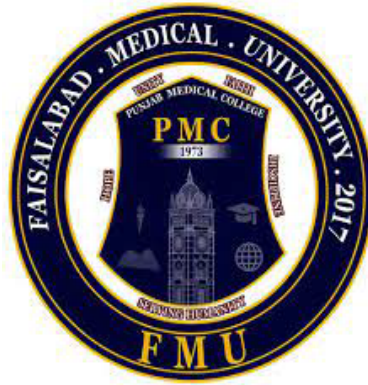


بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



**CURRICULUM / STATUTES/ REGULATIONS  
FOR 2 YEARS DIPLOMA PROGRAMME IN**

*Faisalabad Medical University*

*Faisalabad*

## Contents

Section A .....	4
VISION STATEMENT:.....	4
MISSION STATEMENT .....	4
STATUTES .....	5
Nomenclature.....	5
Diploma in Psychological medicine (DPM).....	5
Training Centers .....	5
Duration of Course .....	5
Course structure:.....	5
Section B: .....	6
Admission and Eligibility Criteria:.....	6
Required Documents: .....	6
Accreditation Related Issues Of The Institution.....	6
A. Faculty.....	6
B. Adequate resources .....	6
C. Library .....	6
Section C: .....	7
AIMS AND OBJECTIVES OF THE COURSE .....	7
AIM .....	7
LEARNING OBJECTIVES: .....	7
GENERAL OBJECTIVES .....	7
SPECIFIC LEARNING OUTCOMES .....	8
Content list:.....	9
Part I: .....	9
A : Basic science: .....	9
Anatomy:.....	9
Physiology: .....	11
Biochemistry .....	13
Pharmacology: .....	26
GENERAL PATHOLOGY: .....	27
B: Specialty Specific: .....	30

Part II: .....	32
Content List .....	32
Instructional Strategies.....	40
Section D:.....	41
Assessment Plan:.....	41
Part I Examinations: .....	42
Components of Part I Examination.....	42
Eligibility Criteria: .....	42
Declaration of Results.....	43
Part II Examination.....	43
Components of Part II Examination .....	43
Eligibility Criteria: .....	44
Declaration of Results.....	44
Clinical, TOACS/OSCE: .....	44
Declaration of Results.....	44
Section E .....	45
Award of Diploma In .....	45
Section F:.....	46
Log Book.....	46
Section G .....	47
Paper Scheme .....	47
Part I .....	47
written .....	47
Part II Examination .....	47
TOACS Station distribution:.....	53
Section H.....	55
Resources and references (books and other resource material) .....	55
Section I.....	57
List of authors and contributors .....	57

## **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**

Diploma in Psychological medicine (DPM)

## **Training Centers**

Department of Psychiatry & Behavioral Sciences Affiliated with Faisalabad Medical University,  
Faisalabad.

## **Duration of Course**

The duration of course shall be 2 years with structured training in recognized department as per university rules and curriculum

## **Course structure:**

The course is structured in two parts:

**Part I:** The candidate shall undertake the training in the basic sciences as per curriculum. 75% content will be uniform for all the specialties, approved by the Dean basic sciences and academic council, while 25% will be subject specific, provided and approved by the relevant department and academic council. At the end of 6-month, Part I Examination will be held by the examination department of Faisalabad medical University as per the table of specification in the basic medical Sciences subjects with same percentage of content from uniform and subject specific content as indicated above i.e. 75% and 25% respectively. All the candidates will attend classes in basic science departments as per the time table for 5 days(Monday-friday) and on Saturday they will attend the class in their respective specialty as per the time table provided by the university during first 6 months.

**Part II:** The candidate shall undertake training in the specialized department as per the curriculum. At the end of 2 years, Part II Examination will be held by the examination department of Faisalabad medical University as per the table of specification in the subject concerned.

## **Section B:**

### **Admission and Eligibility Criteria:**

Applications for admission to DIPLOMA will be invited through advertisement in print and electronic media and according to guidelines and rules approved by the Faisalabad Medical University

Candidates shall have MBBS or equivalent classification, valid PMDC registration, one year House job (Three year house job in relevant specialty will be preferred), secured pass percentage in entry test conducted by The Faisalabad medical university, qualify the interview successfully

### **Required Documents:**

1. Completed application Form
2. Copy of MBBS degree with mark sheets of Professional Examinations and certificate of number of attempts in Professional Examination
3. Copy of PMDC Registration certificate.
4. Certificate of completion of required experience.
5. Reference letters from two consultants, with whom the applicant has worked
6. Three latest passport size photographs

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

#### **A. Faculty**

Properly qualified teaching staff in accordance with the requirements of Pakistan Medical and Dental Council (PMDC).

#### **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).

## **Section C:**

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

#### **AIM**

The aim of two years Diploma programme in(Name of department) is to equip medical graduates with relevant professional Knowledge, skill and ethical values to enable them to apply their acquired expertise at health care institutions.

#### **LEARNING OBJECTIVES:**

##### **GENERAL OBJECTIVES**

DPM training should enable a student to:

1. Take a comprehensive and pertinent history of a patient presenting with psychiatric ailments
2. Perform detailed mental state examination in a rational sequence that is both technically as well as methodically correct
3. Elicit physical signs without discomfort to the patient
4. Evaluate patients in the setting of outpatient's department, hospital wards and in emergency
5. Order a set of relevant investigations considering availability, diagnostic yield, cost effectiveness, side effects and implications for management
6. Comprehend community indicators related to mental health
7. Be aware of and can apply national and international guidelines for treatment and

assessment

8. Counsel patients and relatives in patient's preferred language in elective and emergency situations in keeping with the principles of good communication skills, empathy and empowerment of patients
9. Exhibit emotional maturity and stability, integrity, ethical values and professional approach, sense of responsibility in day-to-day professional activities
10. Take proper informed consent for physical and mental state examination and ensure confidentiality and appropriate environment for examination
11. Act as an independent specialist at community level/Tehsil and District Head Quarter Hospitals
12. Show initiative and become lifelong self-directed learners tapping on resources including clinical material, faculty, internet and on-line learning programmes and library

### **SPECIFIC LEARNING OUTCOMES**

Following competencies will be expected from a student completing 2 years course in DPM, student should be able to:

1. Discuss etiology, pathogenesis, epidemiology and management of psychiatric disorders on topics mentioned in the list of course contents
2. Discuss principles of basic sciences as applied to psychiatry such as clinical Neuroanatomy and Neurophysiology
3. Formulate a working diagnosis and consider differential diagnosis
4. Decide and implement suitable treatments considering safety, cost factors, complications



and side effects

5. Administer Electroconvulsive Therapy (ECT) safely
6. Maintain follow-up of patients at appropriate intervals, recognizing new developments and/or complications and offering appropriate management protocols
7. Identify common psychiatric problems in a scientific manner while keeping in mind the logical reasoning and a clear understanding of their impact on human and body
8. Assess, classify and rehabilitate patients with learning disability
9. Understand clearly the legal framework of Psychiatric practice in accordance with Mental Health Ordinance 2001

## **Content list:**

### **Part I:**

#### **A : Basic science:**

##### **Anatomy:**

##### **Gross Anatomy .of Head & Neck**

- SCALP & FACE
- BONY ORBIT
- MANDIBLE & CERVICAL VERTEBRA
- TEMPORAL FOSSA, INFRA TEMPORAL FOSSA & MANDIBLE
- EYE BALL & EXTRAOCULAR MUSCLE
- FASCIA & TRIANGLES OF NECK
- TONGUE, ORAL CAVITY & SALIVARY GLAND

- LARYNX & THYROID GLAND
- PHARYNX
- EAR
- NOSE & PARANASAL AIR SINUSES
- VESSELS OF HEAD & NECK
- LYMPHATIC DRAINAGE OF HEAD & NECK
- RADIO GRAPHY OF HEAD & NECK
- Cranial Cavity

### **Gross Ana.of Abdomen & Pelvis**

- ANTERIOR ABDOMINAL WALL
- ANTERIOR ABDOMINAL WALL & RECTUS SHEATH
- INGUINAL CANAL & HERNIA, SCROTUM & EXTERNAL GENITALIA
- PERITONEUM
- STOMACH & SMALL INTESTINE
- LIVER, PANCREAS, SPLEEN & EXTRAHEPATIC BILIARY APPARATUS
- BLOOD SUPPLY & NERVE SUPPLY OF ABDOMEN
- LARGE INTESTINE + APPENDIX
- POSTERIOR ABDOMINAL WALL
- BONY PELVIS + JOINTS OF PELVIS
- FEMALE REPRODUCTIVE SYSTEM
- ANAL REGION
- NERVES & VESSELS OF PELVIS
- RADIO GRAPHS OF ABDOMEN & PELVIS

### **Neuroanatomy**

- DURAL VENOUS SINUSES & MENINGES
- BRAINSTEM 1
- BRAINSTEM 2

- BRAINSTEM 3
- ANS
- CEREBRUM 1
- CEREBRUM 2
- DIENCEPHALON 1
- DIENCEPHALON 2
- VENTRICULAR SYSTEM
- CRANIAL 1
- CRANIAL 2

### **GROSS ANATOMY OF SPINAL CORD**

#### **General & Special Embryology**

#### **General & Special Histology**

#### **Physiology:**

### **CLINICAL DIPLOMA COURSE OF PHYSIOLOGY**

Conceptual and considered approach to

1. Cell physiology
2. Basic and Clinical Neurophysiology
3. Blood physiology
4. Heart and overview of Circulation
5. Renal Physiology
6. Advance Endocrinology
7. Respiratory Physiology
8. Molecular and physiological aspects of Nerve and Muscle

### **CELL PHYSIOLOGY**

1. Functions of cells, cell membranes and its organelles

2. Homeostasis
3. Necrosis
4. Apoptosis

## **BASIC AND CLINICAL NEUROPHYSIOLOGY**

1. Nerve physiology
2. Action potential in nerve fiber, mechanism of generation action potential in a nerve fiber
3. Parts of central, peripheral nervous system and their physiology
4. Autonomic nervous system
5. Special sense vision (eye)
6. Pathophysiology of the diseases involved

## **BLOOD PHYSIOLOGY**

1. Components of blood, functions of blood plasma and plasma proteins
2. Blood grouping and principles of transfusion
3. The body defense systems (Immunology)
4. Disorders of the blood

## **HEART AND OVERVIEW OF CIRCULATION**

1. The basic structure and function of heart, ECG recording and interpretation
2. Conductive pathway of heart
3. Physiological principles to manage a person in shock due to various reasons
4. Disorders of the CVS

## **RENAL PHYSIOLOGY**

1. Basic structure and function of the kidney
2. Glomerular filtration, tubular function and urine formation.
3. Role of kidney in acid base, Na,K,Ca balance
4. Endocrine and regulatory functions of the kidney

### **ADVANCE ENDOCRINOLOGY**

1. Endocrine glands, classification their functions
2. Feedback control mechanisms
3. Disorders of endocrine glands

### **Biochemistry**

#### **.1. Buffers**

- Ionization of water
- Henderson – Hasselbach equation
- Body buffers and regulation of Acid base balance human body
- Acids produced in the body, mechanisms of regulation of pH, role of lungs and kidney in buffering mechanism
- Disorders of acid base metabolism

#### **2. Enzymes:**

- Classification/nomenclature, Properties of enzymes and catalysts, regulation of enzyme activity
- Functions of enzymes and catalysts,
- Therapeutic use and application of enzymes in clinical diagnosis
- Enzyme kinetics, Factors affecting enzyme activity (Michaelis – Menten and Lineweaver Burk equations)
- Classification of enzyme inhibitors and their biochemical importance

### **3. Carbohydrates:**

- Definition, biochemical function and classification of carbohydrates, Structure and functions of monosaccharides and their derivatives
- Disaccharides, Oligosaccharides, Polysaccharides and their Biochemical importance.

### **4. Proteins:**

- Definitions, biochemical importance and classification of proteins based on physiochemical properties, Structure of proteins and their significance in pH maintenance
- Amino acids and their structure, properties, functions, Classification and nutritional significance of amino acids,
- Immunoglobulins and their biomedical significance
- Plasma proteins and their clinical significance

### **5. porphyrins and Hemoglobin:**

- Chemistry and biosynthesis of porphyrins and related disorders
- Structures, functions and types of hemoglobin, Oxygen binding capacity of hemoglobin, factors affecting and regulating the oxygen binding capacity
- of hemoglobin, Haemoglobinopathies (Sickle cell disease, Thalassemia etc.) and their biochemical causes
- Degradation of haem, formation of bile pigments, its types, transport and excretion
- Hyperbilirubinemias, biochemical causes and differentiation

### **6. Lipids and Fatty Acids:**

- Classification of lipids and their biochemical functions, Structure and biochemical function of neutral lipids phospholipids, glycolipids and sphingolipids
- Classification of fatty acids and their biochemical functions,
- Eicosanoids and their function in health and disease
- Steroids and their biochemical role, Cholesterol, its structure, chemistry and functions

- Bile acids and bile salts
- Lipid peroxidation and its clinical significance

## **7. Vitamins and minerals:**

- Vitamins and their different types, Classification of vitamins, their chemical structure and biochemical function, Absorption of vitamins and minerals
- Daily requirements, sources of water- and fat-soluble vitamins
- Clinical effects of vitamin deficiency, Role of vitamins as co-enzymes, Hypo- and hyper-vitaminosis
- Minerals in human nutrition, sources, biochemical actions and recommended daily allowance (RDA), Sodium, potassium, chloride, calcium, phosphorus, magnesium, sulfur, iodine, fluoride, Trace elements: Iron, Zinc, Selenium, Iodine, Copper, Chromium, Cadmium, Manganese (Fe, Zn, Se, I, Cu, Cr, Cd and Mn)

## **8. Endocrinology:**

- Introduction of hormones, mechanism of hormone action, classification of hormones
- Endocrine hormones of human body (Synthesis, Secretion, Mechanism of Action, effects on target tissues, regulation, related disorders)
  - a. Anterior Pituitary Hormones
  - b. Posterior Pituitary Hormones
  - c. Hormones of Adrenal Cortex, Adrenal Medulla
  - d. Sex Hormones of male & female reproductive system
  - e. Hormones of thyroid gland
  - f. Parathyroid Hormone
  - g. Endocrine portion of Pancreas

## **9. Nucleotides and Nucleic acids:**

- Chemistry of purines and pyrimidines, their derivatives, structure and function, Derivatives of purines and pyrimidines, their role in health and disease

- Chemistry and structure of nucleoside and nucleotide and their biochemical role, Nucleic acids (DNA & RNA) their types, structure and functions

#### **10. Bioenergetics and Biological oxidation:**

- Endergonic and exergonic reactions, coupling through ATP
- Oxidation and reduction, methods of electron transfer, redox potential, enzymes and coenzymes of biologic oxidation and reduction
- Respiratory chain and oxidative phosphorylation, components of respiratory chain, electron carriers
- ATP synthesis coupled with electron flow
- ADP coupled to electron transfer
- Uncouplers and inhibitors of oxidative Phosphorylation

#### **11. Metabolism of carbohydrates:**

- Glycolysis, Phases and reactions of glycolysis
- Energetics of aerobic and anaerobic glycolysis and their importance, Regulation of glycolysis
- Cori's cycle, The fate of pyruvate
- Citric Acid Cycle, Reactions, energetics and regulation and importance of citric acid cycle
- Amphibolic nature of citric acid cycle (tricarboxylic acid cycle –TCA or the Krebs's cycle)
- Anaplerotic reactions and regulations of TCA cycle
- Gluconeogenesis
- Important three by-pass reactions of gluconeogenesis
- Entrance of amino acids and intermediates of TCA cycle and other nutrients as gluconeogenic substrates
- Significance of gluconeogenesis
- Glycogen metabolism



- Reactions of glycogenesis and glycogenolysis
- Importance of UDP-Glucose
- Regulation of glycogen synthase and glycogen phosphorylase
- Glycogen phosphorylase A and the blood glucose sensor
- Disorders of glycogen metabolism (glycogen storage diseases)
- Secondary pathways of carbohydrate metabolism
- Hexose Mono Phosphate (HMP) shunt, its reactions and importance
- Glucuronic acid pathway, its reactions and importance
- Metabolism of fructose, galactose and lactose
- Regulation of Blood Glucose level
- Hyperglycemia, hypoglycemia and their regulating factors
- Biochemistry of Diabetes Mellitus, its laboratory findings and diagnosis

## **12. Metabolism of Lipids:**

- Mobilization and transport of fatty acids, triacylglycerol and sterols
- Oxidation of fatty acids
- Activation and transport of fatty acid in the mitochondria
- $\beta$ -oxidation, fate of acetyl CoA, regulation of  $\beta$ -oxidation
- Other types of oxidations, i.e.,  $\alpha$ -oxidation,  $\omega$ -oxidation, peroxisome oxidation, oxidation of odd number carbon-containing fatty acids and unsaturated fatty acids etc.
- Ketogenesis
- Mechanism and utilization of ketone bodies and significance
- Ketosis and its mechanism
- Biosynthesis of fatty acids

- Eicosanoids, synthesis from arachidonic acid, their mechanism and biochemical functions
- Triacylglycerol synthesis and regulation
- Synthesis and degradation of phospholipids and their metabolic

disorders

- Cholesterol synthesis, regulation, functions, fate of intermediates of
- Cholesterol synthesis, hypercholesterolemia, atherosclerosis
- Plasma lipoproteins, VLDL, LDL, HDL, and chylomicrons, their transport, functions and importance in health and disease
- Glycolipid metabolism and abnormalities

### **13. Metabolism of proteins:**

- Amino acid oxidation, metabolic fates of amino acid, transamination, deamination decarboxylation, deamidation and transamination
- Transport of amino group, role of pyridoxal phosphate, glutamate, glutamine, alanine
- Ammonia intoxication, nitrogen excretion and urea formation,
- Urea cycle and its regulation, genetic defects of urea cycle
- Functions, pathways of amino acid degradation and genetic disorders of individual amino acids

### **14. Metabolism of Nucleotides:**

- De novo purine synthesis
- Synthesis of pyrimidine
- Recycling of purine and pyrimidine bases (Salvage pathway)
- Degradation of purine, formation of uric acid
- Disorders of purine nucleotide metabolism

### **15. Bio signaling:**

- G-Protein Coupled Receptor
- Second Messengers
- Tyrosine Kinase Receptor
- Role of cGMP
- Multivalent Adaptor Proteins and Membrane Rafts
- Gated Ion Channels
- Bidirectional Cell-Adhesion Receptors
- Regulation of Transcription by Nuclear Hormone Receptor
- Regulation of Cell Cycle by Protein Kinases
- Oncogenes, Tumor Suppressor Genes, Programmed Cell Death

#### **16. Genes and Chromosomes:**

- Chromosomal elements
- DNA supercoiling
- Structure of chromosomes
- Genetic Mutations

#### **17. DNA Metabolism:**

- DNA structure
- DNA replication
- DNA damage and repair mechanism
  - DNA Recombination

#### **18. RNA Metabolism:**

- DNA dependent synthesis of RNA

- RNA processing
- RNA dependent synthesis of RNA & DNA
- HIV Reverse Transcriptase
- Methods for generating RNA polymers

### **19. Regulation and gene expression:**

- Principles of gene regulation
- Process of Transcription, Post-Transcriptional Modification
- Regulation of gene expression in bacteria/eukaryotes
- Genetic code
- Process of Translation, Post-Translational Modification

### **Metabolic disorders and their Clinical importance**

#### **1. Metabolic disorders related to Carbohydrate Metabolism**

- Diabetes Mellitus& its complications
- All types of Glycosuria
- Classical Galactossemia
- Hereditary fructose intolerance
- Essential Fructosuria
- Essential Pentosuria
- G-6 PD deficiency
- Hyperosmolar Nonketotic Diabetic Coma
- Glycogen Storage Diseases
- Hypoglycemia

- Lactose intolerance
2. Metabolic disorders related to Lipid Metabolism
- Lipid Storage Diseases
  - Ketosis and Ketonuria including Diabetic Ketoacidosis
  - Respiratory Distress Syndrome
  - Hypercholesterolemia
  - All types of Hyperlipidemias including hyperlipoproteinemia
  - Hypo lipoproteinemia
  - Atherosclerosis, CVA, CHD
  - Steatorrhea
  - Chyluria
  - Cholelithiasis/Obstructive Jaundice
  - Congenital Adrenal Hyperplasia
  - Carnitine Deficiency
  - Fatty liver
  - Obesity/Metabolic Syndrome
  - Disorders related to oxidation of Fatty Acids (Refsum's Disease, Zellweger syndrome, Methyl Malonic Acidemia, SIDS)
3. Metabolic disorders related to Protein Metabolism
- All types of Uremia
  - Hepatic Encephalopathy
  - Hyperammonemia
  - Arginine-succinic aciduria

- Citrullinemia
- Isovaleric academia
- Glycinuria /Hyperoxaluria
- Cystinuria / Cystinosis
- Phenylketonuria/Albinism
- Tyrosinemia
- Alkaptonuria
- Homocystinuria
- Hartnups disease
- Maple Syrup Urine Disease
- Histidinemia
- Creatinuria
- Carcinoid syndrome

#### 4. Metabolic disorders related to Nucleotides and Nucleic Acids Metabolism

- Hyperuricemia &Hypouricemia
- Gout
- Lesch-Nyhan Syndrome
- Severe Combined Immunodeficiency Disease (SCID)
- Oroticaciduria
- Purine Nucleoside Phosphorylase Deficiency

#### 5. Metabolic disorders related to heme metabolism

- Porphyria's

- Hyperbilirubinemia
  - Jaundice
6. Disorders related to Vitamins and Minerals
- Vitamin Deficiency Diseases
  - Minerals & Trace elements Deficiency Diseases
7. Clinical Enzymology
- Principles of Diagnostic Enzymology
  - Isoenzymes and their role in clinical diagnosis
  - Types of various enzymes in human body
  - Functional & Non-Functional Enzymes
  - Enzymes used as reagents and drugs
8. Clinical Nutrition
- Factors altering nutrition requirements in different conditions
  - Nutritional assessment and support in health & convalescence
  - Diseases that produce nutrition problems
  - Protein Energy Malnutrition (PEM)

#### 9. Single-Gene Disorders:

Major Modes of Inheritance (Autosomal Dominant, Autosomal Recessive, X-Linked Recessive)

#### 10. Cytogenetics:

- Numerical chromosome abnormalities:
- Euploidy, Aneuploidy
- Structural chromosome abnormalities:

- Translocations, deletions
- Other chromosomal abnormalities:
- Inversions, Ring Chromosome, Isochromosome, Uniparental Disomy
- Advances in molecular cytogenetics:
- Fluorescence in situ hybridization (FISH), Spectral Karyotyping

## 11. Genetics of Common Diseases

Multifactorial inheritance

## 12. Gene Mapping

Different types of DNA Polymorphism

- Restriction Fragment Length Polymorphisms (RFLPs)
- Variable Number of Tandem Repeats (VNTRs)
- Short Tandem Repeat Polymorphisms (STRPs)
- Single Nucleotide Polymorphisms (SNPs)

## 13. Gene Mapping: Linkage Analysis

## 4. Genetic Diagnosis Recombinant DNA Technology

- Isolation of DNA from Blood
- Isolation of DNA from tissues
- RNA isolation from blood and tissues
- Restriction enzymes

Practical work:

(A) Basic biochemical practical

1. pH metery



- Principle of pH meter
- Components and working of pH meter
- Applications of pH meter in Biochemistry laboratory

## 2. Centrifugation

- Principle of Centrifugation
- Types of centrifuge machines
- Ultracentrifugation
- Uses in Biochemistry lab

## 3. Spectrophotometer and Photometry

- Spectrophotometry
- LFT's
- RFT's
- Lipid Profile
- Sugar
- Uric Acid
- Serum Bilirubin Direct / Indirect
- Serum Albumin A/G ratio

## 4. Elisa Based Test

- Principal of Elisa
- Thyroid Profile
- Hepatitis B & C (ICT & Elisa based)
- Cortisol

- HIV (ICT & Elisa based)

#### 5. Urine Complete Examination

- pH, Specific gravity
- Albumin, Sugar, proteins
- Microscopy
- UPT

#### 6. Specimen Collection & Processing; Sources of Biological variation:

- Sources & composition of blood specimen
- Types of blood specimen & equipment
- Venipuncture, skin puncture, arterial puncture, anticoagulants & preservatives of blood, hemolyzed sample
- Preanalytical considerations
- Capillary specimen collection
- Specimen handling & processing for testing
- Collection of urine, faces, spinal fluid, other fluids for analysis

#### 7. Establishment and use of reference values

- Introduction to statistical terms & techniques
- Use of reference values

#### 8. Quality assurance

Elements of quality assurance

### **Pharmacology:**

#### **1. Cardiovascular system**

- a. Antihypertensive drugs
- b. Drugs for heart failure
- c. Antianginal drugs
- d. Anticoagulants

## **2. Respiratory system**

- a. Anti-asthmatic drugs
- b. Antihistamines

## **3. Central nervous system**

- a. General anesthetics
- b. Local anesthetics
- c. Antipsychotics
- d. Antidepressants

## **4. Drugs acting on uterus**

- a. Tocolytic drugs
- b. Drugs for labor and delivery

## **5. Endocrinology**

- a. Antidiabetic drugs
- b. Estrogens and androgens

## **6. Chemotherapeutic drugs**

- a. Antibiotics of general use

### **GENERAL PATHOLOGY:**

#### **Cell as a unit of Disease**

- The genome.
- Cellular metabolism & cellular activation.
- Signal transduction pathways, growth factors and receptors.
- Cell cycle and stem cell.

### **Cell injury and adaptation**

- Reversible and Irreversible Injury
- Fatty change, Pigmentation, Pathological classification
- 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
- Complications of wound healing

## **Hemodynamic disorders**

- Define and classify the terms Edema, Hemorrhage, Thrombosis, Embolism, Infarction & Hyperemia
- 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 neoplasm
- Enlist the common etiological factors of Neoplasia
- Define and discuss the different modes of metastasis
- TNM staging system and tumor grade

## **Immunity and Hypersensitivity**

- Humoral and cell mediated immunity and types of Hypersensitivity with examples.

## **General Microbiology**

- General Microbiology
- Introduction to microbiology
- Role of microbes in various human diseases
- Sources of infection
- Classification of microorganisms.
- Morphology and identification of bacteria.
- Bacterial metabolism and growth.

- Sterilization and disinfection, definition, use of physical and chemical disinfectants and their practical utility in clinical practice.
- Infection and immunity pathogenicity, pathology of infection, Resistance and natural immunity, antigens and antibodies.

## **B: Specialty Specific:**

### **1. *BEHAVIOURAL SCIENCES***

Bio -Psycho -Social (BPS) Model of Health Care

Use of non-medicinal interventions in clinical practice  
Communication skills

Counselling  
Informational skills

Crisis intervention/disaster management  
Conflict resolution

Breaking bad news

Medical ethics, professionalism and doctor-patient relationship  
Hippocratic oath

Four pillars of medical ethics (autonomy, beneficence, non-maleficence and justice)  
Informed consent and confidentiality

Ethical dilemmas in a doctor's life

Delivery of culturally relevant care and cultural sensitivity  
Psychological aspects of health and disease

Psychological aspect of health Psychological aspect of disease Stress and its management Psychological aspect of pain Psychological aspect of aging

### **2. *PSYCHOLOGY***

Learning

Classical conditioning Operant conditioning  
Modeling/observational learning

Cognitive learning  
Memory

Types of memory  
Organization of memory  
Attention

Active Passive  
Perception  
Sensation

Depth perception Perceptual constancy  
Thinking

Problem solving  
Trial and error

Linguistic relativity hypothesis  
Emotions

James Lange theory  
Cannon Bard theory  
Two factor theory

Cognitive appraisal theory  
Personality

Personality development Types of personalities Psychoanalytic paradigm Humanistic approach  
Self actualization

Intelligence  
General intelligence

Types of intelligence  
Intelligence tests

Social psychology Attitudes Persuasion  
Cognitive dissonance

## **Part II:**

### **Content List**

Psychopathology

Psychopharmacology & Physical Treatments

Adult Psychiatry  
Organic Psychiatry  
Psycho Geriatrics

Child psychiatry

Forensic psychiatry Psychotherapies Psychiatric services

Psychiatric emergencies

Behavioral Sciences

Psychology

#### ***CLINICAL COMPONENTS***

Opd training  
Ward duties

Clinical studies

#### ***Content Outline***

### ***1.PSYCHOPATHOLOGY***

Descriptions of symptoms and signs  
Disorders of mood

Disorders of thinking  
Disorders of perception

Disorders of obsession and compulsion  
Disorders of memory



Disorders of attention, concentration and insight

## ***2.PSYCHO-PHARMACOLOGY AND PHYSICAL TREATMENTS***

Pharmacokinetics of psycho -tropic drugs

Classification of psycho -tropic drugs

Anti-depressants

Anti-psychotics

Mood stabilizers

Anxiolytics

Psycho -stimulants

Drug use in pregnancy and lactation

Integration of Drugs and Psychological Therapy

ECT

RTMS and other physical treatments

## **3.ADULT PSYCHIATRY**

Classification

History of classification

Systems of classification

International classification

Current issues in classification

Aetiology

Approaches to aetiology in Psychiatry

Aetiological models

Personality Disorders

Personality

Personality disorders

Classification of personality disorders  
Description and diagnostic criteria  
Management of personality disorders  
Stress Related Psychiatric Disorders  
Classification of reaction to stressful events

Acute stress reaction and acute stress disorder  
Post-traumatic stress disorder

Adjustment disorders

Anxiety And Obsessive-Compulsive Disorders  
Anxiety disorders

Generalized anxiety disorders  
Phobic anxiety disorder

Specific phobia Social phobia Agoraphobia  
Panic disorder

Mixed anxiety and depressive disorder

Obsessive-compulsive disorder  
Somatoform and dissociative disorder  
**Substance Dependence**

Classification of substance use disorders  
Cannabis

Opioids  
Stimulants  
Nicotine  
Hallucinogens  
Sedatives

Adverse effects of drug misuse  
Prevention, treatment and rehabilitation  
Alcohol related disorders

Alcohol consumption in society  
Recognition of alcohol misuse  
Treatment of alcohol misuse

**Mood Disorders**

Classification of mood disorders  
Aetiology

Clinical course

Life events and mood disorders  
Assessment and management

Schizophrenia

History of schizophrenia  
Aetiology of schizophrenia  
Types of schizophrenia  
Neuro-pathological studies  
Psychosocial aspects  
Special paranoid conditions

Assessment and management  
Suicide And Deliberate Self -Harm  
Assessment of suicidal behaviour  
Management of suicidal behaviour  
Suicide prevention

Deliberate self-harm

### ***Psycho-Sexual Disorders***

Sexual behaviour and its variations  
Sexual orientation

Sexual dysfunctions  
Abnormal sexual preferences

Abnormalities of gender identity

### **Sleep And Eating Disorders**

Sleep disorders

Eating disorders

Anorexia Nervosa  
Bulimia Nervosa  
Obesity

### ***Organic Psychiatry***

Delirium  
Dementia  
Head Injury

Cerebro -vascular accidents  
Epilepsies

Neurological disorders  
Parkinsonism  
Multiple sclerosis  
Meningitis  
Encephalitis  
Headaches

Space occupying lesions

#### **4.PSYCHOGERIATRICS**

Psychology of ageing  
Dementia in the elderly  
Abuse and neglect of the elderly  
Psychiatric disorders in the elderly

Psychiatric health services for elderly

#### **5.CHILD PSYCHIATRY**

Child development

Classification of psychiatric disorders in children  
Pervasive developmental disorder

Hyperkinetic disorder  
Conduct disorders

Other psychiatric disorders

Psychometric assessment of children and their families  
Psychiatric treatment for children and families  
Learning disability

Child abuse

## ***6. FORENSIC PSYCHIATRY***

Ethical issues

Crime and mental illness  
Risk assessment and violence  
Civil issues

Psychiatric reports

Mental Health Ordinance 2001

## ***7.PSYCHO-THERAPIES***

Classification of psychological treatments

Counseling and crisis intervention  
Supportive psychotherapy  
Interpersonal psychotherapy

Cognitive-behaviour therapy  
Group psychotherapy

Occupational training and therapy  
Family and marital therapies

Ethical problems in psychological treatment

## ***8.PSYCHIATRIC SERVICES***

Planning psychiatric services

Community psychiatric services

Services for patients with special needs  
Rehabilitative services

Trans-cultural and ethical aspects

## ***9.PSYCHIATRIC EMERGENCIES***

Violent and aggressive patients  
Suicidal patients  
Acute confusional states

Drug intoxication and withdrawal states

## **10.BEHAVIOURAL SCIENCES**

Bio -Psycho -Social (BPS) Model of Health Care

Use of non-medicinal interventions in clinical practice  
Communication skills

Counselling  
Informational skills

Crisis intervention/disaster management  
Conflict resolution

Breaking bad news

Medical ethics, professionalism and doctor-patient relationship  
Hippocratic oath

Four pillars of medical ethics (autonomy, beneficence, non-maleficence and justice)  
Informed consent and confidentiality

Ethical dilemmas in a doctor's life

Delivery of culturally relevant care and cultural sensitivity  
Psychological aspects of health and disease

Psychological aspect of health Psychological aspect of disease Stress and its management Psychological  
aspect of pain Psychological aspect of aging

## **11.PSYCHOLOGY**

Learning

Classical conditioning Operant conditioning  
Modeling/observational learning

Cognitive learning  
Memory

Types of memory  
Organization of memory  
Attention

Active Passive  
Perception  
Sensation

Depth perception Perceptual constancy  
Thinking

Problem solving  
Trial and error

Linguistic relativity hypothesis  
Emotions

James Lange theory  
Cannon Bard theory  
Two factor theory

Cognitive appraisal theory  
Personality

Personality development Types of personalities Psychoanalytic paradigm Humanistic approach  
Self actualization

Intelligence  
General intelligence

Types of intelligence  
Intelligence tests

Social psychology Attitudes Persuasion  
Cognitive dissonance

**Instructional Strategies:**

As a policy, active participation of students at all levels will be encouraged.

Following teaching modalities will be employed:

1. Lectures
2. Seminar Presentation and Journal Club Presentations
3. Group Discussions
4. Grand Rounds
5. Conferences and seminars
6. Assignments
7. Self-study, and use of internet



## Section D:

### Assessment Plan:

Program duration	Course contents	Assessment method
At the end of 6 months of program	<p>Basic medical sciences:</p> <ul style="list-style-type: none"> <li>Anatomy including histology</li> <li>Physiology</li> <li>Biochemistry</li> <li>Pathology</li> <li>Pharmacology</li> <li>Specialty specific =25%</li> </ul> <p style="text-align: right;">75%</p>	<p><b>Part I</b> to be taken by university. It will include:</p> <p>Written (MCQ)=100(1 each)</p> <p><b>Total Marks =100</b></p>
At the end of 2 <sup>nd</sup> year	Specialized training in the relevant Department	<p><b>Part II Examination</b> to be conducted by university.</p> <p>It will include:</p> <p><b><u>A) Paper A</u></b></p> <p>MCQ=50(1 each)=50</p> <p>SEQ=10 (5 each)=50</p> <p><b>Total Marks=100</b></p> <p><b>Paper B</b></p> <p>MCQ=50(1 each)=50</p>

		SEQ=10 (5 each)=50  <b>Total Marks=100</b>  <u><b>C) Log Book=20 Marks</b></u>  <u><b>D) Clinical Paper=180</b></u>  OSCE/OSPE =90 marks  Clinical=90 marks  1 long case= 50 marks  4 Short cases= caring 10 marks each total 90)  <b>Total Marks=400</b>
--	--	---

### **Part I Examinations:**

Part I would be conducted for the candidate at the end of 6 months of the program.

### **Components of Part I Examination**

MCQ =100 (each 1 mark)

**Total = 100**

### **Eligibility Criteria:**

To appear in the Part II Examination the candidate shall be required: .

1. At least 75% Attendance in all the basic medical sciences subjects as per the curriculum provided.
2. Evidence of payment of examination fee as prescribed by the university from time to time.
3. The examination fee once deposited cannot be refunded / carried over to the next examination under any circumstances.
4. Candidate remained on institution roll during the period required for appearing in examination.

## **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 Part II examination.
- A maximum of total SIX (6) consecutive attempts, availed or un availed, will be allowed in Diploma Part I examination. If the candidate fails to pass this examination within the above mentioned limit of SIX (6) attempts, he/she shall be removed from the program and the seat will fall vacant.

## **Part II Examination**

**(at the end of 2<sup>nd</sup> Calendar year of the program)**

### **Components of Part II Examination**

#### **A) Paper A**

MCQ=50(1 each)=50

SEQ=10 (5 each)=50

**Total Marks=100**

#### **Paper B**

MCQ=50(1 each)=50

SEQ=10 (5 each)=50

**Total Marks=100**

#### **C) Log Book=20 Marks**

#### **D) Clinical Paper=180**

OSCE/OSPE =90 marks

Clinical=90 marks

1 long case= 50 marks

4 Short cases= caring 10 marks each total 90

**Total Marks=400**

**Eligibility Criteria:**

To appear in the Part II Examination the candidate shall be required:

1. Result card showing that the candidate has passed Part I Examination.
2. Certificate of completion of 2 Years training as per the curriculum approved by the university.
3. Evidence of payment of examination fee as prescribed by the university from time to time.
4. The examination fee once deposited cannot be refunded / carried over to the next examination under any circumstances.

**Declaration of Results**

- a. The candidates scoring 60% marks in aggregate of Paper A and Paper B 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.

b) The Total Marks of Clinical and TOACs/OSCE & Oral will be 180 and to be divided as follows:

- |                           |                  |
|---------------------------|------------------|
| • 4 Short Cases (10 each) | Total Marks = 40 |
| • 1 Long Case             | Total Marks = 50 |
| • TOACS/OSCE & ORAL       | Total Marks = 90 |

**Total= 180**

**Log Book=20 marks**

**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.

## **Section E**

### **Award of Diploma In**

A candidate having declared successful in all the components of examination i.e. *Theory and Clinical* shall be declared pass and shall be conferred Diploma In Psychological Medicine.

## **Section F:**

### **Log Book**

As per format approved by the university

## Section G

### Paper Scheme

#### Part I

written

• General Pathology	( 8 MCQs)
• General anatomy & Histology	(20 MCQs)
• Basic Biochemistry	(20 MCQs)
• General pharmacology	(7 MCQs)
• General physiology	(20 MCQs)
• Subject specific	(25 MCQs)
MCQ Paper	100OneBestType
<b>Total Marks</b>	<b>100Marks</b>

#### Part II Examination

written

### Table of Specifications (TOS)

Part 2-Paper-1	SEQs (10)	MCQs (50)
<b>1. Psychopathology</b>	<b>2</b>	<b>10</b>
Descriptions of symptoms and signs	1	<b>2</b>
Disorders of mood		<b>2</b>
Disorders of thinking		<b>2</b>
Disorders of perception	1	2
Disorders of obsession and compulsion		1
Disorders of memory		

Disorders of attention, concentration and insight	<b>3</b>	1
<b>2. Psycho-Pharmacology And Physical Treatments</b>		<b>15</b>
Pharmacokinetics of psycho -tropic drugs	1	1
Classification of psycho -tropic drugs		1
Anti-depressants		2
Anti-psychotics		2
Mood stabilizers		1
Anxiolytics		2
Psycho -stimulants		1
Drug use in pregnancy and lactation	<b>1</b>	1
Integration of Drugs and Psychological Therapy		2
ECT, RTMS,Cerebral Stimulation		2
<b>3. Behavioral Sciences</b>	<b>2</b>	<b>5</b>
Bio -Psycho -Social (BPS) Model of Health Care	1	1
Use of non-medicinal interventions in clinical practice		1
Crisis intervention/disaster management		1
Conflict resolution		1
Breaking bad news		1
Medical ethics, professionalism and doctor-patientrelationship	1	



Delivery of culturally relevant care and cultural sensitivity		
Psychological aspects of health and disease		
<b>4.Organic Psychiatry</b>	<b>2</b>	<b>15</b>
Delirium	1	1
Dementia		1
Head Injury		2
Cerebro -vascular accidents		1
Epilepsies		1
Neurological disorders		2
Parkinsonism		1
Multiple sclerosis		2
Meningitis		2
Encephalitis		2
Headaches	1	
<b>5. Psychology</b>	<b>1</b>	<b>5</b>
Learning		1
Memory		1
Attention		1

Perception	<b>1</b>	
Thinking		1
Emotions		1
Personality		
Intelligence		
Social psychology		
<b>Part 2-Paper-2</b>	<b>SEQs (10)</b>	<b>MCQs (50)</b>
<b>Adult Psychiatry</b>	<b>2</b>	<b>15</b>
<i>Classification</i>	1	3
<i>Aetiology</i>		2
<i>Substance Dependence</i>		2
<i>Mood Disorders</i>		2
<i>Schizophrenia</i>		2
<i>Suicide And Deliberate Self -Harm</i>		2
<i>Psycho-Sexual Disorders</i>		1
<i>Sleep And Eating Disorders</i>	1	1
<b>Child Psychiatry</b>	<b>2</b>	<b>10</b>

Child development	1	2
Classification of psychiatric disorders in children		2
Pervasive developmental disorder		2
• Hyperkinetic disorder		1
• Conduct disorders		1
• Other psychiatric disorders		
Psychometric assessment of children and their families		
Psychiatric treatment for children and families		1
Learning disability	1	1
<b>PSYCHOGERIATRICS</b>	<b>1</b>	<b>5</b>
Psychology of ageing		1
Dementia in the elderly		1
Abuse and neglect of the elderly		1
Psychiatric disorders in the elderly		1
Psychiatric health services for elderly		1
<b>FORENSIC PSYCHIATRY</b>	<b>1</b>	<b>5</b>
Ethical issues		1
Crime and mental illness		1
Risk assessment and violence		

Civil issues		1
Psychiatric reports		1
Mental Health Ordinance 2001		1
<b>Psycho-Therapies</b>	<b>2</b>	<b>5</b>
Classification of psychological treatments		1
Counseling and crisis intervention		
Supportive psychotherapy		1
Interpersonal psychotherapy		
Cognitive-behaviour therapy	1	1
Group psychotherapy		
Occupational training and therapy		1
Family and marital therapies		
Ethical problems in psychological treatment	1	1
<b>Psychiatric Emergencies</b>	<b>1</b>	<b>5</b>
Violent and aggressive patients		1
Suicidal patients		2
Acute confusional states		1
Drug intoxication and withdrawal states		1

<b>Psychiatric Services</b>	<b>1</b>	<b>5</b>
Planning psychiatric services		1
Community psychiatric services		1
Services for patients with special needs		1
Rehabilitative services		1
Trans-cultural and ethical aspects		1

#### **TOACS Station distribution:**

<b>TOACS</b>	<b>9 STATIONS</b>
SIGNS AND SYMPTOMS OF PSYCHIATRIC DISORDERS/PHENOMENOLOGY	1
PSYCHIATRIC ASSESSMENT (MSE / HISTORY)	
RESEARCH / EVIDENCE	1
NEUROLOGICAL EXAMINATION	1
GENERAL PHYSICAL & SYSTEMIC EXAMINATION	1
PHYSIOLOGICAL/ RADIOLOGICAL INVESTIGATIONS	1
PSYCHOMETRIC TESTING	1
PSYCHOPHARMACOLOGY	1

PSYCHIATRIC EMERGENCIES	1
PSYCHOLOGICAL TREATMENTS/ PSYCHOEDUCATION	1

## **Section H**

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

1. Fish's Clinical Psychopathology by Max Hamilton
2. Symptoms in the Mind by Andrew Sims
3. The Maudsley Hand book of practical psychiatry ed: David Goldberg
4. Psychiatric Examination in clinical practice by: JP Leff and AD Isaacs
5. BNF (British National Formulary)
6. Mental Health Ordinance , Government of Pakistan 2001
7. Basic Forensic Psychiatry by Faulk
8. Psychology by Crider, Goethals, Solomon and Kavanaugh.
9. Companion to psychiatric studies by Johnstone, Freeman and Zealley
10. Shorter Oxford Textbook of Psychiatry by Gelder, Mayou and Cowen
11. Kaplan and Sadock's Synopsis of psychiatry
12. Postgraduate psychiatry , clinical and scientific foundations by Appleby Forshaw, Amos and, Barker.
13. Psychiatric diagnosis by Goodwin and Guze
14. Practice guidelines for the Treatment of Psychiatric Disorders ((American Psychiatric Association)

15. Psychiatric rehabilitation by: W. Anthony, M. Cohen ,M. Farkas, C. Gagne
16. Practice and Management of Psychiatric emergency care ed: Gorton – Partridge.
17. Bailliere’s Clinical psychiatry: Drugs of abuse Ed;H. Rommelspacher, M. A. Schuckit
18. Biology of mental disorders by Timothy G. Dinan
19. Schizophrenia by: Steven R. Hirsch and Daniel Wein berger
20. Psychological disorders in General medical settings by:N. Sartorius, D. Goldberg, G.de  
girolamo, J.A. Costae Silva, Y. Hecrubier, H.U.Wittchen
21. Organic psychiatry by W.A. Lishman
22. Basic Forensic Psychiatry by Faulk
23. An introduction to the psychotherapies By S. Bloch
24. Child Psychiatry – A developmental approach by P. Graham.
25. The ECT handbook : C.P. Freeman
26. Rana M. H., Ali S. Mustafa M. A Handnook of Behavioural Sciences for Medical and  
Dental Students. Lahore: University of Health Science; 2007.
27. Fathalla M. F. and Fathalla M. M. F. A Practical Guide for Health Researcher. Cairo: World  
Health Organization; 2004.



## **Section I**

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

**Prof. Imtiaz Ahmad Dogar**

Head of Department of Psychiatry & Behavioural Sciences,

Faisalabad Medical University, Faisalabad

**Dr. Irum Siddique**

Associate Professor of Psychiatry

**Dr Rizwan Farooq**

Assistant Professor of Psychiatry

**Dr Mubbara Sikandar**

Consultant Psychiatrist

**Dr Tayyaba Ikram**

Consultant Psychiatrist

**Ms Samreen Afzal**

Senior Clinical Psychologist (PhD Scholar)

**Dr Nighat Haider**

Clinical Psychologist (PhD)