus / inferior oblique in the floor defect) and **infraorbital numbness** (from injury to the infraorbital nerve) define an **orbital floor blow-out fracture**. The X marks the fractured floor.

Step 2 – management: CT confirms the fracture; surgical repair is considered for significant enophthalmos or persistent diplopia from muscle entrapment.

Why the other options are wrong:

- A, acute angle-closure glaucoma: is a painful red eye with a hard globe, unrelated to trauma and cheek numbness.
- B, orbital cellulitis: is an infection with fever and proptosis, not enophthalmos with infraorbital numbness.
- D, anterior uveitis: is an intraocular inflammation, not a bony orbital injury.

Final Answer: Orbital blow-out (floor) fracture ⇒

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

Q14.

Solution

Concept – congenital nasolacrimal duct obstruction: The lower end of the nasolacrimal duct (the valve of Hasner) is often not fully canalised at birth, so tears cannot drain.

Step 1 – read the clues: A **constantly watering eye from birth** with occasional discharge but **no redness or photophobia**, and reflux on pressing the sac, is **congenital nasolacrimal duct obstruction**.

Step 2 – management: Most cases resolve by about one year of age; **Crigler (lacrimal sac) massage** is the first-line treatment, with probing reserved for those that persist.

Why the other options are wrong:

- A, congenital glaucoma: causes a large cloudy cornea, photophobia and buphthalmos, not simple painless watering.



- C, acute conjunctivitis: is a red eye with discharge, not chronic clear watering from birth.
- D, foreign body: causes sudden pain and redness, not a longstanding watering eye.

Final Answer: Congenital nasolacrimal duct obstruction ⇒ **B**

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

Q15.

Solution

Concept – central retinal artery occlusion (CRAO) as an emergency: The inner retina tolerates only a few minutes of complete ischaemia, so treatment is a true race against time.

Step 1 – name the immediate step: Immediate ocular (digital) massage to try to dislodge the embolus, together with measures to **lower the intraocular pressure** (for example anterior chamber paracentesis or pressure-lowering drugs), is the single best immediate action.

Step 2 – why speed matters: Because the retina survives only minutes of ischaemia, every second counts; delaying treatment loses the chance to restore any perfusion.

Why the other options are wrong:

- A, patch and review tomorrow: wastes the narrow window and guarantees permanent loss.
- C, reading glasses: do nothing for an arterial occlusion.
- D, mydriatic and wait: neither restores perfusion nor addresses the emergency.

Final Answer: Immediate ocular massage with pressure-lowering ⇒ **B**

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



Answer Key

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

