



COLLEGE OF PHYSICIANS AND SURGEONS PAKISTAN

FCPS PART-I

DENTISTRY

CURRICULUM

2022

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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:

DIRECTORATE OF NATIONAL RESIDENCY PROGRAM (DNRP)

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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 sciences 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 ascertaining 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 and examination format. The students aspiring to appear in FCPS Part-I examination or advised to go through this document while preparing for the exam.

The postgraduate medical and 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.

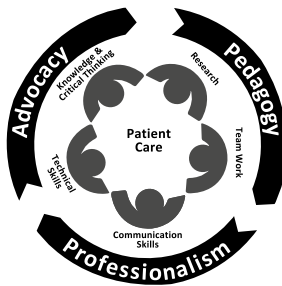
The average number of candidates taking CPSP examinations each year is to a minimum of 32,000. The College conducts examinations for FCPS-I (11 groups of disciplines), IMM, FCPS-II (81 disciplines), MCPS (22 disciplines), including MCPS in Health Professions Education and Health Care System Management. 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

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. 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.

GENERAL REGULATIONS

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

ELIGIBILITY

- BDS or equivalent qualifications registered with the PMC.
- One year house job in an institution recognized by the CPSP/ PMC, which should have been completed at least two months before the date of examination.

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 and 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 and 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 and 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 and 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 and 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

A. ORAL BIOLOGY (ORO-FACIAL ANATOMY, HISTOLOGY, EMBRYOLOGY & PHYSIOLOGY) (*Applied / Clinically Relevant*)

- **Oro Facial Embryology**

Knowledge of the developmental processes involved in formation of

- Head and neck, including neural folds, neural crest cells, pharyngeal arches and pouches
- Tongue
- Maxilla
- Mandible
- Temporomandibular Joint
- Face
- Palate
- Maxillary Sinus
- The brachial apparatus
- Clinical considerations
- Role of neural crest cells in development of head & neck

- **Osteology**

- Maxilla
- Mandible
- Zygomatic complex
- Nose
- Orbit

Applied Examples:

- Fractures (especially Lefort Classification)
- Age changes
- Nasomaxillary complex deformity
- Cleft lip / palate

- **Salivary Glands**

Parotid Region:

- Gross anatomical features of Parotid gland and structures within it
- Surgical anatomical relations of Parotid gland
- Innervations' of Parotid gland

Submandibular Region:

- Gross anatomical features of Submandibular gland & duct
- Surgical anatomical relations of Submandibular gland
- Innervation and blood supply of Submandibular gland

Sublingual Gland:

- Gross anatomical features of Sublingual gland and duct
- Surgical anatomical relations of Sublingual gland
- Innervation and blood supply of Sublingual gland

Minor Salivary Glands:

- Structure and functions

Saliva:

- Chemical composition, formation and functions of saliva

Applied Examples:

- Facial Nerve injury during surgery
 - Parotiditis
 - Parotid Abscess
 - Blockage of parotid duct
 - Excision of submandibular gland due to tumor or stone, blockage of submandibular duct
 - Excision of sublingual gland due to tumor or stone, blockage of submandibular duct
 - Effect of xerostomia on dental prosthesis and its management
 - Factors leading to Xerostomia
 - Role of saliva in formation of caries and oral diseases
- **Temporomandibular Joint:**
 - Type of joint
 - Development of TMJ
 - Bony boundaries and contents of Temporal and Infra-temporal fossa
 - Gross anatomical features of Muscles of Mastication, innervation and blood supply
 - Mandibular nerve - course, branches and areas supplied
 - Maxillary artery - course, branches and areas supplied
 - Gross anatomical features of TMJ with knowledge of mechanism of movement

Applied Examples:

- Myofascial pain dysfunction syndrome (MPDS)
- TMJ dislocations
- Arthritis of TMJ
- Signs and symptoms of Intra-capsular and Extra-capsular TMDs
- Effects of occlusal appliance therapy for management of TMDs
- TMJ Ankylosis

- **Lymphoid Tissues:**

- Type
- Development
- Functions
- Lymph node structure
- Lymphatic drainage

Applied Examples:

- Regional lymph nodes involvement in local malignant tumors and Infection/ Inflammation

- **Oral Cavity:**

- Gross anatomical features
- Nerve and blood supply of oral cavity, lips and cheeks
- Contents of pterygopalatine fossa
- Gross anatomical features of external nose
- Nasal cavity, Para-nasal air sinuses

Oral Mucosa:

- Classification
- Functions
- Structure
- Regional variations
- Junctions
- Oral epithelium; mucogingival junction;
- Structural variations

Applied Examples:

- Age changes
- Clinical considerations
- Cleft lip and cleft Palate
- Carcinoma of lip
- Large labial frenum, gingiva
- Short/Large lingual frenum
- Gingivitis, gingival recession
- Dental caries, pulpitis, tooth abscess, extractions, periodontal disease
- Tongue diseases
- Gag reflex, paralysis of genioglossus, injury to hypoglossal nerve, sub-lingual absorption of drugs, lingual carcinoma
- Limiting structures for complete denture, stress bearing areas, gag reflex management

- **Cranial Nerves**
 - Anatomical course of III, V, VII, IX, X, XI, XII**Applied Examples:**
 - Neurological symptoms of pathological involvement of III, V, VII, IX, X, XI, XII

- **Tooth Development, Structure and Functions**
 - Initiation of tooth development
 - Stages of tooth development
 - Hard tissue formation and destruction
 - Crown determination
 - Root formation**Applied Examples:**
 - Developmental anomalies

- **Enamel**
 - Structure
 - Development**Applied Examples:**
 - Developmental anomalies and its relevance
 - Clinical consideration

- **Dentine**
 - Structure
 - Types
 - Development
 - Clinical consideration
 - Innervation of dentine
 - Permeability**Applied Examples:**
 - Developmental anomalies
 - Dentine diseases
 - Age changes

- **Pulp**
 - Structure
 - Development
 - Functions**Applied Examples:**
 - Pulpitis
 - Response of pulp to stimuli
 - Age changes in pulp
 - Clinical consideration

- **Cementum**
 - Structure
 - Cementogenesis
 - Functions

Applied Examples:

 - Cement response to stimuli
 - Cementum remodeling
 - Clinical consideration

- **Periodontium (Alveolar Bone, Cementum, Periodontal ligament, Gingiva)**
 - Structure
 - Development
 - Remodeling and resorption
 - Functions
 - Response to normal physiologic functions

Applied Examples:

 - Periodontal diseases
 - PDL normal physiological functions
 - PDL function in orthodontic tooth movement
 - Role of PDL in stability and relapse
 - Other clinical considerations

- **Tooth Eruption**
 - Mechanism
 - Pattern
 - Theories
 - Eruption and shedding of primary dentition
 - Effects of abnormal eruption on occlusion

Applied Examples:

 - Systemic diseases affecting eruption
 - Failure of Eruption; Primary/Secondary
 - Clinical considerations

- **Tooth Morphology**
 - Nomenclature
 - Tooth numbering systems
 - Sequence
 - Differences between primary and permanent teeth
 - Functions of primary dentition
 - Detailed description of each tooth, both primary and permanent teeth

- Contact areas, Embrasures and Inter proximal spaces
- Physiological form and function
- Cervical ridges

Applied Examples:

- Development, characteristics and clinical considerations of occlusion
- Age changes of Dental Tissues
- Principals of tooth preparation for fixed prosthesis
- Effects of tooth anomalies on occlusion

- **Occlusion**

- Articulation of Occlusion
- Development of Occlusion

Features of:

- Normal Occlusion
- Malocclusion
- Occlusion in primary dentition
- Functional Occlusion

B. ORAL PATHOLOGY (Applied / Clinically Relevant)

- **Wound Healing**

- General principles
- Healing in oral soft tissues
- Repair of enamel, dentine, pulp, periodontium

Applied Example:

- The concepts of wound healing and tissue repair in the context of oral injury and inflammation with practical implications for the management of oral disease

- **Disorders of Development of Teeth and related Tissues**

- Abnormalities in number of teeth
- Disorders of eruption
- Defects of structure of teeth
- Developmental defects of oral soft and hard tissues

Clinical Relevance Example:

- Application of knowledge of developmental disorders of teeth for clinical management and appropriate referral.

- **Dental Caries**
 - Etiology
 - Microscopy
 - Role of saliva and diet
 - Types of caries
 - Histopathology of enamel, dentin, root caries and zones
 - Theories of caries

Clinical Relevance Examples:

- Etiological factors for caries
 - Correct diagnosis and classification of dental caries for appropriate management.
- **Diseases of Pulp and Periodontal Tissue**
 - Etiology
 - Pathology and histological features
 - Clinical and radiological findings
 - Prognosis and role of dentist in prevention of diseases
 - **Major Bacterial, Viral and Fungal Infections of The Mouth, Jaws and Perioral Tissues**
 - Etiology
 - Pathogenesis and histopathological features
 - Clinical presentations
 - Prevention
 - Prognosis

Oro-Facial Pathology

- **Cysts of The Jaws**
 - Classification
 - Etiology
 - Pathogenesis of cyst formation
 - Clinical and radiological presentation
 - Histological features
 - Differential diagnosis
 - Prevention
 - Prognosis
 - Basic treatment Options

- **Pathology of Odontogenic and Non-Odontogenic tumors of The Jaw**
 - Classification
 - Pathogenesis of tumors formation
 - Clinical and radiological presentation
 - Histological features
 - Differential diagnosis
 - Identification of risk factors for various tumors
 - Prevention
 - Prognosis
 - Basic treatment options
- **Non-neoplastic Bone Diseases**
 - Patho physiology of genetic, metabolic and non-neoplastic bone disease
- **Disorders of Temporomandibular Joint and Peri-articular Tissues**
 - Classification
 - Etiology
 - Pathology
 - Clinical findings
 - Differential diagnosis
- **Neoplastic and Non-neoplastic Diseases of Salivary Glands**
 - Classification
 - Etiology
 - Clinical and histological features
 - Special investigations
 - Basic treatment options
- **Infective and Non-Infective Diseases of Oral Mucosa**
 - Etiology
 - Clinical features
 - Pathology
- **Tongue Disorders**
 - Etiology
 - Clinical features
 - Pathology
 - Diagnosis
 - Basic treatment options

- **Benign Mucosal Swelling & Chronic Mucosal White Lesions**
 - Clinical and histological features
 - Differential diagnosis
 - Pathology

- **Oral Premalignant Conditions**
 - Predisposing factors
 - Prevalence
 - Clinical and histological features
 - Identification of potentially malignant disorders
 - Risk factors
 - Prevention

- **Oral Cancer**
 - Etiology
 - Clinical features
 - Spread
 - Screening
 - NM Classification
 - Clinical relevance;
 - Diagnosis of oral cancer
 - Identification of risk factors
 - Prevention
 - Prognostic indicators for oral cancer

- **Mucocutaneous and Autoimmune Disorders of Oral Cavity**
 - Etiology
 - Pathophysiology
 - Complications
 - Basic principles of management and prognosis

- **Oral Pigmentations and Related Disorders**
 - Differential Diagnosis
 - Complications
 - Etiological factors

C. SCIENCE OF DENTAL MATERIALS (*Applied / Clinically Relevant*)

• General Properties of Dental Materials

- Mechanical
- Rheological
- Thermal
- Chemical
- Biological
- Physical
- Adhesions

• Impression Materials

- Requirements
- Classification
- Composition
- Setting reactions
- Advantages, disadvantages and applications

Applied clinical Examples:

- Selection of impression material for dental prosthesis/appliances
- Xerostomia patient, Combination syndrome, mucostatic and mucocompressive impression procedures
- Clinical handling of impression materials. (Mixing time, setting time and loading in impression tray)

• Model/Cast/Die/Refractory Die Materials

- Requirements
- Gypsum products and alternate materials with their advantages and disadvantages.
- Clinical handling of gypsum products in terms of mixing time and strength
- Selection of material for fabrication of denture bases

• Waxes

- Classification
- Requirements
- Applications

- **Investment Materials**
 - Classification
 - Requirements
 - Applications
 - Investment material selection during the fabrication of CD, RPD, FPD.

- **Metals and Alloy**
 - Structure and properties
 - Classification
 - Requirements
 - Applications
 - Casting
 - Wrought alloys (stainless steel)
 - Clinical uses of metals used in orthodontics
 - Material selection of metals for direct retainers in removable partial denture.

- **Dental Polymers**
 - Types of reaction
 - Requirements as denture base / Lining
 - Artificial teeth and Restorative materials
 - Advantages and disadvantages

- **Dental Ceramic**
 - Porcelain and alternate materials
 - Requirements
 - Manipulation
 - Applications
 - Use of ceramic brackets
 - Advantages and disadvantages

- **Dental Cements**
 - Composition/setting and role of ingredients
 - Applications
 - Advantages and disadvantages
 - Luting/cementing material for PFM and all ceramic crown and bridges

- **Direct Restorative Materials (Gold, Amalgam, Composite, and Dental Cement)**
 - Composition/setting and role of ingredients
 - Applications
 - Advantages and disadvantages
- **Miscellaneous**
 - Preventive dental material
 - Polishing and abrasive material
 - Endodontic materials
 - Dental Implants and periodontal material

D. COMMUNITY AND PREVENTIVE DENTISTRY (*Applied / Clinically Relevant*)

- **Philosophy of Public Health**
 - Characteristics of dental public health measures
 - Comparison of clinical dentistry and Dental Public health
 - Evidence based dental public health practice
- **Oral Epidemiology**
 - WHO global oral health goals
 - Epidemiology, etiology and prevention (EEP) of dental caries
 - Periodontal disease
 - Oral cancer
 - Malocclusion
- **Indices**
 - Properties of an ideal index
 - Purpose and uses of an index
 - Selection of an index
 - Plaque index
 - Silness and Loe index
 - Oral hygiene index
 - Oral hygiene index simplified
 - Gingival index
 - Periodontal Disease index
 - Russell's index
 - Community Periodontal Index of Treatment Needs (CPITN)
 - Community Periodontal Index (CPI)
 - Dental caries indices
 - Index of Orthodontics Treatment Needs (IOTN)

- **Oral Health Education and Promotion**
 - Introduction to oral health education and promotion
 - Scope and approaches to oral health education
 - Contents and aids of oral health education
 - Differences between health education and propaganda
 - Theories of behavior change and learning
 - Specific health promotion strategies
 - Models of health education and promotion
 - Planning a dental community health project
 - Introduction to logic framework
 - Needs assessment and determining priorities
 - Developing program goals and objectives
 - Identifying resources and constraints
 - Developing implementation strategy
 - Monitoring and evaluation
 - School based dental programs

- **Current Techniques of Preventive Dental Care:**
 - Overview of preventive dental care
 - Plaque control
 - Fluorides in dentistry
 - Caries activity tests
 - Caries vaccine
 - Pits and fissures sealants
 - Atraumatic restorative technique and minimal invasive dentistry
 - Preventive and interceptive orthodontics
 - Prevention of periodontal disease
 - Prevention of oral cancer
 - Prevention of malocclusion

E. DENTAL PHARMACOLOGY

- **Germicides**
 - Antiseptics
 - Disinfectants
 - Phenol derivatives
 - Oxidizing agents
 - Halogens
 - Quaternary Ammonium Compounds
 - Acids
 - Dyes
 - Furan derivatives
 - Alcohols
 - Aldehydes

- **Anti Microbials**
 - Antibiotics
 - Anti Virals
 - Anti Fungals

- **Local Acting Drugs**
 - Astringents
 - Obtundents
 - Mummifying agents
 - Styptics (local haemostatic agents)
 - Disclosing agents
 - Mouth Washes

- **Surface Acting Agents**
 - Anti-plaque drugs
 - Anti-calculus drugs
 - Abrasives
 - Detergents
 - Bleaching agents
 - Dentifrices

- **Drugs Used in RCT**

- **Anti-Sialagogues**

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.

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):

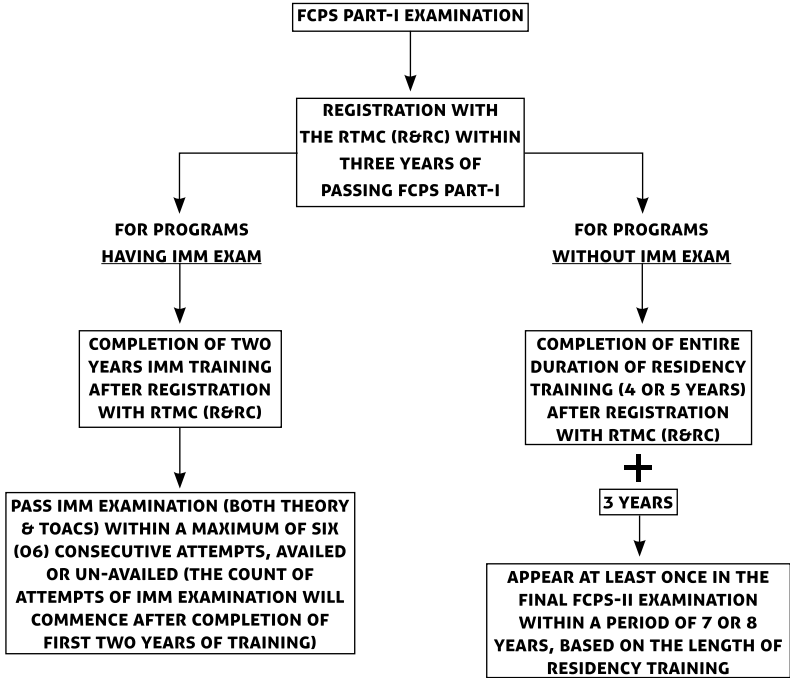
Following registration with the RTMC (R&RC), the resident must pass Intermediate Module (IMM) examination (both Theory & TOACS) within six (06) consecutive attempts, availed or un-availed, from the date of completion of two years in training.

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-I 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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