College of Physicians and Surgeons of Mumbai

Syllabus for CPS-PG-Course

FCPS (OPTHL) : FELLOWSHIP IN OPHTHALMOLOGY

College of Physicians and Surgeons of Mumbai

CPS House, Dr. E. Borges Marg, Parel, Mumbai – 400012.

FCPS (OPTHL) : FELLOWSHIP IN OPHTHALMOLOGY

SYLLABUS

Basic Sciences related to Ophthalmology

i. Orbital and Ocular Anatomy:

ii. Gross Anatomy,

iii. Histology,

iv. Embryology

v. Ocular Physiology

vi. Ocular Pathology: Gross pathology, Histopathology, General Pathology

vii. Biochemistry

- General Biochemistry,
- Biochemistry applicable to ocular function.

viii. Microbiology

- General Microbiology,
- Specific Microbiology applicable to eyes

ix. Immunology with particular reference to ocular immunology.

x. Optics

- Basic physics of optics
- Applied Ophthalmic optics
- Applied optics including optical devices
- Disorders of Refraction

xi. Environment & Health

- Epidemiological concepts and techniques, Investigation of an epidemic.
- Epidemiological indicators and methodology for investigation!
- Non Communicable ocular diseases and Nutritional disorders.
- Industrial Ophthalmology.
- Communicable ocular condition.
- Survey Designs, Health Information
- Graphical representation of data and its interpretation.
- Principles and practice of eye health education.
- Existing eye health infrastructure and the National programme for control of blindness.

  Eye Camp approach for management of ocular morbidity
- Role of other National programmes for decreasing ocular morbidity and programmes for

visual rehabilitation.

- Eye Health Planning and Management.
- Financial & human resource development for ocular health care.
- Formulation, implementation and evaluation of community directed programme.

CLINICAL OPHTHALMOLOGY

i. Disorders of the lids.

a. Anatomy & basic requirements
b. Small and large defects

ii. Disorders of the Lacrimal System.

a. Anatomy of drainage system & investigative procedures
b. DCR
c. CDCR & other intubation techniques

iii. Disorders of the Conjunctiva & Disorders of the Cornea

a. Donor Corneal Tissue
b. Penetrating Keratoplasy -Surgical Techniques
c. Corneal Graft Rejection
d. Conjunctivitis
e. Tear Film-Abnormalities and Management
f. Dry Eye &Keratomalacia
g. Trachoma
h. Incision Surgery -
i. Non Incisional, Non Laser Refractive Surgery
j. Laser Refractive Surgery
k. Laser Refractive Surgery
l. Bacterial Keratitis
m. Viral Keratitis.
n. Fungal Keratitis
o. Non-infective corneal ulcers/corneal Degenerations
p. Corneal Dystrophies
q. Ectatic Corneal Dystrophies

iv. Disorders of the Sclera

v. Disorders of the Uveal Tract (C. UVEA)

a. Anterior Uveitis

b. Posterior Uveitis
c. Basic Principles of
    i. Anatomy of uveal tract
    ii. Elements of the immune systems
    iii. Concepts of disease pathogenesis.
d. Specific infective Uveitic entities
e. Specific uveitis entities
f. Principles of Management of Uveitis
g. Complications

vi. Disorders of the Lens

a. ECCE Surgery
b. Small Incision cataract surgery
c. Basics of Phacoemulcification
d. Steps of Phacoemulcification
e. Nucleus and cortical management in Phocoemulsification
f. Complications of Phacoemulcification
g. Phacoemulcification in difficult situation
h. Congenital Cataract
    a) Anatomy & Embryology
    b) Physiology
    c) Pathogenesis of age related cataract.
i. Acquired Cataract
j. IOLS
k. Secondary IOL Implantation
l. The Capsule in Cataract Surgery
m. Subluxation/ Dislocation of Lens

vii. Disorders of the Retina

a. Basics of Vitreo Retina
b. Retinal detachment surgery.
c. Exudative retinal detachment
d. Advances in Proliferative vitreo-retinopathy.
e. Endophthalmitis.
f. Vitreous Substitutes.
g. Lasers & posterior segment diseases.

h. Retinal vascular diseases

viii. Disorders of the Optic Nerve & Visual Pathway

ix. Disorders of the Orbit

a. Congenital ptosis
b. Lid reconstruction
c. Anopathalmic socket and its problems
d. Lacrimal System
e. Retinoblastoma
f. Orbital diseases
g. Orbital Surgery
h. Entropion&Ectropion
i. Enucleation / Eviseration/ exenteration

x. Glaucoma

j. Diagnosis of glaucoma
k. Primary Angle closure glaucoma
l. Primary open angle glaucoma
m. Congenital glaucoma
n. Lasers in glaucoma
o. Medical management of glaucoma
p. Surgical management of glaucoma
q. Secondary Glaucoma

xi. Neuro ophthalmology

r. Papilloedema
s. Optic neuritis
t. Space occupying lesions of sellar region
u. Myopathies & disorders of neuromuscular transmission
v. Defects of ocular motility
w. Nystagmus
x. Intracranial aneurysms

xii. Paediatric Ophthalmolgy

y. Basic concepts of genetics, heredity & congenital malformations
z. Eye in infancy
aa. Genetically determined metabolic disorders in children
bb. Leucocoria

cc. Management of epiphora

Essential Diagnostic Skills:

I. Examination techniques along with interpretation

a. Slit lamp Examination

b. Fundus evaluation

II. Basic Investigation along with their interpretation

a. Tonometry

b. Tear/ Lacrimal function tests

c. Corneal

d. Colour Vision Evaluation

e. Refraction

f. Diagnosis & Assessment of squint

g. Exophthalmometry

h. Contact Lens

i. Low Vision Aids.

j. Community Ophthalmology

III. Interpretation of Investigative modalities

a. Fundus Photography

b. Fluoresce in angiography

c. Ophthalmic ultrasound

d. Automated perimetry for glaucoma and neurological lesions

e. Radiological tests

IV. Minor surgical procedures

a. Conjunctival and corneal foreign body removal on the slit lamp

b. Chalazion incision and curettage

c. Pterygium excision

d. Biopsy of small lid and tumours

e. Suture removal- skin / conjunctival/ corneal / corneoscleral

f. Tarsorrhaphy

g. Subconjunctival injection

h. Retrobulbar, Per bulbar anesthesia

i. Posterior Sub-Tenon's injections

j. Artificial eye fitting

V. Surgical Procedures

1. Ocular Anesthesia
2. Lid Surgery – Tasorrhaphy
3. Destructive procedures
4. Sac surgery
5. Strabismus surgery
6. Orbit surgery
7. Cyclocryotherapy
8. Use of Operating microscope
    a. Cataract surgery
    b. Vitrectomy
    c. Surface ocular procedures
    d. Corneal
9. Microscopic surgeries
    a. Keratoplasty
    b. Glaucoma surgery

VI. Research Skills

1. Basic statistical knowledge

- Ability to undertake clinical & basic research
- Descriptive and inferential statistics ability to publish results of one's work
- Knowledge of computers is helpful

VII. Recent advances in Ophthalmology

VIII. Medico Legal aspects of Ophthalmology

FCPS - OPTHALMOLOGY

EXAMINATION PATTERN

Theory Examination:

PAPER I	PAPER II	PAPER III	PAPER IV
Basic Sciences Concerning The Eyes And Optics	Ophthalmic Medicine And Surgery Including	General Medicaine And Its Relation to Ophthalmology	General Medicaine & Its Relation To Ophthalmology And Recent Advances In Ophthalmology
Section I	**Section I**	**Section I**	**Section I**
Q.1. 10 Marks Q.2. 10 Marks Q.3. 10 Marks Q.4. 10 Marks Q.5. 10 Marks	Q.1. 10 Marks Q.2. 10 Marks Q.3. 10 Marks Q.4. 10 Marks Q.5. 10 Marks	Q.1. 10 Marks Q.2. 10 Marks Q.3. 10 Marks Q.4. 10 Marks Q.5. 10 Marks	Q.1. 10 Marks Q.2. 10 Marks Q.3. 10 Marks Q.4. 10 Marks Q.5. 10 Marks
Section II	**Section II**	**Section II**	**Section II**
Q.1. 10 Marks Q.2. 10 Marks Q.3. 10 Marks Q.4. 10 Marks Q.5. 10 Marks **Total 50 Marks**	Q.1. 10 Marks Q.2. 10 Marks Q.3. 10 Marks Q.4. 10 Marks Q.5. 10 Marks **Total 50 Marks**	Q.1. 10 Marks Q.2. 10 Marks Q.3. 10 Marks Q.4. 10 Marks Q.5. 10 Marks **Total 50 Marks**	Q.1. 10 Marks Q.2. 10 Marks Q.3. 10 Marks Q.4. 10 Marks Q.5. 10 Marks **Total 50 Marks**
Section I + II = 100 Marks	Section I + II = 100 Marks	Section I + II = 100 Marks	Section I + II = 100 Marks
Total Theory = 400 Marks, Passing = 200 (i.e. 50%) Marks aggregate in Theory			

Practical Examination :		**Marks**
Paper - V	Clinical long case	60
Paper - VI	Clinical Short case	40
Paper - VII	Dark room fundoscopy and Reflections	100
Paper - VIII	Pathological Specimens Microscopic slides ophthalmic Instruments appliances and Viva Voce	100
Total Marks	**(Aggregate marks for passing is 50% out of total.)**	**300**

THESIS

Every student registered as post graduate shall carry out work on an assigned research project under the guidance of a recognized post graduate teacher, the result of which shall be written up and submitted in the form of a thesis. Work for writing the Thesis is aimed at contributing to the development of a spirit of enquiry, besides exposing the student to the techniques of research, critical analysis, acquaintance with the latest advances in medical science and the manner of identifying and consulting available literature. Thesis shall be submitted at least six months before the theoretical and clinical / practical examination. The thesis shall be a bound volume of a minimum of 50 pages and not exceeding 75 pages of typed matter (Double line spacing and on one side only) excluding certification, acknowledgements, annexure and bibliography.

Thesis should consist of:-

- Introduction
- Review of literature
- Aims and objectives
- Material and methods
- Result
- Discussion
- Summary and conclusion
- Tables
- Annexure
- Bibliography