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## **CURRICULUM / STATUTES/ REGULATIONS**

**FOR 5 YEARS MD (DERMATOLOGY)**

*Faisalabad Medical University*

*Faisalabad*

# **Contents**

Contents

Section A

VISION STATEMENT:

MISSION STATEMENT

STATUTES

Nomenclature

Course Title:

Training Centers

Duration of Course

Course structure:

Section B:

Admission Criteria

Registration and Enrollment

Accreditation Related Issues Of The Institution

A. Faculty

B. Adequate resources

C. Library

Freezing of Program and leave rules:

Section C:

AIMS AND OBJECTIVES OF THE COURSE

AIM

LEARNING OBJECTIVES:

GENERAL OBJECTIVES

## SPECIFIC LEARNING OUTCOMES

Content list:

Basic Sciences For Intermediate Examination

Principles of Internal Medicine for Intermediate Examination

Topics

Year I

Year I to II (7<sup>th</sup> month to 24<sup>th</sup> month)

Year III

Year IV

Year V

Course Content (Rotations)

Skills / procedures details

Section D:

Rotations: all are mandatory

Section E:

Assessment Plan:

Components of Intermediate Examination

Components of Final Examination:

Intermediate Examinations:

Eligibility Criteria:

Intermediate Examination Schedule and Fee:

Written Examination:

Declaration of Results

Clinical, TOACS/OSCE:

Declaration of Results

Final Examination

Eligibility Criteria:

Final Examination Schedule and Fee:

Written Part of Final Examination

Declaration of Results

Clinical, TOACS/OSCE:

Declaration of Results

Synopsis and Thesis Writing:

Submission / Evaluation of Synopsis

Submission and evaluation of Thesis Evaluation (300 Marks)

Continuous Internal assessment

Attendance

Presentations

Task evaluation

Continuous Internal Assessment format (100 Marks)

TOOLS OF ASSESSMENT FOR THE COURSE:

Section F:

Award Of Degree

Section G

Log Book

Section H

Portfolio:

Section I

Paper Scheme

Intermediate Examination

## Written Paper Final Examination

### Section J

Resources and references (books and other resource material)

### Section K

List of authors and contributors

Programme Director:

Regular Faculty:

## **Section A**

### **VISION STATEMENT:**

Faisalabad Medical University has been established since 05-05-2017 for purpose of imparting better medical education and encouraging and arranging extensive research and publication in the field of medical science. The vision of university is:

*“Striving to achieve national and international stature in undergraduate and postgraduate medical education with strong emphasis on professionalism, leadership, community health services, research and bioethics”*

### **MISSION STATEMENT**

The mission of the University is:

*“Educate Healthcare professionals to prevent, diagnose and treat human illnesses to practice evidence-based medicine with focus on lifelong healthcare in order to meet the challenges of community needs and competitive medical profession at the same time”*

# **STATUTES**

## **Nomenclature**

The name of degree programmer shall be MD dermatology

## **Course Title:**

MD dermatology

## **Training Centers**

Department of Affiliated hospitals of Faisalabad Medical University, Faisalabad.

## **Duration of Course**

The duration of course shall be five (5) years with structured training in a recognized department under the guidance of an approved supervisor.

## **Course structure:**

1. **Core knowledge:** Competency based learning for trainees. (2 exams to be conducted by university at mid and end of Programme. Continuous internal assessment to be included throughout the Programme which is conducted by the department and will carry weightage in final assessment.
2. **Clinical Training** in dermatology
3. **Research and Thesis writing**

4. **Mandatory Workshops** throughout the course of programme will be conducted. The basic workshops will be attended by all trainees from all specialties and will be evenly distributed throughout the course:

1. **Communication skills**
2. **Research synopsis and thesis writing skills**
3. **Basic Biostatistics and Research Methodology**
4. **Information Technology Skills**
5. **Initial life support (ILS)**

At the end of each workshop, assessment will be done regarding the workshop and certificates will be issued to passing trainees only. The workshops will be conducted by the University and will be paid as in all post-graduate programmes and supervised by the department of Medical Education, FMU, Faisalabad. The trained certified coaches/teachers will be invited and they will get incentive from the university. All the interested trainers will contact the department for inclusion in trainers list.

Feedback of the facilitators will be recorded for the continuation of the process. Medical education department will issue yearly planner for these workshops in the light of curriculum document. University will certify it.

(For dermatology) The course is structured in three parts:

**Part I:** Candidate will start his/her training in dermatology department from 1<sup>st</sup> day till 6 months. Candidate will gain basic knowledge of the dermatology i.e., anatomy, physiology and orientation to the subject, basic principles, history taking and case presentation, inpatient and out-patient care. During this time the candidate will select a topic for synopsis, complete his/her synopsis and will attend the mandatory workshops.

**Part II:** From 6 months till 2 years, he/she will do a rotational training in (General medicine ) under a supervisor allocated in medical department. The candidate shall undertake clinical training in fundamental concepts of general medicine from 6 months till 2 years. During this period, the candidate must submit the synopsis for approval. At the end of 2<sup>nd</sup> year, the Intermediate examination shall be held in fundamental concepts of General Medicine. The clinical training in dermatology shall be rejoined from 3<sup>rd</sup> year onwards in dermatology department.

**Part III** is structured for 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> calendar years in MD dermatology. The candidate shall undergo training to achieve educational objectives of in MD dermatology along with rotation in relevant fields.

## **Section B:**

### **Admission Criteria**

Central induction Policy as per Government rules

### **Registration and Enrollment**

The number of PG Trainees/ Students and Beds to trainee ratio at the approved teaching site will be as per policy of Pakistan Medical & Dental Council

The University will approve supervisor for MD course.

Candidates selected for the course after their selection and enrollment shall be registered with FMU as per prescribed Registration Regulation.

### **Accreditation Related Issues Of The Institution**

#### **A. Faculty**

Properly qualified teaching staff in accordance with the requirements of Pakistan Medical and Dental Council (PMDC). Supervisors will be decided by the university according to the set standards and rules.

#### **B. Adequate resources**

The university will provide adequate resources Including class-rooms (with audiovisual aids), demonstration rooms, computer lab, clinical pathology lab, theaters, instruments and other equipment etc. for proper Training of the residents as per their course outcomes and objectives.

### **C. Library**

Departmental library should have latest editions of recommended books, reference books and latest journals (National and International).

### **Freezing of Program and leave rules:**

1. Freezing of training, maternity leave, Ex Pakistan leave and extraordinary leave would be allocated through the Office of Dean Post graduate to the competent authority.

## **Section C:**

### **AIMS AND OBJECTIVES OF THE COURSE**

#### **AIM**

The aim of five years MD programme in dermatology is to train residents to acquire the competency of a specialist in the relevant field so that they can become good clinicians, teachers, researchers and community health provider in their specialty after completion of their training according to the global standards.

#### **LEARNING OBJECTIVES:**

##### **GENERAL OBJECTIVES**

MD Dermatology programme must enable a resident to:

- Accept the speciality of the programme in its full sense and be ready to spend time and efforts to gain, sustain and in addition enhance their knowledge & skills.
- Apply relevant knowledge and skills to clinical practice. • Maintain currency of knowledge.
- Critically evaluate new technology.
- Undertake appropriate clinical skills & procedures safely and effectively.

- Maintain consistency in demonstrating clinical skills.
- Have up to mark clinical skills and procedural knowledge at defined level of training.
- Show good clinical care keeping in mind patient's physical comfort and socioeconomic status.
- Carry out procedures with manual proficiency.
- Individualize clinical care and procedure according to case scenario.
- Continuously improve themselves by critical self-analysis.
- Maintain and acquire new skills. Build and endorse effective management plans.
- Recognize the clinical findings, precisely make differentials and provisional diagnosis.
- Formulate a final diagnosis based on investigations and manage accordingly.
- Effectively identify and manage complications.
- Identify the pros and cons, mode of action of currently available and novel treatment options.
- Educate the patient regarding disease course, prognosis and available treatment modalities.
- Choose best available investigations and monitoring techniques in a cost effective and useful way.
- Consider and interpret required diagnostic imaging and investigations.
- Actively analyze the pros and cons of different available investigations.

- Ensure the patient's (and/or attendants) participation in choosing the procedure by effectively communicating its details and risks.
- Overcome the linguistic, religious and cultural barriers by good communication.
- Establish the co-ordination of healthcare staff for better management of the patient.
- Identify the worth of research and its application to clinical practice by encouraging self-directed learning, recent advances in dermatology.
- Understand the value of self-direction based learning.
- Actively figure out modern modalities in dermatology.
- Play supportive role for other colleague's learning.
- Always follow ethics.
- Practice ethical expectations while attending medico-legal cases.
- Identify the recent medico-legal view of confidentiality and informed consent.
- Be responsible for the management of their patients.
- Apply critical reflective approach to dermatology by his/her professionalism.
- Adhere with recent rule and regulations regarding the workplace harassment.
- Execute self and peer reviewed audit.
- Identify and learn from his/her mistakes.
- Use multidisciplinary approach collaborating with other colleagues for the better management of patients.
- Identify and use available resources in a balanced way between patient's benefit and system resources.

- Maintain the clinical record of patient.
- Guide his/her healthcare teams.
- Promote health awareness among patients.
- Advocate for sufficient health facilities for department.

### **SPECIFIC LEARNING OUTCOMES**

Trainees completing MD Dermatology programme will have formal instruction and clinical expertise which enable them to:

- Diagnose and treat common cutaneous diseases, sexually transmitted infections and leprosy independently.
- Manage all dermatological emergencies efficiently.
- Rationally evaluate and order relevant investigations.
- Take preventive steps at personal and community level against communicable cutaneous ailments.
- Teach adequate knowledge and lab skills to other medical/paramedical colleagues.

Adopt an empathic behavior for the patients and their attendants.

### **Content list:**

#### **Basic Sciences For Intermediate Examination**

##### 1. Physiology

Cellular organization, structure function correlations and physiological alterations in the integumentary system of body

- Epithelial tissue (characteristics and functions).
  
- Different types of epithelia
- Glands (Classification)
- Connective tissue and its main characteristics, cell types,
- fibers and main function of each type
- Membranes (Four major types)
- Functions of the cutaneous tissues to protect, regulation of temperature, sensitivity, excretory and secretory function, sociosexual functions etc.
- Components of the skin and its vasculature
- Functions of different cutaneous layers
- Associated accessory organs and their functions
- Skin color determining factors
- Signal transduction and membrane biochemistry
- Gene expression and proteogenesis
- Carbohydrate catabolism and anabolism
- Lipid catabolism and anabolism
- Nitrogen catabolism and anabolism
- Tissue catabolism and anabolism
- Biotechnology and study of molecular biology
- Recombinant DNA techniques and their use in the
- medicine
- molecular biology of neoplastic disorders
- Biochemical investigations

- Gene analysis and cloning
- Immunochemical techniques
- Chemistry, quantification and enzymatic properties of protein
- PCR and Cloning
- Electrophoretic techniques
- Immunoblotting & ELISA
- Purifying and raising antibodies

## 2. Pharmacology

- Medically prescribed drugs, their history and evolution
- Pharmacokinetics
- Pharmacodynamics
- British pharmacopeia
- Different effects of drugs
- Pharmacologically desired effects
- Adverse responses
- Allergic responses
- Dependence, abuse, addiction, and tolerance of drugs
- Interaction of drugs
- Prescription of drugs in dermatology
- Fundamentals of toxicology
- Histamine and antihistamine
- Corticosteroids
- Antibiotics, antifungals, antivirals, antiparasitics etc.
- Retinoids
- Cytotoxic agents and immunosuppressants and their classification

- Cytotoxic and immunosuppressant drugs related to dermatology
- Cyclophosphamide
- Methotrexate
- Tacrolimus
- Cyclosporin
- Azathioprine etc.
- Analgesics, antipyretics and anti-inflammatory agents
- Vitamins and skin disorders
- Principles of topical dermatological therapy

### 3. Pathology

Pathological alterations at cellular and structural level in infection, inflammation, ischaemia, neoplasia and

trauma affecting the skin and appendages

Cell Injury and adaptation

- Reversible and Irreversible Injury
- Fatty change, Pathologic calcification
- Necrosis and Gangrene
- Cellular adaptation
- Atrophy, Hypertrophy, Hyperplasia, Metaplasia, Aplasia
- Inflammation
- Acute inflammation
- Cellular components and chemical mediators of acute inflammation
- Exudate and transudate

- Sequelae of acute inflammation
- Chronic inflammation
- Etiological factors and pathogenesis
- Distinction between acute and chronic (duration) inflammation
- Histologic hallmarks
- Types and causes of chronic inflammation, non-granulomatous & granulomatous
- Haemodynamic disorders
- Etiology, pathogenesis, classification and morphological and clinical manifestations of Edema,
- Haemorrhage, Thrombosis, Embolism, Infarction.
- Shock; classification etiology, and pathogenesis, manifestations.
- Compensatory mechanisms involved in shock
- Pathogenesis and possible consequences of thrombosis
- Difference between arterial and venous emboli
- Neoplasia
- Dysplasia and neoplasia
- Benign and malignant neoplasms
- Etiological factors for neoplasia
- Different modes of metastasis
- Tumor staging system and tumor grade
- Immunity and Hypersensitivity
- Immunity
- Immune response
- Diagnostic procedures in a clinical Immunology laboratory
- Protective immunity to microbial diseases
- Tumour immunology
- Immunological tolerance, autoimmunity and autoimmune diseases.

- Transplantation immunology
- Hypersensitivity
- Immunodeficiency disorders
- Immunoprophylaxis & Immunotherapy

### Related Microbiology

- General aspects of microbiology and replication of bacteria, viruses and fungi
- Principles of laboratory diagnosis in microbiology (Bacteria, viruses, fungi and parasites)
- Sterilization and disinfection
- Bacteriology:
- Normal flora of the skin and adjoining mucosae
- Pathogenesis of bacterial infections
- Classification of medically important bacteria
- Clinically relevant features of the following:
- Gram positive cocci especially streptococci and staphylococci
- Gram negative cocci especially *Neisseria gonorrhoea*
- Gram positive bacilli especially *Bacillus anthracis*, *Clostridia*, *Coryniform*
- Gram negative bacilli especially *Pseudomonas* and *Proteus*
- Mycobacteria especially *M. tuberculosis*, *M. leprae* and atypical mycobacteria
- Actinomycetes
- Spirochetes especially *Treponema pallidum* and *Borrelia burgdorferi*
- Chlamydiae especially *Chlamydia trachomatis*
- Rickettsiae

## Virology

- Pathogenesis of viral infections
- Classification of medically important viruses
- Clinically relevant features of the following:
- Herpes viruses
- Pox viruses
- Papilloma viruses
- Parvovirus B 19
- Measles and rubella viruses
- HIV

## Mycology

- Basic mycology
- Classification of medically important fungi

## Parasitology:

- General aspects of dermatologically relevant parasites, especially Leishmania, Sarcoptes scabiei, Pediculosis.
- Immunization
- Personnel protection from communicable diseases
- Use of investigation and procedures in laboratory Basics in allergy and immunology

## Special Pathology

- Pathophysiology in different diseases of skin
- Common skin lesions, their causes and treatments.

- Terminology of pathological lesions in skin and subcutaneous tissue
- Cause, treatment and lesions associated with inflammatory conditions.
- Bacterial and viral infections including impetigo, furuncles, herpes simplex, herpes zoster and warts.
- Fungal skin infections; various forms of tinea Scabies and pediculosis.
- Skin neoplasms. Etiology, predisposing factors metastasis and prognosis of common skin malignancies in Pakistan.

### **Principles of Internal Medicine for Intermediate Examination**

After spending first 6 months in dermatology, the resident will start next 18 months internal medicine training. Resident should get exposure in the following organ and system competencies (listed below)

while considering and practicing each system in terms of:

- Medical ethics
- Professional values, student-teachers relationship
- Orientation of in-patient, out-patients and Dermatological labs
- Approach to the patient
- History taking
- General physical examination
- Systemic examination
- Routine investigations
- Special investigations
- Diagnostic and therapeutic procedures

## 1. Cardiovascular Medicine

### Common and / or important Cardiac Problems:

- Arrhythmias
- Ischaemic Heart Disease: acute coronary syndromes, stable angina, atherosclerosis
- Heart Failure
- Hypertension - including investigation and management of accelerated hypertension
- Valvular heart disease
- Endocarditis
- Aortic dissection
- Syncope
- Dyslipidaemia

### Clinical Science:

- Physiological principles of cardiac cycle and cardiac conduction
- Pharmacology of major drug classes: beta blockers, alpha blockers, ACE inhibitors, Angiotensinreceptor blockers (ARBs), anti-platelet agents, thrombolysis, inotropes, calcium channel antagonists, potassium channel activators, diuretics, anti-an-hythmics, anticoagulants, lipid lowering drugs, nitrates, centrally acting anti-hypertensives.

## 2. Diabetes & Endocrine Medicine

### Common and Important Diabetes Problems:

- Diabetic ketoacidosis
- Non-acidotic hyperosmolar coma / severe hyperglycaemia
- Hypoglycaemia
- Care of the acutely ill diabetic
- Peri-operative diabetes care
- Common or Important Endocrine Problems:
- Hyper/Hypocalcaemia
- Adrenocortical insufficiency
- Hyper/Hyponatraemia
- Thyroid dysfunction
- Dyslipidaemia
- Endocrine emergencies: myxoedemic coma, thyrotoxic crisis, Addisonian crisis, hypopituitary coma, phaeochromocytoma crisis

#### Clinical Science:

- Outline the function, receptors, action, secondary messengers and feedback of hormones
- Pharmacology of major drug classes: insulin, oral anti-diabetics, thyroxine, anti-thyroid drugs, corticosteroids, sex hormones, drugs affecting bone metabolism

### 3. Gastroenterology and Hepatology

#### Common or Important Problems:

- Peptic Ulceration and Gastritis
- Gastroenteritis
- GI malignancy (oesophagus, gastric, hepatic, pancreatic, colonic)

- Inflammatory bowel disease
- Iron Deficiency anaemia
- Acute GI bleeding
- Acute abdominal pathologies: pancreatitis, cholecystitis, appendicitis, leaking abdominal aortic Aneurysm
- Functional disease: irritable bowel syndrome, non-ulcer dyspepsia
- Coeliac disease
- Alcoholic liver disease
- Alcohol withdrawal syndrome
- Acute liver dysfunction: jaundice, ascites, encephalopathy
- Liver cirrhosis
- Gastro-oesophageal reflux disease
- Nutrition: indications, contraindications and ethical dilemmas of nasogastric feeding and EG tubes IV
- nutrition, re-feeding syndrome
- Gall stones
- Viral hepatitis
- Auto-immune liver disease
- Pancreatic cancer

#### Clinical Science:

- Laboratory markers of liver, pancreas and gut dysfunction
- Pharmacology of major drug classes: acid suppressants, anti-spasmodics, laxatives, antidiarrhoea drugs, aminosalicylates, corticosteroids, immunosuppressants, infliximab, pancreatic enzyme supplements

## 4. Renal Medicine

### Common and / or Important Problems:

- Acute renal failure
- Chronic renal failure Glomerulonephritis
- Nephrotic syndrome
- Urinary tract infections
- Urinary Calculus
- Renal replacement therapy
- Disturbances of potassium, acid/base, and fluid balance (and appropriate acute interventions)

### Clinical Science:

- Measurement of renal function
- Metabolic perturbations of acute, chronic, and end-stage renal failure and associated treatments

## 5. Respiratory Medicine

### Common and I or Important Respiratory Problems:

- Asthma
- COPD
- Pneumonia
- Pleural disease: Pneumothorax, pleural effusion, mesothelioma
- Lung Cancer
- Respiratory failure and methods of respiratory support

- Pulmonary embolism and DVT
- Tuberculosis
- Interstitial lung disease
- Bronchiectasis
- Respiratory failure and cor-pulmonale
- Pulmonary hypertension

#### Clinical Science:

- Principles of lung function measurement
- Pharmacology of major drug classes: bronchodilators, inhaled corticosteroids, leukotriene receptor antagonists, immunosuppressants

## 6.Allergy

### Common or Important Allergy Problems

- Anaphylaxis
- Recognition of common allergies; introducing occupation associated allergies
- Food, drug, latex, insect venom allergies
- Urticaria and angioedema

#### Clinical Science

- Mechanisms of allergic sensitization: primary and secondary prophylaxis
- Natural history of allergic diseases
- Mechanisms of action of anti-allergic drugs and immunotherapy

- Principles and limitations of allergen avoidance

## 7. Haematology

### Common and / or Important Problems:

- Bone marrow failure: causes and complications
- Bleeding disorders: DIC, haemophilia
- Thrombocytopenia
- Anticoagulation treatment: indications, monitoring, management of over-treatment
- Transfusion reactions
- Anaemia: iron deficient, megaloblastic, haemolysis, sickle cell anemia
- Thrombophilia: classification; indications and implications of screening
- Haemolytic disease
- Myelodysplastic syndromes
- Leukaemia
- Lymphoma
- Myeloma
- Myeloproliferative disease
- Inherited disorders of haemoglobin (sickle cell disease, thalassaemias)
- Amyloid

### Clinical Science:

- Structure and function of blood, reticuloendothelial system, erythropoietic tissues

## 8. Immunology

Common or Important Problems:

Anaphylaxis

Clinical Science:

- Innate and adaptive immune responses
- Principles of Hypersensitivity and transplantation

## 9. Infectious Diseases

Common and / or Important Problems:

- Fever of Unknown origin
- Complications of sepsis: shock, DIC, ARDS
- Common community acquired infection: LRTI, UTI, skin and soft tissue infections, viral exanthema, gastroenteritis
- CNS infection: meningitis, encephalitis, brain abscess
- HIV and AIDS including ethical considerations of testing D Infections in immuno-compromised host
- Tuberculosis
- Anti-microbial drug monitoring
- Endocarditis
- Common genito-urinary conditions: non-gonococcal urethritis, gonorrhoea, syphilis

Clinical Science:

- Principles of vaccination
- Pharmacology of major drug classes: penicillins, cephalosporins, tetracyclines, aminoglycosides, macrolides, sulphonamides, quinolones, metronidazole, anti-tuberculous drugs, anti-fungals, anti-malarials, anti-helminthics, anti-virals

## 10. Medicine in the Elderly

### Common or Important Problems:

- Deterioration in mobility
- Acute confusion
- Stroke and transient ischaemic attack , Falls, age related pharmacology
- Hypothermia Contenance problems
- Dementia
- Movement disorders including Parkinson's disease
- Depression in the elderly
- Osteoporosis
- Malnutrition
- Osteoarthritis

### Clinical Science:

- Effects of ageing on the major organ systems
- Normal laboratory values in older people

## 11. Musculoskeletal System

### Common or Important Problems:

- Septic arthritis
- Rheumatoid arthritis
- Osteoarthritis
- Seronegative arthritides
- Crystal arthropathy
- Osteoporosis - risk factors, and primary and secondary prevention of complications of osteoporosis
- Polymyalgia and temporal arteritis
- Acute connective tissue disease: systemic lupus erythematosus, scleroderma, poly- and dermatomyositis, Sjogren's syndrome, vasculitides

#### Clinical Science:

- Pharmacology of major drug classes: NSAIDS, corticosteroids, immunosuppressants, colchicine, allopurinol, bisphosphonates

#### 12.Neurology

##### Common or Important Problems:

- Acute new headache
- Stroke and transient ischaemic attack
- Subarachnoid haemorrhage
- Coma
- Central Nervous System infection: encephalitis, meningitis, brain abscess
- Raised intra-cranial pressure
- Sudden loss of consciousness including seizure disorders

- Acute paralysis: Guillian-Barre, myasthenia gravis, spinal cord lesion, Multiple sclerosis
- Motor neuron disease

Clinical Science:

- Pathophysiology of pain, speech and language
- Pharmacology of major drug classes: anxiolytics, hypnotics, benzodiazepines, antiepileptics, antiParkinson's drugs (anti-muscarinics, dopaminergics)

### 13. Psychiatry

Common and /or Important Problems:

- Suicide and parasuicide
- Acute psychosis
- Substance dependence
- Depression

Clinical Science:

- Principles of substance addiction, and tolerance
- Pharmacology of major drug classes: anti-psychotics, lithium, tricyclic antidepressants, monoamine oxidase inhibitors, SSRIs, venlafaxine, donepezil, drugs used in treatment of addiction

### 14. Cancer and Palliative Care

Common or important Oncology Problems

- SVC obstruction
- Hypercalcaemia
- Spinal cord compression
- Neutropenic sepsis
- Common cancers (presentation, diagnosis, staging, treatment principles), lung, bowel, breast, prostate, stomach, oesophagus, bladder)

#### Common or Important Palliative Care Problems:

- Pain: appropriate use, analgesic ladder, side effects, role of radiotherapy
- Constipation
- Breathlessness
- Nausea and vomiting
- Anxiety and depressed mood

#### Clinical Science:

- Principles of oncogenesis and metastatic spread Apoptosis
- Principles of staging
- Principles of screening
- Pharmacology of major drug classes in palliative care: anti -emetics, opioids, NSAIDS, agents for neuropathic pain, bisphosphonates, laxatives, anxiolytics

#### 15.Clinical Genetics

#### Common and/or Important problems:

- Down's syndrome
- Turner's syndrome
- Huntington's disease
- Haemochromatosis
- Marfan's syndrome
- Klinefelter's syndrome
- Familial cancer syndromes
- Familial cardiovascular disorders

#### Clinical Science:

- Structure and function of human cells, chromosomes, DNA, RNA and cellular proteins
- Principles of inheritance: Mendelian, sex-linked, mitochondrial
- Principles of pharmacogenetics
- Principles of mutation, polymorphism, trinucleotide repeat disorders
- Principles of genetic testing including metabolite assays, clinical examination and analysis of nucleic acid (e.g. PCR)

#### 16.Clinical Pharmacology

##### Common and Important problems:

- Corticosteroid treatment: short and long-term complications, bone protection, safe withdrawal of corticosteroids, patient counselling regarding avoiding adrenal crises
- Specific treatment of poisoning with:
  - Aspirin
  - Paracetamol

- Tricyclic anti-depressants
- Beta-blockers
- Carbon monoxide
- Opiates
- Digoxin
- Benzodiazepines

#### Clinical Science:

- Drug actions at receptor and intracellular level
- Principles of absorption, distribution, metabolism and excretion of drugs
- Effects of genetics on drug metabolism
- Pharmacological principles of drug interaction
- Outline the effects on drug metabolism of: pregnancy, age, renal and liver impairment

#### 17. Investigative Competencies

Outline the Indications for, and interpret the Following Investigations:

- Basic blood biochemistry: urea and electrolytes, liver function tests, bone biochemistry, glucose, magnesium

Cardiac biomarkers and cardiac-specific troponin Creatine kinase

- Thyroid function tests
- Inflammatory markers: CRP / ESR
- Arterial Blood Gas analysis
- Cortisol and short Synacthen test

- HbA1C
- Lipid profile
- Amylase
- Full blood count
- Coagulation studies
- Haemolysis studies
- D dimer
- Blood film report
- Blood/Sputum/urine culture
- Fluid analysis: pleural, cerebra-spinal fluid, ascitic
- Urinalysis and urine microscopy
- Auto-antibodies
- Chest radiograph
- Abdominal radiograph
- Joint radiographs (knee, hip, hands, shoulder, elbow, dorsal spine, ankle)

More Advanced Competencies;

- Viral hepatitis serology
- Stool testing
- HIV testing
- Ultrasound
- Detailed imaging: Barium studies, CT, CT angiography, high resolution CT, MRI

18.Procedural Competencies

The trainee is expected to be competent in performing the following procedures by the end of core training. The trainee must be able to outline the indications for these interventions. For invasive procedures, the trainee must recognize the indications for the procedure, the importance of valid consent, aseptic technique, safe use of local anaesthetics and minimization of patient discomfort.

- Venepuncture
- Cannula insertion, including large bore
- Arterial blood gas sampling
- Lumbar Puncture
- Central venous cannulation
- Initial airway protection, chin lift, airway, nasal airway, laryngeal mask
- Basic and subsequently, advanced cardiorespiratory resuscitation
- Various types of skin biopsies

## **Topics**

a) Recognize the following anatomical landmarks and discuss their importance in health:

- Epidermis
- Dermis
- Dermal appendages
- Dermo-epidermal junction
- Subcutaneous tissue

b) Correctly describe following basic lesions:

- Macule
- Patch
- Papule
- Plaque
- Vesicle
- Bullae
- Scale
- Crust
- Nodule
- Fissure
- Tumor
- Erosion
- Ulcer

c) Define acne its pathophysiology, natural course, differential diagnosis and management plan of the

following:

- Mild comedonal acne
- Pustular acne
- Nodulocystic acne
- Acne conglobata
- Acne fulminans
- Acne rosacea
- Acne vulgaris

d) Define seborrheic dermatitis its pathophysiology, natural course, differential diagnosis

e) Discuss in detail the natural course, pathophysiology, etiologic causes and differential diagnosis of pruritis

f) Define eczematous disorders its sign and symptoms, pathophysiology, natural course, differential diagnosis and management plan of the following:

- Atopic eczema
- Contact dermatitis
- Dyshidrotic eczema
- Generalized exfoliative dermatitis
- Hand dermatitis
- Nummular eczema
- Stasis dermatitis

g) Define reactive dermatosis ,their signs and symptoms, pathophysiology, natural course, differential diagnosis and management plan of the following:

- Annular erythema
- Erythema multiforme
- Erythema nodosum
- Henoch-Schoenlein purpura
- Leukocytoclastic vasculitis
- Pyoderma gangrenosum

- Sweet syndrome
- Urticaria
- Urticarial Vasculitis

h) Identify and describe the cutaneous findings related to following collagen vascular diseases:

- Discoid lupus erythematosus
- Systemic lupus erythematosus
- Dermatomyositis
- Scleroderma and systemic sclerosis
- Raynaud's phenomenon

i) Identify and describe the immunobullous disorders including:

- Dermatitis herpetiformis
- Epidermolysis bullosa
- Pemphigus vulgaris
- Pemphigus foliaceus
- Bullous pemphigoid
- Pemphigoid gestationis

j) Define and discuss sign and symptoms, pathophysiology, natural course, differential diagnosis and management plan of the following:

- Psoriasis
- Parapsoriasis
- Lichen planus
- Scleromyxedema

- Mycosis fungoides
- Pityriasis rosea

k) Define and discuss sign and symptoms, pathophysiology, natural course, differential diagnosis and management plan of the following bacterial infections:

- Impetigo contagiosum
- Folliculitis
- Furuncles and carbuncles
- Ecthyma
- Erythrasma
- Erysipelas
- Cellulitis

l) Define and discuss sign and symptoms, pathophysiology, natural course, differential diagnosis and management plan of the following mycotic infections:

- Tinea corporis
- Tinea capitis
- Tinea cruris
- Tinea barbae
- Tinea pedis and manuum
- Tinea versicolor
- Onychomycosis
- Black Piedra
- White Piedra

m) Define and discuss sign and symptoms, pathophysiology, natural course, differential diagnosis and management plan of the following viral infections:

- Herpes zoster
- Herpes simplex
- Vaccinia
- Varicella
- Roseola
- Rubella
- Infectious mononucleosis
- Scarlet fever
- Erythema infectiosum
- Hand, foot and mouth Disease

n) Define and discuss sign and symptoms, pathophysiology, natural course, differential diagnosis and management plan of the following venereal diseases:

- Gonorrhoea
- Syphilis
- Herpes genitalis
- Molluscum contagiosum
- Lymphogranuloma venereum

o) Define and discuss sign and symptoms, pathophysiology, natural course, differential diagnosis and management plan of the following parasitic diseases:

- Scabies
- Pediculosis
- Sea bather's eruption
- Swimmers itch
- Mosquito bites
- Spider bites
- Tick bites
- Wasp and bee stings

p) Define and discuss sign and symptoms, pathophysiology, natural course, differential diagnosis and management plan of the following nevoid anomalies:

- Lentigo
- Compound intradermal nevus
- Blue nevus
- Spindle and epithelioid nevus
- Junctional pigmented nevus
- Intradermal pigmented nevus
- Mongolian spot

q) Make a differential diagnosis for a patient presenting with complaint of alopecia.

r) Define and discuss sign and symptoms, pathophysiology, natural course, differential diagnosis and management plan for ingrown nails.

s) Define and discuss the following cutaneous disorders of the newborn:

- Diaper dermatitis
- Seborrhea
- Erythema toxicum neonatorum
- Milia
- Strawberry angioma
- Scaling

t) Define and discuss sign and symptoms, pathophysiology, natural course, differential diagnosis and management plan for warts and callosities.

- u) Define and discuss sign and symptoms, pathophysiology, natural course, differential diagnosis and management plan for following nodules  
Keloid
- Actinic keratosis
- Epidermal inclusion cyst
- Neurofibroma
- Pilar cyst
- Lipoma
- Seborrheic keratosis
- Dermoid cyst

v) Define and discuss sign and symptoms, pathophysiology, natural course, differential diagnosis and management plan for the following benign and neoplastic disorders:

- Actinic keratosis
- Cutaneous horns
- Keratoacanthoma

- Paget's disease
- Bowen's disease
- Malignant melanoma
- Lentigo maligna melanoma
- Leukemia cutis
- Lymphoma cutis
- Mycosis fungoides
- Basal cell carcinoma
- Squamous cell carcinoma

Clinical skills:

- Able to perform minor laboratory test and investigations related to the skin diseases, STD & Leprosy, for example Scrapings of skin, hair and nails for fungus and parasites (scabies mite)
- skin biopsies
- Cytopathological examination
- Slit smear examination
- Woods lamp examination
- Tzanck smear
- Few staining procedures e.g; Giemsa, Zhiel Neelsen, Dark ground microscope, PAP smear.
- Learn the latest treatment modalities for diseases of skin.
- Describe the educative, preventive aspects and counseling services to the patient, regarding National
- Control Programmes of Leprosy, STDs and HIV infections.

## Procedural Skills:

- PUVA and NBUVB phototherapy
- Electrocautery, electrolysis, cryotherapy, intra-lesional injections
- Cryosurgery
- Punch grafting
- Mohs` Micrographic surgery
- Various types of dressings
- Nail surgery
- Dermabrasion, Split skin grafting and suction blister grafting
- Scar revision
- Chemical peels for face with glycolic acid and trichloroacetic acid
- Cryosurgery
- Comedone extraction
- Excision of exophytic growths/papillomas/cysts etc
- Therapeutic uses of CO2 laser
- Q-switch ND:YAG Laser
- Hair removal lasers

## More Advanced Procedures:

- Soft tissue augmentation procedure
- Hair grafting and alopecia reduction
- Botox treatments, facial rejuvenation
- Skin resurfacing: chemical peels
- Skin resurfacing: dermabrasion
- Skin resurfacing: Laser

## Year I

Competencies	1 <sup>st</sup> 6 months in dermatology				
	03 months		06 months		Total cases
	Level	Cases	Level	Cases	06 months
Smear for <ul style="list-style-type: none"> <li>● Acantholytic cells</li> <li>● Giants cells</li> <li>● LT bodies</li> <li>● Scabies mite</li> <li>● Lepra bacilli</li> </ul>	2	5	3	5	20
Scrapping for fungal hyphae and spores	1	1	2	5	11
Wood's lamp examination	1	1	1	2	10
Patch testing (if available)	1	1	1	2	10
Skin/mucosal/nail biopsies	1	1	1	2	10
Therapeutic procedures	1	5	2	10	50
Administration of intralesional injection	-	-	-	-	2

Cryotherapy	-	-	-	-	-
Dressings	-	-	-	-	-
Electrocautery	2	5	3	10	35
Removal of cyst/ tumour	-	-	-	-	-
Ingrown toenail removal	-	-	-	-	-
Laser and light therapy	-	-	-	-	-
Phototherapy	2	5	2	5	30
IPL hair removal	2	5	2	5	30
Laser hair removal	-	-	-	-	2
CO2 fractional laser	-	-	-	-	2
CO2 ablative laser	-	-	-	-	1
Tattoo removal by Q-switched Nd- YAG laser	1	1	1	1	6
Treatment of vascular lesions	2	2	2	2	14
Examination of patient	-	-	-	-	2
Examination of nerves and record of findings	-	-	-	-	2
Examination of patients with leprae reaction, record the finding and treatment	2	2	3	3	15
Examination of neuropathic ulcers and their tracing	-	-	-	-	1

### Year I to II (7<sup>th</sup> month to 24<sup>th</sup> month)

1 rotation of 18 months in internal medicine								
Competencies	09 months		12 months		Total cases	13-18 months	19-24 months	Total cases
	Level	Cases	Level	Cases	06 months	Level	Cases	1 year
Cardiopulmonary resuscitation	3	5	3	5		4	5	10
Endotracheal intubation	2	2	2	3	11	3	5	10
CVP insertion	1	3	1	4	10	2	5	10
Arterial puncture	1	2	1	4	10	3	10	20
Defibrillator	1	3	1	4	10	2	5	10
Recording & reporting of ECG	3	15	4	20	50	4	1	2
Echo cardiography	-	-	1	2	2	1	4	6
Pericardiocentesis	-	-	-	-	-	-	1	1
ETT	-	-	-	-	-	1	2	4
Pleural	4	10	4	10	35	4	10	20

aspiration								
Chest intubation	-	-	-	-	-	1	2	4
Pleural biopsy	-	-	-	-	-	1	2	4
Bronchoscopy	-	-	-	-	-	1	1	2
NG intubation	3	10	3	10	30	4	15	30
Peritoneal aspiration	3	10	3	10	30	4	20	40
Abdominal USG	1	1	1	1	2	1	2	4
Upper GI endoscopy	1	1	1	1	2	2	5	10
Lower GI endoscopy	-	-	1	1	1	1	5	10
Liver biopsy	1	2	1	2	6	1	3	6
Proctoscopy	-	-	1	1	1	1	2	4
Urethral cathetrisation	3	5	3	5	14	4	10	20
Renal biopsy	1	1	1	1	2	1	2	4
Haemodialysis	1	1	1	1	2	2	1	2
Lumber puncture	3	5	4	5	15	4	10	20
EEG	-	-	-	-	-	1	1	2
NCS/EMG	-	-	-	-	-	1	1	2
CT head/chest/abdomen	-	-	1	1	1	1	2	4
MRI brain and	-	-	-	-	-	1	2	4

spine								
Bone marrow aspiration	1	1	1	1	2	1	2	4
Joint aspiration	-	-	1	1	1	1	2	4
Depression and anxiety	-	-	-	-	-	1	2	4

### Year III

Competencies	3 <sup>rd</sup> year				
	24 to 30 months		31 to 36 months		Total cases
	Level	Cases	Level	Cases	3 <sup>rd</sup> year
Smear for <ul style="list-style-type: none"> <li>● Acantholytic cells</li> <li>● Giants cells</li> <li>● LT bodies</li> <li>● Scabies mite</li> <li>● Lepra bacilli</li> </ul>	4	10	4	10	40
Scrapping for fungal hyphae and	4	10	4	10	40

spores					
Wood's lamp examination	3	5	3	5	20
Patch testing (if available)	4	10	4	10	40
Skin/mucosal/nail biopsies	3	5	3	5	20
Therapeutic procedures	4	10	4	10	40
Administration of intralesional injection	2	3	2	5	20
Cryotherapy	1	2	1	2	8
Dressings	2	5	2	5	20
Electrocautery	2	5	3	10	35
Removal of cyst/tumour	2	5	2	5	20
Ingrown toenail removal	2	5	2	5	20
Laser and light therapy	2	5	2	5	20
Phototherapy	4	20	4	20	80
IPL hair removal	4	25	4	25	10
Laser hair removal	2	5	2	5	20
CO2 fractional laser	2	5	2	5	20
CO2 ablative laser	2	5	2	5	20
Tattoo removal by Q-switched Nd-YAG laser	2	3	2	3	12
Treatment of vascular lesions	2	2	2	2	14
Examination of	2	2	2	2	8

patient					
Examination of nerves and record of findings	2	3	2	3	12
Examination of patients with leprae reaction, record the finding and treatment	4	10	4	10	40
Examination of neuropathic ulcers and their tracing	1	2	1	2	8

## Year IV

Competencies	4 <sup>th</sup> year				
	37 to 42 months		43 to 48 months		Total cases
	Level	Cases	Level	Cases	4 <sup>th</sup> year
Smear for <ul style="list-style-type: none"> <li>● Acantholytic cells</li> <li>● Giants cells</li> <li>● LT bodies</li> <li>● Scabies mite</li> <li>● Lepra bacilli</li> </ul>	4	14	4	14	28
Scrapping for fungal hyphae and spores	4	14	4	14	28

Wood's lamp examination	4	5	4	5	10
Patch testing (if available)	4	14	4	14	28
Skin/mucosal/nail biopsies	4	8	4	8	16
Therapeutic procedures	4	14	4	14	28
Administration of intralesional injection	2	5	2	5	10
Cryotherapy	2	2	2	2	4
Dressings	2	8	2	8	16
Electrocautery	4	30	4	30	60
Removal of cyst/tumour	2	8	2	8	16
Ingrown toenail removal	2	5	2	5	10
Laser and light therapy	2	3	2	3	6
Phototherapy	4	20	4	20	40
IPL hair removal	4	25	4	25	50
Laser hair removal	2	5	2	5	10
CO2 fractional laser	3	5	3	5	10
CO2 ablative laser	3	5	3	5	10
Tattoo removal by Q-switched Nd-YAG laser	2	5	2	5	10
Treatment of vascular lesions	2	5	2	5	10
Examination of patient	2	4	2	4	8

Examination of nerves and record of findings	2	4	2	4	8
Examination of patients with leprae reaction, record the finding and treatment	4	15	4	15	30
Examination of neuropathic ulcers and their tracing	2	2	2	2	4

## Year V

Competencies	4 <sup>th</sup> year				
	37 to 42 months		43 to 48 months		Total cases
	Level	Cases	Level	Cases	4 <sup>th</sup> year
Smear for <ul style="list-style-type: none"> <li>● Acantholytic cells</li> <li>● Giants cells</li> <li>● LT bodies</li> <li>● Scabies mite</li> <li>● Lepra bacilli</li> </ul>	4	14	4	14	28
Scrapping for fungal hyphae and spores	4	14	4	14	28
Wood's lamp examination	4	5	4	5	10
Patch testing (if available)	4	14	4	14	28
Skin/mucosal/nail biopsies	4	8	4	8	16
Therapeutic procedures	4	14	4	14	28
Administration of intralesional injection	2	5	2	5	10
Cryotherapy	2	2	2	2	4
Dressings	2	8	2	8	16
Electrocautery	4	30	4	30	60

Removal of cyst/tumour	2	8	2	8	16
Ingrown toenail removal	2	5	2	5	10
Laser and light therapy	2	3	2	3	6
Phototherapy	4	20	4	20	40
IPL hair removal	4	25	4	25	50
Laser hair removal	2	5	2	5	10
CO2 fractional laser	3	5	3	5	10
CO2 ablative laser	3	5	3	5	10
Tattoo removal by Q-switched Nd-YAG laser	2	5	2	5	10
Treatment of vascular lesions	2	5	2	5	10
Examination of patient	2	4	2	4	8
Examination of nerves and record of findings	2	4	2	4	8
Examination of patients with leprae reaction, record the finding and treatment	4	15	4	15	30
Examination of neuropathic ulcers and their tracing	2	2	2	2	4

## Rotations

<b>Outcomes</b>	<b>Content covered</b>	<b>Teaching techniques</b>	<b>Settings</b>
History taking, physical examination on diagnosis and therapeutic procedures of internal med.	Internal medicine	OPD, ward round, Emergency, journal club	Medical department DHQ Teaching Hospital Faisalabad
History taking, physical examination diagnosis and therapeutic procedures	Dermatology	OPD, ward round, journal club, presentations, histology classes, interventions	Dermatology department DHQ Teaching Hospital Faisalabad

of dermatology			
Managing and treating some aspects of disease	Laser and energy-based devices	Laser machines	Laser room in dermatology department DHQ Teaching Hospital Faisalabad
Epidemiological aspects, pathogenesis, diagnosis, therapeutic aspects, prevention control and rehabilitation	Leprosy	Workshops, presentations, journal club meetings	Department of dermatology DHQ teaching Hospital Faisalabad
To currently interpret the dermatopathology report	Dermatopathology	Biopsy procedures, fixation and transport of	Pathology department Allied Hospital Faisalabad

and offer differential diagnosis of distinguishing histological features		specimen, special staining and immunochemistry, and interpret special stains and immunohistochemistry correctly	
History taking, physical examination, therapeutic procedures of plastic surgery	Plastic and reconstructive surgery	Ward round, OPD, presentations, workshops, journal club meetings	Department of plastic surgery Allied Hospital Faisalabad

**Skills / procedures details**

- PUVA and NBUVB phototherapy
- Electrocautery, electrolysis, cryotherapy, intralesional injections
- Cryosurgery
- Punch grafting
- Mohs micrographic surgery

- Various types of dressings
- Nail surgery
- Dermabrasions, split skin grafting and suction blister grafting
- Scar revision
- Chemical peel for face with glycolic acid and trichloroacetic acid
- Comedone extraction
- Excision of exophytic growth/ papilloma/ cysts
- Therapeutic uses of CO2 laser
- Q-switch ND: YAG laser
- Hair removal laser
- Skin biopsies
- Cytopathological examination
- Slit smear examination
- Woods lamp examination
- Tzanck's smear
- Staining procedures for example Giemsa, Zheil Nelson, Dark ground microscope, PAP smear
- Soft tissue augmentation procedures
- Hair grafting and alopecia reduction
- Botox treatment, facial rejuvenation
- Skin resurfacing: chemical peels
- Skin resurfacing: dermabrasions
- Skin resurfacing: lasers

## **Section D:**

**Rotations: all are mandatory**

Serial no.	Rotation	duration	Placement
1	dermatopathology	1 month	Last 3 years
2	Plastic and reconstructive surgery	1 month	Last 3 years
3	Leprosy	15 days	Last 3 years
4	Lasers and energy based devices	15 days	Last 3 years

## Section E:

### Assessment Plan:

Program duration	Course contents	Assessment method
At the end of 2 <sup>nd</sup> year of program	<ol style="list-style-type: none"><li>1. Revision of core MBBS component including basic and clinical components.</li><li>2. Basic knowledge and Acquiring skill related to the specialty according to the objectives made.<ol style="list-style-type: none"><li>1. First 2 mandatory Workshops as described in course outline.</li><li>3. Submission of synopsis</li></ol></li></ol>	<p><b>Intermediate Examination:</b> to be taken by university. It will include:</p> <ol style="list-style-type: none"><li>a) Written=300</li><li>b) TOACS/ OSCE /LONG CASE/ SHORT CASE=300</li></ol> <p><b>Total Marks =600</b></p>
At the end of /5 year	<ol style="list-style-type: none"><li>1. Training to act as an individual while managing patient or performing any task as defined by the objectives.</li><li>2. Training to act as a teacher, researcher, leader and a player in a team.</li><li>3. Overall development of a health care professional with all the set competencies of the Program.</li></ol>	<p><b>Final Examination</b> to be conducted by university. It will include:</p> <ol style="list-style-type: none"><li>a) Written=300</li><li>b) TOACS/OSCE/LONG CASE/SHORT CASE=300</li><li>c)Continuous internal assessment=100</li></ol> <p>Thesis evaluation =300</p> <p><b>Total marks=600+100+300= 1000</b></p>

	<p>4. All the mandatory and specialty oriented workshops to be completed as mentioned in the curriculum</p> <p>5. Rotations as described in the curriculum completed</p> <p>6. Thesis completion and submission</p>	
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### Components of Intermediate Examination

- Written: Total Marks =300
- Clinical, TOACS/OSCE = 300

**Total = 600**

### Components of Final Examination:

- Written: 300 Marks
- Clinical, TOACS/OSCE = 300 Marks
- Continuous internal assessment =100
- Thesis Evaluation = 300 Marks

**Total = 1000 Marks**

### Intermediate Examinations:

Intermediate examination would be conducted for the candidate getting training, at the end of 2nd calendar year of the program.

**Eligibility Criteria:**

1. Candidate remained on institution roll during the period approved for appearing in examination.
2. Certificate of completion of mandatory workshops.
3. Completion of Log book signed by supervisor/concerned Head of Department.
4. Certificate of submission of Ethical Review Committee approved synopsis to the university if required as per rules of synopsis submission.
5. Evidence of payment of examination fee as prescribed by the University from time to time.
6. Certificates submitted through Principal/Dean/Head of academic institution shall be accepted as valid towards the candidature of an applicant.
7. submission of application for the examination and the conduct of examination.

**Intermediate Examination Schedule and Fee:**

- a) Intermediate Examination at completion of two years training, will be held twice a year.
- b) There will be a minimum period of 30 days between submission of application for the examination and the conduction of examination.
- c) Examination fee will be determined periodically by the University.
- d) The examination fee once deposited cannot be refunded / carried over to the next examination under any circumstances.
- e) The Controller of Examinations will issue Roll Number Slips on receipt of prescribed application form, documents satisfying eligibility criteria and evidence of payment of examination fee.

### **Written Examination:**

The written examination will consist of 100 single best answer type Multiple Choice Questions. Each correct answer in the multiple-choice question paper will carry 02 marks. The short essay question will be clinical scenario or practice based, and each question will carry 10 marks.

The marks of written exam will be divided as follows:

- MCQs (single best type) = 200 Marks
- SEQ (10 marks) =100

### **Declaration of Results**

The candidates scoring 60% marks in the written examination will be considered pass and will then be eligible to appear in the clinical and oral examination.

### **Clinical, TOACS/OSCE:**

The clinical and TOAC/OSCE & Oral examination will evaluate patient care competencies in detail,

The examination will be of 300 total marks consisting of the following components

Clinical, TOACS/OSCE = Total Marks 300

- a) 4 short Cases (25 each) = 100 marks
- b) 1 Long Case = 100 marks
- c) TOACS/OSCE & ORAL =100 marks (10 stations with 10 marks each)
  - Each short case will be of 10 minutes duration, 05 minutes will be for examining the patient and 05 minutes for discussion.

- The long case and oral examination will each be of 30 minutes duration.

### **Declaration of Results**

- A student scoring 60% in long case, 60% in short cases and 60% in TOACS/OSCE will be considered pass in the examination.
- A maximum total of four consecutive attempts (availed or un availed) will be allowed in the Intermediate Examination during which the candidate will be allowed to continue his training program. If the candidate fails to pass his Intermediate Examination within the above-mentioned limit of four attempts, the candidate shall have to take entire intermediate examination including written examination again.



### **Final Examination**

**(at the end of 5<sup>th</sup> Calendar year of the program)**

#### **Eligibility Criteria:**

To appear in the Final Examination the candidate shall be required:

1. Result card showing that the candidate has passed intermediate Examination.
2. Certificate of completion of 5 Years training duly signed by Supervisor, Head of parent Department and that of the Head of Department where rotations were done (if prescribed in the curriculum).
3. Evidence of thesis submission to Department of Examination of the University.
4. Evidence of payment of examination fee as prescribed by the university from time to time.
5. The examination fee once deposited cannot be refunded / carried over to the next examination under any circumstances.

6. Candidate remained on institution roll during the period required for appearing in examination.
7. Only those certificates, submitted through Principal/Dean/Head of academic institution shall be accepted.

**Final Examination Schedule and Fee:**

- a) Final examination will be held twice a year i.e. at least six months apart.
- b) Examination fee will be determined and varied at periodic intervals by the University.
- c) The examination fee once deposited cannot be refunded / carried over to the next examination under any circumstances.
- d) The Controller of Examinations will issue an Admittance Card with a photograph of the candidate on receipt of prescribed application form, documents satisfying eligibility criteria and evidence of payment of examination fee. This card will also show the Roll Number, date / time and venue of examination.

**Written Part of Final Examination**

- a) The written examination will consist of 100 single best answer type Multiple Choice Questions (MCQs) and 10 Short Essay Questions (SEQs). Each correct answer in the Multiple-Choice Question paper will carry 02 marks. Each Short Essay Question will carry 10 marks.
- b) The Total Marks of the Written Examination will be 300 and to be divided as follows:
  - Multiple Choice Question paper Total Marks = 200
  - Short Essay Question paper Total Marks = 100

**Total=300**

**Paper 1**

- MCQs 50 (2 marks each)
- SEQs 5(10 marks each)

## **Paper 2**

**MCQs 50(2 marks each)**

**SEQs 5(10 marks each)**

- a. Paper 1 and 2 shall comprise of fifty(50 ) single best answer" type Multiple Choice Questions. Each Question shall carry 02 marks and five(5)Short Essay questions,each carrying 10 marks

## **Declaration of Results**

- b. The candidates scoring 60% marks in aggregate of Paper 1 and Paper 2 of the written examination will be declared pass and will become eligible to appear in the Clinical Examination.

## **Clinical, TOACS/OSCE:**

a) The Clinical Examination will consist of 04 short cases, 01 long case and TOACs/OSCE with 01 station for a pair of Internal and External Examiner. Each short case will be of 10 minutes duration, 05 minutes will be for examining the patient and 05 minutes for discussion.

b) The Total Marks of Clinical and TOACs/OSCE & Oral will be 300 and to be divided as follows:

- Short Cases (4) Total Marks = 100
- Long Case (1) Total Marks = 100
- TOACS/OSCE & ORAL Total Marks = 100

**Total= 300**

### **Declaration of Results**

- A student scoring 60% in long case, 60% in short cases and 60% in TOACS/OSCE will be considered pass in the examination.
- Candidate, who passes written examination, shall be allowed a maximum of three availed attempts within 2 years to pass Clinical/Oral examination. However, in case of failure to pass Clinical examination within stipulated attempts the credit of passing the written examination shall stand withdrawn and candidate shall have to take entire examination including written examination, afresh.
- Candidate who has completed his/her training alongwith all the requirements mentioned in the curriculum shall have to appear in the final examination at least once, within a period of 8 years from the time of induction of training. Failure to comply with this, the matter will be referred to the competent authority through proper channel for final decision.

### **Synopsis and Thesis Writing:**

Thesis writing must be completed and thesis be submitted at least 6 months before the end of final year of the program.

Thesis evaluation & defense will be carried out at the end of 5<sup>th</sup> calendar year of MD.

### **Submission / Evaluation of Synopsis**

- a) The candidates shall prepare their synopsis as per guidelines provided by the Advanced Studies & Research Board, available on the university website.
  
- b) The research topic in clinical subject should have 30% component related to basic sciences and 70% component related to applied clinical sciences. The research topic must consist of a reasonable sample size and sufficient numbers of variables to give training to the candidate to conduct research, to collect & analyze the data.
  
- c) Synopsis of research project shall be got approved by the end of the 2nd year of MD program. The synopsis after review by an Institutional Review Committee, shall be submitted to the University for consideration by the Advanced Studies & Research Board, through the Principal / Dean /Head of the institution.

### **Submission and evaluation of Thesis Evaluation (300 Marks)**

1. Thesis shall be submitted to the Controller of Examination through Head of Institute, duly signed by the Supervisor, Co-Supervisor(s) and Head of the Department.
2. Submission of Thesis is a prerequisite for taking Final Theory Examination.
3. Examiners shall be appointed by the Vice chancellor on recommendation of Controller of Examination from a panel approved by Advance Studies & Research Board for evaluation of thesis.
4. MD thesis shall be evaluated by 2 examiners, 1 Internal and 1 External (The supervisor must not be the evaluator)
5. Thesis defense shall be held after approval of evaluation reports by Advanced Studies & Research Board.
6. Thesis defense shall be conducted by the external examiners who evaluated Thesis of the candidate.
7. The candidate scoring 60% marks in Thesis defense examination will be declared as pass in the examination.

## **Continuous Internal assessment**

It will consist of professional growth oriented student-centered integrated assessment with an additional component of formative assessment and measurement-based summative assessment.

### **Attendance**

- Students joining postgraduate training program shall work as full-time residents during the duration of training. Maximum 2 leaves are allowed in one month, and should take full responsibility and participation in all facets of the educational process. The period of training for obtaining degrees shall be five completed years

### **Presentations**

- In addition to the conventional teaching methodologies interactive strategies will also be introduced to improve both clinical and communication skills in the upcoming consultants. Presentations must be conducted regularly as scheduled and attended by all available faculty and residents. As a policy, active participation of the postgraduate resident will be encouraged. Proper written feedback will be given for these presentations and that will be a part of Resident's Portfolio as well. Reflection of the events to be written by the residents as well and must be included in their portfolios.

### **Task evaluation**

- This competency will be learned from journal clubs, review of literature, policies and guidelines, audit projects, medical error investigations, root cause analysis and awareness of healthcare facilities. Active participation and ability to fulfill given tasks will be encouraged. Written feedback must be given and documented to be included in portfolio

### Continuous Internal Assessment format (100 Marks)

1. The award of continuous internal assessment shall be submitted confidentially in a sealed envelope.
2. The supervisor shall submit cumulative score of internal assessment of all training years to be added together to provide a final cumulative score of Continuous Internal Assessments of all the trainees to the Head of the Department/ Dean of Post Graduate studies.
3. The Head of Department/ Dean shall submit the continuous internal assessment score through the Principal/ Registrar office to the Examination Department of the University. Score of continuous internal assessment once submitted shall be final and cannot be changed subsequently under any circumstances.
4. The weightage of internal assessment in the final examination will be 10%.
5. Continuous Internal Workplace Based Assessments will be done by the supervisors, that may be based on but not limited to:
  - a. Generic and Specialty Specific Competency Assessments
  - b. Multisource Feedback Evaluations
  - c. Assessment of Candidates' Training Portfolio

### TOOLS OF ASSESSMENT FOR THE COURSE:

<b>TOOL USED:</b>	<b>DOMAIN TESTED:</b>
<b>MCQs</b>	Knowledge
<b>SEQs</b>	Knowledge
<b>TOACS/OSCE</b>	Knowledge.  Skill  Attitude
<b>PRESENTATIONS (wards, seminars,</b>	Knowledge.

<b>conferences, journal clubs)</b>	Skill Attitude
<b>Portfolios and log books.</b>	Skill Attitude
<b>Short cases.</b>	Knowledge Skill Attitude
<b>Long cases</b>	Knowledge Skill Attitude
<b>Continuous internal assessment</b>	Skill Attitude
<b>Feedback from department where rotation is being conducted.</b>	Knowledge Skill Attitude

## **Section F**

### **Award of MD Dermatology Degree**

A candidate having declared successful in all the components of examination i.e. Theory, Clinical and Thesis shall be declared pass and shall be conferred degree in dermatology.

## **Section G: Log Book**

As per format approved by the university (available on university website)

## **Section H**

### **Portfolio:**

As per format approved by the university

## **Section I**

### **Paper Scheme**

#### **Intermediate Examination**

Written

<b>Sr. No</b>	<b>Topic</b>	<b>Number of MCQs</b>	<b>Number of SEQs</b>
1	Dermatology	30	3
2	Internal medicine	70	7

#### **Written Paper Final Examination**

##### **Topics included in paper 1 and 2**

General Dermatology	20 MCQs
Venereology & Leprosy	10 MCQs
Dermatological Therapeutics	10 MCQs
Dermatopathology	5 MCQs
Psychodermatology	5 MCQ
Pediatric Dermatology	20 MCQs

Dermatosurgery (including lasers)	20 MCQs
Dermatological Oncology	10 MCQs
SEQs of the relevant topics.	10 SEQs

## **Section J**

### **Resources and references (books and other resource material)**

Resources & Questions Paper Sample Format for Each Exam. Students will consult the relevant section of the following books & journals:

#### Text Books:

1. Rook's Textbook of Dermatology
2. Fitzpatrick's Dermatology in General Medicine
3. Dermatology by Bologna et al.
4. ABC of Dermatology by Prof. T. S. Haroon
5. Leprosy by Ridley Jopling
6. Lever's Histopathology
7. McKee's Atlas of Histopathology

#### Journals:

1. Journal of American Academy of Dermatology
2. Journal of Pakistan Association of Dermatologists
3. Archives of Dermatology
4. British Journal of Dermatology
5. Dermatologic Clinics

## **Section k**

### **List of authors and contributors**

Qualified teaching staff as per policy of Pakistan Medical Commission (PMC)

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Dr. Muhammad Shahid Associate Professor and HOD

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