In the name of God, the Beneficent, the Merciful

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INTRODUCTION

The objective of the Postgraduate Medical Institute, Quetta is to promote the Postgraduate Medical Education amongst the doctors by designing postgraduate medical studies programs keeping in view the provincial, national and international needs.

To achieve this objective the Postgraduate Medical Institute, has developed structured training programs for specialist to be utilized in the Health Care facilities of tertiary and secondary levels. Besides clinical sciences the institute is also running Postgraduate training programs in Basic Medical Sciences.

The Post Graduate Medical Institute, Quetta possesses all the relevant learning facilities like qualified and well trained faculty, teaching hospitals, audiovisual aids, internet access, etc.

The Post Graduate Medical Institute is affiliated with University of Balochistan. The format of the examination has been improved with more valid objectives and reliable methods of assessment. To ensure the fairness and transparency the institute has

introduced the use of assessment forms for scoring of all components of clinical and oral examination.

This booklet contains the information for the Trainee of Diploma in Dermatology (D. Derm), eligibility criteria for admission to the course, details of training program, syllabus, objective of this training and format of examination.

ELIGIBILITY CRITERIA FOR D. DERM COURSE

Requirements for Admission in Diploma in Dermatology (D-Derm) course Session 2013-15.

- MBBS or equivalent qualification registered with the PMDC.
- One year House job in a teaching hospital six months of which should preferably be in Dermatology and Medicine.
- Only those doctors are eligible who are in the active service of Government of Balochistan for a minimum period of two years.
- Selection through entry test and selection committee approval.

TRAINING PROGRAM.

The duration of training program for Diploma in Dermatology (D. Derm) is two years. In the initial period of this duration the trainees are supposed to attend the formal lectures in the relevant basic sciences but simultaneously trainees start their clinical residency program which is specially designed for acquisition of knowledge, attitude and skills in the relevant field.

Following teaching modalities will be employed:

- Seminar Presentation and Journal Club Presentations
- Group Discussions
- Slide Sessions
- Grand Rounds
- Clinico-pathological Conferences
- SEQ as assignments on the content areas and ward settings
- Attend genetic clinics & rounds for at least one month.
- Self study, assignments and use of internet
- OPD & Follow up clinics
- Long and short case presentations

This duration of two years is sub divided as follows:

1st Year

1) Basic Sciences lectures & 1st year exam.
2) Rotation in different units of Dermatology.
3) Indoor teaching in every clinical unit.

2nd Year

1) Clinical Residency Training in the unit of his/her own Supervisor.
2) Clinical Sciences lectures in 2nd year.
   Indoor Clinical Teaching will be scheduled and organized by every individual unit and be sent to Post Graduate Medical Institute, Quetta.

AIMS AND OBJECTIVES OF THE COURSE

AIM.

The aim of 02 years diploma programme in Dermatology is to equip medical graduates with relevant professional knowledge, skills and ethical values to enable them to apply their acquired expertise at primary and secondary health care organizations as non-academic consultants.

OBJECTIVES

D-DERM training should enable a trainee to:

- Proper history taking.
- Performing appropriate clinical examination including elicitation of various clinical signs like Nicholsky, Anspitz etc.
- Making a provisional diagnosis.
- Advising investigations in order of priority with interpretation of results.
- Making a final diagnosis.
- Offering correct treatment.
- Discussing prognosis with the patients.
- Counseling the patients.
- Having a basic idea of Medical research.

- A part from above a trainee should also be able to perform:-
- Various kinds of skin Biopsies.
- Electrocautery
- Cryotherapy
- Scraping for fungus, mites.
- Zank semars preparation.
- Smear of L.D Bodies.
- Grams staing
- Wood's Lamp examination.
- Some concept of Lasers and its uses

SYLLABUS

Part-I Syllabus.

Basic Sciences:

Student is expected to acquire comprehensive knowledge of Anatomy, Physiology, Pathology, Biochemistry, Pharmacology relevant to the clinical practice appropriate for Dermatology.

Anatomy

- Clinical and functional anatomy with pathological and applied relevance
- Histology and embryology of skin and appendage
- Cell Biology: Cytoplasm–Cytoplasmic matrix, cell membrane, cell organelles, cytoskeleton, cell inclusions, cilia and flagella.
- Nucleus – nuclear envelope, nuclear matrix, DNA and other components of chromatin, protein synthesis, nucleolus, nuclear changes indicating cell death.
- Cell cycle, mitosis, meiosis, cell renewal.
- Cellular differentiation and proliferation.

- Tissues of Body: Light and electron microscopic details and structural basis of function, regeneration and degeneration. Confocal microscopy.
- The systems/organs of body – Cellular organization, light and electron microscopic features, structure function correlations, and cellular organization.

Histology:

Structural and Functional Organization of the Tissues of Body

- Classification of tissues and identification of various tissues particularly those related to the musculoskeletal system, in routine histological preparations under the light microscope.
- Histological and structural organization of stratum corneum, stratum spinosum, stratum basale, epidermis (stratified squamous keratinized epithelium), dermis (dense irregular connective tissue) and subcutaneous connective tissue (Adipose Tissue)

  The Epithelial Tissue

- General structure, functions and classification of epithelia
- Their location in the body
- General characters of serous and mucous membranes
- General structural features of exocrine and endocrine glands

  The Connective Tissue
- Cartilage
- Structure of bone marrow. Cell lines seen in haemopoiesis.
- Factors required for bone growth.

  The Muscular Tissue
- Structural and functional differences between the smooth skeletal and cardiac types of muscle.
- Fine structure of skeletal and cardiac muscle fibers, and its relationship to the mechanism of contraction.

  The Neural Tissue
- The neuron, morphology of the perikaryon and its processes.
- Process of myelination in the peripheral and the central nervous system.

- Axon terminals and synapses. Nerve fiber degeneration and regeneration.

Surface and Gross Anatomy

- Mucocutaneous junctions and adjoining mucosae.
- Structure and ultra structure of;
    - The epidermis
    - The dermoepidermal junction
    - The dermis
    - The sebaceous, eccrine and apocrine glands
    - Hairs and nails
    - Subcutaneous tissue
    - Oral, genital and ocular mucosae.
- Lymph and blood vessels and nerve supply of the skin including surface anatomy and applied aspects
- Variations with reference to age, gender, race, anatomical regions etc.

Physiology

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

- General characteristics and functions of epithelial tissue.
- Types of epithelium
- Classification of glands
- General characteristics of connective tissue
- Major cell types and fibers of connective tissues
- Major functions of each types of connective tissue
- Four major types of membranes
- Functions of the skin including protection, temperature regulation, excretion and secretion, sensitivity, sociosexual functions etc.
- Composition of the skin, blood supply, components
- General function of each layer of the skin.
- Functions of accessory organ associated with the skin
- Factors that determine skin color

Biochemistry

- Membrane biochemistry and signal transduction.
- Gene expression and the synthesis of proteins
- Bioenergetics; fuel oxidation and the generation of ATP.

- Carbohydrate metabolism
- Lipid metabolism
- Nitrogen metabolism
- Enzymes and biologic catalysis
- Tissue metabolism
- Biotechnology and concepts of molecular biology with special emphasis on use of recombinant DNA techniques in medicine and the molecular biology of cancer
- General principles of biochemical investigations
- Basic techniques in molecular biology
- Cloning and gene analysis
- Immunochemical techniques
- Protein chemistry and enzymology
- Cloning & PCR
- Protein chemistry and quantification
- Electrophoretic techniques; PAGE
- Immunoblotting
- Raising and purifying antibodies
- ELISA

Pharmacology

- Pharmacokinetic processes
- Pharmacodynamic process
- Drug effect
- Beneficial responses
- Harmful responses
- Allergic responses
- Drug dependence, addiction, abuse and tolerance
- Drug interactions
- Drug prescription in dermatology
- Principles of toxicology
- Antibiotics, antifungals, antivirals, antiparasitics etc.
- Corticosteroids.
- Histamine and antihistamine
- Classification of cytotoxic agents and immunosuppressants
- Dermatologically relevant cytotoxics and immunosuppresants
- Azathioprine
- Methotrexate
- Cyclophosphamide
- Cyclosporin

- Tactolimus etc.
- Analgesics, antipyretics and anti inflammatory agents
- Vitamins and skin disorders
- Principles of topical dermatological therapy

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

- Exudates 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 & Hyperaemia
- 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

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 Neisseriae gonorrhea

- Gram positive bacilli especially bacillus anthrax, clostridia, coryniform
- Gram negative bacilli especially pseudomonas and proteus
- Mycobacteria especially M.tuberculosis, M.leprae and atypical mycobacteria
- Chlamydiae especially Chlamydia trachomatis
- Rickettsiae.
- Pathogenesis of viral infections
- Classification of medically important viruses
- Clinically relevant features of the following:
- Herpes viruses
- Pox viruses
- Papilloma viruses
- Parvovorus B 19
- Measles and rubella viruses

Parasitology:

- General aspects of dermaatologically relevant parasites, especially Leishmania, Sarcoptes scabiei, Pediculosis.
- 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

PART-II SYLLABUS

SPECIFIC PROGRAMME CONTENTS

1. General Dermatology
    - Contact dermatitis and occupational dermatoses
    - Prick and intradermal testing
    - Genetics
2. Dermatopathology
3. Venereology
    - Genitourinary Medicine
    - Infectious, inflammatory diseases and infestations
4. Lasers
5. Cosmetic Dermatology
6. Paediatric Dermatology
7. Psychodermatology
8. Dermatology and Primary Health Care

General Dermatology

- History taking and examination of dermatological patient.
- Symptoms & signs in dermatological medicine
- Diagnostic approach to common skin problems
- Structure and Function of Skin

- Terminology & Introduction to the diagnosis of skin diseases
- How to Recognize and Investigate Skin Disease
- Aids in diagnosis of skin diseases etc
- How to Manage Skin Disease
- Common Skin Infections
- Type of skin lesions
- Red and Spotty Faces
- Itchy Skin and Eczema
- Skin Problems in Different Skin Types
- Sunshine and Skin
- Uncommon Infections
- Harmless Lumps and bumps
- Pigmented Lesions
- Distribution patterns
- Structure and development of skin
- Pathophysiologic reactions of skin
- Basic immunology of skin diseases
- Disorders of keratinization and epidermal proliferation

- Disorders affecting skin appendages, hair, nail, sebaceous glands, sweat glands and apocrine glands etc.
- Neoplastic disorders of skin
- Genodermatosis
- Vesiculo bullous diseases, e.g. pemphigus, pemphigoid, erythema multiforme, dermatitis herpetiformis etc.
- Dermatitis:- exogenous – contact dermatitis, patch testing, endogenous – atopic acquired endogenous nummular
- Disorders of pigmentation
- Disorders of collagen and connective tissue
- Disorders of hair, nail, sweat glands, sebaceous glands, apocrine glands, mastocytosis etc.
- Disorders of mucous membranes, stamotological disorders
- Disorders involving genitalia
- Disorders due to physical agents, heat, cold, light, radiation etc.
- Disorders due to chemical agents – reactions to chemicals, occupational dermatosis

- Autoimmune connective tissue disorders
- Lichen planus and lichenoid eruptions
- Pyoderma
- Fungal infections-superficial and deep
- Viral infection
- Parasitic infestations, insect bites etc.
- Infections with detailed knowledge of Leishmaniasis, leprosy, tuberculosis venereal disease.
- Nutritional diseases – protein and vitamin deficiencies
- Lipoidosis
- Dysproteinemias and agamma glubulinemias etc.
- Carcinoid syndrome
- Glycolipid lipoidosis
- Calcinosis cutis
- Histiocytosis
- Dermatoses of pregnancy
- Allergic disorders
- Anaphlaxis – urticaria / angioedema, serum sickness, reactions to drugs etc.
- Diseases of veins, arteries and lymphatics draining the skin
- Laser therapy

- Disorders of connective tissue and subcutaneous fat
- Regional dermatoses affecting
- Lips and oral cavity
- Genital and perianal area
- Umbilicus etc.

Venereal Disorders

- Gonococcal uretheritis and complications
- Lymphogranuloma venereum
- Chancroid
- Granuloma inguinale
- Other disorders involving male and female genitalia
- Sexually transmitted diseases (STDs) and control
- STD and Reproductive health
- Epidemiology of STD'S

Paediatric Dermatology

- Skin diseases common/specific to infancy and childhood.
- Childhood manifestations of skin disease.
    - Papulosquamous diseases
    - Bullous diseases
    - Viral, bacterial and fungal infections of the skin

- Infestations of the skin
- Drug reactions
- Genodermatoses
- Developmental anomalies
- Neonatal skin disorders
- Disorders of cornification
- Hair and nail disorders
- Acne
- Skin malignancies
- Connective tissue diseases
- Granulomatous diseases
- Vascular anomalies
- Melanocytic lesions

- Paediatric specific pharmacology/prescribing.
- History taking from parents
- Skin biopsy techniques
- Potassium hydroxide examinations
- Tzanck examinations
- Hair mounts
- Fungal cultures
- Curettage and electrodesiccation

EVALUATION / EXAMINATION

Internal Assessment.

Internal assessment will be done after every two months from commencement of course.

In internal assessment theoretical and clinical knowledge will be tested by:-

* Theory / Viva voce / skill performance
* Punctuality and attitude of the Trainee will be recorded

EXAMINATION

The Examination of Diploma in Dermatology (D-Derm) will comprise of two parts. The format of examination shall be as follows:-

Eligibility to appear in Part – I Examination

a. Application by the Trainee recommended by the Supervisor.
b. Certificate by the Supervisor, countersigned by Dean PGMI that Trainee has regularly attended at least 75% of the basic science lectures, demonstration, tutorials, and practical or clinical work both in-patients and out-patients of Part–I education.

PART I EXAMINATION:

At the end of 1st Calendar Year, the Part-I examination will comprise of Basic Sciences Education papers relevant to the specialty of Dermatology will be of only theory MCQ types as under:

Paper I

Anatomy, Pharmacology 100 Marks
MCQ's 100 Questions (One Best Type)

Paper II

Physiology, Bio-Chemistry & Pathology 100 Marks
MCQ's 100 Questions (One Best Type)

Total= 200 Marks

Eligibility to appear in Part – II Examination

1. The Trainee has completed the prescribed period of training of the course.
2. The Trainee has passed the Intermediate Evaluation (Part-I Examination).
3. Certificate by the Supervisor that the Log Book of Trainee is complete in all aspects and is signed by the Co-Supervisor and the Supervisor. The original Log Book will be presented by the Trainee during Practical / Oral examination.
4. The application form for Part-II examination with recommendation of the Supervisor.

PART II EXAMINATION:

At completion of training, papers will comprise of Dermatology, consist of theory (MCQ & Short Essay) & clinical assessment.

Paper-I:-

MCQ's 100 Questions (One Best Type) 100 Marks

Paper-II:-

Short Essay 10 Questions (Ten Marks Each) 100 Marks

Total = 200 Marks

Note: - Trainees who pass theory examination are allowed to appear in viva Voce / practical examination.

Clinical Examination:-

Long Case	One Case	50 Marks
Short Case	Four Cases	80 Marks
Table Viva		60 Marks
Internal Evaluation		10 Marks

Total =200 Marks

It is compulsory to pass all the component parts of the each subject separately. In case of failure to obtain 50% marks in any of components of examination Trainee will have to appear in all components of examination again. In the remaining prescribed three attempts allowed.

The panel of examiner will be as follows:-

External Examiner **One**
(To be selected by University of Balochistan from the list of five examiners available)

Internal Examiner **Two**
(From the faculty of BMC)

LOG BOOK.

Log book should include adequate number of diagnostic and therapeutic procedures observed and performed the indications for the procedure, any complications and the interpretation of the results, routine and emergency management of patients, case presentations in CPCs, journal club meetings and literature review.

Log Book will have 5% weightage in final examination.

Proposed Format of Log Book is as follows:

Trainee's Name: _____

Roll No. _____

The above mentioned procedures shall be entered in the log book as per format

PROCEDURES PERFORMED

S #	Date	Name of Patient, Age, Sex & Admission No	Diagnosis	Procedure Performed	Supervisor's Signature

EMERGENCIES HANDLED

S #	Date	Name of Patient, Age, Sex & Admission No	Diagnosis	Procedure / Management	Supervisor's Signature

CASE PRESENTED

S #	Date	Name of Patient, Age, Sex & Admission No	Case Presented	Supervisor's Signature

SEMINAR / JOURNAL CLUB PRESENTATION

S #	Date	Topic	Supervisor's Signature

EVALUATION RECORD

(Excellent, Good, Adequate, Inadequate, Poor)

At the end of the rotation, each faculty member will provide an evaluation of the clinical performance of the fellow.

S #	Date	Method of Evaluation (Oral, Practical, Theory)	Rating	Signature

- Log Book will be signed by the supervisor / Co- Supervisor regularly.
- Log Book completion is must before the Trainee Final examination forms are signed.
- Log Book should be used in Practical / Clinical Examination at viva voce table or at TOCS cabin.

LEAVE.

The postgraduate trainee medical officers will be entitled to avail the leave as per S&GAD and postgraduate studies schedule, after the recommendation of their supervisor and approval of the Registrar PGMI, Quetta.

RECOMMENDED BOOKS

- Rook Wilkinson Text Book of Dermatology.
- Fitz Patric Dermatology in General Medicine.
- Andrews Text Book of Dermatology.
- Atlas: Anthony Duviviier Atlas of Dermatology.

JOURNAL

- Journal of the American Academy of Dermatology (JAAD).
- Archives of Dermatology.
- British Journal of Dermatology.

TRAINING SITE.

- Post Graduate Medical Institute, Quetta.
- Sandeman (P) Teaching Hospital, Quetta.
- Bolan Medical Complex Hospital, Quetta.

FACULTY MEMBERS

PROFESSOR.

Dr. Syed Shamsuddin MBBS, FCPS

ASSISTANT PROFESSOR.

Dr. Sara Inayat MBBS, FCPS

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