In the name of God, the Beneficent, the Merciful

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INTRODUCTION

The objective of the Postgraduate Medical Institute is to promote the Postgraduate Medical Education amongst the doctors by designing postgraduate medical studies programs in Balochistan keeping in view the provincial 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. Beside clinical sciences the institute is also running Postgraduate training programs in Basic Medical Sciences.

The Postgraduate Medical Institute possesses all the relevant learning facilities like qualified and well trained faculty, teaching hospitals, libraries, lecture halls, clinocopathological conference halls, laboratories, audiovisual aids, internet access, etc.

The Postgraduate 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 Oral Surgery (DOS) regarding eligibility criteria for admission to the course details of training program, Syllabus, Objective of the training program and format of examination.

ELIGIBILITY CRITERIA FOR D.O.S COURSE:

Requirements for Admission in Diploma in Oral Surgery (DOS) course session 2013-15

- BDS or equivalent qualification registered with the PMDC.
- One year House job in a teaching hospital six.
- 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 Oral Surgery (D.O.S) 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:

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

AIMS AND OBJECTIVES OF THE COURSE

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

OBJECTIVES

At the end of training in Diploma in Oral Surgery, a trainee doctor should be able to:

- Take a comprehensive and pertinent history of a patient presenting with related complaints
- Perform detailed physical examination in a rational sequence that is both technically correct as well as methodical
- Elicit physical signs without discomfort to the patient.
- Evaluate patients in the setting of outpatients department, hospital wards and emergency.
- Order a set of relevant investigations considering availability, diagnostic yield, cost-effectiveness, side effects, and implications for management

- Comprehend Community Indicators related to individual's health.
- Aware of and can apply national and international guidelines for treatment and assessment.
- Counsel patients and relatives in patient's preferred language in elective and emergency situations in keeping principles of good communication skills, empathy and empowerment of patients.
- Exhibit emotional maturity and stability, integrity, ethical values and professional approach, sense of responsibility in day-to-day professional activities
- Take proper informed consent for physical examination and ensure confidentiality and appropriate environment for intimate physical examination.
- Act as an independent specialist at community/ Tehsil and District Headquarter Hospital.
- Show initiative and become lifelong self-directed learners tapping on resources including clinical material, faculty, internet and on-line learning programmes and library.

SYLLABUS

PART-I SYLLABUS

Basic Sciences

The outline of various topics given in this syllabus is a guide on what at the moment are considered to be important topics which the Trainee is expected to know. This is to help both the Trainee and the examiner in defining the minimum boundaries of D.O.S Examination.

ANATOMY

General Anatomy

- To know the principles of general anatomy with special reference to detail anatomy of head and neck
- To know the basic knowledge of nerve and blood supply and lymphatic system of the oro-facial structures,
- To understand the vascular diseases, disorders of growth, disorders of bone and calcium metabolism
- To have the clear concepts of principles of growth and development of the body and with special reference to head and neck region
- To have clear knowledge of systemic diseases in relation to dentistry, their oral manifestations, applied basic science relevant to clinical management.

- To have clear knowledge of Skin, Subcutaneous tissues, Bones, Cartilages & Ossification
- To have clear knowledge of Muscles, Joints & related structures
- Systemic diseases in relation to dentistry, their oral manifestations, applied basic science relevant to clinical management.

Gross Oral Anatomy

- Mandible, relations, attachments and structure passing through the mandibular canal.
- Maxilla, relations, attachments
- Vestibule, lips, cheeks, oral cavity
- Hard and soft palate, structure, blood supply, venous drainage and nerve supply. Movements and muscles of soft palate.
- Tongue, structure, relations, muscles, blood supply, venous drainage and nerve supply.
- Structure of tooth, blood supply & nerve supply of teeth.
- Nose and paranasal sinuses, structure, relations, blood supply, venous drainage and nerve supply.
- Larynx, structure, relations, muscles, blood supply, venous drainage and nerve supply.
- Pharynx, structure, relations, muscles, blood supply, venous drainage & nerve supply.
- Face, skin, superficial fascia, muscles of facial expression, blood supply, venous drainage & nerve supply.
- The parotid region including parotid gland its duct, relations, blood supply, venous drainage & nerve supply.
- Temporal & infratemporal region.

- TMJ, structure, relations, movements, muscles of mastication, blood supply, venous drainage and nerve supply
- Submandibular region, including submandibular and sublingual glands, their structure, relations, blood supply, venous drainage and nerve supply.
- Blood vessels, course, branches & distribution. (Branches of internal carotid artery supplying in the region of oral cavity & major draining veins)
- Radiographic anatomy of tooth and its supporting structures.

Head & Neck

- Skull & cervical vertebrae.
- Joints of the head & neck.
- Scalp, its extent, structure, blood supply, venous drainage & nerve supply.
- Deep cervical fascia.
- Triangles of the neck, boundaries & contents.
- The cerebral dura mater, venous sinuses, their relations, tributaries & draining channels.
- Thyroid & parathyroid glands, structure, relations, blood supply, venous drainage & nerve supply.
- Cervical plexus.
- Prevertebral region & its muscles.
- Trachea, structure, relations, blood supply, venous drainage & nerve supply.
- Blood vessels, course, branches & distribution. (Branches of major vessels supplying in the head & neck region)
- Lymph nodes of head & neck. (Lymphatic drainage)

Neuro Anatomy

- Brief introduction of brain & spinal cord, its blood supply.
- Brief description of medulla, pons, mid brain with emphasis to cranial nerves nuclei.
- Basal ganglia.
- White matter, cerebral hemispheres.
- Functional areas of cerebral hemispheres.
- Introduction to autonomic nervous system.
- Cranial nerve nuclei, location, type, course & distribution including olfactory, trigeminal, facial, glossopharyngeal, accessory & hypoglossal nerves with special emphasis to the 5th and 7th cranial nerves.

General Embryology

- Gametogenesis.
- Ovulation.
- Fertilization.
- Implantation.
- Bilaminar germ disc.
- Trilaminar germ disc.
- Embryonic and Fetal developmental stages till birth.
- Placenta and Fetal membrane.
- Twin pregnancy.
- Hereditary and environmental causes of abnormal development
- Principles of prenatal diagnosis.

Oral Embryology

- Development of:
  - Craniofacial skeleton.
  - Viscrocranium, chondrocranium & neurocranium.
  - Naso-maxillary complex and Palate.
  - Brachial arches, Pouches, & Clefts.
  - Thyroid & parathyroid glands.
  - Thymus.
  - Salivary glands (Parotid, submandibular & sublingual glands)
  - Mandible.
  - Temporo Mandibular Joint
  - Oral cavity.
  - Tongue.
  - Tooth (Early & late development including crown and root)
  - Occlusion and Dentition
  - Enamel (Amelogenesis)
  - Dentin (Dentinogenesis)
  - Cementum (Cementogenesis)
  - Pulp.
  - Periodontal ligament.
  - Oral mucosa & gums.
  - Epithelial attachment or junctional epithelium.
  - Age changes & clinical considerations in different dental tissues.
  - Oesophagus & stomach briefly.
  - Skin & muscles of face.
  - Common anomalies associated with aforementioned topics.

General Histology

- Basic histology and staining techniques, Slide preparation, Use & handling of light microscope,
- Basic concepts of animal selection, Animal laboratory procedures & their handling.
- Tissue preparation techniques
- Ground sectioning of teeth and bone,
- Cell structure and its organelles, The cell cycle & apoptosis,
- Epithelium & its types,
- Connective tissue & its types, Adipose tissue, Cartilage, Bone, Nerve tissue, Muscle tissue, Tissue components of the vascular wall, Blood cells & Lumphoid tissue

Oral Histology

Histology of oral mucosa, lip, tongue, palate, tonsils and pharynx

- Description of different types of Oral mucosa, various types of tongue papillae,
- Basic process of Keratinization and epithelial cell turnover.
- Histology of Gingival and epithelial Attachment
- Description of the histological structure of the gingival & mechanism of attachment of the gingival to the surface of the tooth. Mucogingival muco cutaneous junction.

PHYSIOLOGY

Description of basic principles of oral physiology, understanding of structural & metabolic biochemical processes related to:

- Teeth
- Saliva
- Pain
- Taste
- Smell
- Speech
- Oral mucosa
- Mastication and Swallowing
- Gingival and periodontal ligament
- Dental plaque
- Effects of hormones, vitamins & micronutrients on oral tissues
- Repair of oral tissue, wound healing and aging
- Orthodontic tooth movement
- Mechanism of tooth eruption
- Bone: growth and development of craniofacial skeleton and healing of bone fractures
- Immunology
- Stress and anxiety

BIOCHEMISTRY

- Membrane biochemistry and signal transduction
- Gene expression and the synthesis of proteins
- Bioenergetics; fuel oxidation and the generation of ATP
- Enzymes and biologic catalysis
- Tissue metabolism

VITAMINS

- Classification, components, sources, absorption and functions (physiological and biochemical role).
- Daily requirements, effects of deficiency and hypervitaminosis.
- Salient morphologic features of diseases related to deficiency or excess of vitamins.

MINERALS

- Sources of calcium, phosphorous, iron, iodine,
- fluorine, magnesium and manganese.
- Trace elements and their clinical importance.
- Absorption and factors required for it.
- Functions and fate.

METABOLISM

- Metabolic rate and basal metabolic rate
- Factors influencing metabolic rate, principles of measurement.

CARBOHYDRATES

- Classification and dietary sources.
- Digestion, absorption and utilization of dietary carbohydrates.
- Protein metabolism
- Fluid and electrolyte balance
- Renal and urinary system
- Hepatobiliary system
- Endocrine system
- Cardiac markers in myocardial infarction
- Diagnostic enzymology 50 o Body fluids
- Body chemical analysis
- Tumor markers
- Therapeutic drug monitoring

PHARMACOLOGY

- Introduction to Pharmacology
- Mechanisms of Drug Action
- Pharmacokinetics
- Pharmacokinetic Process
- Absorption
- Distribution
- Metabolism

- Desired Plasma Concentration
- Volume of Distribution
- Elimination
- Elimination rate constant and half life
- Creatinine Clearance
- Drug Effect
- Beneficial Responses
- Harmful Responses
- Allergic Responses
- Drug Dependence, Addiction, Abuse and Tolerance
- Drug Interactions
- Drug use in pregnancy and in children
- Autonomic Pharmacology

PATHOLOGY

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 of chronic inflammation, non-granulomatous and granulomatous, and their causes

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

PART-II SYLLABUS

Clinical Components

- The management of medically compromised patients seeking surgical treatment including the knowledge of the effects of medication the patient is taking and the oral manifestations of systemic diseases
- The identification of preventive, conservative and orthodontic procedures required prior to surgical treatment.
- Genetics / Diseases of Genetic origin.

- Theory and practices of management procedures involved in the surgical rehabilitation of patients presenting with amelogensis and dentinogenesis imperfecta, agenesis of teeth hypodontia and acquired tooth surface loss due to attrition and erosion etc.
- Bio-medical statistics and computing procedures.
- Knowledge of the important drug interaction, and local and systemic effects of medication.
- The principal of resuscitation of the critically ill, including such procedures as closed Cardiac massage and assisted ventilation.
- Blood and fluid replacement
- Parenteral nutrition.
- Principles and techniques of conventional and special diagnostic procedures.
- Sterilization methods and control of cross infections.
- Peri-apical Pathology, radiographic interpretation and surgical management.
- Composition and Pharmacology of local and general anesthetic agents.

- Understanding of intra-venous sedation and usage of intra-venous sedation.
- Facial pain, causes and management.
- Knowledge of oral pathology and oral medicine.
- The understanding of the applied anatomy, physiology, pathology, embryology and preservation of the hard and soft oro-facial structures.
- Improvement of manual dexterity and skills required in performing the laboratory and clinical procedures.
- The Trainee shall have the knowledge of:-
  i. Child patient management.
  ii. Handicapped patient management.
  iii. Radiology.
  iv. Immunology.
  v. Management of emergencies in dental practice.
- Biomechanics and applied Chemistry of Dental Materials.
- Biology of Tooth movements.
- Education, Teaching and Communication skills.
- Anaesthesia and its complications.
- Oral Pathology.

ORAL SURGERY .

- Maxillo-facial prosthesis for rehabilitating patients with acquired and congenital defects as well as surgical splints, speech prosthesis, radiation appliances and oral orthopaedic appliances.
- Principles and procedures related to pre-operative preparation of the mouth.
- Principles of oral surgery.
- Complicated extractions and surgical removal of buried or broken roots.
- Assessment of third molars, impaction, surgical techniques and possible complication.
- Assessment for removal and transplantation of impacted canines.
- Dento-Cervical-Facial infection and management
- Cysts of oral cavity, classification, pathology and methods of treatment.
- Fractures of facial bones, Principles and methods of treatment.
- First aid management of dental and maxillo-facial injuries.
- Pre-Prosthetic surgery.

- Salivary gland diseases, clinical presentation, pathology, Investigation, management and surgical procedures.
- Temporo-mandibular joint disorders, Presentation assessment conservative and surgical treatment.
- Benign and malignant tumors of the facial bones and soft tissues their epidemiology, Pathology, treatment, rehabilitation and complication.
- Bone grafting techniques and reconstruction with local flaps.
- Differential diagnosis of swelling of the neck.
- Relevant knowledge of ENT, EYE Diseases and Neurological Disorders, Minor plastic surgical procedures diagnostic radiology
- Knowledge of local and general anesthesia for dental potions
- Knowledge of implant dentistry

EXAMINATION / EVALUATION.

The Diploma in Oral Surgery (D.O.S) Examination will comprise of two parts. The format of examination shall be as under:-

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.

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 Oral Surgery of only theory MCQ types as under:

Paper I

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

Paper II

Physiology, Pathology & Bio-Chemistry 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:

Paper-I:-

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

Paper-II:-

Short Essay 10 Questions — 100 Marks
(Ten Marks Each) — **Total = 200 Marks**

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

Note: - TMO's who pass theory examination are allowed to appear in viva / practical examination.

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 three 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.

TRAINING SITE

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

RECOMMENDED BOOKS.

1. Larry J. Paterson (Vol 1 & II).
2. Principles of Oral Surgery (Gallib / More).
3. Minor Oral Surgery by Jeffery
4. Text book of Maxillo-fac-surg by Robert Valkar

JOURNALS.

1. British Dental General.
2. American General of Oral and Maxillo-fac-surgery.
3. International General of Oral Maxillo-fac-surgery.
4. Pakistan General of Oral & Dental Surgery.

FACULTY MEMBERS.

PROFESSOR:

1. Prof. Dr. Zia-ul-Haq BDS, DDS,MCPS,MDS (oral Surgery)
2. Prof. Syed Abdul Rauf Shah BDS, M.S (oral Surgery)

ASSOCIATE PROFESSOR:

1. Dr. Mirza Khan Tareen BDS, MCPS (oral surgery)
2. Dr. Asma Upal BDS, FCPS (oral surgery)

ASSISTANT PROFESSOR:

1. Dr. Jehangir Ahmed BDS, FCPS (oral surgery)
2. Dr. Nizam ul Mulk BDS, FCPS (oral surgery)

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