



In the name of God, the Most Gracious, the Most 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, clinicopathological 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 Cardiology (Dip Card) 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 DIPCARD COURSE:

Requirements for Admission in Diploma in Cardiology (Dip Card) 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 the specialty of Cardiology / Medicine & Allied.
- 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 program for Diploma in Cardiology (Dip Card) is two years (02) in this duration the trainees are suppose to attend the formal lectures in the relevant sciences but simultaneously trainees start their clinical programme which is specially designed for acquisition of knowledge, attitude and skill in the relevant field. Two year training program will includes lectures, tutorials, clinicopathological conferences, literature review, clinical work, clinical presentations, and procedural skill. The duration of course is divided into three terms each consisting of (29) weeks.

Two years diploma in cardiology will consist of basic knowledge of cardiovascular system including anatomy, physiology, pharmacology, Biochemistry, Pathology, diagnostic techniques and management of cardiovascular disorders. To deliver good clinical training and sound theoretical knowledge in a systematic way the duration of the course has been divided in three terms, each consisting of 29 weeks.

FIRST TERM **(29 Weeks)**

This term includes both theory lectures and clinical training.

THEORETICAL LECTURES

First part of the curriculum comprising of basic sciences i.e. anatomy, physiology, pathology, biochemistry and pharmacology of cardiovascular system will be covered

1. Anatomy .
2. Physiology and pathology
3. Pharmacology
4. Biochemistry.

CLINICAL TRAINING

The clinical training will start from the very first day of the course. It will include daily morning meetings, clinical examination and case discussion in OPD and ward round and learning of diagnostic techniques in various diagnostic units. For the purpose of proper training and close supervision the students will be divided in to groups and are posted in various wards and cardiac laboratory according to the following schedule:-

- Cardiac wards
- Cardiac surgery wards

- Coronary care unit
- Out patient department
- Emergency room
- ETT room
- Echo room
- Cardiac Cath lab.

SECOND TERM
(29 Weeks)

THEORETICAL LECTURES

Part II of the curriculum which includes various invasive and non invasive diagnostic techniques will covered

1. ECG and Holter.
2. Stress ECG.
3. Echo Cardiogram
4. Radiology.
5. Nuclear cardiology CT scan and MRI.
6. Lab. Investigations.
7. Caroliac Catheterization and angiography.

CLINICAL TRAINING

Clinical training in this term will continue in a similar pattern as in the first term.

THIRD TERM (29 Weeks)

THEORY LECTURES

Cardiovascular medicine will be taught to the students in term. This will include etiology, epidemiology, clinical findings, diagnosis and management of cardiovascular diseases.

CLINICAL TRAINING

This will continue in this term as was in first and second terms.

AIMS AND OBJECTIVES OF THE COURSE

The aim of 02 years diploma programme in Cardiology 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 Cardiology, 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

ANATOMY

- 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.
- The surface structures of the heart
- Relation to other structure within the thorax
- The thorax: the thoracic wall & thoracic cavity
- Surface anatomy of the thoracic wall and thoracic cavity
- Openings of the thorax

Structure Of The Thoracic Wall

- Anterior chest wall
- Posterior chest wall

- Lines of orientation
- Sternum
- Costal cartilages
- Ribs
- Diaphragm
- Intercostal spaces
- Intercostal muscles
- Intercostal arteries and veins
- Intercostal nerves
- Suprapleural membrane
- Endothoracic fascia
- Major thoracic arteries and veins
- Muscles of the thoracic wall

The Thoracic Cavity

- Basic anatomy
- Mediastinum
- Contents of the anterior, posterior, middle, superior and inferior mediastinum
- Relations of the contents of the mediastinum
- Pleurae
- Blood, lymphatic and nerve supply of the pleura

Heart

- External anatomy
- Coronary (atrioventricular) sulcus
- Anterior and posterior interventricular sulci
- Apex beat of the heart
- The general structure of arteries, veins, and microcirculation

Valves

- Atrioventricular (AV)
- General description
- Anulus fibrosus
- Valve leaflets (cusps)
- Chordae tendineae
- Papillary muscles
- R AV valve (tricuspid)
- L AV valve (mitral or bicuspid)
- Semilunar
- Auscultation points for the valves of the heart.

3 Cusps

- Pulmonic
- Aortic
- Stenosis
- Insufficiency and regurgitation

Wall

- Epicardium
- Myocardium

Cardiac Muscle

- Purkinje fibers
- Endocardium
- Trabeculae carnae
- Pectinate muscles

Conducting System

- Sinoatrial (SA) node (pacemaker)
- Internodal pathways
- Atrioventricular (AV) node
- His Bundle

Vessels Entering Heart

- R atrium
- Superior vena cava (SVC)
- Inferior vena cava (IVC)
- Coronary sinus
- L atrium
- 2 r and 2 L pulmonary veins
- Vessels leaving heart
- R ventricle
- Pulmonary trunk
- R and L pulmonary AA
- L ventricle
- Aorta

Coronary Circulation

- R coronary artery
- Acute marginal branch
- Posterior interventricular branch (posterior descending)
- L coronary artery
- Anterior interventricular branch (left anterior descending)
- Diagonal branches
- Septal branches
- Venous return
- Great cardiac vein
- Coronary sinus
- Tributaries

Flow of Blood through Pulmonary Circulation and to Various Regions of Body through Systemic Circulation.

- Lymph Drainage and Nerve supply of the Heart
- The lymphatic system
- Overview
- Defence
- Fluid connection
- Blood connection
- Lymphatic vessels
- Main arteries and veins of head, neck
- Heart/lungs connection

Upper respiratory tract

- Blood, lymphatic and nerve supply of the larynx, trachea and bronchi
- Muscles of the larynx and trachea

Lower respiratory tract

- Bronchopulmonary segments
- Lungs
- Bronchioles, alveoli
- Blood supply, lymph drainage and nerve supply of the lungs

Salient Features Of The Embryology Of The Cardiovascular System

- 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.
- Characteristics of the cardiac muscle contraction, duration, refractory period, pacemaker and rhythmicity.

- Specialized conducting tissue of the heart.
- Microscopic structure of the heart including conducting system
- Development of the heart and vascular system and common developmental anomalies such as septal defects, patent ductus arteriosus, Fallot's tetralogy and coarctation of aorta.
- General structural features of atria, ventricles, conducting tissues, and valves of the heart and their relationship to cardiac function. Blood supply of heart.
- Structure and functions of the arteries, arterioles, capillaries and veins
- The embryonic period and foetal development of the cardiovascular and respiratory systems
- Cardiovascular and respiratory changes at birth

PHYSIOLOGY

- Cellular membrane function
- Membrane structure and function
- Membrane transport of non-electrolytes (diffusion and osmosis)
- Membrane transport of electrolytes (membrane potentials)
- Physiologic anatomy of the heart, the atria, ventricles, pericardium and myocardium
- Properties of cardiac muscle
- Cardiac muscle: electrical and mechanical properties.
- Metabolism
- Origin of the HR beat, the electrical activity of the heart (normal and findings is cardiac and systemic diseases)

- Origin and propagation of cardiac impulse
- Mechanism of production of heart sounds, their location, characters and relationship with the cardiac cycle.
- The cardiac cycle
- Pressure change during cardiac cycle
- The stroke volume and stroke out-put, cardiac out-put
- Regulation of cardiac function.
- The normal electrocardiogram and characters of its various components.
- Significance of its parts, voltage and calibration, principles and methods of recording, electrocardiographic leads and general information obtained from ECG.
- Physiology and abnormalities of apex beat.
- Cardiac output, amount, distribution, measurement, control, cardiac index and cardiac reserve.
- The special excitatory and conductive system of the heart and their control
- Abnormalities of the cardiac rhythms
- Echocardiography, exercise tolerance test and the basis of ETT.
- Patho-physiology of cardiac failure, valvular heart disease and hypertension. Interpretation of data of diagnostic tests.
- Functional classification of blood vessels
- Peripheral circulation: pressure and resistance
- The arterial blood pressure
- The arterial pressure pulse
- The physiology of the veins
- The jugular venous pulse
- The physiology of the capillaries

- Lymph and lymphatics
- Arterial and arteriolar circulation capillary circulation, lymphatic circulation and venous circulation
- Laws of haemodynamics governing flow, pressure and resistance in blood vessels
- Vasomotor system and control of blood vessels
- Characters of arterial pulse and venous pulse
- Significance of central venous pressure.
- Hypertension
- Mechanism of haemorrhage and shock
- Coronary, cutaneous, splanchnic and peripheral circulation.
- Cardiovascular regulatory mechanisms local regulation
- Endothelium; systemic regulation by hormones and systemic regulation by nervous system.
- Circulation through special organs: organs: coronary circulation, cerebral circulation and pulmonary circulation.
- C.V homeostasis in health and diseases: exercise, gravity, shock, hypertension and heart failure
- Pathophysiology and classification of edema
- The cutaneous circulation, coronary circulation, cerebral circulation and pulmonary circulation
- Hemorrhage or bleeding, circulatory shock
- Respiration, gas exchange & diffusion
- Perfusion and ventilation/perfusion matching
- Cardiopulmonary integration
- The blood. Major cellular and fluid components
- The blood: plasma: clotting, fibrinolysis
- Water, electrolytes (sodium, potassium, calcium) and their distribution

- Mechanism of edema
- Isotonic, hypertonic, and hypotonic, alterations in sodium and water balance
- Acid - base imbalances: pathophysiology of acidosis and alkalosis
- Heat exchange, filters and reservoirs

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. Glucose tolerance test.
- Glycogenesis, glycolysis, gluconeogenesis, glycogenolysis, processes with the steps involved and effects of hormones.
- Citric acid cycle, steps involved, its significance and the common final metabolic pathway.
- Hexose monophosphate shunt: mechanism and significance. Lipids
- Classification of simple, derived and compound lipids.
- Dietary sources.
- Digestion, absorption, utilization and control.
- Fatty acid oxidation with steps involved.
- Ketogenesis and its significance.
- Lipotropic factors and their actions. Lipoproteins, types and importance. Proteins And Amino Acids
- Classification and dietary sources of proteins.
- Digestion, absorption, utilization and control.
- Fate of amino acids.
- Urea formation with steps involved.
- Functions and effects of deficiency. Nucleoproteins:
- Structure and metabolism.
- Pigment Metabolism
- Basic concept of endogenous and exogenous pigments.
- Causes of pigmentation and depigmentation.

- Disorders of pigment metabolism, inherited disorders, acquired disorders from deficiency or excess of vitamins, minerals, fats, carbohydrates, proteins etc. Balanced Diet
- Requisites of an adequate diet.
- Role of carbohydrates, fats, proteins, minerals, vitamins and water in diet.
- Principles of nutrition as applied to medical problems Biotechnology and concepts of molecular biology with special emphasis on use of recombinant DNA techniques in medicine and the molecular biology of cancer

PHARMACOLOGY

- **Introduction to pharmacology**
 - Receptors
 - Mechanisms of drug action
 - Drug-receptor interactions
- **Pharmacokinetic process**
 - Absorption
 - Distribution
 - Metabolism
 - Elimination
- **Drug effect**
 - Beneficial responses
 - Harmful responses
 - Allergic responses
 - Drug dependence, addiction
 - Abuse and tolerance
- **Dosage forms and routes of administration**
 - Oral routes
 - Parenteral routes
 - Topical routes

- Digitalis.
- Inotropic and vesopresser agents.
- Diuretics.
- Alpha and beta blockers.
- Calcium channel blockers.
- ACE inhibitors.
- Angiotensin receptor blockers.
- Antianyrhmic agents.
- Antiplatelet agents.
- Anticoagulants.
- Thrombolytic agents.
- Parenteral vasodilators.
- Hypolipidemic agents.

PATHOLOGY

- **General Pathology**

- **Cell Injury and adaptation**

- Cell Injury
- Reversible and Irreversible Injury
- Fatty change, Pigmentation, Pathologic calcification
- Necrosis and Gangrene
- Cellular adaptation
- Atrophy, Hypertrophy,
- Hyperplasia, Metaplasia, Aplasia

- **Inflammation**

- **Acute inflammation**

Vascular changes, Chemotaxis,
Opsonization and Phagocytosis

Enlist the cellular components and chemical
mediators of

acute inflammation

Differentiate between exudates and transudate

- **Chronic inflammation**
Etiological factors, Granuloma
- **Cell repair and wound healing**
 - Regeneration and Repair
 - Healing
 - steps of wound healing by first and second intention
 - Factors affecting healing
 - Enlist the complications of wound healing
- **Haemodynamic disorders**
 - Define and classify the terms
 - Edema, Haemorrhage,
 - Thrombosis, Embolism, Infarction & Hyperaemia
 - Define and classify Shock with causes of each.
 - Describe the compensatory mechanisms involved in shock
 - Describe the pathogenesis and possible consequences of thrombosis
 - Describe the difference between arterial and venous Emboli
- **Neoplasia**
 - Dysplasia and Neoplasia
 - Differences between benign and malignant neoplasms
 - Enlist the common etiological factors for neoplasia
 - Define and discuss the different modes of metastasis
 - TNM staging system and tumor grade
- **Related Microbiology**
 - Role of Microbes In Various Cardiovascular Diseases
 - Infection source

- Main Organisms That Cause Cardiovascular And
- Pulmonary Diseases
- Nosocomial Infections
- Bacterial Growth and Death
- Pathogenic Bacteria
- Vegetative Organisms
- Spores
- Important Viruses
- Important Parasites
- Sterilization and disinfection
- Infection Prevention
- Immunization
- Personnel Protection From Communicable Diseases
- Use Of Investigation And Procedures In Laboratory

PART-II SYLLABUS

EXAMINATION OF CARDIOVASCULAR SYSTEM

- History.
 - History taking.
 - Importance of history.
- Physical symptoms of cardiac diseases.
- Physical examination of cardiovascular system.
 - General appearance.
 - Juglar venous pressure (JVP)
 - Arterial pulses.
- Examination of heart.
 - Inspection.
 - Palpation.
 - Cardiac auscultation.

LABORATORY INVESTIGATIONS.

- Routine chemistries.
- CBC.
- Cardiac enzymes.
- Troponins and myoglobin.

ELECTROCARDIOGRAPHY

- Electrophysiology of heart.
- Basic electrocardiography.
- Standard ECG leads.
- Normal ECG.
- Electrocardiographic abnormalities.

HOLTER MONITORING

STRESS ECG

PHARMACOLOGIC STRESS ECG TESTING

ECHOCARDIOGRAPHY

- Principals of echocardiography.
- M-Mode echocardiography.
- 2 D-Echocardiography.
- Doppler echocardiography.
- Echocardiography in cardiac diseases.

RADIOLOGICAL EXAMINATION OF HEART AND LUNGS

- Cardiovascular silhouette, cardiac chambers and aorta.
- The pulmonary vasculature.
- Lung fields.
- Thoracic cage.
- Radiological appearance in congenital and acquired cardiac diseases.

- ❖ **Phonocardiography.**
- ❖ **Cardiac Catheterization**
- ❖ **Coronary Angiography**
- ❖ **Left Ventriculography**
- ❖ **Nuclear Cardiology**
- ❖ **CT Scan & MRI**

CONGENITAL HEART DISEASES.

- Atrial septal defects.
- Ventricular septal defects.
- Patent ductus arteriosus.
- Anomalous pulmonary venous connection.
- Eisenmenger syndrom.
- Ebstein's Anomaly.
- Coarctation of aorta.
- TGA and corrected TGA.
- Fallot's tetralogy.
- AV canal abnormalities.
- Truncus arteriosus.
- Congenital complete AV block.
- Cardiac malpositions.

VALVULAR HEART DISEASES.

- Mitral stenosis.
- Mitral regurgitation.
- Mitral valve prolapse.
- Aortic stenosis,
- Aortic regurgitation.
- Tricuspid stenosis and regurgitation.
- Pulmonary stenosis and regurgitation.
- Prosthetic valves.
- Infective endocarditis.

MYOCARDIAL ISCHEMIA AND INFARCTION.

- Pathogenesis of atherosclerosis.
- Risk factors for coronary artery disease.
- Prinzmetal's variant angina.
- Exertional chest pain.
- Unstable angina.
- Acute coronary syndrome.
- Pathology, pathophysiology, and morphology of acute myocardial infarction,
- Diagnosis, quantification and management of acute myocardial infarction.
- Complications of acute myocardial infarction.
- Right ventricular infarction.
- Silent myocardial ischemia.

MYOCARDIAL AND PERICARDIAL DISEASES.

- Etiology and pathophysiology of cardiac failure.
- Management of cardiac failure.
- Myocarditis.
- Hypertrophic cardiomyopathy.
- Dilated cardiomyopathy.
- Restrictive cardiomyopathy.
- Pericarditis.
- Constrictive Pericarditis.
- Pericardial effusion and tamponade.
- Acute pulmonary oedema.
- Cardiogenic shock.

SYSTEMIC ARTERIAL HYPERTENSION

- Epidemiology.
- Etiology and pathology.

- Primary and secondary hypertension.
- Isolated systolic hypertension.
- Management of systemic arterial hypertension.

RHYTHMIC AND CONDUCTION ABNORMALITIES.

- Ventricular arrhythmias.
- Supraventricular arrhythmias, diagnosis and treatment.
- Atrioventricular blocks, diagnosis and treatment.
- Bundle branch blocks.
- Temporary and permanent pacing.
- Implantable defibrillators.

MISCELLANEOUS CONDITIONS.

- Primary pulmonary hypertension.
- Secondary pulmonary hypertension.
- Cardiac tumors.
- Dissecting aortic aneurysm.
- Acute rheumatic fever.
- Diabetes and heart.
- Connective tissue diseases and heart.
- Endocrine diseases and heart.
- Cor pulmonale.
- Pregnancy in cardiovascular diseases.
- Non-cardiac surgery in cardiac patients.
- Pulmonary embolism and infarction.
- Deep vein thrombosis.
- Peripheral vascular diseases.
- Cardiac diseases in patients with HIV infection.
- Preventive cardiology.

EXAMINATION / EVALUATION.

The Diploma in Cardiology (Dip Card) 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 Cardiology of only theory MCQ types as under:

Paper I

Anatomy & Pharmacology 100 Marks

Paper II

Physiology, Pathology & Biochemistry 100 Marks

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: Trainees who pass theory examination are allowed to appear in viva Voce / 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 Trainees 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
- Bolan Medical Complex Hospital Quetta.
- Sandeman (Prov :) Teaching Hospital Quetta.

RECOMMENDED BOOKS / JOURNALS.

1. Braunworld's Textbook of Cardiovascular Medicine "Heart Diseases".
2. Hurst book of Cardiology "The Heart".
3. Harmison Textbook of Medicine.
4. Feigenbaum Echocardiography.
5. Grossman's Cardiac Catheterisation and Angiography.
6. Grays' Anatomy R.J Last Anatomy.
7. Gyton's Textbook of Physiology.
8. Walter Israil book of Pathology.
9. Robbin's book of Pathology.
10. Goolman, Gilman Textbook of Pharmacology.

JOURNALS.

1. American Journal of Cardiology
2. American Heart Journal.
3. Circulation.
4. Journal of American College of Cardiology.
5. British Medical Journal.
6. Lancet.
7. New England Journal of Medicine.
8. British Heart Journal.
9. Journal of College of Physician's of Surgeons of Pakistan.

FACULTY MEMBERS.

ASSOCIATE PROFESSOR:

Dr. Mujeebullah Tareen MBBS, FCPS.

ASSISTANT PROFESSOR:

Dr. Jalal ud Din. MBBS, MCPS, FCPS

Dr. Abdul Ghaffar MBBS, MCPS, FCPS

SENIOR REGISTRAR:

Dr. Fazal-Ur-Rehman MBBS, MCPS, FCPS
