Department of Ophthalmology

S.No	Name of the Fellowship	Eligibility	Duration	Fee(₹)
01	Fellowship in Phaco & Refractive Surgery	MS/DNB Ophthal	1 yr	1,00,000
02	Fellowship in Glaucoma	MS/DNB Ophthal	1 yr	1,00,000
03	Fellowship in Retinal Surgery	MS/DNB Ophthal	1 yr	1,00,000
04	Fellowship in Orbital and Oculoplastic	MS/DNB Ophthal	1 yr	1,00,000
05	Fellowship in Anterior Segment (Cornea)	MS/DNB Ophthal	1 yr	1,00,000
06	Fellowship in UVEA & Medical Retina	MS/DNB Ophthal	1 yr	1,00,000
07	Fellowship in Pediatric Ophthalmology	MS/DNB Ophthal	1 yr	1,00,000

Fellowship in Phaco & Refractive Surgery

Course Overview

The Fellowship in Phaco & Refractive Surgery is a one-year advanced program designed for ophthalmologists who wish to specialize in cataract surgery (Phacoemulsification) and refractive surgery techniques. This fellowship offers in-depth training and hands-on experience in the latest surgical techniques for cataract removal, intraocular lens implantation, and refractive procedures like LASIK, PRK, and advanced lens surgeries. Fellows will learn the latest advancements in refractive surgery, including the use of femtosecond lasers, corneal topography, and other innovative tools. The program will also focus on managing complex cases, improving surgical precision, and enhancing patient outcomes.

Prerequisites

Criteria	Details
Eligibility	MS in Ophthalmology or equivalent degree in the field of ophthalmology
Duration	1 Year
Mode of Study	Clinical, Theoretical, Hands-on Training
Assessment	Theory, Practical Exams, Clinical Logbook, Research Project

Course Objectives

- Develop advanced skills in Phacoemulsification (cataract surgery) and intraocular lens (IOL) implantation.
- Gain proficiency in refractive surgeries such as LASIK, PRK, and other advanced lens surgeries.
- Learn the management of pre-operative, intra-operative, and post-operative care for cataract and refractive surgery patients.
- Understand the various types of intraocular lenses (IOLs) and their selection based on patient needs.
- Master advanced techniques such as femtosecond laser-assisted cataract surgery (FLACS).
- Develop expertise in corneal topography and wavefront analysis for accurate refractive surgery planning.
- Improve knowledge of the management of complications and advanced cataract cases, including complex IOLs and posterior segment involvement.
- Conduct research to advance surgical techniques and patient outcomes in Phaco and refractive surgery.

Curriculum with Semester-wise Syllabus & Modules

Semester 1: Fundamentals of Phaco & Refractive Surgery

Module	Topics Covered
Introduction to Cataract Surgery	History of cataract surgery, types of cataract, surgical principles, and techniques
Phacoemulsification	Principles of Phacoemulsification, equipment, techniques, and instrumentation
Intraocular Lenses (IOLs)	Types of IOLs (monofocal, multifocal, toric), IOL selection criteria, IOL implantation techniques
Pre-operative Assessment	Patient evaluation for cataract surgery, including corneal thickness, ocular biometry, and refractive status
Refractive Surgery Basics	Introduction to refractive surgery, principles of LASIK, PRK, and other refractive techniques
Ocular Surface Disease & Management	Management of dry eye and other ocular surface disorders in cataract and refractive surgery patients
Clinical Rotations & Hands-on Training	Observation and hands-on experience in Phaco surgery, IOL implantation, and refractive surgery techniques

Semester 2: Advanced Phaco & Refractive Surgery

Module	Topics Covered
Femtosecond Laser-Assisted Cataract Surgery (FLACS)	Principles, equipment, techniques, and advantages of femtosecond laser-assisted cataract surgery
Advanced Refractive Surgery	LASIK, PRK, SMILE, and advanced IOL techniques for presbyopia and astigmatism correction
Corneal Topography &Wavefront Analysis	Techniques for corneal mapping, assessing refractive errors, and planning refractive surgery
Management of Complications in Cataract Surgery	Management of anterior and posterior segment complications, posterior capsule rupture, and wound leakage
Complex Cataract & Refractive Cases	Managing complicated cataract surgeries (e.g., subluxated lenses) and challenging refractive surgery patients
Post-operative Care & Patient Education	Post-operative management of cataract and refractive surgery patients, including monitoring, complications, and patient counseling
Research Project & Case Studies	Literature review, clinical case presentations, and preparation of a research dissertation

Program Outcomes

Sr. No.	Program Outcome	Description
1	Mastery in Phacoemulsification	Develop expertise in performing cataract surgery using Phacoemulsification and IOL implantation.
2	Advanced Refractive Surgery Knowledge	Gain proficiency in LASIK, PRK, SMILE, and other advanced refractive techniques for treating myopia, hyperopia, and astigmatism.
3	Expertise in Femtosecond Laser Surgery	Proficiency in performing femtosecond laser-assisted cataract surgery (FLACS) and understanding its advantages over traditional methods.
4	Corneal Topography & Refractive Planning	Advanced knowledge in using corneal topography and wavefront analysis for precision refractive surgery.
5	Complication Management Skills	Develop the ability to handle complications in cataract and refractive surgeries with effective decision-making and management.
6	Research in Surgical Techniques	Engage in research and contribute to the development of new techniques and technologies in Phacoemulsification and refractive surgery.

Course Outcomes

Sr. No.	Course Outcome	Description
1	Expertise in Phacoemulsification & IOL Implantation	Ability to perform cataract surgeries with Phacoemulsification and select and implant the appropriate IOL.
2	Proficiency in Refractive Surgery	Ability to perform LASIK, PRK, and advanced IOL-based refractive procedures for patients with myopia, hyperopia, and astigmatism.
3	Knowledge of Femtosecond Laser Surgery	Understanding of femtosecond laser-assisted surgery for cataract treatment and its applications in modern ophthalmology.
4	Advanced Corneal & Refractive Mapping	Ability to use corneal topography and wavefront technology to plan refractive surgeries with high precision.
5	Efficient Post-operative Management	Mastery in managing post-operative care for both cataract and refractive surgery patients to ensure optimal outcomes.
6	Competence in Surgical Research	Ability to conduct clinical research and contribute to advancements in Phacoemulsification and refractive surgery techniques.

Credits & Assessment Methods

Total Credits: 40

Component	Credits
Theory & Lectures	10
Clinical Rotations & Case Studies	10
Hands-on Training & Procedures	10
Research & Dissertation	10

Assessment Pattern

Assessment Type	Weightage
Theory Examination (MCQs, Long & Short Answer)	30%
Clinical & Practical Exam (Case-Based Discussion, OSCE)	30%
Clinical Logbook & Case Reports	20%
Research Presentation & Dissertation	20%

Exam Pattern
Theory Examination:

- Section B (Short Answer Questions – 30 Marks)
- Section C (Long Answer Questions – 40 Marks)

Practical Examination:

Component	Details	Marks
Phacoemulsification & IOL Implantation	Performing Phacoemulsification surgery, selecting appropriate IOLs	50
Refractive Surgery Procedures	Performing LASIK, PRK, or SMILE on simulated patients	50
Femtosecond Laser Surgery	Performing femtosecond laser-assisted cataract surgery	50
OSCE	Simulated clinical scenarios, skill demonstration	40

Viva Voce (Oral Examination):

Component	Details	Marks
Case Presentations	Discussion on cataract and refractive surgery cases and clinical decisions	50
Recent Advances in Phaco & Refractive Surgery	Journal article discussion on innovations in Phacoemulsification and refractive surgery	20
Ethical & Legal Aspects	Ethical considerations and patient care in refractive and cataract surgeries	30

Research/Dissertation Submission:

Component	Marks
Originality & Scientific Merit	30
Methodology & Data Analysis	30
Presentation & Discussion	20
Conclusion & Clinical Relevance	20

Final Weightage & Passing Criteria

Exam Component	Total Marks	Minimum Passing Marks
Theory	200	50% (100/200)
Practical Exam	200	50% (100/200)
Viva Voce	100	50% (50/100)
Dissertation	100	50% (50/100)
Total (Overall)	600	50% Aggregate Required

Recommended Books & E-Resources
Textbooks:

- Mastering Phacoemulsification: A Comprehensive Guide to Cataract Surgery – B. P. K. Prakash
- Refractive Surgery: A Practical Guide – Brian S. Boxer Wachler
- Cataract Surgery: A Manual of Surgical Techniques – David F. Chang
- Femtosecond Laser-Assisted Cataract Surgery – R. S. L. J. Morgan

Journals & E-Resources:

- Journal of Cataract & Refractive Surgery – https://www.jcrsjournal.org
- American Journal of Ophthalmology – https://www.ajo.com
- Ophthalmology Times – https://www.ophthalmologytimes.com

Fellowship in Glaucoma

Course Overview

The Fellowship in Glaucoma is a one-year advanced program designed for ophthalmologists who wish to specialize in the diagnosis, treatment, and management of glaucoma. The program provides comprehensive knowledge and hands-on experience in medical, laser, and surgical treatments for glaucoma, including advanced techniques in filtration surgery, minimally invasive glaucoma surgery (MIGS), and the management of complex cases. Fellows will also learn the latest advancements in diagnostic tools and treatment strategies for managing glaucoma across various stages and types, with a focus on preserving vision and improving patient outcomes.

Prerequisites

Criteria	Details
Eligibility	MS in Ophthalmology or equivalent degree in the field of ophthalmology
Duration	1 Year
Mode of Study	Clinical, Theoretical, Hands-on Training
Assessment	Theory, Practical Exams, Clinical Logbook, Research Project

Course Objectives

- Master the comprehensive management of glaucoma, including diagnosis, medical treatment, and surgical intervention.
- Gain proficiency in the use of advanced diagnostic tools such as Optical Coherence Tomography (OCT), Visual Field Testing, and Gonioscopy.
- Develop skills in managing primary and secondary glaucomas, including open-angle, angle-closure, congenital, and secondary glaucomas.
- Understand the latest advances in minimally invasive glaucoma surgeries (MIGS) and filtration surgeries.
- Learn how to manage complex glaucoma cases, including co-management with other ocular conditions (e.g., cataracts, retinal diseases).
- Enhance patient care through improved pre-operative, intra-operative, and post-operative management of glaucoma surgeries.
- Conduct research that contributes to advancements in glaucoma management and surgical techniques.

Curriculum with Semester-wise Syllabus & Modules

Semester 1: Fundamentals of Glaucoma Diagnosis and Management

Module	Topics Covered
Introduction to Glaucoma	Epidemiology, risk factors, and types of glaucoma
Glaucoma Diagnosis	Comprehensive examination including intraocular pressure measurement, visual field testing, gonioscopy, OCT, and imaging techniques
Medical Management of Glaucoma	Pharmacologic agents used in glaucoma management, including prostaglandins, beta-blockers, carbonic anhydrase inhibitors, and combination therapies
Laser Treatments for Glaucoma	Laser Peripheral Iridotomy, Laser Trabeculoplasty, and other laser-based interventions
Surgical Treatment of Glaucoma	Trabeculectomy, Tube Shunts, and other traditional filtration surgeries
Clinical Rotations & Hands-on Training	Observation and hands-on experience in medical management, laser procedures, and surgeries

Semester 2: Advanced Glaucoma Surgery and Research

Module	Topics Covered
Minimally Invasive Glaucoma Surgery (MIGS)	Techniques and technologies for MIGS, including iStent, Xen Gel Stent, and other innovations
Advanced Surgical Techniques	Filtration surgery, combined cataract-glaucoma surgery, and managing surgical complications
Secondary Glaucomas	Diagnosis and management of secondary glaucomas due to other ocular conditions (e.g., uveitis, trauma, steroids, neovascular glaucoma)
Complex Glaucoma Cases	Management of advanced glaucomas, including co-management with cataract, retinal diseases, and neuro-ophthalmic conditions
Pre-operative & Post-operative Management	Comprehensive care for glaucoma surgery patients, including complications, patient education, and long-term follow-up
Research Project & Case Studies	Literature review, clinical case presentations, and preparation of research dissertation

Program Outcomes

Sr. No.	Program Outcome	Description
1	Mastery in Glaucoma Diagnosis & Treatment	Gain expertise in the diagnosis and management of all forms of glaucoma, including open-angle, angle-closure, congenital, and secondary glaucomas.
2	Proficiency in Laser and Surgical Techniques	Develop proficiency in laser treatments and advanced surgical interventions, including MIGS and filtration surgeries.
3	Expertise in Managing Complex Glaucoma Cases	Ability to handle complicated glaucoma cases, particularly in conjunction with other ocular conditions.
4	Advanced Knowledge in Glaucoma Surgery	Learn advanced surgical techniques for glaucoma treatment, including combined surgeries and minimally invasive approaches.
5	Patient-Centered Care	Improve patient care through effective pre-operative, intra-operative, and post-operative management strategies.
6	Contribution to Glaucoma Research	Engage in clinical research that advances knowledge in the diagnosis, treatment, and management of glaucoma.

Course Outcomes

Sr. No.	Course Outcome	Description
1	Expertise in Comprehensive Glaucoma Management	Ability to diagnose and manage glaucoma using medical, laser, and surgical techniques.
2	Proficiency in Advanced Glaucoma Surgery	Ability to perform advanced glaucoma surgeries such as MIGS and traditional filtration surgery.
3	Mastery in Glaucoma Diagnosis Tools	Ability to utilize advanced diagnostic tools such as OCT, visual field testing, and gonioscopy to assess glaucoma patients.
4	Competence in Managing Secondary Glaucomas	Ability to diagnose and treat secondary glaucomas caused by various ocular and systemic conditions.
5	Advanced Patient Management Skills	Ability to manage glaucoma patients from diagnosis through surgical intervention, including post-operative care and follow-up.
6	Research & Contribution to Glaucoma Knowledge	Ability to conduct research and contribute to advancements in glaucoma care.

Credits & Assessment Methods

Total Credits: 40

Component	Credits
Theory & Lectures	10
Clinical Rotations & Case Studies	10
Hands-on Training & Procedures	10
Research & Dissertation	10

Assessment Pattern

Assessment Type	Weightage
Theory Examination (MCQs, Long & Short Answer)	30%
Clinical & Practical Exam (Case-Based Discussion, OSCE)	30%
Clinical Logbook & Case Reports	20%
Research Presentation & Dissertation	20%

Exam Pattern
Theory Examination:
• Section A (MCQs – 30 Marks)
• Section B (Short Answer Questions – 30 Marks)
• Section C (Long Answer Questions – 40 Marks)

Practical Examination:

Component	Details	Marks
Glaucoma Surgery	Performing trabeculectomy, tube shunt procedures, MIGS	50
Laser Procedures	Laser Peripheral Iridotomy, Laser Trabeculoplasty	50
Diagnosis & Management	Using OCT, visual field testing, gonioscopy	50
OSCE	Simulated clinical scenarios, skill demonstration	40

Viva Voce (Oral Examination):

Component	Details	Marks
Case Presentations	Discussion on glaucoma cases and treatment decisions	50
Recent Advances in Glaucoma Surgery	Journal article discussion on MIGS and other advances in glaucoma care	20
Ethical & Legal Aspects	Ethical considerations and patient care in glaucoma surgeries	30

Research/Dissertation Submission:

Component	Marks
Originality & Scientific Merit	30
Methodology & Data Analysis	30
Presentation & Discussion	20
Conclusion & Clinical Relevance	20

Final Weightage & Passing Criteria

Exam Component	Total Marks	Minimum Passing Marks
Theory	200	50% (100/200)
Practical Exam	200	50% (100/200)
Viva Voce	100	50% (50/100)
Dissertation	100	50% (50/100)
Total (Overall)	600	50% Aggregate Required

Recommended Books & E-Resources
Textbooks:

- Glaucoma: A Color Manual of Diagnosis and Therapy – H. W. Heijl
- Principles and Practice of Ophthalmology – Myron Yanoff
- Glaucoma Surgery: Techniques in Ophthalmology – David M. Johnson
- Minimally Invasive Glaucoma Surgery – Jonathan T. Myers

Journals & E-Resources:

- American Journal of Ophthalmology – https://www.ajo.com
- Glaucoma Today – https://glaucomatoday.com
- Journal of Glaucoma – https://journals.lww.com/glaucomajournal
- Ophthalmology Times – https://www.ophthalmologytimes.com

Fellowship in Retinal Surgery

Course Overview

The Fellowship in Retinal Surgery is a one-year advanced program designed for ophthalmologists seeking specialized training in the surgical management of retinal diseases. The program provides comprehensive exposure to a wide range of retinal disorders, focusing on the latest surgical techniques and technologies used in retinal surgery. Fellows will gain hands-on experience in treating complex retinal conditions, including retinal detachments, diabetic retinopathy, macular disorders, and retinal vascular diseases. Emphasis is placed on mastering vitreoretinal surgical procedures, including both traditional and minimally invasive techniques, as well as learning advanced diagnostic tools and pre/post-operative management.

Prerequisites

Criteria	Details
Eligibility	MS in Ophthalmology or equivalent degree in the field of ophthalmology
Duration	1 Year
Mode of Study	Clinical, Theoretical, Hands-on Training
Assessment	Theory, Practical Exams, Clinical Logbook, Research Project

Course Objectives

- Gain expertise in the diagnosis, management, and surgical treatment of retinal diseases.
- Learn advanced vitreoretinal surgical techniques, including pars plana vitrectomy, retinal detachment repair, and macular hole surgery.
- Understand the management of complex retinal conditions, such as diabetic retinopathy, retinal vein occlusion, and age-related macular degeneration (AMD).
- Master the use of advanced diagnostic tools such as Optical Coherence Tomography (OCT), fluorescein angiography, and B-scan ultrasonography for retinal disease assessment.
- Develop proficiency in the management of complications associated with retinal surgery.
- Learn the principles of intraoperative and post-operative care, including handling retinal complications.
- Engage in research and contribute to advancements in the field of retinal surgery.

Curriculum with Semester-wise Syllabus & Modules

Semester 1: Fundamentals of Retinal Disease Diagnosis and Surgery

Module	Topics Covered
Introduction to Retinal Surgery	Overview of retinal diseases, surgical anatomy of the retina, and principles of retinal surgery
Retinal Detachment and Repair	Pathophysiology, surgical techniques for retinal detachment, including scleral buckling, vitrectomy, and pneumatic retinopexy
Diabetic Retinopathy	Management of diabetic retinopathy, including laser photocoagulation, intravitreal injections, and surgical options for advanced cases
Macular Disorders	Diagnosis and treatment of macular holes, epiretinal membranes, and macular edema
Retinal Vascular Diseases	Management of retinal vein occlusion, retinal artery occlusion, and other vascular retinal diseases
Clinical Rotations & Hands-on Training	Observation and hands-on experience with retinal surgical procedures and management of retinal diseases

Semester 2: Advanced Retinal Surgical Techniques and Research

Module	Topics Covered
Advanced Vitreoretinal Surgery	Techniques for complex vitrectomy, macular surgery, and retinal reattachment procedures
Minimally Invasive Retinal Surgery	Latest advancements in microincision vitrectomy surgery (MIVS), and the role of robotic surgery in retinal procedures
Age-related Macular Degeneration (AMD)	Surgical and non-surgical management of AMD, including anti-VEGF therapy and surgical interventions
Retinal Trauma and Complications	Management of retinal trauma and complications from retinal surgeries, including endophthalmitis and retinal hemorrhages
Pre-operative & Post-operative Care	Comprehensive management of patients undergoing retinal surgeries, including complications, patient education, and follow-up care
Research Project & Case Studies	Literature review, clinical case presentations, and preparation of research dissertation

Program Outcomes

Sr. No.	Program Outcome	Description
1	Expertise in Retinal Surgery	Master the techniques required for managing complex retinal diseases using the latest vitreoretinal surgery methods.
2	Proficiency in Advanced Diagnostic Tools	Gain proficiency in using advanced imaging modalities like OCT, fluorescein angiography, and B-scan ultrasonography for diagnosing retinal diseases.
3	Management of Complex Retinal Conditions	Ability to manage diabetic retinopathy, retinal detachment, macular disorders, and other complex retinal diseases.
4	Advanced Surgical Skills	Develop expertise in vitrectomy, scleral buckling, macular surgery, and other advanced retinal surgeries.
5	Post-operative Management Expertise	Ability to handle post-operative care and complications, ensuring the best outcomes for retinal surgery patients.
6	Contribution to Retinal Surgery Research	Engage in clinical research, advancing treatment methodologies and surgical techniques in retinal surgery.

Course Outcomes

Sr. No.	Course Outcome	Description
1	Mastery of Vitreoretinal Surgery Techniques	Ability to perform retinal surgeries, including vitrectomy, retinal detachment repair, and macular surgery.
2	Proficiency in Diagnosing and Managing Retinal Diseases	Expertise in diagnosing retinal conditions such as diabetic retinopathy, macular holes, and retinal vein occlusion, and developing appropriate treatment plans.
3	Advanced Knowledge in Retinal Imaging	Ability to interpret retinal imaging techniques like OCT, fluorescein angiography, and other diagnostic tools for retinal diseases.
4	Competence in Minimally Invasive Retinal Surgery	Ability to perform minimally invasive techniques, including microincision vitrectomy surgery (MIVS) and robotic-assisted surgery.
5	Effective Management of Post-Surgical Complications	Develop skills in managing complications such as retinal hemorrhage, endophthalmitis, and other post-operative issues.
6	Contribution to Retinal Surgery Research	Ability to conduct and contribute to clinical research in retinal surgery to improve surgical outcomes and treatment strategies.

Credits & Assessment Methods

Total Credits: 40

Component	Credits
Theory & Lectures	10
Clinical Rotations & Case Studies	10
Hands-on Training & Procedures	10
Research & Dissertation	10

Assessment Pattern

Assessment Type	Weightage
Theory Examination (MCQs, Long & Short Answer)	30%
Clinical & Practical Exam (Case-Based Discussion, OSCE)	30%
Clinical Logbook & Case Reports	20%
Research Presentation & Dissertation	20%

Exam Pattern
Theory Examination:
• Section A (MCQs – 30 Marks)
• Section B (Short Answer Questions – 30 Marks)
• Section C (Long Answer Questions – 40 Marks)

Practical Examination:

Component	Details	Marks
Retinal Surgery Techniques	Performing vitrectomy, macular surgery, retinal detachment repair	50
Laser Procedures	Laser photocoagulation for diabetic retinopathy, retinal vein occlusion	50
Diagnostic Imaging	Interpretation of OCT, fluorescein angiography	50
OSCE	Simulated clinical scenarios, skill demonstration	40

Viva Voce (Oral Examination):

Component	Details	Marks
Case Presentations	Discussion on retinal surgery cases, treatment decisions, and outcomes	50
Recent Advances in Retinal Surgery	Journal article discussion on new techniques, minimally invasive surgery, and other innovations in retinal surgery	20
Ethical & Legal Aspects	Ethical considerations and patient care in retinal surgeries	30

Research/Dissertation Submission:

Component	Marks
Originality & Scientific Merit	30
Methodology & Data Analysis	30
Presentation & Discussion	20
Conclusion & Clinical Relevance	20

Final Weightage & Passing Criteria

Exam Component	Total Marks	Minimum Passing Marks
Theory	200	50% (100/200)
Practical Exam	200	50% (100/200)
Viva Voce	100	50% (50/100)
Dissertation	100	50% (50/100)
Total (Overall)	600	50% Aggregate Required

Recommended Books & E-Resources
Textbooks:

- Vitreoretinal Disease: Diagnosis and Surgery – William R. Freeman
- Retinal Surgery: Principles and Practice – Stephen H. Tsang
- Retinal Diseases: Diagnosis and Management – V. S. R. Murthy
- Surgical Retina: A Practical Guide – John A. F. McHugh

Journals & E-Resources:

- American Journal of Ophthalmology – https://www.ajo.com
- Retina Journal – https://journals.lww.com/retinajournal
- British Journal of Ophthalmology – https://bjo.bmj.com
- Retinal Physician – https://www.retinalphysician.com

Fellowship in Orbital and Oculoplastic Surgery

Course Overview

The Fellowship in Orbital and Oculoplastic Surgery is a specialized one-year program designed for ophthalmologists seeking advanced training in the diagnosis, management, and surgical treatment of orbital and oculoplastic conditions. The fellowship focuses on both reconstructive and aesthetic procedures, including the management of orbital tumors, eyelid disorders, lacrimal system diseases, and other related pathologies. Fellows will gain hands-on experience in a wide range of surgeries aimed at restoring function and improving the appearance of the orbit and eyelids, while also mastering the latest surgical techniques in cosmetic oculoplastic surgery.

Prerequisites

Criteria	Details
Eligibility	MS in Ophthalmology or equivalent degree in ophthalmology
Duration	1 Year
Mode of Study	Clinical, Theoretical, Hands-on Training
Assessment	Theory, Practical Exams, Clinical Logbook, Research Project

Course Objectives

- Gain expertise in the diagnosis and surgical management of orbital and periocular conditions, including orbital tumors, eyelid malpositions, and lacrimal system diseases.
- Master both reconstructive and aesthetic oculoplastic surgery techniques, including eyelid surgery (blepharoplasty), brow lifts, and ptosis repair.
- Understand the management of orbital fractures and the use of advanced imaging tools for the diagnosis and treatment of orbital pathologies.
- Learn the principles of lacrimal system surgery for treating conditions like dacryocystitis, epiphora, and canalicular injuries.
- Develop proficiency in the management of complex orbital disorders such as thyroid eye disease and orbital tumors.
- Engage in cosmetic oculoplastic procedures such as aesthetic eyelid surgeries, brow lifts, and orbital contouring for rejuvenation.
- Participate in research to explore innovations in oculoplastic surgery and orbital pathology management.

Curriculum with Semester-wise Syllabus & Modules

Semester 1: Fundamentals of Orbital and Oculoplastic Surgery

Module	Topics Covered
Introduction to Orbital and Oculoplastic Surgery	Overview of orbital and eyelid anatomy, principles of reconstructive and aesthetic surgery
Orbital Diseases and Tumors	Diagnosis and management of orbital tumors (benign and malignant), imaging techniques (CT, MRI) for orbital pathology
Eyelid Disorders and Surgery	Surgical management of ptosis, entropion, ectropion, and blepharoplasty techniques
Lacrimal System Surgery	Surgical techniques for treating dacryocystitis, punctal stenosis, and canalicular injuries
Orbital Fractures	Diagnosis and surgical management of orbital fractures, including repair of orbital floor fractures and complex trauma
Clinical Rotations & Hands-on Training	Observation and hands-on experience in performing surgeries related to eyelid disorders, orbital fractures, and lacrimal system conditions

Semester 2: Advanced Oculoplastic and Orbital Surgery Techniques

Module	Topics Covered
Thyroid Eye Disease (TED)	Management of thyroid eye disease, including orbital decompression, strabismus surgery, and eyelid surgery
Orbital Reconstruction	Techniques for orbital reconstruction following trauma, tumor resection, and congenital orbital anomalies
Aesthetic Oculoplastic Surgery	Eyelid surgery for aesthetic purposes, brow lifts, periocular rejuvenation, and non-surgical aesthetic procedures
Complex Orbital and Eyelid Pathologies	Management of congenital and acquired orbital and eyelid anomalies, complex lacrimal system disorders
Advanced Lacrimal Surgery	Surgical interventions for epiphora, tear duct obstructions, and dacryocystorhinostomy (DCR)
Research Project & Case Studies	Literature review, clinical case presentations, and preparation of research dissertation

Program Outcomes

Sr. No.	Program Outcome	Description
1	Expertise in Orbital and Eyelid Surgery	Master advanced surgical techniques for treating orbital tumors, eyelid disorders, and lacrimal system diseases.
2	Proficiency in Orbital Reconstruction	Gain advanced skills in orbital fracture repair and orbital reconstruction following trauma, tumors, or congenital anomalies.
3	Mastery of Aesthetic Oculoplastic Surgery	Expertise in performing aesthetic eyelid surgeries, brow lifts, and rejuvenation procedures to improve facial aesthetics.
4	Competence in Lacrimal System Surgery	Develop proficiency in the diagnosis and treatment of lacrimal system disorders, including canalicular and ductal issues.
5	Management of Complex Orbital and Oculoplastic Conditions	Ability to manage complex orbital diseases, such as thyroid eye disease and orbital tumors.
6	Contribution to Oculoplastic Research	Engage in research to explore new techniques and innovations in orbital and oculoplastic surgery.

Course Outcomes

Sr. No.	Course Outcome	Description
1	Expertise in Eyelid and Orbital Surgery	Ability to perform complex surgeries related to eyelids, orbital tumors, and orbital fractures.
2	Advanced Knowledge of Lacrimal System Surgery	Proficiency in diagnosing and surgically treating lacrimal system diseases, such as dacryocystitis and punctal stenosis.
3	Mastery of Thyroid Eye Disease Management	Ability to manage and surgically treat thyroid eye disease with orbital decompression and eyelid surgeries.
4	Competence in Aesthetic Rejuvenation Procedures	Expertise in aesthetic oculoplastic procedures for periocular rejuvenation, including blepharoplasty and brow lifts.
5	Knowledge of Advanced Orbital Imaging	Proficiency in using imaging techniques (CT, MRI) to diagnose orbital diseases and plan surgical interventions.
6	Contribution to Research in Oculoplastic Surgery	Ability to conduct research and contribute to the advancement of oculoplastic and orbital surgery techniques.

Credits & Assessment Methods

Total Credits: 40

Component	Credits
Theory & Lectures	10
Clinical Rotations & Case Studies	10
Hands-on Training & Procedures	10
Research & Dissertation	10

Assessment Pattern

Assessment Type	Weightage
Theory Examination (MCQs, Long & Short Answer)	30%
Clinical & Practical Exam (Case-Based Discussion, OSCE)	30%
Clinical Logbook & Case Reports	20%
Research Presentation & Dissertation	20%

Exam Pattern
Theory Examination:
• Section A (MCQs – 30 Marks)
• Section B (Short Answer Questions – 30 Marks)
• Section C (Long Answer Questions – 40 Marks)

Practical Examination:

Component	Details	Marks
Eyelid Surgery	Performing surgeries such as blepharoplasty, ptosis repair, and eyelid reconstruction	50
Orbital Surgery	Managing orbital fractures, tumors, and complex orbital reconstructions	50
Lacrimal Surgery	Performing dacryocystorhinostomy (DCR) and other lacrimal procedures	30
OSCE	Simulated clinical scenarios, skill demonstration	40

Viva Voce (Oral Examination):

Component	Details	Marks
Case Presentations	Discussion on complex orbital and eyelid cases	50
Recent Advances in Oculoplastic Surgery	Journal article discussion on new techniques and innovations	20
Ethical & Legal Aspects	Ethical considerations and patient care in orbital and oculoplastic surgery	30

Research/Dissertation Submission:

Component	Marks
Originality & Scientific Merit	30
Methodology & Data Analysis	30
Presentation & Discussion	20
Conclusion & Clinical Relevance	20

Final Weightage & Passing Criteria

Exam Component	Total Marks	Minimum Passing Marks
Theory	200	50% (100/200)
Practical Exam	200	50% (100/200)
Viva Voce	100	50% (50/100)
Dissertation	100	50% (50/100)
Total (Overall)	600	50% Aggregate Required

Recommended Books & E-Resources
Textbooks:

- Oculoplastic Surgery: Principles and Practice – Edward H. R. Kestelyn
- Orbital Surgery: A Practical Approach – Jennifer L. Weitzel
- Essentials of Oculoplastic Surgery – Peter M. M. K. Shaw
- Surgical Techniques in Ophthalmology: Oculoplastic Surgery – K. C. Jones

Journals & E-Resources:

- Ophthalmic Plastic and Reconstructive Surgery – https://journals.lww.com
- Journal of Aesthetic and Reconstructive Surgery – https://journals.lww.com
- British Journal of Ophthalmology – https://bjo.bmj.com
- American Academy of Ophthalmology (AAO) – https://www.aao.org

Fellowship in Anterior Segment (Cornea) Surgery

Course Overview

The Fellowship in Anterior Segment (Cornea) Surgery is a one-year advanced training program for ophthalmologists who wish to specialize in the diagnosis, treatment, and surgical management of corneal and anterior segment disorders. This fellowship provides fellows with in-depth knowledge and hands-on experience in the management of corneal diseases, corneal transplantation, refractive surgery, and other anterior segment procedures. The program emphasizes cutting-edge surgical techniques, patient care, and advanced diagnostic tools to manage a wide range of anterior segment conditions, including corneal dystrophies, infections, and trauma.

Prerequisites

Criteria	Details
Eligibility	MS in Ophthalmology or equivalent degree in ophthalmology
Duration	1 Year
Mode of Study	Clinical, Theoretical, Hands-on Training
Assessment	Theory, Practical Exams, Clinical Logbook, Research Project

Course Objectives

- Gain expertise in the diagnosis and management of corneal diseases such as keratoconus, corneal dystrophies, infections, and trauma.
- Master corneal transplant techniques, including penetrating keratoplasty (PK), deep anterior lamellar keratoplasty (DALK), and endothelial keratoplasty (DSAEK).
- Develop proficiency in refractive surgeries, including LASIK, PRK, and other corneal-based refractive procedures.
- Learn the latest techniques in anterior segment imaging, such as anterior segment OCT, corneal topography, and confocal microscopy.
- Understand the management of ocular surface disorders, including dry eye disease and limbal stem cell deficiency.
- Master surgical techniques for treating corneal perforations, ulcers, and chemical injuries.
- Engage in research to explore innovative approaches to corneal surgery and anterior segment disease management.

Curriculum with Semester-wise Syllabus & Modules

Semester 1: Fundamentals of Corneal and Anterior Segment Surgery

Module	Topics Covered
Introduction to Anterior Segment & Cornea	Basic anatomy, physiology, and pathophysiology of the cornea and anterior segment
Corneal Diseases & Management	Keratoconus, corneal dystrophies, infections, and their management
Corneal Imaging Techniques	Introduction to anterior segment OCT, corneal topography, confocal microscopy, and other diagnostic tools
Refractive Surgery	LASIK, PRK, and other corneal-based refractive procedures: indications, techniques, and complications
Corneal Transplantation	Overview of different types of corneal transplants: PK, DALK, DSAEK, and endothelial keratoplasty
Clinical Rotations & Hands-on Training	Observation and hands-on experience with corneal surgery, refractive procedures, and corneal transplant techniques

Semester 2: Advanced Corneal & Anterior Segment Surgical Techniques

Module	Topics Covered
Corneal Transplantation Techniques	Detailed surgical techniques for PK, DALK, and DSAEK; managing post-surgical complications
Ocular Surface Disease &Limbal Stem Cell Deficiency	Diagnosis and management of dry eye disease, limbal stem cell deficiency, and ocular surface reconstruction
Corneal Trauma & Chemical Injuries	Surgical management of corneal perforations, ulcers, and chemical burns
Advanced Refractive Surgery Techniques	SMILE, topography-guided LASIK, and other newer refractive techniques
Management of Corneal Infections	Bacterial, viral, and fungal infections of the cornea: diagnosis, medical and surgical management
Research Project & Case Studies	Literature review, clinical case presentations, and preparation of research dissertation

Program Outcomes

Sr. No.	Program Outcome	Description
1	Expertise in Corneal Surgery	Master surgical techniques for managing corneal diseases, corneal transplantation, and refractive surgeries.
2	Proficiency in Refractive Surgery	Gain proficiency in performing LASIK, PRK, and other advanced corneal refractive procedures.
3	Advanced Corneal Imaging	Ability to use advanced diagnostic tools such as anterior segment OCT and corneal topography.
4	Ocular Surface Disease Management	Expertise in diagnosing and treating dry eye disease and limbal stem cell deficiency.
5	Mastery in Corneal Transplantation	Expertise in performing and managing corneal transplants, including PK, DALK, and endothelial keratoplasty.
6	Research in Corneal Surgery	Engage in research that contributes to innovations and advancements in corneal surgery and anterior segment management.

Course Outcomes

Sr. No.	Course Outcome	Description
1	Expertise in Corneal Disease Management	Ability to diagnose and manage a wide range of corneal conditions, including keratoconus, infections, and dystrophies.
2	Proficiency in Corneal Transplantation	Mastery of various corneal transplant techniques, including PK, DALK, and DSAEK, with a focus on complication management.
3	Expertise in Refractive Surgery	Proficiency in performing LASIK, PRK, and other refractive procedures for vision correction.
4	Advanced Knowledge of Ocular Surface Diseases	Ability to manage complex ocular surface diseases, including dry eye disease and limbal stem cell deficiency.
5	Advanced Corneal Imaging Skills	Competence in using corneal imaging technologies for diagnosis and surgical planning.
6	Contribution to Research in Corneal Surgery	Conduct research to advance the understanding and treatment of corneal diseases and anterior segment disorders.

Credits & Assessment Methods

Total Credits: 40

Component	Credits
Theory & Lectures	10
Clinical Rotations & Case Studies	10
Hands-on Training & Procedures	10
Research & Dissertation	10

Assessment Pattern

Assessment Type	Weightage
Theory Examination (MCQs, Long & Short Answer)	30%
Clinical & Practical Exam (Case-Based Discussion, OSCE)	30%
Clinical Logbook & Case Reports	20%
Research Presentation & Dissertation	20%

Exam Pattern
Theory Examination:
• Section A (MCQs – 30 Marks)
• Section B (Short Answer Questions – 30 Marks)
• Section C (Long Answer Questions – 40 Marks)

Practical Examination:

Component	Details	Marks
Corneal Transplantation	Performing corneal transplant procedures such as PK, DALK, and DSAEK	50
Refractive Surgery	Performing LASIK, PRK, and other refractive procedures	50
Corneal Trauma & Disease Management	Managing corneal ulcers, perforations, and infections	30
OSCE	Simulated clinical scenarios, skill demonstration	40

Viva Voce (Oral Examination):

Component	Details	Marks
Case Presentations	Discussion on complex corneal disease and surgical cases	50
Recent Advances in Corneal Surgery	Journal article discussion on new developments in refractive and corneal surgery	20
Ethical & Legal Aspects	Ethical considerations and patient care in corneal and refractive surgery	30

Research/Dissertation Submission:

Component	Marks
Originality & Scientific Merit	30
Methodology & Data Analysis	30
Presentation & Discussion	20
Conclusion & Clinical Relevance	20

Final Weightage & Passing Criteria

Exam Component	Total Marks	Minimum Passing Marks
Theory	200	50% (100/200)
Practical Exam	200	50% (100/200)
Viva Voce	100	50% (50/100)
Dissertation	100	50% (50/100)
Total (Overall)	600	50% Aggregate Required

Recommended Books & E-Resources
Textbooks:

- Corneal Surgery: Theory, Technique, and Tissue – M. G. D. Roper-Hall
- Keratoconus: Diagnosis and Management – David C. F. Williams
- Refractive Surgery: A Manual of Principles and Practice – M. A. K. Pandit
- Corneal Transplantation: Principles and Practice – D. S. Dohlman

Journals & E-Resources:

- Cornea – https://journals.lww.com/corneajrnl
- Journal of Cataract and Refractive Surgery – https://www.jcrsjournal.org
- Ophthalmology – https://www.aao.org/journal/ophthalmology
- American Academy of Ophthalmology (AAO) – https://www.aao.org

Fellowship in UVEA & Medical Retina

Course Overview

The Fellowship in UVEA & Medical Retina is an advanced one-year program aimed at ophthalmologists who wish to specialize in the medical and surgical management of uveal diseases and retinal disorders. The program offers an in-depth understanding of the pathophysiology, diagnosis, and treatment of uveitis and retinal diseases, including diabetic retinopathy, age-related macular degeneration (AMD), retinal vascular diseases, and other retinal conditions. The fellowship combines clinical training, research, and hands-on experience in advanced retinal imaging techniques, intravitreal injections, and laser therapies. Fellows will also develop expertise in managing complex medical retinal diseases and uveitis.

Prerequisites

Criteria	Details
Eligibility	MS in Ophthalmology or equivalent degree in ophthalmology
Duration	1 Year
Mode of Study	Clinical, Theoretical, Hands-on Training
Assessment	Theory, Practical Exams, Clinical Logbook, Research Project

Course Objectives

- Develop expertise in the diagnosis, treatment, and management of uveitis and retinal diseases.
- Gain proficiency in advanced retinal imaging techniques, including OCT, fluorescein angiography (FA), and indocyanine green angiography (ICGA).
- Master the medical management of retinal diseases such as diabetic retinopathy, macular degeneration, retinal vein occlusion, and retinal dystrophies.
- Learn the principles and techniques of intravitreal injections for the treatment of retinal conditions, including anti-VEGF therapy.
- Understand the role of laser therapies in the management of retinal and uveal diseases, including panretinal photocoagulation and focal/grid laser treatment.
- Gain skills in managing uveitis, including pharmacologic treatment and immunosuppressive therapy.
- Engage in clinical research related to uveitis and retinal diseases, with an emphasis on innovative treatment approaches.

Curriculum with Semester-wise Syllabus & Modules

Semester 1: Fundamentals of Uveitis and Medical Retina

Module	Topics Covered
Introduction to Uveitis & Retinal Diseases	Basic anatomy of the uvea and retina, pathophysiology of uveitis, and common retinal diseases
Retinal Imaging Techniques	OCT, fluorescein angiography, indocyanine green angiography, and fundus autofluorescence
Medical Management of Retinal Diseases	Diabetic retinopathy, age-related macular degeneration, retinal vein occlusion, and diabetic macular edema
Principles of Intravitreal Injections	Techniques for intravitreal anti-VEGF injections, corticosteroids, and other biologics
Laser Therapies in Retinal Diseases	Laser techniques for retinal diseases, including photocoagulation, panretinal laser, and focal/grid laser treatment
Clinical Rotations & Hands-on Training	Observation and hands-on experience in diagnosing and treating uveitis and retinal diseases

Semester 2: Advanced Uveitis and Medical Retina Management

Module	Topics Covered
Advanced Uveitis Management	Diagnosis and management of anterior, intermediate, posterior, and panuveitis, including immunosuppressive therapy
Macular Diseases	Management of macular diseases including age-related macular degeneration (AMD), macular edema, and retinal degenerations
Retinal Vascular Diseases	Diagnosis and treatment of retinal vein occlusion, retinal artery occlusion, and retinal vascular malformations
Immunosuppressive Therapy in Uveitis	Systemic therapy options including corticosteroids, immunomodulators, and biologics for uveitis management
Innovative Retinal Treatments	New treatment modalities for retinal diseases, including gene therapy and retinal implants
Research Project & Case Studies	Literature review, clinical case presentations, and preparation of research dissertation

Program Outcomes

Sr. No.	Program Outcome	Description
1	Expertise in Uveitis Diagnosis & Management	Mastery in diagnosing and managing anterior, intermediate, posterior, and panuveitis, using medical and surgical interventions.
2	Proficiency in Medical Retina Disorders	Expertise in managing retinal diseases, including diabetic retinopathy, AMD, retinal vascular diseases, and macular diseases.
3	Advanced Retinal Imaging Skills	Proficiency in using advanced imaging techniques, such as OCT, FA, and ICGA, to diagnose and manage retinal diseases.
4	Expertise in Intravitreal Injection Therapy	Mastery in the techniques and indications for intravitreal injections in treating retinal conditions.
5	Understanding of Laser Therapies	Competence in performing laser treatments for retinal and uveal diseases, including panretinal photocoagulation and focal/grid laser.
6	Research Contribution to Uveitis & Retina	Engagement in research to advance treatment methodologies and clinical outcomes in uveitis and retinal diseases.

Course Outcomes

Sr. No.	Course Outcome	Description
1	Proficiency in Retinal Disease Management	Ability to diagnose and treat retinal diseases such as diabetic retinopathy, AMD, retinal vein occlusion, and macular edema.
2	Expertise in Uveitis Management	Mastery in diagnosing and managing uveitis, including treatment with immunosuppressive drugs and biologics.
3	Mastery of Retinal Imaging Techniques	Ability to use advanced retinal imaging technologies for diagnosis and treatment planning.
4	Intravitreal Injection Expertise	Skill in administering intravitreal injections of anti-VEGF and corticosteroids for retinal conditions.
5	Advanced Laser Therapy Skills	Proficiency in using laser therapy for retinal diseases, including focal/grid and panretinal photocoagulation.
6	Contribution to Research in Uveitis & Retina	Conduct research to advance clinical knowledge and treatment in uveitis and retinal diseases.

Credits & Assessment Methods

Total Credits: 40

Component	Credits
Theory & Lectures	10
Clinical Rotations & Case Studies	10
Hands-on Training & Procedures	10
Research & Dissertation	10

Assessment Pattern

Assessment Type	Weightage
Theory Examination (MCQs, Long & Short Answer)	30%
Clinical & Practical Exam (Case-Based Discussion, OSCE)	30%
Clinical Logbook & Case Reports	20%
Research Presentation & Dissertation	20%

Exam Pattern
Theory Examination:
• Section A (MCQs – 30 Marks)
• Section B (Short Answer Questions – 30 Marks)
• Section C (Long Answer Questions – 40 Marks)

Practical Examination:

Component	Details	Marks
Medical Retina Procedures	Performing intravitreal injections, laser therapies, and managing diabetic retinopathy	50
Uveitis Management	Managing uveitis with appropriate pharmacological and surgical treatments	50
Retinal Imaging & Diagnosis	Performing and interpreting OCT, FA, and ICGA for retinal diseases	30
OSCE	Simulated clinical scenarios and skill demonstration	40

Viva Voce (Oral Examination):

Component	Details	Marks
Case Presentations	Discussion on complex cases of retinal and uveal diseases	50
Recent Advances in Medical Retina	Journal article discussion on new treatments for retinal diseases	20
Ethical & Legal Aspects	Ethical considerations in uveitis and retinal disease management	30

Research/Dissertation Submission:

Component	Marks
Originality & Scientific Merit	30
Methodology & Data Analysis	30
Presentation & Discussion	20
Conclusion & Clinical Relevance	20

Final Weightage & Passing Criteria

Exam Component	Total Marks	Minimum Passing Marks
Theory	200	50% (100/200)
Practical Exam	200	50% (100/200)
Viva Voce	100	50% (50/100)
Dissertation	100	50% (50/100)
Total (Overall)	600	50% Aggregate Required

Recommended Books & E-Resources
Textbooks:

- Uveitis: Fundamentals and Clinical Practice – Robert N. Weinberg, Frederick C. Chen
- Medical Retina: A Practical Approach to Diagnosis and Treatment – John A. Dooley
- Retinal Vascular Disease – Steven M. Schwartz, George B. Beaton
- Fluorescein Angiography and OCT in Retinal Disease – John S. McLeod

Journals & E-Resources:

- Retina – https://journals.lww.com/retinajournal
- Journal of Uveitis & Ocular Inflammation – https://journals.sagepub.com/home/uoi
- American Journal of Ophthalmology – https://www.ajo.com
- The Retina Society – https://www.retina-international.org

Fellowship in Pediatric Ophthalmology

Course Overview

The Fellowship in Pediatric Ophthalmology is an advanced, one-year program designed for ophthalmologists who wish to specialize in the diagnosis, treatment, and management of eye conditions in children. The program covers a wide range of pediatric ocular disorders, including congenital and acquired conditions, strabismus, amblyopia, pediatric cataracts, retinopathy of prematurity (ROP), and other visual system anomalies. The fellowship provides a combination of clinical exposure, surgical training, hands-on experience, and research opportunities to prepare fellows to become experts in managing the unique ophthalmological needs of children.

Prerequisites

Criteria	Details
Eligibility	MS in Ophthalmology or equivalent degree in ophthalmology
Duration	1 Year
Mode of Study	Clinical, Theoretical, Hands-on Training
Assessment	Theory, Practical Exams, Clinical Logbook, Research Project

Course Objectives

- Develop expertise in the diagnosis and management of pediatric eye conditions such as strabismus, amblyopia, and pediatric cataracts.
- Gain proficiency in managing retinopathy of prematurity (ROP) and other neonatal and childhood retinal conditions.
- Master surgical techniques for pediatric cataracts, strabismus correction, and other pediatric ocular surgeries.
- Understand the principles of pediatric visual development and the impact of childhood eye diseases on vision.
- Learn advanced diagnostic techniques and technologies used in pediatric ophthalmology, including pediatric fundus examination, ocular ultrasonography, and pediatric imaging.
- Improve skills in patient communication and working with pediatric patients, including dealing with their families and caregivers.
- Engage in research projects to contribute to the field of pediatric ophthalmology, particularly in advancing diagnostic methods and treatment strategies.

Curriculum with Semester-wise Syllabus & Modules

Semester 1: Fundamentals of Pediatric Ophthalmology

Module	Topics Covered
Introduction to Pediatric Ophthalmology	Overview of common pediatric eye conditions, challenges in diagnosing and treating children
Pediatric Strabismus	Diagnosis and management of strabismus, including surgical and non-surgical treatment options
Amblyopia	Pathophysiology, diagnosis, and treatment strategies for amblyopia
Pediatric Cataracts	Congenital cataracts, surgery, and post-operative management in children
Retinopathy of Prematurity (ROP)	Screening, diagnosis, and management of ROP in premature infants
Pediatric Ocular Development	Visual development in children, importance of early diagnosis and intervention
Clinical Rotations & Hands-on Training	Observation and hands-on experience with pediatric ophthalmic procedures and surgeries

Semester 2: Advanced Pediatric Ophthalmology Techniques and Research

Module	Topics Covered
Advanced Strabismus Surgery	Surgical techniques in pediatric strabismus, including complicated cases and post-operative management
Pediatric Retinal Diseases	Retinal conditions in children, including ROP, retinal dystrophies, and vascular disorders
Glaucoma in Children	Diagnosis and treatment of pediatric glaucoma, including surgical interventions
Pediatric Neuro-ophthalmology	Evaluation and management of pediatric patients with neuro-ophthalmic conditions
Pediatric Ocular Trauma	Management of ocular trauma in children, including prevention, surgical repair, and rehabilitation
Ethics in Pediatric Ophthalmology	Ethical considerations, including informed consent, family counseling, and pediatric patient management
Research Project & Case Studies	Literature review, clinical case presentations, and preparation of research dissertation

Program Outcomes

Sr. No.	Program Outcome	Description
1	Expertise in Pediatric Eye Diseases	Master the diagnosis, management, and surgical treatment of common and complex pediatric eye diseases.
2	Proficiency in Pediatric Strabismus Management	Develop skills in both surgical and non-surgical treatment of pediatric strabismus.
3	Advanced Surgical Skills	Gain expertise in pediatric cataract surgery, strabismus surgery, and other pediatric ocular surgeries.
4	Competence in Retinopathy of Prematurity (ROP) Management	Proficiency in screening, diagnosing, and managing ROP and other retinal conditions in neonates.
5	Skills in Pediatric Ocular Imaging	Master the use of advanced imaging techniques, including pediatric fundus examination and ocular ultrasound.
6	Research in Pediatric Ophthalmology	Engage in research focused on advancing the field of pediatric ophthalmology and improving clinical outcomes.

Course Outcomes

Sr. No.	Course Outcome	Description
1	Mastery of Pediatric Eye Disease Management	Ability to diagnose and manage pediatric ocular conditions, including strabismus, amblyopia, and pediatric cataracts.
2	Proficiency in Pediatric Ocular Surgery	Competence in performing surgical interventions for pediatric cataracts, strabismus, and other ocular conditions.
3	Advanced Skills in Retinopathy of Prematurity (ROP) Management	Ability to diagnose and treat ROP, including retinal screening and interventions.
4	Expertise in Pediatric Ocular Imaging and Diagnostics	Proficiency in using pediatric-specific imaging tools for diagnosis and management of ocular diseases.
5	Comprehensive Understanding of Pediatric Visual Development	In-depth knowledge of visual development in children and its implications for eye care.
6	Research Contribution to Pediatric Ophthalmology	Conduct research that advances knowledge and treatment strategies in pediatric ophthalmology.

Credits & Assessment Methods

Total Credits: 40

Component	Credits
Theory & Lectures	10
Clinical Rotations & Case Studies	10
Hands-on Training & Procedures	10
Research & Dissertation	10

Assessment Pattern

Assessment Type	Weightage
Theory Examination (MCQs, Long & Short Answer)	30%
Clinical & Practical Exam (Case-Based Discussion, OSCE)	30%
Clinical Logbook & Case Reports	20%
Research Presentation & Dissertation	20%

Exam Pattern
Theory Examination:
• Section A (MCQs – 30 Marks)
• Section B (Short Answer Questions – 30 Marks)
• Section C (Long Answer Questions – 40 Marks)

Practical Examination:

Component	Details	Marks
Strabismus Surgery	Performing pediatric strabismus surgery and managing post-operative complications	50
Pediatric Cataract Surgery	Performing cataract surgery in children and post-operative care	50
ROP Screening & Treatment	Managing ROP, including screening, diagnosis, and treatment options	30
OSCE	Simulated clinical scenarios, including pediatric ophthalmology diagnosis and management	40

Viva Voce (Oral Examination):

Component	Details	Marks
Case Presentations	Discussion of complex pediatric eye cases	50
Recent Advances in Pediatric Ophthalmology	Journal article discussion on new treatments and technologies in pediatric ophthalmology	20
Ethical & Legal Aspects	Ethical considerations in pediatric patient care and treatment	30

Research/Dissertation Submission:

Component	Marks
Originality & Scientific Merit	30
Methodology & Data Analysis	30
Presentation & Discussion	20
Conclusion & Clinical Relevance	20

Final Weightage & Passing Criteria

Exam Component	Total Marks	Minimum Passing Marks
Theory	200	50% (100/200)
Practical Exam	200	50% (100/200)
Viva Voce	100	50% (50/100)
Dissertation	100	50% (50/100)
Total (Overall)	600	50% Aggregate Required

Recommended Books & E-Resources
Textbooks:

- Pediatric Ophthalmology: Current Concepts – Tarek M. Boulos, Amal K. Boulos
- Pediatric Cataract Surgery – Jack L. Chen, Michael J. Repka
- Strabismus: A Decision Making Approach – Stephen H. H. Lee, Hugh R. D. Steeples
- Retinopathy of Prematurity: A Practical Guide to Diagnosis and Management – Charles L. M. Anderson, Sharon F. Freedman

Journals & E-Resources:

- Pediatric Ophthalmology & Strabismus – https://www.journals.elsevier.com/pediatric-ophthalmology-and-strabismus
- American Journal of Ophthalmology – https://www.ajo.com
- Journal of Pediatric Ophthalmology & Strabismus – https://journals.sagepub.com/home/jpo
- The American Association for Pediatric Ophthalmology and Strabismus (AAPOS) – https://www.aapos.org