OPHTHALMOLOGY

CURRICULUM FCPS-I

COLLEGE OF
PHYSICIANS AND
SURGEONS
PAKISTAN

2018

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The College of Physicians and Surgeons Pakistan would appreciate any criticism, suggestions, advice from the readers and users of this document. Comments may be sent in writing or by e-mail to the CPSP at:

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CONTENTS

ABOUT THE COLLEGE

The College was established in 1962 through an ordinance of the Federal Government. The objectives/functions of the College include promoting specialist practice of Medicine, Obstetrics & Gynaecology, Surgery and other specialties by securing improvement of teaching and training, arranging postgraduate medical, surgical and other specialists training, providing opportunities for research, holding and conducting examinations for awarding College diplomas and admission to the Fellowship of the College.

Since its inception, the College has taken great strides in improving postgraduate medical & dental education in Pakistan. Competency-based structured Residency Programs have now been developed, along with criteria for accreditation of training institutions, and for the appointment of supervisors & examiners. The format of examinations has evolved over the years to achieve greater objectivity and reliability in methods of assessment. The recognition of the standards of College qualifications nationally & internationally, particularly of its Fellowships, has enormously increased the number of trainees and consequently the number of training institutions and the supervisors. The rapid increase in knowledge base of medical sciences & consequent emergence of new subspecialties have gradually increased the number of CPSP fellowship disciplines to eighty one including specialties in dentistry.

The first step in the organization of postgraduate medical and dental education is to select those students who demonstrate that they have adequate fund of knowledge & aptitude to pursue postgraduate medical and dental education. CPSP at present has formulated 11 groups of similar specialties and has designed a curriculum for each of these groups. The format for the FCPS Part-I examination consists of two single best MCQ papers with a clinical scenario so as to test the application of knowledge of basic and clinical sci-

ences learnt during undergraduate studies and Hence, it is treated as a screening test. But this test does not take into account the aptitude of the candidates and Hence, CPSP allows the accredited institutes to ascerting it through penal of subject specialists for induction into each specialty.

This booklet covers the curriculum for surgical & allied specialties and provides guidance for the students as well as the examiners regarding the objectives, syllabus & examination format. The students aspiring to appear in FCPS Part-I examination or advised to go through this document while prepairing for the exam.

The postgraduate medical & dental education is a combination of learning experiences followed by some sort of test, formative or summative. The purpose of formative tests is to provide constructive feedback to coverup the deficiencies and hence are a powerful tool of learning after completing first two years of training during IMM, the trainees are allowed to proceed to the advance phase of FCPS training in the specific specialty of choice for 2-3 years. However, it is mandatory to qualify IMM examination before taking the FCPS-II exit examination.

The average number of candidates taking CPSP examinations each year is to a minimum of 32,000. The College conducts examinations for FCPS-I (11 groups of disciplines), IMM, FCPS-II (81 disciplines), MCPS (22 disciplines), including MCPS in Health Professions Education and Health Care System Management. A large number of Fellows and senior medical teachers from within the country and overseas are involved at various levels of examinations of the College.

The candidates who wants to pursue postgraduate medical or dental education are advised to select the specialty of their choice after collecting information about that specific specialty from their seniors or from those who have successfully completed the fellowship programme.

Prof. Khalid Masood Gondal
President
College of Physicians and Surgeon Pakistan

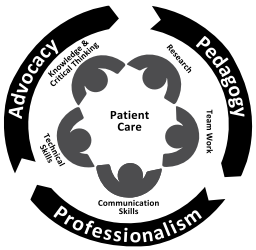
FCPS Part-I EXAMINATION

The College conducts FCPS Part-I examinations in the following disciplines:

1. Anaesthesiology
2. Community Medicine
3. Dentistry
4. Diagnostic Radiology
5. Medicine and Allied
6. Obstetrics & Gynaecology
7. Ophthalmology
8. Otorhinolaryngology (E.N.T)
9. Pathology
10. Psychiatry
11. Surgery and Allied

CPSP COMPETENCY MODEL

College of Physicians and Surgeons Pakistan has moved to competency-based medical education and has developed its own competency model shown below. Those who wish to pursue any fellowship programme of the college, should at the outset become aware of its training model. A generic explanation of the model is given below and it is expected that all its residency training programmes follow the components of this model in accordance to the requirements of each specialty.



Patient or population care occupies the pivotal center. Patient care includes all clinical skills such as history taking, physical examination, ordering investigations, making diagnoses and managing the care. The inner leaves of the model represent the five major competencies directly related to patient care, while the three competencies in the outer circle are mega-competencies related to patient care and also incorporate education, professionalism, leadership, advocacy and population health.

By the end of the Residency Programme, residents are expected to acquire these competencies and their constituent learning outcomes, and provide promotive, preventive, curative and rehabilitative patient-centered (or population-centered) care.

Inner Leaves:

1. Knowledge and Critical Thinking
2. Technical Skills
3. Communication Skills
4. Teamwork
5. Research

Outer Leaves:

6. Professionalism
7. Pedagogy
8. Advocacy

1. Knowledge and Critical Thinking

- Demonstrate application of wide and current readings to critical thinking and problem solving
- Relate the alteration of body function to the presenting condition
- Interpret and integrate history and examination findings to arrive at an appropriate provisional and credible differential diagnoses
- Sequentially order, justify and interpret appropriate investigations
- Apply knowledge and reasoning skills to
    - Analyze data for problem identification and to rule in and rule out contending conditions
    - Synthesize and evaluate solutions for decision-making in solving familiar and less familiar problems based on best current evidence
    - Prioritize different problems within a time frame.
    - Select, outline and provide, with evidence-based justifications, appropriate pharmacological and non-pharmacological management strategies
    - Assess new medical knowledge and apply it to resolve patient problems (Evidence-based practice)
    - Apply quality assurance procedures in daily work. (Professionalism)
    - Demonstrate shared-decision-making with the patient or family
    - Provide cost-effective care while ordering investigations and in management
    - Use resources appropriately
    - Demonstrate awareness of bio-psycho-social factors in assessment and management of a patient.

2. Technical Skills

- Demonstrate International Patient Safety Goals (IPSG)
- Demonstrate competent performance of all required technical skills and procedures in the specialty, including:
  - Obtaining informed consent
  - Preoperative planning
  - Pre-interventional care and preparation
  - Intra-Intervention technique including exposure and closure, global and task specific items, and communication and team skills
  - Post-interventional care
  - Follow-up Care.

3. Communication Skills

- Written Communication Skills
  - Maintain clear, concise, accurate and updated medical records
  - Write clear, focused, evidence-based and logical management plans and discharge summaries
  - Write respectful, clear and focused letters and referrals to other colleagues.
- Verbal Communication Skills: Demonstrate
  - Effective interpersonal communication skills: clear, considerate and sensitive towards patients, their relatives, other health professionals and the public, and towards students
  - Non-verbal communication skills:
  - Empathy and respect towards patients and their relatives
  - Effective counseling of the patient and the family with cultural sensitivity: explain options, educate them and promote joint decision-making.
  - Appropriate verbal and body language on the campus and all work situations including seminars, bedside sessions, outpatient sessions and others
  - Respect and tolerance for all health care professionals, including peers, juniors and seniors
  - Clear, focused and logical presentation of cases.

4. Teamwork

- Demonstrate constructive team-communication skills.
- Facilitate collaborative group interaction as a team member to build strong teams demonstrating respect, tolerance and interdependence.
- Support other team members to grow
- Demonstrate willingness to assume responsibility and leadership as needed.

5. Research

- Interpret and use results of various research studies (critical appraisal)
- Conduct a research study individually or in a group by using appropriate
- Selection of research question(s) and objectives
- Research design and statistical methods to answer the research question
- Ethical and R&RC approval of the synopsis
- Demonstrate competence in academic writing by writing an appropriate dissertation and/or publishing research article(s) as a step towards resolving issues or concerns in their specialty
- Guide others in conducting research by advising about research methodology including study designs and statistical methods
- Demonstrate clear, focused and logical presentations of their research.

6. Professionalism

- Demonstrate the highest level of personal integrity: honesty, punctuality, regularity, timely task completion
- Deal with all patients in a non-discriminatory, prejudice- free manner, demonstrating the same level of care for every human being irrespective of gender, age, ethnic background, culture, socioeconomic status and religion
- Establish a trusting relationship with patients, their relatives and care-givers
- Deal with all patients with honesty, empathy and compassion, putting patients' needs first (altruism)

- Facilitate transfer of information important for promotion of health, prevention and management of disease
- Encourage questioning by the patient and be receptive to feedback
- Pursue self-directed and life-long learning. Keep abreast of medical literature and assess new knowledge and apply it to resolve patient problems
- Know one's limitations and ask for help as needed from colleagues, consultations or referrals
- Apply quality assurance procedures for improvement in daily work
- Be a role model for others.

Ethics
- Maintain patient autonomy by demonstrating shared-decision-making with the patient and/or family
- Obtain informed consent, maintain patient confidentiality and do no harm
- Provide cost-effective care while ordering investigations and in management and use resources appropriately.

Leadership
- Demonstrate accountability for their decisions and actions, and that of their team
- Demonstrate willingness to assume leadership role(s) when needed in given situations or events (rush call/code).
- Change and bring about change as necessary, as a leader or supportive leader.

7. Pedagogy

Should be able to demonstrate competence in teaching skills:
- Effective clinical/community-based teaching
- Some evidence of acquisition of theory regarding learning and education
- Practice some of the best teaching methods.

8. Advocacy

Advocacy is needed at multiple levels

- Advocacy for the Patient
  - Doctors and nurses are the advocates of the patients, otherwise patients are likely to be lost in the system. All care should be timely, putting patients first.

- Advocacy for the Practice
  - Working in a service or practice, doctors must highlight limitations and issues
  - They must identify solutions for the problems, and recommend and implement improvements for the practice(s) and institutional system(s).

- Advocacy for the Health System and Society
  - Know one's role in the Health System(s) and build strong referral systems
  - Keep patient and community interests paramount, above one's own personal or professional interest
  - Demonstrate advocacy for elimination of the social determinants of health
  - Demonstrate advocacy for prevention of serious illnesses of their specialty/sub-specialty.

- For the Profession
  - Strive for building trust in the public for your profession
  - Demonstrate improvement and enhancement of profession, specialty and sub-specialty
  - Be conscientious gate-keepers of their profession, specialty and subspecialty.

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GENERAL REGULATIONS

The Following regulations apply to all candidates taking FCPS Part-I examinations. Candidate will be admitted to the examination in the name (surname and other names) as given in the MBBS degree and PMDC certificate. CPSP will not entertain any application for change of name on the basis of marriage/ divorce/deed.

ELIGIBILITY REQUIREMENTS FOR ENTERING THE FELLOWSHIP PROGRAMME IN OPHTHALMOLOGY

- MBBS or equivalent qualification registered with the PMDC
- One year house job in an institution recognized by the CPSP / PMDC, which should have been completed at least two months before the date of examination
- Deficiency of house job could be compensated by an equal period of residency in an institution recognized by the CPSP

EXEMPTION

An application for exemption from FCPS Part-I must be submitted to the College with all the relevant documents and a bank draft of prescribed fee. (non refundable processing fee). After due verification, the College may grant exemption from FCPS Part-I to those applicants who have acquired any of the following qualifications in Ophthalmology:

- FRCS from Royal Colleges of UK and Ireland
- Diplomat American Board of Specialties
- FCPS Part-I, Bangladesh

In all other cases after proper scrutiny and processing, the College will decide acceptance or rejection of the request for exemption from FCPS Part-I on case to case basis. All applicants who are allowed exemption will be issued an **Exemption Certificate** on payment of prescribed fee (exemption certificate fee). A copy of this certificate will have to be attached with the application to the Registration & Research Cell (R&RC) of the

CPSP, for registration as FCPS Part-II trainee and later with the application for appearing in FCPS Part-II examinations.
The exemption from FCPS-I shall be valid for a period of three years plus the period of training in the concerned discipline.

AIM AND OBJECTIVES

AIM

The overall aim of FCPS Part-I examination is to select candidates who have acquired a solid foundation of basic science knowledge and the ability to apply it for resolving common clinical problems. The objectives of the two papers are instrumental for achieving this aim.

OBJECTIVES

Paper-I: To test application of core concepts of Basic Sciences to clinical problems common across all groups of specialties of CPSP.

Paper-II: To test application of basic science knowledge to clinical problems related to each specific specialty.

SYLLABUS

Candidates for the Fellowship of the College are expected to have a sound working knowledge of the structure and functions of the human body and the various mechanisms whereby these structures & functions are altered leading to diseased states. The emphasis in the FCPS Part-I examinations is on comprehension of the various mechanisms by which the body works and adjusts to external and internal changes. Concepts of the integration and interrelationship of various parts of the body are to be given more importance than finer details of structure and function.

The outline of various topics given in this syllabus is a guide to what at the moment are considered to be important topics which the candidate is expected to know. This is to help both the candidate and the examiner in defining the minimum boundaries of FCPS Part-I examination.

PAPER-I

The syllabus given below is common for all specialties, but the emphasis should be on clinical problems that are important to know by all candidates seeking entry to any specialty.

ANATOMY

General Embryology:

- Early development
  - Congenital Gametogenesis
  - Fertilization
  - Implantation and Factors Affecting it
  - Process from Fertilized Ovum to Germ Layer Formation
  - Derivatives of the Germ Layers
  - Formation of the Neural Tube, Neural Crest Cells and their Derivatives
  - Twinning
  - Basic concepts of Congenital Abnormalities and their Prenatal Diagnosis
  - Chromosomal Abnormalities and their Consequences (Structural and Numerical)
- Normal and Defective Development of:
  - Musculoskeletal System
  - Urogenital System
  - Gastrointestinal Tract (GIT)
  - Cardiovascular System
  - Respiratory System
  - Central Nervous System (CNS)
  - Head and Neck
  - Special senses

General Histology

- Cells and Tissues Related in the Organization of the Body
- Microscopic Features of:
  - Epithelia and Cell Junctions
  - Connective Tissue including Bone and Cartilages
  - Muscular Tissue
  - Nervous Tissue

Special Histology

- Microscopic Features of the Organs Present in:
    - Gastrointestinal Tract (GIT)
    - Genitourinary System
    - Immune System
    - Endocrine System
    - Respiratory System
    - Integumentary System
    - Special senses

Gross Anatomy

- Normal Features and Anatomical Basis of Common Clinical Conditions in:
    - Upper Limb
    - Lower Limb
    - Thorax
        - Respiratory System
        - Cardio Vascular System (CVS)
    - Abdomen
        - Gastrointestinal Tract (GIT)
        - Biliary System
        - Abdominal Wall
        - Peritoneum
    - Pelvis (Male and Female Genitourinary Organs)
    - Head and Neck

Neuroanatomy

- Structures and Functions of the Parts of Nervous System & Neurological Problems Arising from their Derangement:
    - Spinal Cord
    - Forebrain
    - Midbrain
    - Hindbrain
    - Ventricular System
    - Blood Supply of Brain

PHYSIOLOGY

Cell, Nerve and Muscle

- Cell Functions and Signaling
- Transport across Cell Membrane and Homeostasis
- Nerve Transmission, Skeletal & Smooth Muscle Contraction
- Neuromuscular Transmission

Blood and Immunity

- Blood Cell and Plasma Functions
- Immunity and Allergy
- Hemostasis
- Blood Groups

Cardiovascular System

- Cardiac Excitation
- Cardiac Cycle
- ECG (Applied)
- Blood Pressure Regulation
- Microcirculation
- Circulatory Shock
- Cardiac Failure

Respiratory System

- Pulmonary Ventilation and Perfusion
- Gaseous Exchange
- Transport of Gases
- Regulation of Respiration

Gastrointestinal Tract (GIT) and Liver

- GIT Motility
- Secretions
- Hormones
- Regulation
- Gastrointestinal Disorders
- Hepato-biliary Functions

Renal and Body Fluids

- Regulation of Body Fluids and Electrolytes
- Functions of Kidneys
- Regulation of Urine Osmolarity
- Blood Pressure
- Acid Base Balance

CNS
- Organization of CNS
- Sensory System
- Motor System
- Higher Mental Functions
- Autonomic Nervous System (ANS)
- Neurotransmitters

Special Senses
- Vision
- Hearing and Body Balance
- Olfaction
- Gustation

Endocrinology
- Hormones of:
    - Hypothalamus
    - Pituitary
    - Thyroid
    - Parathyroid
    - Pancreas
    - Adrenal Glands

Reproduction
- Male Reproductive System
- Female Reproductive System (Reproductive Cycle, Fertilization, Pregnancy, Parturition, Lactation)
- Neonatal Physiology

Exercise and Unusual Environment
- Sports Physiology
- High Altitude Physiology
- Deep Sea Physiology
- Disaster Physiology

BIOCHEMISTRY

Structure, Functions and Metabolism of Biomolecules
- Carbohydrates
- Proteins
- Lipids
- Nucleic Acids

Control, Regulation and Disorders of Metabolism

- Enzymatic Control of Metabolism
- Hormonal Regulation of Metabolism
- Clinical Uses of Enzymes, Co-Enzymes, Minerals & Hormones
- Digestive and Metabolic Disorders
- Congenital and Acquired Metabolic Disorders
- Disorders of Enzymes, Co-Enzymes, Minerals & Hormones

Biomedical Diagnostic Techniques and their Application

- Photometry
- Enzyme-linked Immuno-sorbent Assay (ELISA)/ Radio-immuno Assay (RIA)
- Electrophoresis
- Chromatography
- Techniques in Molecular Genetics
- Recombinant DNA and Genomic Technology
- Estimation of Proteins, Lipids, Carbohydrates, Nucleic acids
- Polymerase Chain Reaction (PCR)
- Cloning
- Blotting Techniques
- DNA and RNA Sequencing
- Microarray Techniques

PHARMACOLOGY

Pharmacology syllabus comprises of basic concepts in pharmacokinetics, pharmacodynamics and their clinical application. Systemic pharmacology includes classification of drugs, mechanism of action at molecular level, indications, contraindications and side-effects.

General Pharmacology

- Movement of Drug Molecules across Cell Membrane
  - Ion Trapping
- Metabolism
  - Phase I and II Reactions, Role of Cytochrome p450 Enzymes.
  - Genomics – Fast & Slow Metabolizers, Enzyme Inducers and Inhibitors.
  - Adverse Drug Reactions, Drug-Drug Interactions

- Plasma Protein Binding and Bioavailability
- Clearance
    - Half-Life, Steady State Concentration, Loading and Maintenance Dose
- Receptor Types
    - Receptor-Receptor Interaction
    - Efficacy, Potency

Autonomic Nervous System (ANS) and Central Nervous System (CNS)

- Autonomic Nervous System (ANS)
    - Sympathetic and Parasympathetic (Mimetic and Lytic) Drugs
    - Organophosphate Poisoning
- General /Local Anaesthesia
- Anti-depressants, Mood Stabilizers, Anxiolytics, Anti-psychotics, Anti-convulsants, Drugs used in Parkinson's Disorder, Alzheimer's and Dementia
- Analgesics
    - Opioids and Drug Abuse
    - Non-steroidal Anti-inflammatory Drugs (NSAIDs)
    - Disease-modifying Anti-rheumatic Drugs (DMARDs)'s and Anti-Gout Drugs
    - Spasmolytics

Cardiovascular System (CVS) and Blood

- Cardiovascular System (CVS)
    - Anti-hypertensives
    - Anti-arrhythmics
    - Anti-anginal Drugs
    - Drugs used in Dyslipidemia and Cardiac Failure
- Blood
    - Anti-platelet Drugs
    - Anti-coagulant Drugs

Gastro-Intestinal Tract (GIT) and Hepato-Biliary System

- Drugs used in Acid Peptic Disease, Inflammatory Bowel Diseases, Irritable Bowel Syndrome and Intestinal Motility Disorders
- Anti-protozoal and Anti-helminthic Drugs

Respiratory System

- Drugs used in Treatment of Asthma & Chronic Obstructive Pulmonary Disease (COPD)

Endocrine System

- Anti-diabetic Drugs
- Anti-thyroid Drugs
- Adreno-corticoids and Adreno-cortical Antagonists
- Drugs that affect Bone Mineral Homeostasis

Chemotherapeutic Agents

- Anti-microbials
- Anti-tubercular Drugs
- Immunosuppressive Drugs
- Anti-viral Drugs
- Anti-fungal Drugs
- Anti-neoplastic Drugs
- Targeted and Non-targeted Therapy

GENERAL PATHOLOGY

- Effects of Injury on Cell by Physical, Chemical & Biological Agents
- Inflammation
  - Acute
  - Chronic including Granulomatous
- Regeneration and Repair
- Metabolic Response to Trauma
- Disturbance of Homeostatic Mechanism
  - Haemorrhage and Shock - Mechanism and Types
  - Oedema
  - Disturbance of Fluids and Electrolytes
- Thrombosis and Embolism, Infarction and Gangrene
- Disorders of Growth - Atrophy, Hypertrophy, Hyperplasia
- Carcinogens and Pre-Malignant Lesions
- Neoplasia: Types and Spread of Tumor
- General Characteristics of Bacteria, Viruses, Parasites and Fungi
- Immune System: General Principles
- Medical Genetics - Basic Concepts
- Interpretation of Routine Biochemical Tests such as Liver Function Tests, Glucose, Urea, Creatinine

- Nutritional Diseases, Disorders due to Deficiency of Vitamins and Minerals
- Cancer Epidemiology

RESEARCH AND BIOSTATISTICS BASIC CONCEPTS

- An Introduction to Epidemiology and its Role in Understanding Distribution and Determinants of Epidemiology of Disease
- Measures of Disease Occurrence
- Study Designs, their Advantages and Disadvantages
- Measures of Association
- Chances, Bias and Confounding
- Screening

Biostatistics

- Introduction to Biostatistics
- Data and its Kinds
- Summarization of Data
- Measures of Central Tendency and Dispersion
- Normal Distribution
- Point and Interval Estimation and Probability
- Hypothesis Testing, Significance Level and Power
- Sampling and its Techniques

BEHAVIOURAL SCIENCE & MEDICAL ETHICS-GENERAL PRINCIPLES

- Medical Ethics
- Communication Skills including Doctor-Patient Relationship and Counseling
- Psycho-social Aspects of General Health Care

PAPER-II

- **OPHTHALMOLOGY (FCPS-I)**
  - **Anatomy**
    - Embryology:
      - Development of the Eye ball
      - Development of the ocular adnexa
  - **Histology**
    - Ocular adnexa
    - Eye ball
  - **Gross Anatomy**
    - Anatomy of the skull
    - Orbital cavity
    - Para nasal sinuses
    - Conjunctiva
    - Eye ball
      - Anterior segment:
        - Cornea
        - Sclera
        - Iris and pupil
        - Limbus and angle of AC
        - Lens and zonule
      - Posterior segment
        - Ciliary body
        - Choroid
        - Vitreous
        - Retina
        - Optic nerve
        - Movements of the eye ball and extra ocular muscles
        - Blood supply of the orbit and eye ball
        - Cranial nerves supplying eyeball, muscles of eye and adnexa
        - Nervous system and visual pathways
  - **Physiology**
    - Eyelids and its functions
    - Lacrimal apparatus and tear film physiology
    - Cornea and its optical characteristics and functions
    - Somatic sensations from the eye
    - Extra ocular muscles and oculomotor system

- Ocular blood flow
- Ciliary epithelia and Aqueous humor formation
- Intraocular pressure its dynamic and equilibrium
- Physiology and functions of the vitreous
- The lens its composition, functions and cataract formation
- Accommodation and presbyopia
- The pupil
- Visual acuity, visual adaptation
- Electrophysiology of the vision
- Colour vision
- The retina and its electrical phenomena
- Optic nerve and central visual pathology
- Visual Cortex and binocular vision

- **Optics**
  - Lenses: Convex, Concave
  - Prism
  - Schematic eye
  - Refraction of light in eye
  - Index of refraction
  - Principles of LASER
- **Pharmacology**
  - General features of topical drugs
  - Pharmaco dynamics and pharmco kinetics of topical administered drugs
  - Topical administration
    - Antiseptic solutions
    - Irrigating Solutions
    - Visco-elastic solutions
    - Artificial tears
    - Dyes
  - The drugs effecting autonomic nervous system
    - Cholinergic system
    - Adrenergic system
  - Carbonic anhydrase inhibitors
  - Hyper-osmotic agents
  - Anti infective agents
    - Sulfa drugs
    - Antibiotics
    - Antifungal drugs

    - Antiviral drugs
  - Immunosuppressive agents
    - Corticosteroids
    - Corticosteroids sparing drugs
    - Cytotoxic drugs
    - Growth factors and anti-vascular endothelial growth factor drugs
    - Heavy metals
- **Pathology**
  - Congenital Anomalies
    - Phakomatoses
    - Chromosomal anomalies / Microphthalmos
    - Infectious embryopathy
    - Drug embryopathy
  - Inflammations
    - Non granulomatous/ Granulomatus
    - Post traumatic (Sympathetic)
  - Lacrimal system derangements
  - Conjunctiva
    - Conjunctival manifestation of systemic disease
    - Degeneration
  - Cornea and sclera
    - Ulcerative/ Non-ulcerative inflammations
    - Dystrophies, Degenerations
    - Tumors
  - Uvea
    - Inflammations
    - Systemic disease
    - Dystrophies
    - Tumors
  - Lens
    - Cortex and nucleus
    - Secondary cataracts
    - Ectopic lens
  - Vitreo- Retina
    - Vascular diseases
    - Inflammation
    - Degenerations/ dystrophies
    - Systemic diseases involving retina
    - Tumors

    - Retinal detachment
- Optic nerve:
    - Optic disc edema
    - Optic neuritis
    - Optic atrophy
    - Tumors
- Orbit:
    - Orbital inflammation
    - Vascular diseases
    - Ocular Muscle involvement in systemic disease
    - Tumors

RECOMMENDED READING LIST

- Basic & Clinical Science Courses (American Academy of Ophthalmology)
  - Section 2 & 3

- Ophthalmology: Principles and Concepts
  - Frank W Newell

- Guyton and Hall Textbook of Medical Physiology
  - John E. Hall

- Anatomy of the eye
  - Snell, RS

- Lang Man's Medical Embryology
  - T W Sadler

- Lippincott's
  - Illustrated Reviews of Pharmacology

- Adler's
  - Physiology of the eye: Clinical application

- Jawetz, Milmick & Adelberg's
  - Medical Microbiology

- Ocular Pathology: Clinical Applications & Self-assessment
  - Maurice Rabb & David Apple

- David Bowers
  - Medical Statistics from Scratch; An Introduction for

- Health Professionals
  - Third Edition, Wiley: Blackwell

EXAMINATION SCHEDULE

The FCPS Part-I examinations will be held four times a year as per schedule notified.

- The computer-based examination is held at headquarter and specified regional centres. At present, the centres are Karachi, Quetta, Hyderabad, Larkana, Bahawalpur, Multan, Lahore, Faisalabad, Islamabad, Peshawar, Abbottabad and
  Muzaffarabad (AJK). Overseas Centres are Riyadh in Saudia Arabia and Kathmandu in Nepal.
- Medium of examinations will be English.
- Any change in the dates and format of the examinations will be notified by the College before the examinations.
- Every successful candidate in FCPS Part-I examinations will be issued a letter to enable him/her to seek placement for training in a recognized training institute after which he/she will have to register with R&RC.
- A competent authority appointed by the College has the power to debar any candidate from any examination if it is satisfied that such a candidate is not a fit person to take the College examinations because of using unfair means/misconduct or other disciplinary reasons.

EXAMINATION FEES

- Applications along with the prescribed examination fee and required documents should be submitted latest by the last date notified for this purpose before each examination.
- The details of examination fee and fees for change of centre, subject, etc. shall be notified before each examination.
- Fees deposited for a particular examination, shall not be carried over to the next examination in case of withdrawal /absence/ exclusion.

ALL FEES ARE PAYABLE BY CASH AT CPSP DESIGNATED BANKS OR BANK DRAFT / PAY ORDER MADE OUT IN FAVOUR OF "COLLEGE OF PHYSICIANS AND SURGEONS PAKISTAN". PERSONAL CHEQUES AND POSTAL ORDERS ARE NOT ACCEPTED. HOWEVER FEES/DUES CAN BE PAID AT THE IDENTIFIED BRANCHES OF UNITED BANK IN 9 CITIES OF THE COUNTRY. CANDIDATES FROM BAHAWALPUR, ABBOTTABAD AND MUZZAFARABAD ARE REQUIRED TO SEND A DEMAND DRAFT OF THE FEES AMOUNT DIRECTLY TO THE CPSP HEAD OFFICE KARACHI. (ANY FURTHER INFORMATION CAN BE OBTAINED FROM THE REGIONAL OFFICE).

REFUND OF FEES

On a written request for not appearing in the examination, submitted up to the last date of withdrawal of application, the refund is admissible to the extent of 75% of fees only. No request for refund will be accepted after the last date of withdrawal of the application. In case the application of a candidate is rejected by the CPSP, 75% of the examination fee will be refunded, after deducting 25% as processing charges. No refund will be made, for fees paid for any other reason, e.g. late fee, change of centre/ subject fee, etc.

FORMAT OF EXAMINATION

The examinations shall consist of two theory papers (Paper-I and Paper-II), consisting of 100 MCQs (One Best Type) each.

PAPER-I: will contain questions from the core knowledge of the following subjects:

- Anatomy
- Physiology and Biochemistry
- Pathology
- Pharmacology
- Research and Biostatistics
- Behavioural Sciences and Medical Ethics

PAPER-II: will contain questions from specialty related Basic Medical Sciences.

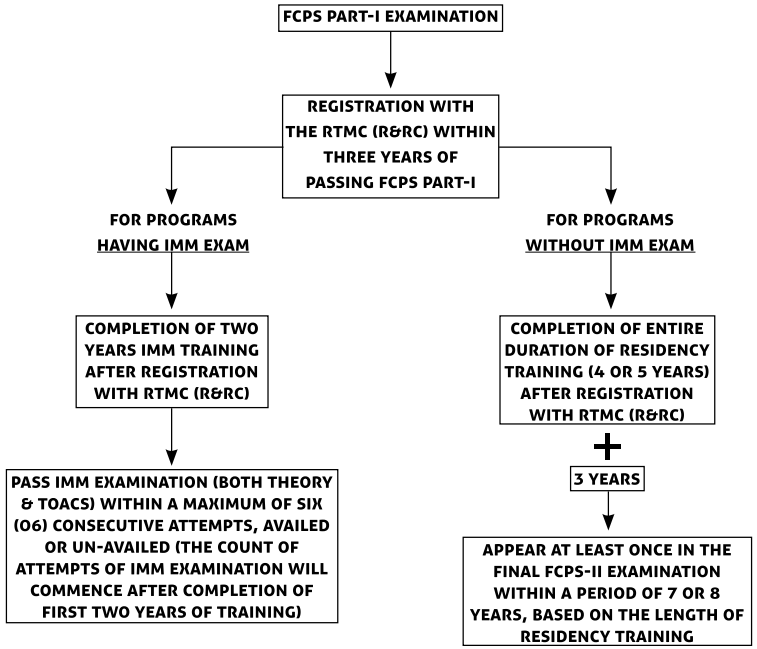
Validity of FCPS-I

- A candidate who successfully qualifies FCPS Part-I examination is required to register as FCPS resident within three years of passing FCPS Part-I.
- The validity of FCPS Part-I Exam shall vary with the presence or absence of Intermediate Module (IMM) in the specialty:

  Specialty programs with Intermediate Module (IMM):
  Following registration with the RTMC (R&RC), the resident must pass Intermediate Module (IMM) examination (both Theory & TOACS) within six (06) consecutive attempts, availed or un-availed, from the date of completion of two years in training.

  Specialty programs without Intermediate Module (IMM):
  Following registration with the RTMC (R&RC), the resident must appear at least once in the final FCPS-II examination within a period of 7 or 8 years depending upon the length of their residency training (4 or 5 years) plus 3 years.

Note:
Failure to comply with the above mentioned policies will result in the pass status of FCPS Part-I to become null and void. The candidate will therefore be required to re-appear and pass FCPS Part-l examination to keep the residency status alive and to make further attempts in IMM or FCPS-II examination.



Note:
Failure to comply with the above mentioned policies will result in the pass status of FCPS Part-I to become null and void. The candidate will therefore be required to re-appear and pass FCPS Part-I examination to keep the residency status alive and to make further attempts in IMM or FCPS-II examination.

THE COLLEGE RESERVES THE RIGHT TO ALTER/AMEND ANY RULES/REGULATIONS

Any decision taken by the College on the interpretation of these regulations will be binding on the applicant.

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