

Number	Competency	Specific Learning Objective (K/S/A-c)	Domain K/S/A/C	Level (K/KH/ SH/P)	Core (Y/N)	Suggested Teaching Learning Method	Suggested Assesment Method	Number Required to Certify P	Vertical Integration	Horigental Integration
Topic : Visual Acuity Assessment			Number of Competencies: (05)			Number of procedures that require certification : (NIL)				
OP1.1	Describe the physiology of vision	At the end of session the phase I MBBS students must be able	K	KH	Y	Lecture, small group Discussion	Written / Viva Voce		Physiology	
		1 Describe the physiology of vision								
		2 Describe the structure of rod and cone by a diagram								
		3 Enumerate the color vision deficiency types								
		4 Define the physiology of vision								
OP1.2	Define, classify and describe the types and methods of correcting refractive errors	1 Define refractive errors	K	KH	Y	Lecture, small group Discussion	Written / Viva Voce			
		2 Classify the types of refractive errors								
		3 Describe astigmatism								
		4 Explain myopia								
		5 Explain hypermetropia								
		6 Differentiate between myopia and hypermetropia								
		7 Draw a labelled diagram of sturms conoid								
		8 Discuss the method of the corrections of refractive errors								
		9 Discuss the benefits of glasses versus LASIK								
		10 Enlist the methods of correcting aphakia								
		11 Enumerate the types of lenses								
OP1.3	Demonstrate the steps in performing the visual acuity assessment for distance vision, near vision, colour vision , the pin hole test and the menace and blink reflexes	1 Define visual acuity	S	SH	Y	DOAP session Lecture	Skill assessment/ Logbook			
		2 Demonstrate the steps in performing visual acuity assessment for distant vision								
		3 Demonstrate the steps in performing visual acuity assessment for near vision								
		4 Demonstrate the steps in performing visual acuity assessment for colour vision								
		5 Demonstrate the steps in performing visual acuity assessment for pin hole test								
		6 Demonstrate the steps in performing visual acuity assessment for menace and blink reflexes								
OP1.4	Enumerate the indications and describe the principles of refractive surgery	1 Enumerate the indications of refractive surgeries	K	KH	Y	Lecture, small group Discussion	Written / Viva Voce			
		2 Define the principles of refractive surgeries								
		3 Discuss the complications of refractive surgeries								
		4 Enumerate the types of refractive surgeries								
OP1.5	Define , enumerate the types and mechanism by which strabismus leads to amblyopia	1 Define amblyopia	K	KH	Y	Lecture, small group Discussion	Written / Viva Voce			
		2 Enumerate the types of amblyopia								
		3 Discuss the factors leading to amblyopia								
		4 Describe the grades of binocularity								
		5 Discuss the mechanism by which strabismus leads to amblyopia								
		6 Describe the management of amblyopia								
Topic : Lids and Adnexa, Orbit			Number of Competencies: (08)			Number of procedures that require certification : (NIL)				
OP2.1	Enumerate the causes , describe and discuss the etiology , clinical presentation and diagnostic features of common conditions of the lid and adnexa including hordeolum externum / internum , blepharitis , preseptal cellulitis , dacrocystitis , hemangioma , dermoid , ptosis , entropion , lid lag ,	1 Enumerate lid pathologies								
		2 Define hordeolum externum								
		3 Describe hordeolum internum								
		4 Discuss blepharitis								
		5 Describe preseptal cellulitis								
		6 Discuss dacrocystitis								
		7 Define hemangioma								
		8 Describe dermoid								

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	lagophthalmos	9 Define ptosis 10 Enumerate the types of entropion 11 Enlist the causes of lid lag 12 Describe lagophthalmos 13 Define the etiology of blepharitis 14 Discuss the clinical presentation of ptosis 15 Discuss the diagnostic features of preseptal cellulitis 16 Discuss the management of blepharitis 17 Discuss the management of entropion								
OP2.2	Demonstrate the symptoms and clinical signs of conditions enumerated in OP2.1	1 Demonstrate the symptoms of hordeolum externum 2 Demonstrate the symptoms of hordeolum internum 3 Demonstrate the symptoms of blepharitis 4 Demonstrate the symptoms of preseptal cellulitis 5 Demonstrate the symptoms of dacryocystitis 6 Demonstrate the symptoms of haemangioma 7 Demonstrate the symptoms dermoid 8 Demonstrate the symptoms of ptosis 9 Demonstrate the symptoms of entropion 10 Demonstrate the symptom of lid lag 11 Demonstrate the symptom of lagophthalmos. 12 Demonstrate the clinical signs of chalazion 13 Demonstrate the clinical signs of stye 14 Demonstrate the clinical signs of hordeolum internum 15 Demonstrate the clinical signs of blepharitis 16 Demonstrate the clinical signs of preseptal cellulitis 17 Demonstrate the clinical signs of dacryocystitis 18 Demonstrate the clinical signs of haemangioma 19 Demonstrate the clinical sign of dermoid 20 Demonstrate the clinical sign of ptosis 21 Demonstrate the clinical sign of entropion 22 Demonstrate the clinical sign of lid lag 23 Demonstrate the clinical sign of lagophthalmos	S	S	Y	DOAP session	Skill assessment		Human Anatomy	
OP2.3	Demonstrate under supervision clinical procedures performed in the lid including : bells phenomenon, assessment of entropion/ectropion, perform the regurgitation test of lacrimal sac, massage technique in congenital dacryocystitis, and trichiatic cilia removal by epilation	1 Demonstrate bells phenomenon 2 Demonstrate assessment of entropion 3 Demonstrate assessment of ectropion 4 Demonstrate procedure of regurgitation test of lacrimal sac 5 Demonstrate the lacrimal sac massage technique in congenital dacryocystitis 6 Describe the epilation of trichiatic lash	S	SH	Y	DOAP session Lecture	Skill assessment			
OP2.4	Describe the aetiology, clinical presentation . discuss the complication and management of orbital cellulitis	1 Describe the aetiology of orbital cellulitis 2 Describe the clinical presentation of orbital cellulitis 3 Discuss the complication of orbital cellulitis 4 Discuss the management of orbital cellulitis	K	KH	Y	Lecture, small group Discussion	Written / Viva Voce			
OP 2.5	Describe the clinical features on ocular examination and management of a patient with cavernous sinus thrombosis	1 Define cavernous sinus thrombosis 2 Describe clinical features of cavernous sinus thrombosis 3 Discuss the management of cavernous sinus thrombosis	K	KH	Y	Lecture, small group Discussion	Written / Viva Voce			
OP 2.6	Enumerate the causes and describe the	1 Enumerate the causes of proptosis	K	KH	Y	Lecture, small	Written / Viva			

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		3 To enumerate indications of different types of keratoplasty.								
		4 To enumerate the different methods of corneal preservation.								
		5 To enlist complications of keratoplasty.								
OP 4.7	Enumerate the indication and describe the methods of tarsorrhaphy	1 To define tarsorrhaphy	K	KH	Y	Lecture, small group Discussion	Written / Viva Voce			
		2 To discuss different types of tarsorrhaphy								
		3 To enumerate the indications of different types of tarsorrhaphy								
OP 4.8	Demonstrate techniques of removal of foreign body in the cornea in a simulated environment	1 To enlist layers of cornea	S	SH	Y	DOAP session	Skill assessment			
		2 To enlist different types of foreign body								
		3 To discuss the complications of foreign body								
		4 To discuss about type of anaesthesia required required for removal of foreign body								
		5 To enlist the equipment for removal of foreign body								
		6 Demonstrate the techniques of removal of foreign body in cornea								
		7 To interpret when to refer the patient to ophthalmologist								
		8 To identify the complication								
OP 4.9	Describe and discuss the importance and protocols involve in eye donation and eye banking	1 To define eye donation	K	KH	Y	Lecture, small group Discussion	Written / Viva Voce			
		2 To define eye banking								
		3 To discuss importance of eye donation								
		4 To discuss importance of eye banking								
		5 To describe the various standard protocols involved in eye donation								
		6 To describe the various protocols involved in eye banking								
		7 To describe the different methods of preservation of eye								
		8 To document the details of eye donation								
Topic : Iris and anterior chamber			Number of Competencies: (10)			Number of procedures that require certification : (NIL)				
OP6.1	Describe clinical signs of intraocular and enumerate the features that disiguish granulomatous from non-granulomatous inflammation. Identity acute iridocyclitis from chronic condition	1 Describe the clinical signs of intraocular inflamation	K	KH	Y	Lecture, small group Discussion	Written / Viva Voce			
		2 Describe the signs and symptoms of granulomatous uveitis								
		3 Describe the signs and symptoms of non granulomatous uveitis								
		4 differntiate between granulomatous and non granulomatous uveitis								
		5 Differentiate between acute and chronic iridocyclitis								
		6 Enumerate the causes of anterior uveitis								
OP6.2	Identify and distinguish acute iridocyclitis from chronic iridocyclitis	1 Discuss the clinical features of acute iridocyclitis	K	KH	Y	Lecture, small group Discussion	Written / Viva Voce			
		2 Discuss the clinical features of chronic iridocyclitis								
		3 Differentiate between acute and chronic iridocyclitis								
OP6.3	Enumerate systemic conditions that can present as iridocyclitis and describe their ocular manifestations	1 Enumerate the systemic conditions associated with iridocyclitis.	K	KH	Y	Lecture, small group Discussion	Written / Viva Voce			General Medicine
		2 Describe the ocular manifestations of the systemic conditions associated with iridicyclitis.								
		3 Classification of uveitis.								
OP6.4	Describe and distinguish hyphema and	1 Describe Hyphaema.	K	KH	Y	Lecture, small	Written / Viva			

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	hypopyon	2 Describe hypopyon. 3 Discuss the management of hyphaema. 4 Enumerate the causes of hyphaema. 5 Differentiate between hyphaema and hypopyon. 6 Discuss causes of hypopyon. 7 Explain the management of hypopyon.				group Discussion	Voce			
OP6.5	Describe and discuss the angle of the anterior chamber and its clinical correlates	1 Draw a labelled diagram of angle of anterior chamber. 2 Discuss the clinical corelate of angle of anterior chamber. 3 Describe the grading of angle of anterior chamber.	K	KH	Y	Lecture, small group Discussion	Written / Viva Voce			
OP6.6	Identity and demonstrate the clinical features and distinguish and diagnose common clinical conditions affecting the anterior chamber	1 Discuss the clinical conditions affecting the anterior chamber. 2 Explain the angle anomaly after blunt trauma. 3 Lens induced changes affecting the angle of anterior chamber 4 Distinguish common clinical conditions affecting the anterior chamber.	S	SH	Y	DOAP session, Bedside clinic	Skill Assessment			
OP6.7	Enumerate and discuss the aetiology, the clinical distinguishing features of various glacomas associated with shallow and deep anterior chamber. Choose appropriate investigations and treatment for patients with above conditions.	1 Enumerate the aetiology of various types of glaucoma. 2 Discuss the aetiology of various types of glaucoma. 3 Discuss various types of glaucoma associated with shallow and deep anterior chamber. 4 Define open angle glaucoma. 5 Define closed angle glaucoma. 6 Discuss the investigations done for the diagnosis of OAG. 7 Discuss the investigations done for the diagnosis of ACG. 8 Describe the treatment of OAG. 9 Describe the treatment of ACG. 10 Discuss the management of LIG. 11 Explain the treatment of Acute congestive glaucoma.	K	KH	Y	Lecture, small group Discussion	Written / Viva Voce		Human Anatomy	
OP6.8	Enumerate and choose the appropriate investigation for patients with conditions affecting the uvea	1 Enumerate the appropriate the investigations done for uveitis. 2 Enlist the investigations to be done for chronic uveitis.	K	KH	Y	Lecture, small group Discussion	Written / Viva Voce			
OP6.9	Choose the correct local and systemic theraph for conditions of the anterior chamber and enumerate their indications, adverse events and	1 Discuss the management of anterior uveitis. 2 Discuss the management of posterior uveitis. 3 Describe the adverse affect of systemic therapy used for uveitis	K	KH	Y	Lecture, small group Discussion	Written / Viva Voce			
Topic : Lens			Number of Competencies: (06)			Number of procedures that require certification : (NIL)				
OP7.1	Describe the surgical anatomy and metabolism of lens	At the end of the session phase-1 MBBS, student must be able to 1 Describe the embryogenesis and surgical anatomy of lens 2 Explain metabolism of lens 3 Classify cataract 4 Enumerate causes of congenital cataract 5 Enumerate causes of leucocoria	K	KH	Y	Lecture, small group Discussion	Written / Viva Voce		Biochemistry, Human Anatomy	

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		6	Define cataract								
OP7.2	Describe and discuss the etiopathogenesis, stages of maturation and complications of cataract		At the end of the session phase-1 MBBS, student must be able to	K	KH	Y	Lecture, small group Discussion	Written / Viva Voce		Pathology	
		1	Discuss etiopathogenesis of cataract including pre-senile cataract								
		2	Describe stages of maturation of cataract								
		3	Explain difference between immature, mature and hypermature cataract								
		4	Discuss complications of cataract								
OP7.3	Demonstrate correct technique of ocular examination in a patient with a cataract		At the end of the session phase-1 MBBS, student must be able to	S	SH	Y	DOAP session	Skill assessment			
		1	Demonstrate clinical examination findings of different parts of eyeball								
		2	Demonstrate and discuss immature, mature and hypermature cataract								
		3	Demonstrate and discuss aphakia, phakia and pseudophakia								
OP7.4	Enumerate types of cataract surgery and describe steps, intra-operative and post-operative complications of extracapsular cataract extraction surgery		At the end of the session phase-1 MBBS, student must be able to	S	KH	Y	DOAP session, Lecture, small group Discussion	ritten / Viva Voce			
		1	Discuss management of cataract								
		2	Enlist and explain types of cataract surgery								
		3	Describe steps of extracapsular cataract surgery								
		4	Enumerate types of IOL								
		5	Describe intraop and postop complications of cataract surgery and its management								
OP7.5	To participate in the team of cataract surgery		At the end of the session phase-1 MBBS, student must be able to	S	SH	Y	DOAP session	Skill assessment/Logbook documentation			
		1	Diagnose and assess a patient with cataract								
		2	Observe preoperative work-up for cataract surgery								
		3	Observe cataract surgery in Operation theatre								
		4	Demonstrate and explain instruments used in cataract surgery								
		5	Perform direct and consensual light reflex test and diagnose RAPD								
OP7.6	Administer informed consent and counsel patients for cataract surgery in simulated environment		At the end of the session phase-1 MBBS, student must be able to	S	SH	Y	DOAP session	Skill Assessment			
		1	Clinical examine and assess the patient for cataract surgery								
		2	Explain and counsel the patient regarding cataract surgery procedure and complications of the same								
		3	Administer informed consent from the patient posted for cataract surgery								
Topic : Retina & optic Nerve											
			Number of Competencies: (05)			Number of procedures that require certification : (NIL)					
OP8.1	Discuss the aetiology, pathology, clinical features and management of vascular occlusions of the retina	1	Discuss the etiology of vascular occlusion disorders of retina.	K	KH	Y	Lecture, small group Discussion	Written / Viva Voce		Human Anatomy Pathology	
		2	Describe the pathophysiology of vascular occlusion disorders of retina.								
		3	describe the clinical features of vascular occlusion disorders of retina.								
		4	Enumerate the vascular occlusion disorders of retina.								

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		5 Define diabetic retinopathy. 6 Classification of diabetic retinopathy. 7 Labelled diagram of retina . 8 Labelled diagram of diabetic retinopathy. 9 Explain BRVO. 10 Discuss CRVO. 11 Discuss CRAO. 12 Discuss BRAO. 13 Discuss Management of 14 BRVO 15 CRVO 16 BRAO 17 CRAO								
OP8.2	Enumerate the indications of laser therapy in the treatment of retinal diseases.(Including retinal detachment,Retinal degenarations,diabetic retinopathy and hypertensive retinopathy.)	1 Enumerate the indications for laser therapy in the treatment of retinal detachment. 2 Enumerate the indications for laser therapy in the treatment of retinal degeneration. 3 Enumerate the indications for laser therapy in the treatment of Diabetic retinopathy. 4 Enumerate the indications for laser therapy in the treatment of Hypertensive retinopathy. 5 Enumerate the indications for laser therapy in treatment of Hypertensive retinopathy	K	K	Y	Lecture, small group Discussion	Written / Viva Voce			
OP8.3	Demonstrate the correct technique of fundus examination and describe and distinguish the fundoscopic features in a normal condition and in conditions causing an abnormal retinal exam.	1 Demonstrate the correct technique of fundus examination on a patient. 2 Demonstrate and distinguish the abnormal retinal finding with normal retinal finding.	S	SH	Y	Lecture, small group Discussion	Written / Viva Voce			
OP8.4	Enumerate and discuss treatment modalities in management of disease of retina.	1 Enumerate the treatment modalities of retinal detachment. 2 Discuss the treatment modalities of BRVO. 3 Discuss the treatment modalities of CRVO. 4 Discuss the treatment modalities of CRAO. 5 Classify hypertensive retinopathy.	K	KH	Y	Lecture, small group Discussion	Written / Viva Voce			
OP8.5	Describe and discuss the corelative anatomy, aetilogy, clinical manifestations, disgnostic tests, imaging, and management of diseases of the optic nerve and visual pathway.	1 Labelled diagram of visual pathway. 2 Enumerate the optic nerve disease. 3 Discuss the diagnostic test for optic nerve disease. 4 Describe the imaging technique for optic nerve pathway. 5 Discuss the management of optic neutitis. 6 Enumerate the tumours of optic nerve and their clinical signs and symptoms.	K	KH	Y	Lecture, small group Discussion	Written / Viva Voce			
Topic : Miscellaneous		Number of Competencies: (05)			Number of procedures that require certification : (NIL)					
OP9.1	Demonstrate correct technique to examine extraocular movements (uniocular & binocular)	At the end of the session phase-I MBBS, student must be able to 1 Enlist extraocular muscles and their actions 2 Demonstrate uniocular ductions 3 demonstrate vergence and versions	S	P	Y	DOAP session	Skill Assessment	5		

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		4 Demonstrate movement in all nine gazes and identify limitation of movement(if any)								
		5 Demonstrate Hirschberg light reflex test								
OP9.2	Classify, enumerate the types, methods of diagnosis and indications for referral in a patient with hetrophoria/ strabismus	At the end of the session phase-1 MBBS, student must be able to	K	KH	Y	Lecture, Small group discussion	Written/Viva voce/skill assessment			
		1 Define strabismus								
		2 Describe types of strabismus								
		3 Describe causes of pseudo strabismus								
		4 Explain difference between hetrophoria and hetrotropia								
		5 Enlist methods used to diagnose and calculate degree of strabismus								
		6 Enumerate causes of hetrophoria and hetrotropia								
		7 Describe nerve supply and actions of extraocular muscles								
		8 Explain laws of strabismus								
		9 Describe indications for referral in squint patient								
OP9.3	Describe the role of refractive error correction in a patient with headache and enumerate the indications for referral	At the end of the session phase-1 MBBS, student must be able to	K	K	Y	Lecture,Small group discussion	Written/Viva voce			General Medicine
		1 Explain asthenopic symptoms and its relevance								
		2 describe various refractive errors								
		3 Describe management of myopia and hypermetropia								
		4 Explain difference between convex lens and concave lens and uses of them								
		5 Explain uses of prisms								
		6 Enumerate indications for referral in patients with refractive error								
		7 Describe presbyopia and its management								
OP9.4	Enumerate, describe and discuss the causes of avoidable blindness and the national programme for control of blindness (Including vision 2020)	At the end of the session phase-1 MBBS, student must be able to	K	KH	Y	Lecture,Small group discussion	Written/Viva voce			Community Medicine
		1 Enumerate and discuss causes of avoidable blindness								
		2 Describe WHO classification for blindness								
		3 Enlist different National programmes for control of blindness								
		4 Describe in detail Vision 2020								
OP9.5	Describe the evaluation and enumerate the steps involved in the stabilization, initial management and indication for referral in a patient with ocular injury	At the end of the session phase-1 MBBS, student must be able to	K	KH	Y	Lecture,Small group discussion	Written/Viva voce			
		1 Describe approach to a patient of ocular injury including BAC protocol								
		2 Explain initial assessment in a patient of ocular injury including history taking and clinical examination								
		3 Describe various mechanism of ocular injury including blunt and penetrating ocular injury								
		4 Describe management of non magnetic vs. magnetic intraocular foreign body								
		5 Enumerate indications for referral of patient with ocular injury								
Integration										
AN30.5	Explain effect of pituitary tumors on visual pathway	At the end of the session phase-1 MBBS, student must be able to	K	KH	N	Lecture	Written			Ophthalmology

