



SYLLABUS /  
CURRICULUM

COLLEGE'S

MEMBERS

US REGISTRATION

PG REGULATIONS

PG REGULATIONS

PG REGULATIONS

## Unani Syllabus/Curriculum

- SYLLABUS OF MAHIRE TIB-TASHREEHUL BADAN (M.S. ANATOMY)
- SYLLABUS OF MAHIR-E-JARAHAT UZN, ANF WA HALAQ (M.S. E.N.T.)
- SYLLABUS OF DOCTOR OF MEDICINE(MD-UNANI)MAHIR-E-AMRAZ-E-ATFAL (PEADIATRCIS)
- Syllabus of Doctor of Medicine (MD-Unani) Amraze Jild Wa Tazyeeniyat (Skin & Cosmetology)
- Syllabus of M. D. (Ilaj-bit-Tadbeer)
- PG syllabus of Mhiyatul Amraze
- PG syllabus of Ilmul Saidla
- SYLLABUS OF 1ST, 2ND, 3RD, 4TH AND FINAL PROFESSIONAL KAMIL-E-TIB-WA- JARAHAT (BUMS) COURSE
- NISABE TALEEM OF MAHIR-E-TIB S MAHIR-E-JARAHAT SYLLABUS OF DOCTER OF MEDICINE (MD-UNANI) & MASTER OF SURGERY (MS-UNANI)
- Nisabe Taleem of Mahir-e-Tib & Mahir-e-Jarahat Syllabus of DOCTOR OF MEDICINE (MD-Unani) & Master of Surgery (MS-Unani) (MS-UNANI)
- NISABE TALEEM OF MAHIR-E-TIB (MUNAFEUL AZA) SYLLABUS OF DOCTER OF MEDICINE (MD-UNANI)(PHYSIOLOGY)
- NISABE TALEEM OF KAMILE TIB WA JARAHAT SYLLABUS OF BACHELOR OF UNANI MEDICINE AND SURGERY
- SYLLABUS OF POST-GRADUATE DIPLOMA (Ilmul Saidla-Pharmacy)

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CENTRAL COUNCIL OF INDIAN MEDICINE

NISABE TALEEM OF MAHIR-E-TIB &  
MAHIR-E-JARAHAT

SYLLABUS OF  
DOCTOR OF MEDICINE (MD-UNANI) &  
MASTER OF SURGERY (MS-UNANI)

3 YEARS DEGREE COURSE

CENTRAL COUNCIL OF INDIAN MEDICINE  
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## PREFACE



It is with great pleasure to present before all of you the Post Graduate Syllabi in six Specialities (1. Ilmul Advia 2. Moalajat 3. Kulliyat 4. Tahaffuzi wa Samaji Tibb 5. Ilmul Qabala wa Amraze-Niswan and 6- Ilmul Jarahat) for which the well-wishers, academicians & researchers of Unani system of Medicine were looking forward.

PG courses in Unani are being conducted since long. At present eight institutes are conducting PG courses in various specialities. The need of framing the PG syllabus of Unani was felt by the Council to consolidate the syllabus of each subject in such a way that it may become more practical oriented and good specialists/clinicians may be produced.

First the syllabus of the six Specialities in which PG courses exist has been prepared by the subject experts called from all over India who after going through various workshops/meetings/interactive sessions could make the task accomplished.

The syllabus is presented in English language as the popularity of Unani System of Medicine at the International level is increasing day by day.

The work of preparing draft syllabus of remaining PG subjects in Unani System of Medicine is in the pipe line and in due course of time we will be able to formulate the syllabi of other Specialities also. The valuable suggestions from various quarters are welcome regarding the syllabus.

We thank the Dept. of Ayush, Govt. of India for moral as well as financial support to the CCIM for its smooth functioning as well as all the participants/subject experts for giving their precious time and valuable suggestions in finalising the Syllabi of the six Post Graduate Courses.

**Vaidya Raghunandan Sharma**  
President

**Prof. Hakim Syed Khaleefathullah**  
Vice President (Unani) & Chairman Unani Committee



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**PRELIMINARY EXAMINATION**

**PAPER-I**

**(Common Paper for all Specialities)**

**Research Methodology and Biostatistics**

**Research Methodology**

- **Types of research**
  - (a) Literary research
  - (b) Clinical research
  - (c) Experimental research
  - (d) Observation and field studies
- **Trends and possibilities of R&D of Unani Drugs**
- **Research problems**
  - (a) Definition
  - (b) Selection and sources of research problems
- **Hypothesis**
  - (a) Types: Null and alternate hypothesis
- **Research designs**
  - (a) Types of Research designs
- **Controls in research designs**
  - (a) Selection criteria
  - (b) Placebo and plain control
  - (c) Randomization
  - (d) Balancing and matching
- **Factors effecting research results.**
- **Tools and techniques in research**
  - (a) Interview, questionnaire, inventories, scales
  - (b) Rating scales
- **Computer programmes used in research**
  - (a) Minitab
  - (b) SPSS
- **Protocols for research and report writing**
  - (a) Protocols for experimental, clinical and community based research.
  - (b) Writing research report.
  - (c) References in research report.
    - (i) Books



- (ii) Journals
- (iii) Compendia
- (iv) Bulletins
- (v) WHO Reports
- (vi) Internet Sites

- **Guidelines for Research**

- (a) WHO
- (b) ICMR
- (c) CPCSEA

**Bio-Statistics**

- **Scope and utility of Biostatistics**

- **Descriptive Statistics**

- (a) Analysis of Data

- (i) Data collection, tabulation and presentation of data.
- (ii) Measure of central tendency – Mean, Median and Mode.
- (iii) Measures of dispersion: Range, quartile deviation, standard deviation.

- (b) Probability

- (i) Definition and laws of probability
- (ii) Types of probability distribution
- (iii) NPC and its application size
- (iv) Randomized samples

- (c) Sampling

- (i) Types and sample size
- (ii) Randomized sampling

- **Inferential Statistics**

- (a) Correlation and linear regression

- (i) Karl Pearson correlation coefficient
- (ii) Linear regression equations.

- (b) Test of significance

- (i) 't' test
- (ii) 'z' test.

- (c) Test of variance

- (i) ANOVA one way
- (ii) ANOVA two way
- (iii)  $X^2$

- (d) Non-parametric tests

- (i) Median test, Mann Whitney U test.
- (ii) Kruskal Wallis test, Fried test.

- **Vital Statistics**

- (a) Rate and Ratios
- (b) Standardization of population  
Risk factors



**PRELIMINARY EXAMINATION**

**ILMUL ADVIA**

**PAPER – II**

**Qawanine Advia (Principles of Unani Pharmacology)**

- Mavaleede salasa per mufassal tabsera, Neez Mabadiyate Advia ki ahmiyat aur zaroorat.
- Dawa, Ghiza, Zulkhassa, Dawae Mutlaq, Ghizae Mutlaq, Dawae Ghizaie aur Ghizae Dawaie per tafseeli maloomat.
- Mizaje Advia, Darjate Advia aur inke taayyun ka tahqeeqi jaiza.
- Ghair maroof Advia ki makhsoos imtiyazi khusoosiyat.
- Ghair maroof Advia ki maloomat ke zaraye, neez ghair maroof Advia ke tajarbat per tafseeli maloomat.
- Mukhtalif nizambaaye jismani per Advia ke asrat.
- Tibbe Unani mein muravvaj Ashkaale Advia per jadeed nuqtae nazar se tabsera.
- Tibbe Unani mein Abdale Advia ki ahmiyat, zaroorat aur muravvaj Abdale Advia ka tahqeeqi jaiza.
- Advia mufrada ki muddate hayat, unke usool aur tahaffuz ke bare mein tafseeli maloomat.
- Masalike Advia aur zaroori tajdeed.
- Advia ki muzir kaifiyat aur Islah ka tahqeeqi jaiza.
- Tibbi Akhlaqiyat wa hidayat barai Tahqeeqat

**PAPER – III**

**Ilmul wasful Aqaqeer (Pharmacognosy)**

- Introduction to pharmacognosy and its scope
- Pharmacognostical methods used to establish the identity and purity of herbal drugs
- Plant Nomenclature.
- Classification of Plant Kingdom.
- Cultivation of medicinal plants, Good agricultural and collection practices, Introduction to plant tissue culture
- Characteristic features of certain medicinally useful families
  - (a) Solanaeae (*Datura stramonium, Solanum nigrum.*)
  - (b) Apocynaceae (*Rauwolfia serpentina, Wrightia tinctoria*)
  - (c) Papaveraceae (*Papaver somniferum*)
  - (d) Liliaceae (*Colchicum luteum, Aloe vera.*)
  - (e) Leguminosae (*Trigonella foenum, Acacia arabica*)
  - (f) Umbellifercae (*Coriandrum sativum, Ferula asafoetida*)
  - (g) Malveceae (*Hibiscus rosa sinensis, Althaea officinalis*)
  - (h) Euphorbiaceae (*Ricinnus cummunis.*)



- (i) Compositae (*Artemisia absinthium, Chicorium intybus*)
- (j) Asclepiadaceae (*Calotropis procera*)

- Drying and storage of drugs.
- Deterioration of stored drugs.
- Identification of crude drugs
  - (a) Morphological Studies
  - (b) Anatomical Studies
    - (i) Microtomy
    - (ii) Powder study
    - (iii) Quantitative Microscopy
      - (a) Stomatal no, Stomatal index, Pallisade ratio, Vein islet no.
- **Alkaloids and alkaloid containing drugs**
  - (a) Kuchla
  - (b) Suranjan
  - (c) Opium
  - (d) Ephedra
  - (e) Datura
  - (f) Qinnab
  - (g) Asrol
- **Glycosides and glycoside containing drugs**
  - (a) Revand
  - (b) Senna
  - (c) Sibr
  - (d) Aslussoos
  - (e) Digitalis
  - (f) Ushba
- **Volatile oil containing drugs**
  - (a) Badyan
  - (b) Rehan
  - (c) Zeera
  - (d) Darchini
  - (e) AnisoonAniseed
  - (f) Ustokhuddus
  - (g) Jaiphal
- **Flavonoid containing drugs**
  - (a) Aftimoon
  - (b) Mako
  - (c) Kasni
  - (d) Kabab chini
- **Fixed oil containing drugs**
  - (b) Badam
  - (c) Zatoon
  - (d) Kunjad
  - (e) Baidinjeer
  - (f) Katan



- (g) Chalmogra
- **Tannin containing drugs**
  - (a) Amla
  - (b) Mazoo
  - (c) Kakrasinghi
  - (d) Main khurd
- **Drugs of animal origin**
  - (a) Sadaf
  - (b) Marwareed
  - (c) Marjan
  - (d) Saresham Mahi
  - (e) Jund bedastar

### **Practicals**

- Organoleptic identification of ten medicinal plants
- Powder identification of Sena, Aslossoos, Kishnez, Revand
- Morphological identification of five families
- Anatomical characteristics and dissection of root and stem of two medicinal plants
- Floral formula and floral diagram of five medicinal plants
- Determination of Alkaloids, Phenols, steroids, terpenes, glycoside, saponins, proteins, tannins, reducing sugar, non reducing sugar, Xanthoproteins, resins, vitamins, crude fibres, phosphate, iron, sulphur, calcium, aluminium, nitrogen.
- Tests for microbial contamination.

## **PAPER - IV**

### **General, Systemic and Experimental Pharmacology**

#### **General Pharmacology**

- **Introduction**
  - (a) Pharmacognosy
  - (b) Pharmacy
  - (c) Pharmacokinetics
  - (d) Pharmacodynamics
  - (e) Therapeutics
  - (f) Toxicology
  - (g) Clinical pharmacology
  - (h) Pharmaceutics
  - (i) Clinical pharmacology
- **Routes of Administration**
- **Pharmacokinetics**
  - (a) Absorption of drugs
  - (b) Distribution of drugs
  - (c) Metabolism of drugs



- (d) Excretion of drugs
- (e) Bioavailability and half life of drugs
- (f) Dose response curve, LD<sub>50</sub>, ED<sub>50</sub>
- **Pharmacodynamics**
  - (a) Receptor theory of drug action
  - (b) Receptor Families
  - (c) Receptor – ligand Binding
  - (d) Factors modifying drug response
- **Pharmaco-vigilance**
  - Drug interactions
  - Adverse Drug Reaction
  - Reporting and monitoring of ADR
- **Principles of Toxicology**

### Systemic Pharmacology

#### **Autonomic Nervous System**

A Review of ANS and neurohumoral transmission

Sympathomimetic Drugs

Sympatholytic Drugs

Parasyathomimetic Drugs

Parasympatholytic Drugs

Anticholinestrase Drugs

#### **Central Nervous System**

Sedative and Hypnotics

Opioids

Anticonvulsants

Antipsychotics

#### **Cardiovascular System**

Antihypertensive Drugs

Drugs used in Heart Failure

Anti anginal Drugs

#### **Miscellaneous**

Diuretics

NSAID

Drugs used in Peptic ulcer

Antidiabetic Drugs

Corticosteroids

#### **Experimental Pharmacology**

Common laboratory animals, characteristics and experimental uses

Factors affecting drug response

Drug administration (Oral and IV) and withdraw of blood samples

Dose conversion factors

Vehicles for animal administration

Isolated tissue preparation

Methods of rendering the animals unconscious

Anaesthetics used in lab animals

Basic equipment



Physiological salt solutions  
Standard drugs and chemicals

**Bioassay**

- (a) Scope
- (b) Principles
- (c) Designing
- (d) Types

**Drugs Screening**

- (a) Simple
- (b) Programmed
- (c) Blind Screening

**Neuro-pharmacological Studies**

- (a) Irwin's profile
- (b) Smith's profile

**Toxicity Studies**

- (a) Acute
- (b) Sub acute
- (c) Chronic studies

Anticonvulsant activity

Analgesic, Antipyretic, Anti-inflammatory and Anti-ulcer activities

Action on cardiovascular system

Hepatoprotective, Nephroprotective Activities

Hypoglycemic and Hypolipidemic Activities

**PRACTICALS****In-vivo Experiments**

- To study the general pharmacology and gross behaviour in mice and rats.
- To study the effects of pentobarbital Induced hypnosis in mice.
- To study the effects of chlorpromazine on the locomotor activity using photoactometer in rats.
- To study the analgesic activity of morphine using tail flick method by analgesiometer in mice.
- To study the analgesic activity of morphine using hot plate method in mice.
- To study the analgesic activity of aspirin using acetic acid induced writhing test in rats.
- To study the anti-inflammatory activity of aspirin / indomethacin against carrageenin induced paw edema in mice.
- To study the anticonvulsant activity of phenytoin using convulsiometer in rats.
- To study the antisecretory and ulcer protective effect of H<sub>2</sub>-Blockers in rats.

**In-vitro Experiments (on isolated preparations)**

- To record a concentration response curve (CRC) of acetylcholine using ileum preparation in rats.
- To record the effect of physostigmine (Eserine) on the CRC of acetylcholine using ileum preparation in rats.
- To record the blocking effect of atropine sulphate on the CRC of acetylcholine using ileum preparation in rats.

FINAL YEAR EXAMINATION (3<sup>rd</sup> Year)

ILMUL ADVIA

PAPER – I

Advia Mufrada

Shinakhat, Khawas wa Taseerate Advia

Description of Unani single drugs with Scientific names, Mutaradifat aur unki Mahiyat, Mizaj, Afaal wa Khawas, Murakkabat, Istemal, Affale Khusoosi, Muzir, Musleh, Badal, Miqdar, Khurak wa Kimiavi Ajza used in following systems

- i. Advia mutalliqa Nizame Asab wa Dimagh.
- ii. Advia mutalliqa Nizame Tanaffus.
- iii. Advia mutalliqa Qalb wa Daurane Khoon.
- iv. Advia mutalliqa Nizame Baul.
- v. Advia mutalliqa Nizame Tavleed wa Tanasul.
- vi. Advia mutalliqa Jild wa Jarahat.
- vii. Advia mutalliqa Ain, Uzn, Anaf wa Halaq.
- viii. Advia mutalliqa Amraze Aamma,
- ix. Advia Mutafarriqa.
- x. Ghair Maroof/ Matrook Unani Advia
- xi. Bisehri, Chiksini, Sahdevi, Habbul-Quilquil, Huma, Khillah, Azriyun etc

**Practicals**

Identification of the common *Advia Mufrada*, their Morphology, Histology, Constituents, Standardization and Quality Control Measures.

Preparation of herbarium.

PAPER – II

Advia Murakkaba Wa Dawasazi (Unani Compound Drugs and Pharmacy)

1. Qawanine Tarkeebe Dawa
2. Importance of compounding of drugs.
3. Importance & Critical assessment of renowned *Qarabadeen*.
4. Ashkale Adviae Murakkaba ka Scientific Jaiza aur in mein tajdeed ki zaroorat.
5. Murakkabat ke mizaj ka taayyun
6. Standardization of Compound formulations and their quality control measures.
7. Murakkabat mukhtalif badni nizam se mutalliq: -
  - Amraze Raas
  - Amraze Sadar
  - Amraze Qalb
  - Amraze Meda wa Amaa
  - Amraze Kabid, Mirarah wa Tihal
  - Amraze Kulya wa Masana
  - Amraze Makhsoosa – Mardana, Zanana wa Atfal

- Amraze Aamma
- Hummiyat
- Jarahiya
- Amraze jild

### Dawasazi

1. Unani Dawasazi, historical background and significance in the present context.
2. Istelahate Dawasazi aur unki Efadiyat.  
Taqtee, Daq wa Raz, Burd, Sahaq, Zikhl, Tasweed, Tarweeq, Tasfiya, Tarsheeh, Taqteer, Irgha, Izalae laun, Tajfeef, Tabkheer, Tas'ced, Tarseeb, Asar, Tahleel, Azabat, Tabakh, Naqah, Tajeeb, Iqla, Tabloor, Taqsheer, Ihraq wa Taklis, Tahmeez, Taqliya, Tashwiya, Gasal, Tadheen, Takhmeer wa Taffun, Itfa.
3. Aamale Dawasazi, application and significance.
4. Tadbeere Advia and its scientific validation
5. Ilmlut Taklees, scope and scientific validation.
6. Methods of preparation and uses of various kushtajat
7. Kushton ki Meyar Bandi
8. Aamale Dawasazi aur uska scientific Jaiza.
9. Control of Microbial contamination and preservation of compound medicines  
Sterile Processing, Contamination Control
10. Chand Aghzia ki Tayyari aur unki Efadiyat.  
Mauljuban, Maush shaer and its types, Ma'ul asl, Ma'ul'lahem.
11. Dispensing Procedures and related guidelines.
12. Drug and Cosmetics Act

### Practical

1. Practical concerned with Tadbeere Advia, Kushtasazi and preparation of various Arqiyat, Raoghaniyat, Sat, Khar.
2. Practical concerned with identification of Qiwami Murakkabat and different compound formulations.
3. Preparation of different compound formulations and their standardization.

## PAPER – III

### Standardisation of Unani Drugs

- Aims and Objectives of Standardisation
- Standardisation of Herbal, Mineral, and Animal origin drugs
- Physical Standardisation
  - (a) Moisture content
  - (b) Viscosity
  - (c) Melting point
  - (d) Solubility
  - (e) Optical rotation
  - (f) Refractive index
  - (g) Ash values





- (h) Extractive values
- (i) pH value

- **Chemical standardisation**

- (a) Quantitative Chemical Tests.

- (i) Acid value
    - (ii) Ester value
    - (iii) Peroxide value
    - (iv) Iodine value
    - (v) Hydroxyl value
    - (vi) Saponification value

- (b) Qualitative Chemical Tests for:

- (i) Alkaloids
    - (ii) Carbohydrates
    - (iii) Glycosides Saponins Phenols Resins
    - (iv) Esters
    - (v) Alcohol
    - (vi) Acids
    - (vii) Volatile oil
    - (viii) Fats
    - (ix) Fixed oils

- **Analytical methods in drug analysis**

- (a) Sublimation
  - (b) Distillation
  - (c) Methods of separation and isolation
  - (d) Chromatography
    - (i) Types, aims and objectives.
    - (ii) Thin layer chromatography
    - (iii) Paper Chromatography
    - (iv) Column Chromatography.
    - (v) Liquid Chromatography.
    - (vi) Gas Chromatography.
  - (e) HPLC, HP11C, Mass Spectroscopy,
  - (f) General description of electrophoresis
  - (g) Spectroscopy: UV and flame photometry, Atomic Absorption Spectroscopy

- **Quality control of single drugs of Unani Medicine**

- (a) Adulteration of drugs
  - (b) Aflatoxin contamination
  - (c) Factors affecting quality of drugs
  - (d) Aflotoxins
  - (e) Heavy Metals
  - (f) GMP, GLP, SOP

- **Standardisation of compound formulations**

(Arq, Majoon, Safoof, Qurs and other dosage forms)



- (a) Process standardisation.
- (b) Product standardisation.
- (c) Stability studies and Shelf life

### PRACTICALS

- **Practical demonstration of**

- (a) Total ash value
- (b) Acid soluble, acid insoluble ash.
- (c) Water soluble, water insoluble ash.
- (d) Sulphated ash values.
- (c) Determination of moisture content.
- (d) Determination of extractive values.
- (e) Determination of Acid values, iodine value, peroxide value, saponin value, ester value hydroxyl value.
- (f) Determination of refractive index.
- (g) Determination of Rf value by TLC.

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**PRELIMINARY EXAMINATION**

**MOALAJAT**

**PAPER II**

**Clinical Biochemistry and Genetics**

**Part – A**

**Clinical Biochemistry**

- Basic chemistry of carbohydrates, lipids, amino acids and proteins.
- Enzymes: General characteristics of enzymes & assay methods kinetics assay of some clinically important enzymes.
- Vitamins and minerals.
- Metabolism of carbohydrate lipids and amino acids
- Classification of body fluids and their biochemical co-relation (General considerations)
- Practical (Lab Course)
- LFT, KFT, Sugar profile, Lipid profile.
- Enzyme assays

**Part – B**

**Genetics**

- DNA as Genetic Material: Structure of DNA, Structure of RNA
- DNA Replication, Transcription, Translation
- Mutations : (Basic)
- Chromosomal Abrasions
- Genetic disorders
- Autosomal and sex chromosomal abnormalities
- In-born errors of Carbohydrate, protein and lipid Metabolism (General considerations)
- DNA based diagnosis
- DNA based diagnostic probes
- Population based DNA testing
- Mutation detection
- Gene therapy

**PAPER – III**

**Usoole Tashkhees wa Tajveez**

(Principles of Diagnosis and Treatment)

- Tashkhees ki gharz-o-ghaiyat
- Aam Istefsaraat
- Rudade Mareez (The History Taking)
  - (a) Student's Approach to the Patient
  - (b) History Taking



- (c) General Principles of Examination
- (d) The Case History Recording
- (e) Case Presentation
- (f) Interpretation of clinical Data
- **Umoomi imtehane mareez** (General Examination of Patient)
  - (a) General appearance
  - (b) Mental and Emotional states
  - (c) Physical Attitude, gait, physique
  - (d) Face, eyes, neck, thyroid gland
  - (e) lymphatic system
  - (f) Pulse
  - (g) Respiration
  - (h) Temperature
  - (i) Blood Pressure
  - (j) Routine Examination
  - (k) Assessment of functional Impairment
- **External Manifestations of Disease**
  - a) Inspection of Exterior of the body
  - b) Abnormalities in Head and Neck
  - c) Examination of Mouth, Eye and Ear
  - d) Skin, nails and hair and Special Techniques of the examination
  - e) Upper limb, lower limb
  - f) Genitalia.
- **Imtehan Nizame Ilazim** (Examination of Digestive System)
  - (a) Clinical Symptoms
  - (b) Examination
  - (c) Investigations
  - (d) Recent diagnostic techniques
  - (e) Usoole Ilaj
- **Imtehan Nizame Tanaffus** (Examination of Respiratory System)
  - (a) Clinical Symptoms
  - (b) Examination
  - (c) Investigations
  - (d) Recent diagnostic techniques
  - (e) Usoole Ilaj
- **Imtehan nizame Qalb wa Daurane Khoon** (Examination of Cardiovascular system)
  - (a) Clinical Symptoms
  - (b) Examination
  - (c) Investigations
  - (d) Recent diagnostic techniques
  - (e) Usoole Ilaj
- **Imtehan nizame Baul wa Tanasul** (Examination of Urino-Genital system)
  - (a) Clinical Symptoms
  - (b) Examination
  - (c) Investigations
  - (d) Recent diagnostic techniques



(e) Usoole Ilaj and related assessment scales

- **Imtehan nizame Asaab** (Examination of The Nervous System)
  - (a) Clinical Symptoms
  - (b) Examination
  - (c) Investigations
  - (d) Recent diagnostic techniques
  - (e) Usoole Ilaj
- **Imtehan nizame Ezam wa Mafasil** (Examination of Skeletal System)
  - (a) Clinical Symptoms
  - (b) Examination
  - (c) Investigations
  - (d) Recent diagnostic techniques
  - (e) Usoole Ilaj
- **Imtehan Nafsani** (The Psychiatric Assessment)
  - (a) Clinical Symptoms
  - (b) Examination
  - (c) Investigations
  - (d) Recent diagnostic techniques
  - (e) Usoole Ilaj
- **Imtehan Ghudade laqanati** (Endocrine System)
  - (a) Clinical Symptoms
  - (b) Examination
  - (c) Investigations
  - (d) Recent diagnostic techniques
  - (e) Usoole Ilaj
- **Imtehan Mashaikh** (Geriatrics)
  - (a) Clinical Symptoms
  - (b) History Taking
  - (c) Examination
  - (d) Investigations
  - (e) Recent diagnostic techniques
  - (f) Usoole Ilaj
- **Examination of Haemopoietic system**
- **Examination of children**
- **Examination of unconscious patient**
- **Ethical Issues in Medicine**
- **Nabz**
  - (a) Sharaita Nabz, Tareeqae Imtehan
  - (b) Ajnase Nabz
  - (c) Nabze Mufrad, Nabze Murakkab
  - (d) Asbaabe Nabz
  - (e) Nabz ke Tabai Iktelafaat
  - (f) Nabz ke Marzi Ikhtelafaat
- **Imtihan Baul** - Nazri
- **Imtihan Baraaz** - Nazri

- **Usoole Ilaj**
  - (a) Ilaj ke kulli tareeqe
  - (b) Ilaj bil'dawa ke Qavaneen.
  - (c) Auram ka usoole Ilaj
  - (d) Tareeqae taadil wa tanqiya akhlat
  - (e) Qavaneen wa zaraye Istefragh- Ishal, Qai, Idrar, Huqna, Tareeq, Tanfees, Hijamat, Taleeq, Fasd
  - (f) Tashkhees na hone ke surat me ilaj
- **Nuskha naveesi**

### PRACTICAL

- The students of Moalajat part I<sup>st</sup> will be posted at the IPD unit for imparting practical training.
  - Case presentation is compulsory for every student
  - 3 months posting in I.C.C.U.-
- For utilization of modern equipments like respirator, monitor, syringe pump, central lines (C.V.P.) in I.C.U, C.C.U & Neuro I.C.U & all modern equipments used in clinical emergencies.

## PAPER IV

### Ilaj Bil Tadbeer (Regimnal Therapy)

- **Introduction, Principles and Scope**
- **Concept, objectives and classification**
- **Tadabeer related with Hawa and atmosphere**
- **Tadabeer related with Diet (Ilaj bil Giza)**
- **Tadabeer related with Ilaj Nafsani & Roohani**
- **Geriatric care**
- **Dal`k (Massage)**
  - (a) Definition, Principles, Objectives
  - (b) Classification of Dal`k
  - (c) Description of muscles related to Dal`k
  - (d) Properties and action of oils used in Dal`k
  - (e) Effects of adjuvant drugs in Dal`k
  - (f) Indications and therapeutic uses
  - (g) Adverse effects
- **Riyazat (Exercise)**
  - (a) Definition, Principles, Objectives
  - (b) Classification of Riyazat
  - (c) Scientific interpretation and effects of Riyazat in certain disease like Sports induced disease
  - (d) Therapeutic importance and indications
  - (e) Adverse effects





- **Hamman (Bathing)**
  - (a) Definition, Principles, Objectives
  - (b) Types of Hamman
  - (c) Kinds of Hamman rooms and its importance
  - (d) Therapeutic uses and indications
  - (e) Adverse effects
- **Hajamat (Cupping)**
  - (a) Definition
  - (b) Types
  - (c) Sites and procedures of Hajamat
  - (d) Indications and contraindications
- **Fasd (Venesection)**
  - (a) Definition
  - (b) Sites of Venesection
  - (c) Anatomy and Description of Vessels of Venesection
  - (d) Instruments used in Venesection
  - (e) Pre Venesection Procedure
  - (f) Investigations like Hb%, Bleeding Time, Clotting Time, Prothrombin time, platelet count, blood sugar, Blood group with Rh typing
  - (g) Procedure and precautions
  - (h) Indications and Contraindications
  - (i) Management of Post procedural problems.
- **Irsale Alaq (Leeching)**
  - (a) Definition
  - (b) Description of Leech and its various types
  - (c) Leech collection, storage and preservation
  - (d) Leeching procedure
  - (e) Precautions
  - (f) Indications and contraindications
- **Ishal (Purgation)**
  - (a) Definitions, Principles
  - (b) Indications and contraindications
  - (c) Drugs used for purgation
- **Qai (Emesis)**
  - (a) Definition, aims and objectives
  - (b) Drugs used for Qai
  - (c) Indications and contraindications
- **Idrar (Diuresis)**
  - (a) Definitions, aims and objectives
  - (b) Indications and contraindications
  - (c) Drugs used for Idrar
- **Amle Kai (Cauterisation)**
  - (a) Definition, Aims, Objectives
  - (b) Procedure
  - (c) Precautions
  - (d) Indications and contraindications



- **Nutool (Douching / Irrigation)**
  - (a) Definition, aims and objectives
  - (b) Indications and contraindications
- **Huqna (Enema)**
  - (a) Definition, principles, aims
  - (b) Objectives
  - (c) Procedure
  - (d) Drugs used in huqna
  - (e) Indications and contraindications
- **Tareeq (Diaphoresis)**
  - (a) Definition, aims and objectives
  - (b) Methods and Procedures
  - (c) Indications and contraindications
- **Inkebaab (Vaporisation)**
  - (a) Definition, aims and objectives
  - (b) Methods and Procedures
  - (c) Indications and contra indications
- **Definitions aims, objectives, procedures indications and contraindications of the following regimens**
  - (a) Takmeed, Tikor, Pashoya,
  - (b) Ialam,
  - (c) Nushuq, Tadheen, Tazahha, Saoot
  - (d) Lakhlakha, Tanfees, Sukoob
  - (e) Imala

#### **PRACTICAL**

The students of Moalajat part 1<sup>st</sup> will be posted at the ilaj bil'tadbeer unit for imparting practical training in various regimens.



FINAL YEAR EXAMINATION (3<sup>rd</sup> Year)MOALAJAT

## PAPER – 1

Amraze Nizame Aasab, Amraze Nafsania wa Ghudade Laqanati  
(Diseases of Nervous System, Psychiatric diseases and Endocrine Systems)**Amraze Nizame Asbi**

Suda wa aqsaam, Sarsam wa aqsaam, Warme dimaghi nukhai, Warme Aghshiyae dimagh, Duar, Qoma, Sara, Tashanuuj, Rasha wa aqsaam (Daur raqs aur Parkinsonism), Sakta, Khuraje Dimagh, Falij, Laqwa, Istarkha, Huzale Zohri, Waja ul Asab, Dimaghi Sudde, Jiryane Khoon Dimaghi, Alzheimer's disease

**Amraze Nafsaniya**

Sahar, Nisyaan, Malankholiya, Mania, Kaboos, Izterabe Nafsani, Izmevlaal, Ikhtinaqur raham, Psychosis, Neurosis, Ikhtilaj, Akhoni (Waham), Shahwate Kalbia, Jooul Baqar.

**Ghudade Laqanati**

Ghuddae laqanati aur unki ifrazat ka tasawwur atibba ki nazar mein (umoomi jayaeza)

**Ghuddae Nukhamiya**

Ghuddae Nukhamia ke ifrazat ki qillat wa ifrat se hone wale Amraz e.g., Kibrul Izm, Qazamah (Dwarfism), Zibetus sada, Salate nukhamiya.

**Ghuddae Darqiya**

Ghuddae Darqiya ke ifrazat ki qillat wa ifrat se hone wale Amraz e.g., Farte Darqiya (Hyperthyroidism), Tasammume Darqiya, Qusoore Darqiyaaq, Ghoter (Goiter) Cretinism, Ozema Mashati, Salate Darqiya.

**Ghuddae Janibud Daraiqa**

Ghuddae Janibud darqiya ke ifrazat ki qillat wa ifrat se hone wale Amraz e.g., Farte duraiqiya (Hyper parathyroidism), Qusoore Duraqiya (Hypo parathyroidism).

**Banqaras**

Banqaras ke hissae Laqanati ke ifrazat ki qillat wa ifrat se hone wale Amraz e.g., Zibetus Sukkari (Diabetes mellitus), Qillate Sukkaridum (Hypoglycaemia), Salae Jazeerom (Insulinoma)

**Ghuddae Fauqul Kulya**

Ghuddae Fauqul kulya ke ifrazat ki qillat wa ifrat se hone wale Amraz e.g., Mutalazema Koshing, Aldosteroma, warmul qawatim (Pheochromocytoma), Addison's disease, Naqse aldosteromia (Hypo aldosteronism).

**Metabolic Disorders**

Diabetes mellitus, lipid metabolic disorders, osteoporosis

**Amraze Tavarus**

Sibghi Jasdi Amraz (Autosomal disorder), Sinfi vabasta Amraz (Sex linked diseases).

**Amraze Khusiya**

Ifrazat ka mukhtasar jayeza, Khusiya aur amraze bah ka bahmi taalluq, Jinsi Amraz e.g., Jinsi mubtasar (sexual paucity), Ajil buloogh (Delayed or Incomplete puberty), Mutlazima Klinefelter (Klinefelter syndrome), Acquired testicular defects, Infertility, Salate Khusiya, Tasaddiur Rajal (Gynaecomastia).



**Amraze Khusiyatur Raham**

Balooghe muhtasar (Isosexual precocious puberty). Turner syndrome, Uqr, Salate Khusiyat ur raham.

**PAPER – II**

**Amraze Nizame Tanaffus wa Daurane Khoon, Tauleede Dam,  
Ghudade Lymphaviah**

(Diseases of Respiratory, Circulatory, Haemopoetic Systems, Lymph nodes and disease due to atmospheric pollution)

**Amraz Nizame Tanaffus**

Sual, Warme Hanjra, Warme Qasbatur Riya, Warme Shobatur Riya, Sartane Shobatur Riya, Ittisae Shob, Nafsuddam, Bohtus Saut, Zeequn Nafas, Zaatul Riya, Zaatul Janb, Khuraje Riya, Nafkhatur Riya, Taqayyuhe Sadr, Istesqaus Sadr, Sartaane Riya, Suqoote Riya, Suddae Riya, Tadarrune Revi, Ittisae Shobatur Riya, Faza ki aaludgi se mutaaliq Amraze Riya. COPD, Tumours of bronchus and lungs, respiratory failure

**Amraze Qalb wa Dauraane Khoon**

Sue mizaje qalb, Zoafe qalb, Khafqaan, Warm Ghilaafe qalb, Warm Azlate qalb, Warm Batanae qalb, Warm Batanae qalb hudaari, zubhai sadria, Ghashi, Izamul qalb, Iflaasul qalb, Maitatul qalb, Suqoote qalb imtelai, Corpulmonale, Zaghtuddum qavi, Saqoot Dauraane Khoon satahi, Tasallube sharayeen, Anurisma, Manuatul qalb, Cardiac arrhythmia, Khilqi amraze qalb, Butue qalb, Cardiac arrest, Cardiac failure, Sadma Heart block, pericardial diffusion

**Amraz Samamate Qalb**

Tazaiuqr raseen (mitral stenosis), qusoorur raseen (mitral incompetence), tazaiuqe aurata (aortic stenosis), qusoor aurata (aortic incompetence).

**Amraze Sharayeen wa aurida (Diseases of vessels)**

Atherosclerosis, Aneurism, thrombophlebitis, Burger's disease, Raynaud's disease and other vascular diseases.

**Taftishaat**

Amraze Qalb wa Daurane khoon ke jaanch ke mukhtalif qadeem wa jadid tareeqon ke bare mein malumat. (e.g. ECG, Echocardiography, Cardiac imaging, Catheterization etc.)

**Amraze Dam**

Faqruddam, Abyazuddam, Thalasaemia, Fasade Khoon, Nazafuddam Mizaji, Amraze Injimaduddam, thrombocytopenia

**Immunological Disorders**

**Haemopoetic system**

**Lymph nodes and disease due to atmospheric pollution**

**PAPER – III**

**Amaraze Nizame Hazm, Baul wa Tanasul wa Istahala  
(Diseases of Digestive & Uro-genital systems and Metabolism)**

**Approach towards a patient with Gastrointestinal Disease**

**Amraz Fam (Diseases of Mouth)**

**Amraz Mari (Diseases of Oesophagus)**

**Amraz Maedah (Diseases of Stomach):-**

- Zofc medah

- Sue mizaje medah
- Warme medah
- Qarho-e-medah-o-asna-e-ashari (Peptic Ulcer Disease)
- Kasrat-o-qillat-e-hamoozat-e-maedi
- Sartaan-e-medah (Carcinoma of Stomach).
- Tukhma
- Sue-e-hazm

**Amraz Amaa (Diseases of Intestines):-**

- Zarb-o-khilfa (Malabsorption Syndrome).
- Disorders of Absorption
- Ishaal (Diarrhoea).
- Zalaqul-ama.
- Qoolanj-e-ama (Intestinal colic).
- Baraz-ud-dam (Melena).
- Warm-e-qaulon (Inflammatory Bowel Disease).
- Warm-e-qaulon qarhi.(Ulcerative colitis)
- Diqq-e-ama (Intestinal Tuberculosis).
- Iltehaab-e-miqad (Proctitis ).
- Acute Appendicitis and Peritonitis
- Irritable Bowel Syndrome.
- Intestinal Obstruction
- Common Diseases of Colon and Anorectum

**Diseases of Liver and Biliary Tract:-**

- Zofe kabid.
- Su-c-mizaj-e-kabid.
- Warm-e-kabid (Hepatitis).
- Dubelatul kabid (Liver abscess).
- Yerqaan. (Hyperbilirubinemia)
- Alcoholic liver Disease
- Talaiuf-e-kabid (Cirrhosis of liver)
- Hepatic Failure
- Carcinoma of liver.
- Istasqa (Ascitis).
- Izm ul kabid (Hepatomegaly).
- Hisatul mirara (Cholyolithiasis)
- Warm e mirara (Cholecystitis).
- Other Biliary Diseases

**Amraz Tihal (Diseases of Pancreas):-**

- Warm-e-banqaraas (Pancreatitis).

**All modern diagnostic procedures related to Digestive system.**

**Amraz-e-Nizam-e-Baule-o-Tanassul wa Istahala** (diseases of urinary and reproductive system and metabolism)

**Diseases of Urinary System:****Diseases of Kidney:**

- Su-e-mizaj-e-kuliya.
- Zofe kuliya.
- Warm-e-kuliya.(Glomerulonephritis)
- Mutafarriq Amraz-e-kuliya.
- Diq ul kuliya. (Renal Tuberculosis)
- Saqoot ul kuliya (Renal paranchymal Disease, Acute and Chronic Renal Failure).
- Nephrotic Syndome
- Warm-e-Hauz ul kuliya (Pyelo-nephritis).
- Hisatul kuliya (Renel calculi).
- Hydronephrosis.
- Incontinence of urine.
- Baulud dam (Haematuria).
- Renal lesions in diabetes.
- Urinary Tract Diseases

All modern diagnostic procedures related to Uro-genital system

**Diseases of Reproductive System:**

- Zofe baah.
- Surrat-e-inzal.
- Kasrat-e-Ehtalaam
- Aur mutalique amraz.
- Salpingitis
- Oophoritis
- Per vaginal Bleeding Disorders (Menorrhagia, Metrorrhagia etc.)
- Proctitis
- Sterility

**Diseases of Metabolism:** Common metabolic disorders and diseases

**PAPER IV****Amraze Mutaddiyah, Hummiyat, Jild wa Mafasil**

(Infectious diseases, Fevers and Diseases of Skin & Joints and Autoimmune disorders)

**Amraze Mutaddiyah (Infectious diseases)**

- Mana'at and Tadiya
- Importance of Mana'at in the treatment of infectious diseases
- Classification of Infectious Diseases
- Micro-organism and host interaction
- Nosocomial Infections
- Bacterial Diseases
- Viral Diseases
- Fungal Diseases
- Protozoal Diseases
- Helminthic Diseases
- HIV and associated disorders

**Hummiyat (Fevers)**

- Tareef-e-Humma
- Ufoonat
- Aam Usoole Ilaj

**Amraaze-Jild (Skin Diseases)**

- Applied anatomy of Skin
- Functions and classification of skin
- Examination of Skin and an approach to diagnosing skin diseases
- Principles of therapy
- Disorders of pigmentation
- Disorders of nails
- Diseases of Hair
- Different Skin Diseases
- Skin Infections and Infestations
- Skin in systemic diseases
- Management of skin diseases cosmetology

**Amraz-e-Mafasil (Rheumatology)**

- Clinical examination of musculoskeletal system
- Applied anatomy, physiology and Investigations
- Major manifestations of musculoskeletal diseases

Niqris	(Gout)
Wajaul Mafasil	(Arthralgia)
Warme-Mafasil	(Arthritis)
Tahajjur Mufasil	(Fixation of Joint)
Irqun-Nisa	(Sciatica)
Wajawul Zahar	(Backache)
Wajawul Khasra	(Low Backache)
Wajawul Qutn	(Lumbago)
Osteoporosis	
Ankylosing spondylosis	

- Principles of Management of musculoskeletal disorders

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PRELIMINARY EXAMINATION

KULLIYAT

PAPER II

Hayati Keemiya wa Itlaqi Afal-ul-Aza  
(Biochemistry and Applied Physiology)

Hayati Keemiya (Biochemistry)

**Carbohydrates**

- a. Definition and brief concept of topic
- b. Fundamental concept of glycolysis, difference between glucokinase and Hexokinase, Feeder pathways, citric acid cycle, electron transport chain, oxidative phosphorylation (Mitchell's hypothesis, ATP Synthase)
- c. Shuttle systems (Malate aspartate and glycerol phosphate shuttle)
- d. Lactose intolerance, galactosemia.

**Proteins**

- a. Definition and brief concept of the topic
- b. Structure and classification of amino acids, Zwitterion, pk, isoelectric point, peptide bond, Biologically active peptides, Titration curve. Denaturation of proteins.
- c. Primary, secondary, tertiary and quaternary structure of proteins.
- d. Function and Biological importance of proteins.
- e. Metabolism (Transamination, Deamination and urea cycle)

**Lipids**

- a. Definition and brief concept of topic .
- b. Physical properties, Saponification, iodine number, acid number
- c. Triacylglycerols (TGs), waxes, Phospholipids, sphingolipids, steroids, Lipoproteins
- d. Monolayer, Bilayer and Miscelles formation
- e.  $\beta$ -oxidation of fatty acids (Saturated, unsaturated and odd numbered fatty acids)
- f. Ketone bodies

**Nucleic Acids**

- a. Definition and brief concept of the topic (Nucleosides, nucleotides)
- b. Chemistry of DNA and RNA, Biological importance
- c. Chargaff's rule, Watson and Crick model of DNA, Messelson and Stahl's experiment,  $T_m$  of DNA,
- d. DNA/RNA as molecule of heredity
- e. Replication of DNA (origin of replication, okazaki fragments, properties of DNA Polymerases, klenow fragment
- f. Transcription (Promoter sequences, RNA polymerases, Rho- dependent and independent termination.
- g. Metabolism (salvage pathway, Lesch Nyhan Syndrome)
- h. One gene one poly peptide concept
- i. Polymerase chain reaction

**Enzymes**

- a. Definition and brief concept of the topic
- b. Properties of enzymes
- c. Factors influencing enzyme action
- d. Michaelis Mentem equation,  $V_{max}$
- e. Enzyme inhibition, brief concept
- f. Clinically significant enzymes (SGOT, SGPT, LDH, CPK,  $\alpha$ -Amylase)

**Oxygen Transporting Proteins**

- a. Differences between Hemoglobin & Myoglobin
- b. BOHR effect
- c. Types of Hemoglobin
- d. Hemoglobinopathies
- e. Hemoglobin a better transporter of  $O_2$
- f. Effort of 2,3 Biophosphoglycerate

**Oxygen derived Free Radicals**

- a. Brief concept about free radical generation
- b. Types of radicals
- c. Affiliation with diseases
- d. Role of ROS in antimicrobial and cytotoxic activity.

**Metabolism**

- a. Basic Concepts and design (Anabolism & Catabolism) distribution of nutrients in live amino acids, fatty acids) carbohydrates
- b. ATP, NADH and  $FADH_2$  as energy sources.

**Itlaqi Afal-Ul-Aza (Applied Physiology)****1. Internal Environment:**

Cell membrane Transport, Body fluids, Fluid balance, Haemostasis, Coagulation of blood, concept of Unani Medicine regarding blood coagulation.

**2. Applied physiology of various systems of Human Body:**

Cardiovascular System, Respiratory System, Digestive System, Metabolism, Uro-genital System, Nervous System, Endocrinology, Reticuloendothelial System.

**3. Nutrition and Diet****Practical**

1. Laboratory Tests for elements.
2. Laboratory analysis of body fluids with reference to its contents.
3. BMR in different age groups.
4. Histological observation Aza-e-Mufradah wa Murakkabah.
5. Basic concepts of colorimetry, Beer Lambert's Law,  $\lambda_{max}$
6. Quantitative estimation of glucose in Serum.
7. Quantitative estimation of Uric acid in Serum.
8. Quantitative estimation of bilirubin in Serum.
9. Quantitative estimation of Cholesterol in Serum.
10. Quantitative estimation of HDL in Serum.
11. Determination of SGOT activity in Serum.
12. Determination of SGPT activity in Serum.
13. Determination of Alkaline Phosphatase activity in Serum.

PAPER-III

**Kulliyate Umoore Tabiya-I**  
(Arkan, Mizaj, Akhlat wa Aaza)

1. Askan, Anasir, Listuqussat ka Ijamati Bayan, Ansir ke Bare men Atibba ka ikhtilaf, Anasire arba ke baseet aur murakkab hone ka saineey mutakah, Anasire badane insani ka qadeem wa jadeed naqriyah.
2. Nazariya-e-Mizaj. Hukma wa atibba ke nazriyat aur unke ikhtilafat ki sciency ifadiat, jadeed nazriya-e-badan-e-insan, Mizaj-e-Aaza, Mijaz-e-Asnaf ki raushni mein inka taqabuli Mutalah.
3. Akhlat ka nazriyah. Tareef aur Mana, Mukhtalif atibba ke nazriyat, shaikh ka nazriyah-e-Rutubat-e-oola wa Rutubat-e-Saniyah aur Tibb-e-jadeed ki ru se uski Tauzeeh, aqam-e-rutubat. Akhlat ke aqam aur unka Tazkirah ma afal wa khawas, Shakar-e-angoori ka wajood, akhlat men namakiyat ki maujudgi, Injimid-e-Khoon, Rutubat-e-baizah, Rutubat-e-duhniyah, Khuyat ki maujudgi. Tibb-e-jadeed ki raushni men iska jayza.
4. Aaza ki Tareef. Unani Tib mein aaza (Khalyah, naseej) ka tazkirah, Aza-e-mufrada wa murakkabah ka mafhum, iska sciency taqabuli jayza, Aza-e-Racesa, Aza-e-Asliya, Aza-e-aaliya, Aza-e-nafsaiyah, Aza-e-Tabiyah, Aza-e-Haiwaniyah, Aza-e-Tanasulyah, Khidmat-e-Muhayyah, Khidmat-e-Muddiyah, Aza-e-Mutiyah, Aza-e-Qabilah, iska itlaqi bayan.

PAPER-IV

**Kulliyate Umoore Tabiya - II**  
(Arwah, Quwa wa Afa'al)

1. Rooh ka nazriyah. Tareef, Aqam, Muqam, Masalik. Hararat-e-Ghariziah, Hararat-e-Ghareebiah, Hararat e-Muqassirah, iska taqabuli Mutalah Tibb-e-jadeed ki raushni mein.
2. Quwa ka nazriyah wa tareef. shaikh ke mutabiq Rooh, Quwa aur afal ka bahimi taaluf. Quwwat-e-Tabiyah, Quwwat-e-haiwaniyah. Quwwat-e-Tanasulyah, Inka Taqabali mutalah Tibb-e-jadeed ki raushni mein. ECG ka mutalah.
3. Afa'al ki Tareef aqam aur inki misalein.

**Practical**

1. Maamali Imtchanat ke zariyah se Arkan ki maujudgi ka mutalah, Sodium, potassium, Calcium, iron aur arkan ki maujudgi.
2. Mizaj ka sciency vujud BMR ke zariyah.
3. Akhlat se mutaalliq, Rang ke aitbar se, Qiwan ke itebar se, Albumin, Globulin, hormones, shakar, namakiyat, jaseemat ka maloom karna, (Maamali imtihanat ke zariyah).
4. Aza ke mutaalliq (slides) histology ke zariyah mushahida.
5. Rooh, Quwa, Afaal ka ECG, Pulse oxymeter



**FINAL YEAR EXAMINATION (3rd Year)**

**PAPER -I**

**Kulliyate Usule Ilaj, Asbab Wa Alamat**

1. Amraz, Asbab, Araz-e-Kuliyah.
2. Ahwal-e-badan, Mukhtalif Atibba ke Nazriyat, unka Sciency taqabuli jayza.
3. Amraz ki jins, Sabab, Marz, Arz.
4. Amraz-e-Mufrada. Su-e-Mizaj Sada, Su-e-Mizaj Maddi Su-e-Tarkeeb, Tafarruq-e-itteasal, Amraz-e-Murakkaba, chand umoor jinka shumar Amraz men kiya jata hai.
5. Awqat-e-Amraz aur inka sciency taqabuli jayza, Amraz se mutaalliq khusoosi Tazkirah (Marz ka nam aur uski munasibat).
6. Asbab-e-Kulli(Umooi Tazkira), Sitta Zarooriya, Ghair Zarooriya ki Sciency ifadiyat.
7. Asbab: Musakhkhinat, Mubarridat, Murattibat, Mujaffifat, Mufsidat-e-Shakl, Suddah, Majari, Khashunat, Malasat, Khala, Harkat-e-Ghair Tabiyah Ziyadat-e-Azm, Aud se nuqsan, Tafarruq-e-itteasal, Qarha ke asbab, Warm ke asbab, Mutlaqan dard ke asbab, Infiradi dard ke asbab, Sukun-e- dard ke asbab, Dard se kya Asrat paida hote hain, Asbab-e-Lazzat. Harkat Kyunkar dard pahunchati hai, Akhlat-e-Radiyyah Kyunkar dard pahunchati hai, Riyah Kyunkar dard paida karti hai. Takhma, badhazmi, Imtila, Ehtibas wa Istifragh ke asbab, Zuf-e-Aza ke asbab, (Muzkura Tamam ka sciency wa Taqabuli Mutalah.
8. Amraz wa Dalail (Alamat) wa Umooi Tazkirah,, Amraz-e-Khasa aur Amraz-e-Shirkiyah ke Alamat-e-Fariqa, Alamat-e-Amzajah, Mizaj-e-Motadil ke Alamat, Etedal se Kharij ki alamat, Imtila ki alamat, Her her Khilt ke ghalbe ki alamat, Suddah ki alamat, Riyah ki alamat, Awran ki alamat, Alamat-e-Tafarruq-e-itteasal,

**Practical**

Mazkura Umoor ke mushahidat wa Tajribat.

**PAPER-II**

**Kulliyate Nabz wa Baul o Baraz**

1. Nabz, baul wa baraz ka Taqabuli Mutalah
2. Nabz ki tareef, ajnas wa aqsam, Mukhtalif afrad ki nabz (Mard, aurat, hamila, ghair hamila, bachch, hawan, bordha) Amraz ki Tashkhees, nabz ke zariyah
3. Baul: Zaraya-e-Istiolal, rang, bu, miqdar, Qiwan, Shaffafiyat, Takadur, Rusb, Zubda (Jhag) aur Radd-c-Amal, Amraz ki Tashkhees baul ke mushahide ke zariyah.
4. Baraz: Zarayah-e-Istidlal, Rang, bu, Miqdar, Qiwan, Zubda (Jhag), Amraz ki Tashkhees baraz ke mushahide ke baul mushahide ke zariyah.

**Practical**

1. Nabz-e-Tabayi wag hair tabayi ka qadeemaur jaded Tareeqe ke matabiq mushahida.
2. Ma amali Imtilanat: Khoon, Baul, baraz ka Taqabuli jayza jadeed Science ki raushni men.
3. La-Shuāai ke zariyah Tashkees
4. ECG ka mutalah



PAPER III

Itlaqi Kulliyat

1. Kulliyat ka mafhum aur uska itlaqi mutalah
2. Qawaneen-e-Ilaj. Aam Tazkirah wa Tafseer
3. Zarayah-e-Ilaj, Nazariyat wa Falsafa
4. Ilaj Bil Tadbeer. Tareef wa tafseel maā  
Itlaqi Mutalah, Tadbeer Tareeqi: Qai, ishal, idrar, tareeq
5. Ilaj Bil ghiza: Tareef wa tafseel maā itlaqi mutalah Ahkam-c-ghaza wa paani, Ghiza ke kaifiyat, Nauyyiat wa Awqat, Taghzia wa Naqs-c-Taghzia.
6. Ilaj Biddawa: Tareef wa Taqseem maā italaqi mutalah.  
Dawa ki aqam: Taskheen, Tabreed, Tarteeb, Tajfeef-c-Badan
7. Ilaj Bilyad: Tareef wa tafseel maā itlaqi mutalah, Fasd. Kai, Hajamat, Taleeq.

**Practical**

Mazkura bala umoor ka matab mein mushahida.

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PRELIMINARY EXAMINATION

TAHAFFUZI WA SAMAJI TIB  
(Preventive and Community Medicine)

**PAPER – II**  
Epidemiology

**Concept of Disease**

- Definitions of Disease
- Classification of Disease
- Causation
  - (i) Temperamental
  - (ii) Structural
  - (iii) Epidemiological Triad
  - (iv) Web of Causation
- Concepts of Prevention and Control as adopted in changing Environment
- Natural History of Disease

**Introduction to the epidemiology**

- Definition
- Historical aspect
- Hippocrates as father of epidemiology
- Objectives
- Approach

**Mizaj and its alteratives:**

- Mizaj and health
- Preventive approaches
- Alteratives
- Methods of moderation in modulators
- Impact of alterative on health

**Dynamics of disease transmission**

- Mode of transmission
- Explanation of related terms
- Disease spectrum

**Measurement of disease and health**

- Prevalence
- Incidence
- Death rates, surveillance

**Screening**

- Why, in whom and how
- Validity and specificity of screening tests
- Predictive value
- Reliability
- Variations

**Natural history of the disease**

- Prognostic methods

**Randomized trials and their uses**

- Method and types of randomization
- Selection
- Study designs
- Sample size
- Reporting of result

- Ethical consideration
- Identification of cause**
  - Case control and cohort studies
  - Cross sectional studies
  - Selection of case and cohort
  - Matching
  - Bias and its types
- Establishment of association**
  - Types of risk and their measurement
  - Odds ratio
  - Preventive value test
- Inference from epidemiological studies**
  - Causation
  - Ecological study
  - Types of associations
  - Types of causal association
  - Criteria for causal relationship
  - Confounding, interaction
- Application of epidemiological approach in Unani medicine context**
  - Context of Arkan
  - Mizaj
  - Akhlat
  - Ghiza
  - Epidemiological research module
- Evaluative value of epidemiology**
  - Application of epidemiological approach to evaluate health services
  - Preventive services
  - Validity of screening test

### PAPER III

#### Asbabe Sitta Zaroriya

##### **Concept of Health**

- (a) Definitions of Health as described by Unani physicians, Modern Scientist and W.H.O.
- (b) Determinants of Health
  - (i) Structural
  - (ii) Temperamental
  - (iii) Air
  - (iv) Water
  - (v) Diet
  - (vi) Occupation
  - (vii) Inhabitant
  - (viii) Personal Habits and habitat (life styles and behavioural disorder)
  - (ix) Age & Sex
- (c) Dissolution of Rutoobate Ghareezia and factor responsible for
- (d) Indicators and Dimension of Health
- (e) Spectrum of Health and Disease
- (f) Right to Health

##### **Asbabe Sitta Zaroriya**

- Tareekhi Pasmanzar, Taa'ruf, Ta'reef wa Ahmiyat
- Mashmoolat

**(a) Hawae Muheet (Ambient Air):**

Ta'reef, Zaroorat, Zaraq'ya, Hawae Jayyadul Jauhar, Fasade Hawa (Taghayyurat wa Aaloodgi) Asrat, Awariz wa Amraz, Tahaffuz (Taqaddum Bilhifz) wa Tadabeer (Hifz ma Taqaddum)

**(b) Makoolat Wa Mashroobat (Foods and Drinks):**

**Ghiza:** Ta'reef, Darjabandi, Zaroorat, Zaraq'ya, Mutawazin Ghiza, Ahkamate Ghiza, Naqse Ghiza (Taghziyah), Farte Ghiza (Taghziyah) wa Fasade Ghiza – Asrat, Awariz wa Amraz, Tahaffuz (Taqaddum Bilhifz) wa Tadabeer (Hifz ma Taqaddum)

**Pani:** Ta'reef, Darjabandi, Zaroorat, Zaraq'ya, Mac Jayyadul Jauhar, Fasade Aab (Aaloodgi), Asrat, Awariz wa Amraz, Tahaffuz (Taqaddum Bilhifz) wa Tadabeer (Hifz ma Taqaddum)

**(c) Harkat Wa Sukoone Badni (Bodily Movements and Repose):**

Ta'reef, Zaroorat, Taqseem, A'am Maqasid, Tabaie wa Ghair Tabaie – Asrat, Tadabeer

**(d) Harkat Wa Sukoone Nafsan (Psychic Movements and Repose):**

Ta'reef, Zaroorat, Tabaie wa Ghair Tabaie – Asrat, Tadabeer, Rooh ki Harkat ka Itlaqi Mutalea

**(e) Naum Wa Yaqza (Sleep and Wakefulness):**

Ta'reef, Zaroorat, Tabaie wa Ghair Tabaie – Asrat, Tadabeer, Harkate Rooh aur Hararate Ghareeziyah, Harkat wa Yaqza Aur Sukoon wa Naum mein Mumasilat

**(f) Ehtabaas Wa Istafragh (Retention and Evacuation):**

Ta'reef, Ahmiyat, Zaroorat, Tabaie wa Ghair Tabaie – Asrat, Tadabeer

- **Asbabe Sitta Zarooriya aur Mizaj**
- **Asbabe Sitta Zarooriya aur Akhlat**

**PAPER IV****Environmental Health and Sanitation****Definition, Types****Physical Environment**

- Water, Air, Soil, Housing, Wastes, Radiation, Noise, Light
- **Water**
  1. Characteristics
  2. Requirements
  3. Uses
  4. Sources
    - a. Rain
    - b. Surface Water
      - i. Reservoirs
      - ii. Rivers & Streams
      - iii. Tanks, Ponds & Lakes
    - c. Ground Water



- i. Wells
      - Deep Wells
      - Shallow Wells
      - Tube Wells
    - ii. Springs
  - 5. Water Pollution
  - 6. Purification of Water
    - a. Large Scale
      - i. Storage
      - ii. Filtration
        - Slow Sand Filtration
        - Rapid Sand Filtration
      - iii. Disinfection
    - b. Small Scale
      - i. Household purification of Water
      - ii. Disinfection of Wells
    - c. New Techniques
  - 7. Water Quality
    - a. Acceptability Aspects
    - b. Microbiological Aspects
    - c. Chemical Aspects
    - d. Radiological Aspects
  - 8. Surveillance of Drinking Water Quality
  - 9. Water Conservation
    - Air
      - 1. Composition
      - 2. Requirements
      - 3. Air Pollution
        - a. Sources
        - b. Meteorological Factors
        - c. Air Pollutant
        - d. Prevention and Control of Air Pollution
        - e. Disinfection of Air
      - 4. Ventilation
      - 5. Disaster
        - a. Definition
        - b. Hazards
        - c. Management
    - **Soil**
    - **Housing**
      - a. Social Goal of Housing
      - b. Standards
      - c. Rural Housing
      - d. Housing and Health
      - e. Overcrowding
      - f. Indicators of Housing
      - g. Public policy
    - **Wastes**
      - a. Definition
      - b. Sources

- c. Types
- d. Latrine
  - Types
- e. Health Hazards
- f. Treatment & Disposal Technologies
- g. Excreta Disposal
- **Radiation**
- **Noise**
- **Light**

### **Biologic Environment**

- **Medical Entomology**
  1. Mosquito
  2. Housefly
  3. Sand fly
  4. Lice
  5. Fleas
  6. Rodents
  7. Insecticides

### **Social Environment**

- **Occupation**
  - a. Occupational Environment
  - b. Hazards
  - c. Diseases
  - d. Prevention, Control & Measures
    - Medical Measures
    - Engineering Measures
    - Legislation
- **Nutrition**
  - a. Definition
  - b. Classification of Foods
  - c. Nutrients
    - i. Macronutrients
      - Proteins
      - Carbohydrates
      - Fats
    - ii. Micronutrients
      - Vitamins
      - Minerals
  - d. Balanced Diet
  - e. Principal Foods
  - f. Nutritional Requirements
  - g. Energy
  - h. Nutritional Problem in Public Health
    - i. Low Birth Weight
    - ii. Protein Energy Malnutrition (PEM)
    - iii. Xerophthalmia

- iv. Nutritional Anacmia
- v. Iodine Deficiency Disorder (IDD)
- vi. Endemic Fluorosis
- i. Life style diseases
  - a. Cardiovascular Diseases
  - b. Diabetes
  - c. Obesity
  - d. Cancer
  - e. Hypertension
- j. Assessment of Nutritional Status
  - Assessment Methods
    - a. Clinical Examination
    - b. Anthropometry
    - c. Laboratory & Biochemical Assessment
    - d. Functional Indicators
    - e. Assessment of Dietary Intake
    - f. Vital Statistics
    - g. Assessment of Ecological Factors
  - k. Nutritional Surveillance
  - l. Social Aspects of Nutrition
  - m. Food Hygiene
  - n. Food Borne Diseases
  - o. Food Toxicants
  - q. Community Nutrition Programmes



FINAL YEAR EXAMINATION (3<sup>rd</sup> Year)

PAPER I

Amraze Mutaaddi Wabae

**Epidemiology of infectious disease**

- Explanation of related terms
- Concept of putrefaction and its impact on *rutubate hadamia*
- Causes of putrefaction
- Waba and its causes
- Disinfection
- Isolation
- Prevention

**Air borne diseases Viral Bacterial**

- Humiyat
- Measles
- ARI
- Rubella
- Influenza and variants
- Diphtheria
- Pertussis
- Meningitis
- Tuberculosis

**Water borne diseases**

- Typhoid
- Acute diarrheal disease
- Cholera
- Hepatitis A,E
- Poliomyelitis
- Dracunculiasis
- Amoebiasis
- Giardiasis

**Soil borne diseases**

- Ascariasis
- Ancylostomiasis
- Tetanus

**Vector borne diseases**

- Malaria
- Filarial
- Plague
- Leishmaniasis
- Arboviral diseases
- Rickettsial diseases

**STI, HIV**

**Surface infection**

- Rabies
- Leprosy



## PAPER II

Tadabeer Hifze Sehat**Ta'arruf Tadabeer hifze sehat****Riyazat:**

- Ta'reef, Aghraz Maqasid, Aqam, Fawaid, Sharait, Condition Specific Riyazat

**Aa'ya:**

- Ta'reef, Aqam, Tadabeer

**Dalak:**

- Ta'reef, Aqam, Physiological effects, Uses (Indications), Contraindications, Practical aspect of Dalak, Sequence of Dalak, Oils for dalak, Duration of dalak, Condition specific dalak

**Hamam:**

- Definition, Structure, Fawaid, Sharait, Contraindications, Condition specific hamam

**Tareeq:**

- Definition, Methods, indications, Aghraz wa maqasid

**Ishal:**

- Introduction, Mushil ke liye Ayyam wa awqat, Tadbeer daurane mushil, Ishal for prevention of disease and promotion of health, Mushil ke bad aab wa ghiza, Tabreed

**Qai:**

- Introduction, need, awqat, Qai ke bad munasib Tadabeer, Qai ke aaraz aur unka ilaj, Kasrate qai ke nuqsanat

**Fasd:**

- Tareef, Waqt, Aadab, Ahkam, Mashhoor varceden, Complications

**Hijamat:**

- Introduction, time, Sites, Indications, Mode of action

**Taleeq:**

- Classification of leech, Medicinal efficacy of biochemical present in leech saliva, indications, Method, application and removal of leech, after treatment

**Idrar:**

- Definition, types, indications of each type

**Tanweem:**

- Importance of sleep, duration of sleep, Effects of excess of sleep, Tadabeer barae Naum

**Tarammul:**

- Introduction, indications, effects

**Tazaha:**

- Introduction, indications, effects

**Tadheen:**

- Introduction, indications, Use of Oils, effects

**Tadabeer hifze sehat balihaz umer:**

- tadbeer moulood, Tadabeer atfal, Tadabeer saba, Tadabeer mashaikh, Naujawano ki Tadabeer

**Tadabeer hifze sehat aur mukhtalif mausamiyat:**

- **Mausam Rabi:** Tarruf, Asrat, tahaffuzi Tadabeer
- **Mausam Saif:** Tarruf, Asrat, tahaffuzi Tadabeer
- **Mausam Shita:** Tarruf, Asrat, tahaffuzi Tadabeer
- **Mausam Khareef:** Tarruf, Asrat, tahaffuzi Tadabeer

Mizaj ke lihaz se tahaffuzi Tadabeer:  
Tadabber hamla:  
Istafraagh bataaur Taqaddum bil hifz:

**PAPER III**  
**Health Care System**

- Health Education  
Sehati Taleem ke aghraz, maqasid, tareeqa, mawad, usool.  
Sehati Nigahdasht ke Nizam – Mukhtalif Darjat  
Khandani Bahbood (Family Welfare)  
Tareef wa Maqasid  
Buniyaadi Insaani Huquq  
Khandani Mansoobabandi ki Ahmiyat (Sehati wa samaji)  
Mardum Shumari  
New Revised Population Policy  
Maney Hamal ke nazariyat aur Tadabeer  
Evaluation of Maney hamal tadabeer  
Qaumi Khandani Mansoobabandi Programme  
Hukumat ki Taraf se kiye janewale Iqdamaat  
Sehat se mutaalliq Qawaneen  
Sehati Khidmaat  
Peshawarana Amraz  
Sehati Mansoobabandi aur Intezam  
**Qaumi Sehati (National Health) Programmes**  
**Qaumi Sehati (National Health) Policies**  
**Sehati Tanzeemat (Health Organization)**  
(a) Objectives and their Functions  
(b) International Health organizations:  
(i) WHO, UNICEF, UNESCO, UNDP, FAO, ILO, USAID, World Bank,  
International Red Cross, FORD Foundation, Rockefeller Foundation,  
CARE  
(c) Health organizations in India:  
(i) Health Organizations – Central Level  
(ii) Health Organizations – State Level  
(iii) NGOs.

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PRELIMINARY EXAMINATION

QABALAT WA AMRAZE NISWAN

PAPER II

Hayaati Kimiya-wa-Itlaqi Janiniyat  
(Biochemistry and Genetics)

**PART- A Biochemistry**

**Theory: Introduction to Biochemistry:**

Basic concept of cell structure and functions.

Chemical composition of human body and major bio-molecules.

Scope and importance of biochemistry and major bio-molecules.

Scope and importance of biochemistry in medicine and research.

**Carbohydrates**

Structure, function and relation

Biochemical importance and classification (with structure).

Digestion, absorption and metabolism

Homeostasis of blood sugar

Applied biochemistry.

Diabetes mellitus.

Glycosuria.

Inborn error of metabolism.

**Lipids**

Structure function relation.

Biological membrane.

Biochemical importance and classification (with structure).

Digestion, absorption and metabolism.

Importance and classification of lipoprotein.

Cholesterol metabolism.

Hypercholesterolemia.

Hyper triglyceridemia

Ketosis

Inborn error of metabolism.

**Proteins**

a. Structure function relation

b. Biochemical importance and classification (with structure)

c. Digestion, absorption and metabolism.

d. Classification of peptides and amino acids.

e. Biochemical importance and metabolism of essential amino acids.

g. Methods of hormone assay.

h. Biochemical importance, nomenclature and classification of enzymes.

i. Applied biochemistry.

Clinical enzymology.

Inborn error of metabolism.



Signal transduction  
Hemoglobin and porphyrias.

#### **Nucleic Acids**

DNA structure RNA structure  
Structure function relation  
Chemistry and biological importance.  
Protein synthesis.  
Biosynthesis and catabolism of purines and pyrimidines.  
Applied biochemistry.

- Recombinant DNA technology.
- Hyperuricaemia
- Inborn error of metabolism.

#### **Water and Minerals**

- a. Body fluid in unani medicine and classification and biochemical correlation general consideration
- b. Distribution of fluid in body
- c. Water homeostasis
- d. Biochemistry of major, minor trace elements (Fe, ca, P, mg, mn, zn, cu, I, F, se. and Mo).
- e. Applied biochemistry -- electrolyte disturbances (Na and K)
- f. Acid base balance.

#### **Vitamins**

Classification and chemistry (with structure).  
Applied biochemistry.  
ENZYMES: general characteristic and clinically important enzymes.  
Deficiencies  
Hypervitaminosis.

#### **Immunochemistry**

- a. Component of immune system.
- b. T and B lymphocytes
- c. applied immunology – AIDS, Rheumatoid Arthritis

#### **Biochemistry of Hormone.**

##### **Practical:**

1. Functions of various organs and their biochemistry assessments.
2. Specimen preparation analysis blood, urine and CSF.
3. Significance of various tests of carbohydrates, proteins and lipids.
4. Principles of analytical techniques- analytical chemistry, photometry, chromatography and immunoassay.
5. Biochemical tests of blood;
  - Quantitative estimation of glucose, urea, creatinine, cholesterol, triglycerides, uric acid, proteins, Phosphate, triaminase.
6. Biochemical tests of urine:
  - Tests of normal constituents

- Organic: urea, uric acid and creatinine
  - Inorganic: bicarbonates, chloride, phosphate, ammonia and sulphate
7. Tests of abnormal constituents
- Proteins, glucose, ketones, bile salts, and bile pigments and blood
  - Quantitative estimation of glucose, calcium, diastase and creatinine.
8. Biochemical tests of faeces: occult blood, bile pigments, fats and fatty acids.
9. Hormonal assay.

#### **PART – B Genetics**

1. Medical genetics – definition, scope and branches.
2. Mendelian inheritance:
  - History of genetics
  - Mendel's experiments
  - Terminology and definitions
  - Law of segregation
  - Law of independent assortment
3. Extension to Mendelian segregation patterns:
4. Modification of Mendelian ratios
5. Multiple allelism eg:- ABO blood group inheritance in man
6. Blood group incompatibility eg:- Rh factor
7. Cell division and chromosomal segregation:
8. Cell cycle
9. Mitosis
10. Meiosis
11. Genetics of sex determination and differentiation:
12. Mechanism of sex determination
13. Sex linked inheritance eg: colour blindness, haemophilia, DMD, etc
14. Sex chromatin and X-inactivation
15. Cytogenetics:
16. Chromosome morphology
17. Chromosome variations – structural aberrations, numerical aberrations
18. Components of chromatin histones and non histones
19. DNA packaging
20. Biochemical genetics:-
  - Inborn errors of metabolism
  - Disorders of amino acids, Carbohydrates, lipids and mucopolysaccharides.
21. Molecular genetics:-
  - DNA and RNA as nucleic acids
  - Structure of DNA-primary, secondary and tertiary
  - Watson and Crick model
  - Forms of DNA
  - Structure of RNA
  - Types of RNA, m-RNA, t-RNA, r-RNA.
  - DNA replication
  - Central dogma of molecular biology
  - Genetic code

- Protein biosynthesis-transcription and translation
22. Genetics of cancer:-
- Classification and function of oncogenes
  - Relation of oncogene's to chromosomal defects
  - Apoptosis
23. Principles of genetics by Klug
24. Principles of genetics by Gardner

### PAPER III

#### Itlaqi Tashreeh wa Munafe ul Aza

(Applied Anatomy and Physiology of female reproductive system)

#### I. Applied Anatomy

- Female urogenital system- normal and applied aspects.
- Abdomen, pelvis, pelvic floor, anterior abdominal wall, upper thigh (inguinal ligament, inguinal canal, rectum, and anal canal).
- External and internal genitalia applied aspects, developmental defects.

#### II. Physiology of ovaries, uterus, and fallopian tubes.

#### III. Gametogenesis, fertilization, implantation and early development of embryo.

#### IV. Physiology of menstruation, puberty, adolescence and menopause.

#### V. Endocrinology related to female reproductive system.

#### VI. Anatomical and Physiological changes during pregnancy and parturition

#### VII. Post natal physiological changes.

#### VIII. Mammary glands

- Structure
- Control of breast development
- Physiology of Lactation
- Milk and its composition

#### IX. Humoral and cellular immunology in AMRAZ E NISWAN

#### X. Immunology of pregnancy.

#### XII. Fetal growth and development, fetal physiology and circulation.





FINAL YEAR EXAMINATION (3<sup>rd</sup> Year)

PAPER – I

QABALAT WA AMRAZE NAUMAULOOD  
(Obstetrics and Neonatology)

- The full range of obstetrics, including high-risk obstetrics
- Genetics, including the performance and assistance of prenatal diagnostic and therapeutic procedures and patient counseling
- Learning operative vagina deliveries, including obstetric forceps or vacuum extractor.
- Performing vaginal breech deliveries
- Performing vaginal births after previous cesarean delivery
- The residents must learn the principles of general and spinal anesthesia, together with management and the complications of these techniques.
- Experience in the management of critically ill patients
- Immediate care of the newborn, every resident must have experience in resuscitation of the human newborn, including Tracheal intubation, the principles of general neonatal complications must be learned a well.
- Puerperium and postnatal care and complication.
- The full range of commonly employed obstetrical diagnostic procedures including imaging techniques especially ultrasonography.
- Social obstetrics and vital statistics.

**Fetus and Newborn**

- Initiation of air breathing-stimuli to breath air
- Management of delivery-immediate care, newborn resuscitation
- Methods to evaluate new born condition-APGAR score, umbilical cord, blood acid base studies
- Preventive care-eye infection prophylaxis B immunization, vit-K, universal newborn screening
- Routine newborn care-estimation of gestational age, skin care, umbilical cord, feeding icterus neonatorum, circumcision, rooming-in, hospital discharge
- Neonatal hyper bilirubinaemia and management.
- Neonatal sepsis prevention, detection and investigations.
- Management of common neonatal problems.

**Diseases of Fetus and New Born**

**A. Diseases of the preterm fetus and new born**

- Respiratory distress syndrome
- Retinopathy of prematurity
- Intraventricular hemorrhage
- Necrotizing enterocolitis
- Brain disorders-neonatal encephalopathy, cerebral palsy
- Infant outcome in extreme premature birth
- Anemia
- Isoimmuniozation
- Hyperbilirubinaemia
- Non immune hydrops fetalis



- Fetal cardiac arrhythmia

**B. Diseases of the term fetus and neonates**

- Respiratory distress syndrome
- Meconium aspiration syndrome
- Hemorrhagic diseases of the new born
- Thrombocytopenia-hyperviscosity
- Polycythemia-hyperviscosity

**C. Fetal death**

- Definition of fetal mortality
- Causes of fetal death
- Evaluation of the still born infant
- Pregnancy after previous still birth

**D. Injuries of the fetus and newborn**

- Spontaneous intracranial hemorrhage
- Intraventricular hemorrhage from mechanical injury
- Cephalohematoma
- Nerve injuries
- Skeletal and muscle injury and congenital injury

**PAPER – II**

**AMRAZE NISWAN**

(Gynaecology)

- The full range of the content of gynecology, humoral and temperamental etiological theories and unani treatment.
- Diagnosis and treatment of stress incontinence and urethral syndrome.
- Oncology including radiation and chemotherapy.
- Diagnosis, surgical and non -surgical management of breast disease, including fine needle aspirations and mammogram.
- Infertility.
- Psychosomatic and psychosexual counseling.
- Experience in the management of critically ill patients.
- Clinical examination.
- Contraception (male and female).
- Medical termination of pregnancy.
- Safe abortion – selection of cases.
- Techniques and management of complication of Medical Termination of Pregnancy
- National health programmes example-.RCHC.

## PAPER – III

Medical and Surgical Complications in Obstetrics and Gynaecology**I. General Considerations, Maternal Evaluation and Medications****II. Critical Care and Trauma**

- Obstetrical intensive care
- Acute pulmonary edema.(heart failure, acute RDS)
- Sepsis syndrome
- Trauma of pregnancy
- Cardiopulmonary resuscitation

**III. Obesity**

- Definition
- Associated morbidity and mortality
- Treatment of obesity
- Pregnancy and obesity

**IV. Cardiovascular Diseases**

- Diagnosis of heart diseases
- General management
- Surgical corrected heart disease
- Valvular heart diseases
- Congenital heart diseases
- Other cardiovascular conditions

**V. Chronic Hypertention**

- Definitions
- Diagnosis and treatment
- Preconception and early pregnancy evaluation
- Effects of chronic hypertension on pregnancy
- Management during pregnancy

**VI. Pulmonary Disorder**

- Pneumonia
- Asthma
- Tuberculosis

**VII. Renal and Urinary Tract Disorders**

- Urinary tract changes during pregnancy
- Assessment of renal disease during pregnancy
- Urinary tract infection
- Nephrolithiasis
- Glomerulopathies
- Polycystic kidney diseases
- Chronic renal diseases
- Pregnancy after renal transplantation
- Dialysis during pregnancy
- Acute renal failure

**VIII. Gastrointestinal Disorders**

- Diagnosis techniques
- Nutritional support
- Disorders of the upper gastrointestinal tract
  - i. Hyperemesis gravidarum
  - ii. Reflex esophagitis
  - iii. Hiatal hernia
  - iv. Diaphragmatic hernia
  - v. Achalasia
  - vi. Peptic ulcer
  - vii. Upper gastrointestinal bleeding
- Disorders of the Small Bowel Colon
  - i. Inflammatory bowel diseases
  - ii. Intestinal obstruction
  - iii. Appendicitis

### **IX. Hepatic, Biliary Tract and Pancreatic Disorders**

#### **A. Diseases of the liver**

- i. Intrahepatic cholestasis
- ii. Acute fatty liver
- iii. Acute viral hepatitis
- iv. Cirrhosis
- v. Portal hypertension
- vi. Liver transplantation
- vii. Chronic hepatitis

#### **B. Diseases of the gallbladder and pancreas**

- i. Cholelithiasis
- ii. Cholecystitis
- iii. Pancreatitis
- iv. Pancreatic transplantation

### **X. Hematological Disorders**

- Anaemia
- Hemoglobinopathies
- Platelet disorders
- Inherited coagulation defects

### **XI. Diabetes**

- Classification
- Gestational diabetes
- Pregestational diabetes

### **XII. Thyroid and Other Endocrinal Disorders**

#### **A. Thyroid Diseases**

- i. Autoimmune thyroid disease
- ii. Hyperthyroidism
- iii. Subclinical hyperthyroidism
- iv. Postpartum thyroiditis
- v. Hypothyroiditis
- vi. Subclinical hypothyroidism

#### **B. Parathyroid Diseases**





Hyper and hypoparathyroidism

C. Adrenal Gland Disorders

- i. Pheochromocytoma
- ii. Cushing's syndrome
- iii. Adrenal insufficiency

D. Pituitary Diseases

- i. Prolactinoma
- ii. Acromegaly
- iii. Diabetes insipidus
- iv. Sheehan's syndrome

**XIII. Connective Tissue Disorders**

A. Immune mediated connective tissue diseases

- i. Systemic lupus erythematosus
- ii. Rheumatoid arthritis

B. Inherited connective tissue diseases

- i. Marfan's syndrome
- ii. Ehler's danlos syndrome

**XIV. Neurological and Psychiatric Disorders**

**XV. Dermatological Disorders**

- A. Physiological changes in pregnancy (hyperpigmentation, nevi, vascular change)
- B. Dermatosis of pregnancy-pruritis gravidarum, urticarial papules
- C. Preexisting skin diseases

**XVI. Uterine Tumours and Adnexae Complicating Pregnancy**

**XVII. Infections**

- A. Viral infections (varicella zoster, influenza, mumps, rubella, enterovirus, rubella, CMV)
- B. Bacterial infections-streptococcus, salmonella, shigella, tuberculosis
- C. Protozoal infections-toxoplasmosis, malaria, amoebiasis
- D. Mycotic infections
- E. Emerging infections-severe acute respiratory syndrome
- F. Travel in pregnancy
- G. Bioterrorism-small pox, anthrax

**XVIII. Sexually Transmitted Diseases**

- A. Syphilis
- B. Gonorrhoea
- C. Chlamydial infections
- D. Lymphogranuloma venereum
- E. Herpes simplex infection
- F. HIV
- G. Human papilloma virus infection
- H. Chancroid
- I. Trichomoniasis
- J. Bacterial vaginosis
- K. Other STD'S

**XIX. Surgical Emergencies and Acute Abdomen during Pregnancy**

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PRELIMINARY EXAMINATION

ILMUL JARAHAT

PAPER-II

Basic principles of diagnosis and management & Unani drugs used in  
Surgical practical

**Theory Part A: Basic principles of diagnosis and management**

1. History taking
2. Clinical Physical Examination of patient in General Surgery.
3. Examination of
  - a. Swelling/Tumour (Awram)
  - b. Ulcer/wounds (Qarah & Zakhm)
  - c. Lymphnodes (Ghudoode lymphawia)
  - d. Peripheral Arteries (Mukhtalif Nabz)
4. Preoperative assessment
5. Postoperative management

**Diagnostic Techniques**

1. Radiography contrast Imaging
2. Ultrasonography
3. Magnetic Resonance Imaging
4. Computerized Tomography
5. Radio nucleotide Scanning

**Part B: Unani Drugs used in Surgical Practice.**

**Drugs-**

1. Mane Jaraseem Advia (Antibiotics)
2. Mane Afoonat advia (Antiseptics)
3. Mane Waja Dafé Alam (Analgesics)
4. Mane Muhallil (Anti Inflammatory)
5. Habissuddam (Haemostasis)
6. Qabiz Advia (Astringent)

**Practical & Viva-Voce**

- a) Demonstration of Physical Signs in Clinical Cases.
- b) Involvement in different Diagnostic Procedures.
- c) Case presentation & Seminars



## PAPER III

**Takhdeere Umoomi wa Muqami**  
(General & Local Anaesthesia)

**Part A: Takhdeer-e-Umoomi & drugs used****Theory -**

1. History of Anaesthesia
2. Definition and Scope of Anaesthesia
3. Pre-Anaesthetic Assessment
4. Pre-Anaesthetic Medication (Unani & Modern)
5. Anaesthetic agents
  - a. Inhalational Anaesthetic Agents
  - b. Intravenous Anaesthetic Agents.
  - c. Local Anaesthetic Drugs
  - d. Mukhaddir Adviat ( Unani)
6. Stages of General Anaesthesia and their signs
7. Anatomy and physiology of Respiratory Tract in relation to Anaesthesia.
8. Respiratory Function Tests
9. Anaesthetic Breathing System
10. Endotracheal Anaesthesia
11. Muscle Relaxants
12. Blood gases analysis-Oxygen and Carbon Dioxide
13. A brief idea of Artificial Ventilation
14. Anaesthetic Equipments

**Part B: Takhdeere muqami & Nuqai & Drugs used**

1. Spinal Anaesthesia/Analgesia
2. Epidural Anaesthesia/Analgesia
3. Brachial Plexus Block
4. Other Local Blocks
5. Methods of Post-Operative Pain Relief
6. Methods of Relief of Labour Pain
7. Environmental hazards in Operation Room-Fires,
8. Intensive Therapy-
9. Shock - Classification with special reference to hypovolumic Shock
10. Immediate Management of Trauma
11. Cardiopulmonary Resuscitation
12. Resuscitation of the New born
13. Blood Transfusion
14. Post anaesthesia complications & their management
15. ASA Grading

**Practical & Viva Voce -**

- i. Cardiopulmonary Resuscitation
- ii. Blood Transfusion
- iii. Knowledge of Anaesthetic Equipments
- iv. Knowledge of Anaesthesia Procedure



FINAL YEAR EXAMINATION- (3<sup>rd</sup> Year)

**PAPER I**

**Jarahate Umoomi**  
(General surgery)

**Part A: Jarahate Umoomi (General surgery)**

1. Jiryauddam wa Sadma (Haemorrhage & Shock.)
2. Tadiya makhsosa (Specific Infections):
  - (a) Kazaz (Tetanus)
  - (b) Ghanqarana (Gangrene)
  - (c) Atashak (Syphilis)
  - (d) Juzam (Leprosy)
  - (e) Diq (Tuberculosis)
  - (f) Suzak (Gonorrhoea)
  - (g) AIDS
3. Sila-e-mehmooda wa khabisa & Rasouli (Neoplastic growth & cysts).
4. Qarah (Ulcer), Sinus, nasoor (Fistula), Illihab-e-khulvi (Cellulitis),
5. Harq (Burns)
6. Amraz-e-Sadcen wa Sartan (Breast Diseases including carcinoma of Breast)
7. Amraz-e-Ghudoode- Lymphawiya wa urooq (Diseases of Lymphatics, Arteries & Vein)

**Part B: Amraze-Ezam-o-mafasil including Physiotherapy**

(Old & recent concepts in orthopedic surgery)

1. Development of bone and congenital anomalies
2. Details of fractures & Dislocations of bones around Shoulder & Hand, Wrist, Fore Arm, Arm, Ankle, Leg and femur & Neck of Femur.
3. Arthritis - Osteoarthritis - Rheumatoid Arthritis - Gout
4. Infections
  - Osteomyelitis
  - Tuberculous Arthritis
  - Spine
5. Tumours of Bone
6. Sciatic syndrome
7. Diseases of Spine, injury including Spondylitis/ Spondylolisthesis
8. Frozen Shoulder
9. Diseases of tendons & Ligaments
10. Trauma Management

**Practical & viva voce**

- a. Case history and presentation of clinical cases
- b. Ilaj bil yad
  1. Amal-e- kai
  2. Takmid
  3. Amal-e-Fasd



4. Hijamat
5. Irsal-e-Alaq (Leech therapy)
6. Huqna
7. Reduction & Immobilisation including Plaster Application
8. Instruments used indifferent common Operation.
9. Physio-Therapy (old and rescent Methods).
10. Dalak & Riyazat
11. Hammam
12. Rehabilitation

**PAPER-II**

**Jarahate Nizami**  
(Systemic Surgery)

**Part A– Jarahate Khusoosi (Systemic Surgery)**

1. Amraz-e-Raas wa unuq (Diseases of Head and Neck)
  - a. Development of Face
  - b. Cleftlip and plate
  - c. Dermoid Cysts
  - d. Minigocoele
  - e. Hydrocephaplous
  - f. Head Injury
  - g. Oral Ulcers and Cancer
  - h. Diseases of Parotids
  - i. Thyroid, parathyroid, thyroglossal cyst and other swelling of Neck.
  - j. Diseases of Salivary Glands
2. Amraz-e- Batan wa nizam-e-Hazm (Disease of Abdomen and GIT).
  - (a) Mirec (Oesophagus):
    - (i) Atresia and Structure
    - (ii) Foreign bodies
    - (iii) Cancer
    - (iv) GERD
    - (v) Reflux Oesophagitis
  - (b) Meda wa asna ashri (Stomach and Duodenum):
    - (i) APD
    - (ii) Peptic Uleer and Complications
    - (iii) Carcinoma of Stomach
    - (iv) Hitatus Hernia
    - (v) Gastric outlet obstruction
  - (c) Jigar wa Mirara (Liver and Gall Bladder):
    - (i) Liver Abseess
    - (ii) Hydatid Disease
    - (iii) Malignancy & Surgical Jaundice
    - (iv) Cholecystitis and Gall Stones
  - (d) Banqras (Pancreas):
    - (i) Acute Pancreatitis
    - (ii) Chronic Pancreatitis
    - (iii) Carcinoma of pancreas
  - (e) Tihal (Spleen):



- (i) Injury
  - (ii) Portal Hyper tension
  - (f) Nizam-e-Hazm(GIT)
  - (g) Intestines and colon injuries
    - (i) Peritonitis
    - (ii) Obstruction
    - (iii) Koch's Abdomen
    - (iv) Carcinoma Small intestine & colon
    - (v) GIT bleeding
      - a) Haematemesis
      - b) Malaena
      - c) Per rectal bleeding
  - (h) Zaida Awar (Appendix):
  - (i) Appendicitis in detail
  - (j) Meqad (Rectum & Anal canal):
    - (i) Haemorrhoid
    - (ii) Rectal Prolapse & Fistula in ano
    - (iii) Perianal Abscess/ Ischiorectal abscess
    - (iv) Bleeding P/R
    - (v) Fissure in Ano.
    - (vi) Carcinoma of rectum
  - (k) Fataq (Hernia):
    - (i) Definition and Classification
    - (ii) Inguinal & Femoral
    - (iii) Umbilical and paraumbilical and incisional, epigastric.
3. Amraz-e-Nizam-e-Kulliya aur taulid wa tanasuliya (Disease of Genitourinary System)
- (a) Disease of Kidney and Ureter:
    - (i) Congenital Disease
    - (ii) Injuries
    - (iv) Nephritis = Classification, Complications & its management
    - (iii) Calculi
    - (iv) Infections
    - (v) Tumours
    - (vi) Hydronephrosis
  - (b) Urinary Bladder:
    - (i) Stones
    - (ii) Tumours
    - (iii) Injuries.
  - (c) Prostate
    - (i) BPH
    - (ii) Carcinoma of Prostate
    - (iii) Prostatitis
  - (d). Urethra
    - Congenital Diseases

- a. Hypospedias
  - b. Epispedias
  - (i) urethritis
  - (ii) Gonorrhoea
  - (iii) Stricture
  - (iv) Injuries.
5. Penis:
- (i) Ulcers
  - (ii) Tumours
  - (iii) Phimosi
  - (iv) Paraphimosi
6. Scrotum and Testis.
- (a) Hydrocele, Haematocele & pyocele
  - (b) Congenital Diseases- Incomplete descend of testis, Ectopic testis
  - (c) Tumours
  - (d) Epididimo-orchitis
  - (e) Orchitis
  - (f) Torsion of Testis
  - (g) Varicocele

**Practical & Viva Voce**

1. Surgical Instruments & Equipments
2. Common Surgical Operation
3. Common Surgical Procedures
  - i. Catheterization
  - ii. Proctoscopy
  - iii. Esophagoscopy
  - iv. Upper G.I. Endoscopy.
4. Physical Sign of Clinical Cases / Seminars.

**Part B: Jarahiyat ki Jadeed Tahqiqat (Recent Advances in Surgery)**

1. New Publications in Books and Journals.
2. New Techniques used in General Surgery.
3. Laparoscopic Procedures
4. Endoscopic Procedures
5. Laser and its application in Surgery
6. Nanosurgery

**Practical & Viva Voce**

Surgical Instruments & Equipments

Common Surgical Operation

Common Surgical Procedures

- (i) Catheterization

- (ii) Proctoscopy
- (iii) Esophagoscopy
- (iv) Upper G.I. Endoscopy.

Physical Sign of Clinical Cases + Seminars.  
Thesis Work.  
Paper Presentation for Journals.

### Paper – III

#### Amalyate Jarahiyat (Operative Surgery)

##### **Part A:**

##### **a. Amaliyate Jarahiyat Saghira (Minor operative procedures)**

1. Circumcision under Local Anesthesia
2. Drainage of Abscesses
3. FNAC
4. Major dressings
5. Minor Anorectal Procedures ( Haemorrhoids -Banding, Cryosurgery, suturing etc.
6. Anal dilatation and Fissures). Fistulectomy
7. Minor Biopsies - Lymph node, ulcer, swellings etc.,
8. Reduction and plaster application of simple fractures and dislocations
9. Removal of simple subcutaneous swellings
10. Sigmoidoscopy and Upper OJ. endoscopy
11. Suturing Techniques
12. Vasectomy
13. Wound debridement

##### **b. Amaliyate Jarahiyat kabira (Major operative procedures)**

1. Appendicectomy
2. Cholecystectomy
3. Closure of Colostomy
4. Closure of peptic ulcer / under-running bleeding ulcer / vagotomy drainage
5. Colostomy
6. Cysts and sinuses of the neck
7. Diagnostic laparoscopy
8. Drainage of breast abscess / Excision of breast lump
9. Groin Hernia repair
10. Gynacomastia
11. Haemorrhoidectomy / Fissurectomy / simple fistulectomy
12. Hemicolectomy
13. Herniotomy Orchidopexy in children
14. Laparotomy for abdominal trauma / splenectomy
15. Laparotomy for intestinal obstruction / bowel resections / bowel anastomosis  
Management of
16. complex wounds



17. Mastectomy
18. Opening and closing the abdomen
19. Opening and closing the chest
20. Parotidectomy
21. Release of bands and simple adhesive obstruction
22. Thyroid lobectomy
23. UGI endoscopy / Flexible sigmoidoscopy
24. Ventilation
25. Wide excision of breast tumours / mastectomy / microdochectomy
26. Gastrostomy / Feeding jejunostomy

**Part B: Amaliyate Jarahiya Makhsoosa (Speciality Procedures)**

There will be repetition of the procedures listed under this category and those listed under General surgical procedures.

**Laparoscopy and GI Endoscopy**

Diagnostic and therapeutic Upper and Lower GI endoscopy

Diagnostic laparoscopy

Diagnostic Upper GI endoscopy

Laparoscopic Cholecystectomy

**Neurosurgery**

Craniotomy

Management of paraplegia

Peripheral nerve repair

Treatment of nerve injury specific operations

Suturing complex scalp wounds

Trephining

**Urology**

Carcinoma penis

Diagnostic cystoscopy

Inguinal Block Dissection

Meatotomy

Nephrectomy - partial & total

Nephrolithotomy

Orchidectomy

Orchidopexy

Retroperitoneal lymph node dissection

Supra pubic cystostomy

Total amputation of penis

TURP / Open prostatectomy

Ureterolithotomy

Urethral / Urogenital injuries

Urethral dilatation

Varicocele

Vasectomy  
**Oncology**  
 All radical operations Breast, Thyroid, GI and Facio-maxillary malignancies  
 Breast lumpectomy  
 Functional neck node dissection  
 Gastrectomy / Bowel resection  
 Metastatic workup  
**Plastic Surgery**  
 Burn resuscitation  
 Lip surgery  
 Local blocks in anaesthesia  
 Minor hand injuries  
 Nerve repair  
 Post excision reconstruction  
 Reimplantation of digits  
 Skin flap surgery  
 Stitch craft  
 Tendon repair PA  
 Wound debridement  
**Paediatric Surgery**  
 Anorectal anomalies  
 Circumcision / meatoplasty  
 Herniotomy  
 Intercostal aspiration  
 Laparotomy for peritonitis  
 Lymph node biopsy  
 Non operative treatment of volvulus  
 Orchidopexy  
 Ostomies  
 Paediatric emergencies  
 Pyloromyotomy

**Practical & Viva Voce –**

Practical training of surgical procedures discussed above.

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**CENTRAL COUNCIL OF INDIAN MEDICINE**

**NISABE TALEEM OF MAHIR-E-TIB  
(ILMUL SAIDLA)**

**SYLLABUS OF  
DOCTOR OF MEDICINE (MD-UNANI)  
(PHARMACY)**

**3 YEARS DEGREE COURSE**

**CENTRAL COUNCIL OF INDIAN MEDICINE  
61-65, INSTITUTIONAL AREA,  
JANAKPURI  
NEW DELHI - 110058**

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**(December, 2013)**



**M D Ilmu Saidla**  
**Scheme of papers**

**First Year** (Exam to be held at the end of one academic year)

**Paper I**

Research Methodology and Biostatistics

**Paper II**

Qawaninc Dawasazi wa Ilmu Taklees (Principles of Pharmacy and Calcimology)

**Paper III**

General and Experimental Pharmacology

**Final Year** (Exam to be held at the end of three years, however teaching / training to be organized in both II<sup>nd</sup> & III<sup>rd</sup> year)

**Paper I**

Pharmaceutical Developments & its Applications in Saidla

**Paper II**

Cosmetology and Dietetics in Unani Medicine

**PAPER III**

Ilm Wasful Aqaqeer (Pharmacognosy of Unani Drugs)

**PAPER IV**

Quality Control and Quality Assurance of Unani Drugs  
Thesis Work





**First Year****Paper I- Research Methodology and Biostatistics****Research Methodology**

- Types of research
  - (a) Literary research
  - (b) Clinical research
  - (c) Experimental research
  - (d) Observation and field studies
- Trends and possibilities of R&D of Unani Drugs
- Research problems
  - (a) Definition
  - (b) Selection and sources of research problems
- Hypothesis
  - Null and alternate hypothesis
- Research designs
  - (a) Types of Research designs
- Controls in research designs
  - (a) Selection criteria
  - (b) Placebo and plain control
  - (c) Randomization
  - (d) Balancing and matching
- Factors effecting research results.
- Tools and techniques in research
  - (a) Interview, questionnaire, inventories, scales
  - (b) Rating scales
- Computer programmes used in research
  - (a) Minitab
  - (b) SPSS
  - (c) Gpad
- Protocols for research and report writing
  - (a) Protocols for experimental, clinical and community based research.
  - (b) Writing research report.
  - (c) References in research report.
    - (i) Books
    - (ii) Journals
    - (iii) Compendia
    - (iv) Bulletins
    - (v) WHO Reports
    - (vi) Internet Sites



- Guidelines for Research
  - (a) WHO
  - (b) ICMR
  - (c) CPCSEA

### **Bio-Statistics**

- Scope and utility of Biostatistics
- Descriptive Statistics
  - (a) Analysis of Data
    - (i) Data collection, tabulation and presentation of data.
    - (ii) Measure of central tendency – Mean, Median and Mode.
    - (iii) Measures of dispersion: Range, quartile deviation, standard deviation.
  - (b) Probability
    - (i) Definition and laws of probability
    - (ii) Types of probability distribution
    - (iii) NPC and its application size
    - (iv) Randomized samples
  - (c) Sampling
    - (i) Types and sample size
    - (ii) Randomized sampling
- Inferential Statistics
  - (a) Correlation and linear regression
    - (i) Karl Pearson correlation coefficient
    - (ii) Linear regression equations.
  - (b) Test of significance
    - (i) 't' test
    - (ii) 'z' test.
  - (c) Test of variance
    - (i) ANOVA one way
    - (ii) ANOVA two way
    - (iii)  $X^2$  test.
  - (d) Non-parametric tests
    - (i) Median test, Mann Whitney U test.
    - (ii) Kruskal Wallis test, Fried test.
- Vital Statistics
  - (a) Rate and Ratios
  - (b) Standardization of population
  - (c) Risk factors

## PRELIMINARY EXAMINATION

### Paper II

#### Qawanine Dawasazi wa Ilmul Taklees (Principles of Pharmacy and Calcinology)

- Scope and chronological evaluation of Unani Pharmacy.
- Technical terminologies and Scientific interpretation of Amaliyate dawasazi (Pharmaceutical Procedures)  
Irgha, tarvceq, iqla, tashvia, tabkheer, tadmkeen, tadheen, tajfeef, ghasl, tasfia, tasveel, ihraq, taklees, tahmees, tabalvur, Izala Laun, Itfa, Sahaq, tahleel, Taqtee, Nakhl, Taseer, Tarsheeh, Tahheeb, Takhmir wa Taafin.
- **Specific Unani Pharmaceutical Procedures:**  
Methods of distillation and standardization of herbal distillates.  
Methods of preparation of Usara, rub and sat.  
Methods of Oil Extraction.  
Sufoof Sazi :Classification of powder- principles, methods, related equipments and the grades of powder.  
Methods of detoxification and purification of some specific drugs: Afyun, kamoona, azaraq, shangraf, habbus-salateen, turbud, ghariqoon, saqmunia, kibrit, sammulfar, hartaal, Amale Tasfia (Cleansing Process): shahad, kharateen, simab, sibr, bahroza, mom, abrak etc.  
Methods of preparation of Qiwan used for it and measurement of syrupy consistency.
- Detailed knowledge of Unani Dosage Forms (Solid, Liquid, Semi solid, Gaseous), method of Preparations and need of improvisation.
- Methods of preparation of Qiwan and materials used for it and measurement of consistency.
- Detailed knowledge of ancient and contemporary pharmaceutical instruments used in Unani Pharmacy  
Kharal, Aalae tareeq, Patal jantar, Jaljantar, Sieves, Granulator, Tablet making machine, Coating machine, Grinders, Distillation apparatus, Desiccator, Oven, Crucibles, Lyophilizer (Freeze Dryer).
- Good Manufacturing Practices (GMP) & shelf life.
- Hospital Pharmacy (Definition, functions, objectives, location and management)
- Introduction to Qarabadeen, Unani Pharmacopoeia of India, National Unani Formulary.
- Introduction to Traditional Knowledge Digital Library (TKDL).

#### **Ilmul Taklees (Calcinology)**

- Historical background of calcinology, Definition, Aims, objectives and scope of calcinology
- Basics of inorganic Chemistry in context of metals, non-metals and minerals used in Kushtasazi.
- Process of calcinations and their scientific evaluation.
- Calcination, Ignition and temperature standardization.
- Principles of calcination and general methods of preparation of following calx :  
Faulad, Hartal, Shangraf, Sadaf, Marjan, Qalayee, Gaudanti, Qarnulayyil, Sammulfar, Nuqra, Tila, Jast.
- Evaluation of classical methods of preparation of Kushta and need of modification.
- SOPs for calcination.
- Methods of Identification of kushta :  
a) Classical methods  
b) Recent techniques useful in identification and Analysis of Kushta
- Actions and therapeutic uses of different kushtajat.
- Instruments used in the preparation of Kushta.: Classical and modern instruments

- Application of computer in pharmacy.
- Packaging material science.
- Lypholyser

- **Bases and Vehicles**

- **Permitted Pharmaceutical Excipients used in Unani and Modern Preparations:** Colorants, Preservatives, Flavoring Agents, Alternate Sweeteners, Surfactants and emulsifying agent.

- **Production Management.**

- **Factory and Pharmacy Act**

Practicals

- Practical classes will be conducted covering all the methods of preparation of dosage forms.
- Educational visits to atleast five GMP approved Unani pharmaceutical houses and R&D laboratories.

**PAPER II**

**Cosmetology and Dietetics in Unani Medicine**

**Cosmetology:**

- Applied anatomy and physiology of skin
- Relevant and regulatory provisions of Unani drugs in Drug and Cosmetic Act
- Concept of cosmetology in Unani Medicine
- Common skin diseases leading to cosmetic problems
- **Important products used as cosmetics in Unani medicine**
- Preparation used on face: Ghaza, Ghalia, Ubtana etc
- Preparation used on skin: Marham Cream, Lotion, Ubtana, Aabiyat, Zimad, Tila, Adhaan, Ghasool.
- Preparation used on hair: Khizab, Camouflage
- Preparation used in eye: Köhl, Kajal, Surma, Lamelle
- Preparation used on nails: Sibgha, Mehndi
- Preparation used on teeth, gums and oral cavity: Sunoon, Gargara (Gargle), Mazmaza Mouth wash)
- Atriyat (Perfumes and Deodorants)
- Preparation of cosmetic products using classical and recent techniques. Common diluents and excipients used in cosmetics.
- Diets and Drugs used to improve the beauty
- Side effects of Cosmetics

**Dietetics:**

- Concept of Ghiza in Unani Medicine
- Concept of Nutraceuticals in Unani, Pharma food, Probiotics, Phytochemicals, Anti-oxidants
- Clinical dietetics
- Ghiza that cause specific disorders in the body
- Ghiza that are useful in different diseases conditions
- Ghiza useful for people of different age and different temperament
- Ghiza and life style Diseases
- Malnutrition and special diets prescribed in Unani Medicine
- Preparation and standard of special diets.





Mausshaer, Maullahm, Maurraib, Maul Asl, Maul Usool, Maul Fawakeh, Maul buqool, Maul Jubn, Paneer Maya, Jullab, Sikanjabeen, Abkama, Fuqqa, Nabeez, Asfeedaj, Sikbaj, Masoos, Tareena, Qalya, Khamr

#### Practicals

- Practical training of the processes mentioned in the Theory.

### Paper III

#### Ilm Wasful Aqaqeer (Pharmacognosy of Unani Drugs)

- **Introduction to Pharmacognosy and Plant Nomenclature.**
- **Classification of Plant Kingdom.**
- **Factors affecting the quality of drugs.**
- **Collection, drying and storage of drugs.**
- **Deterioration of stored drugs.**
- **Identification of crude drugs**  
Morphology of Root, leaf, stem, fruit, seeds, flowers and its types.  
Anatomical Studies: Microtomy, Powder study,  
Quantitative Microscopy: Stomatal number, Stomatal index, Pallisade ratio, Vein islet no.
- **Alkaloids and alkaloid containing drugs:** Kuchla, Ergot, Suranjan, Afyoon, Afsanteen, Asrol
- **Glycosides and glycoside containing drugs:** Revand, Senna, Sibr, Squill, Digitalis
- **Volatile oil & Resin containing drugs:** Ustokhuddus, Eucalyptus, Zeera, Darchini Anisoon
- **Fixed oil, fats and waxes.**
- **Fixed oil containing drugs:** Badam, Zaitoon, Kunjad, Baidinjeer, Katan.
- **Tannin containing drugs:** Halela, Balela, Ashok chhal, Katha, Sandal Surkh, Arjun chhal
- **Phenols and Phenolic Glycosides containing drugs:** Kamela, Badranjboya, Bedmushk, Revand Chini, Senna, Ghekwar.
- **Gums and Resins containing drugs:** Kateera, Babool, Chuniya gond, Sanobar, Heeng, Kundur, Mastagi, Murrh.
- **Saponins containing drugs:** Hulba, Qust, Aslussoos, Brahmi, Asgandh.
- **Charecteristic features of medicinally important plant families:**  
Solanaecae, Apocynaceae, Papaveraceae, Liliaceae, Leguminosae, Umbellifercae  
Malvaceae, Euphorbiaceae, Compositeae, Asclepiadaceae

#### Practicals

- Organoleptic identification of ten medicinal plants
- Morphological identification of any five families mentioned in the theory.
- Anatomical characteristics and dissection of root and stem of two medicinal plants
- Floral formula and floral diagram of five medicinal plants

**Paper IV**  
**Quality Control and Quality Assurance of Unani Drugs**

**Aims and Objectives of Standardization**

**Standardization of Herbal, Mineral, and Animal origin drugs:**

- (a) Physical standardization  
(b) Chemical standardization

**Analytical methods in drug analysis:**

- Sublimation.
- Distillation.
- Methods of separation and isolation.
- Chromatography: Aims and objectives and various types of Chromatography Thin layer chromatography, Paper Chromatography, Column Chromatography, Gas Chromatography, HPLC and HPTLC
- General description of electrophoresis.
- Spectroscopy: UV and flame photometry, Atomic Absorption Spectroscopy.
- **Quality Assurance of single drugs of Unani Medicine:** Adulteration of drugs, Factors affecting quality of drugs, Aflatoxin contamination, Microbial contamination.
- Determination of pesticides and Heavy metals.
- **Quality Assurance of compound formulations:** Arq, Majoon, Safoof, Qurs, Kushta and other dosage forms:
  - Chemical analysis, Particle size Distribution, Powder XRD studies, Infra red Studies, Thermal Analysis, pH measurement, Carbon Analysis of Kushtajat.
  - Detailed knowledge of Standard operating Procedures (SOPs).
  - Standardization of Raw materials, Finished Product standardization and storage.
  - Stability studies, Shelf life, GLP.
  - Weight variation of tablets/ pills, Hardness testing, disintegration test, dissolution rate study.
  - Viscosity/ Rheological studies of liquid formulations.

**Practicals**

**Practical demonstration:**

- Determination of Ash values
- Determination of moisture content.
- Determination of extractive values.
- Determination of Disintegration time
- Determination of Refractive index.
- Determination of R<sub>f</sub> value by TLC.
- Determination of viscosity.
- Friability test.
- Bulk Density
- Swelling Index
- Determination of Essential Oil.



## Recommended Readings:

### Research Methodology and Biostatistics

1. Analytical chemistry, Christian Mc Graw Hill Publication, 2004.
2. Basic and clinical Biostatistics, Dawson & Trep, 1994.
3. CPCSEA Guidelines, [www.cpcsea.org](http://www.cpcsea.org), 2001.
4. Ethical guidelines for biomedical research in human subjects, ICMR, New Delhi, 2000.
5. Fundamentals of experimental pharmacology, M.N.Gosh, Scientific book Agency, 1994.
6. Medical ethics and introduction to Biostatistics, II Edition, C.M.Francis, Jay pee Brothers, 2004, New Delhi.
7. Methods of bio statistics, R.T.Bhaskar, Paras Publishing Company, 2004.
8. Practical approach to P.G.Dissertation, I Edition, B.A Geetanjali, R Ravindran and Jay pee Brothers New Delhi, 1997.
9. Research Design, Mc Guigain, Mc Graw Hill Publication, 1980.
10. Research methodology, A.K. Kothari, New Age Publishers Delhi, 2003.
11. Research methodology and Bio-statistics in Pharmacology, M.Aslam & S. Singh, Academic publication Nai sarak, New Delhi, 2005.
12. Screening Methods of Pharmacology, R.Turner, 1965.
13. Standardization of herbal drugs, S.H. Afaq, Publication Div. AMU, Aligarh.

### Qawanine Dawasazi wa Ilmul Taklees (Principles of Pharmacy and Calcinology)

1. Bayaze Kabeer; Vol. I – III, Md. Kabeeruddin, Daftarul Maseeh Hyderabad, 1960, 66, 67.
2. Pharmacographica Indica, H. Siad, Hamdard Foundation Karachi, 1991.
3. Pharmacopoeia of India, Ministry of Health, New Delhi, 1983.
4. Qarabadeen Azam (Urdu), Azam Khan, Asmat Ali, Hasrat Lucknawi, Aijaz Publishing House, New Delhi, 1996.
5. Qarabadeen Kabeer (Urdu), Vol. I, Mir Md. Husain, Munshi Naval Kishore, Lucknow, 1892 AD.
6. Qarabadeen Qadri, Md. Akbar Arzani, Munshi Naval Kishore Lucknow, 1880 AD.
7. The Pharmaceutical Codex, 12<sup>th</sup> Edition, Walter Lund London, The Pharmaceutical Press 1994.
8. Bibliography of Pharmacognosy of Medicinal plants, R.Mitra, EBIS, Lucknow.
9. Chemistry of Medicinal plants, CRUM, New Delhi.
10. Flora of British India, D.Hooker, J. BSM Dehradun.
11. Fune Dawasazi, S.Z.Rehman, Publication Div. AMU.
12. Glimpses of Indian Medicinal Plants, Drug development research, R.B. Arora, IHHMMR, New Delhi.
13. Kitabul Taklees, Kabiruddin, Matab Masihi, Delhi.
14. Kushta ki Pehli kitab, M.Abdullah, Hamdard, Delhi.

15. Makhzanul Advia, M.Hasan, Matba Munshi Nawal Kishore, Lucknow.
16. Makhzanul Jawahar, G.Jeelani, Refah-Aam Press, Lahore.
17. Minhajul Saidla, Rafiquddin, Publication Div. AMU, Aligarh.
18. Pharmacognosy, Phytochemistry, Pharmacology and clinical studies of Unani medicinal-plants, S.H. Afaq, Publication Div. AMU, Aligarh.
19. Physico-chemical standardization of Unani Medicine, CCRUM, New Delhi.
20. Qavaneeic Advia , Ayyub Ali, Publication Div AMU, Aligarh.
21. Research & Development of Indigenou drugs, P.C. Dandiya, IHHMMR, New Delhi.
22. Research in Ilmul Advia, S.Z. Rehman, Publication Div. AMU, Aligarh.
23. Standardization of single Unani medicine. Part I – III, CCRUM, New Delhi.
24. Misbahul Advia, Kulliyate Advia, Ilkm Abdus Samad Khan, Aijaz Publishing House, New Delhi.

#### **Ilm Wasful Aqaqeer (Pharmacognosy of Unani Drugs)**

1. Bibliography of Pharmacognosy of Medicinal plants; R.Mitra; EBIS, Lucknow.
2. Instrumental method of analysis; W.H.Hobart; CBS, New Delhi.
3. Modern method of plant analysis; Peach & Tracey; Spriger Verlag Berlin, Gottengen Heidelberg; 1955.
4. Pharmacognosy; V.E Tyler, L.R.Brady, J.E.Robber; Pharmacognosy Lae Faibiger, Philadelphia; 1976.
5. Plant Micro technique; D.A. Johnson; Tata Mc Graw Hill Book Company, New York, 1940.
6. Plant Micro technique; J.D.Alexeder; Tata Mc Graw Hill Book Company.
7. Text book of pharmacognosy; 5<sup>th</sup> Edition; T.E.Wallis; J& A Churchill Ltd, London; 1967.
8. Trease and Evans pharmacognosy; 15<sup>th</sup> Edition; William Charles Evans; Saunders An imprint of Elsevier Science; 2002.

#### **Cosmetology and Dietetics in Unani Medicine**

1. Maat Masihi: Abu Sahal Masihi.
2. Al Qanoon Fit Tib (5<sup>th</sup> Volume): Avicenna.
3. Basic Nutrition and Diet Therapy, 10<sup>th</sup> edition , S R Williams, Mosby publishing House
4. Clinical Dietetics and Nutrition, F.P Anita, P Abraham , Oxford Press
5. Nutrition and Health, Topics and Controversies; F Bronner , CRC Press
6. Dietary guidelines for Indians, A Manual, National Institute of nutrition, Hyderabad
7. Nutrition for Mother & Child, National Institute of nutrition, Hyderabad
8. Diet and Heart disease, National Institute of nutrition, Hyderabad
9. Nutrient requirements and Dietary allowances for Indians, Indian Council of Medical research
10. Some Therapeutic Diets, National Institute of nutrition
11. Nutrition and Child Development, K E Elizabeth, Paras Publishing



12. Nutritive values of Indian Foods, Gopalan, Shastri, National Institute of nutrition 1996
13. National Disorder and Community Health, P Gupta, R Thakkar, Saunders An imprint of Elsevier Science 2002.
14. Poucher's; Perfumes, cosmetics and soaps; W. A. Poucher; vol - 1, 2, 3; 9<sup>th</sup> edition.
15. Small scale manufacturer of soaps and detergents; D.N. Mathur.
16. Clinical safety and efficacy testing of cosmetics; by William C. Waggoner.
17. Cosmetic science and technology series; Eric Jungerman; vol-1-8.
18. Chemistry and technology of the cosmetics and toiletries industries; D.F. William and W.H. Schmitt.
19. Modern Cosmetics; E.G. Thomssen.
20. Harry's Cosmetology; J.B. Willinkinson; 7<sup>th</sup> edition.
21. Handbook of Synthetic and Herbal Cosmetics; Ankur, Engineer India Research Institute.

#### **Pharmaceutical Sciences and its Application in Saidla**

1. Minhajuddukkan wa Dasturul Ayan Fit tib: Abu Nasar Attar Israeli.
2. Kitabul Hawi (22 & 23 Volume): Al Razi.
3. The Pharmaceutical Codex, Principles and practice of pharmaceutics; XIIth; The Pharmaceutical Press; 1994.
4. Pharmaceutical Practice; IIIrd; Winfield, Richards.
5. Remington (The Science and Practice of Pharmacy); 21<sup>st</sup>; Beringer, Gupta, Hoover; Lippincot, William and Wilkins; 2005.
6. Analytical Chemistry; VIth; Christian; WSE.
7. Vogel, Drug Discovery and Evaluation; IIInd.
8. Theory and Practice of Industrial Pharmacy; IIIrd; Lachman, Lieberman, Kanig; Varghese Publishing House.
9. Trease and Evans pharmacognosy; 15th Edition; William Charles Eyans; Saunders An imprint of Elsevier Science; 2002.
10. Modern Pharmaceutics, Basic Principles and Systems, 1 & 2, Alexander T. Florence, Juergen Siepmann
11. Martin's Physical Pharmacy & Pharmaceutical Sciences, Vth, Patrick J. Sinco
12. Pharmaceutical Product Development, In Vitro and In Vivo Corelation, Dakshina Murthy Chilukri
13. Pharmaceutical dosage Forms: Tablets, Vol 1,2,3, Larry L. Augsberger, Stephen W. Hoag.

#### **General and Experimental Pharmacology**

1. Clinical Pharmacology; 9<sup>th</sup> Edition; P.N. Bennett, M.J Brown; Elsevier, division of Reed Elsevier, India Pvt. Ltd; 2003.
2. CRC Desk reference of clinical pharmacology; M.Ebadi; CRC Desk Reference series editor, Gerald Kerkut; 1998.

3. Drug discovery and evolution pharmacological assays; W.H.Vogel; Spriger Verlag Publication.
4. Essentials of Medical pharmacology; 5<sup>th</sup> Edition; K.D.-Tripathi; Jay pee Brothers New Delhi; 2003.
5. Fundamentals of experimental pharmacology; M.N.Gosh; Scientific book Agency; 1994.
6. Good man and Gilman's the pharmacological basis of therapeutics; 10<sup>th</sup> Edition; J.G.Hardman, L.E.Limbird; Mc Graw Hill –Medical publishing division; 2001.
7. Guidelines on animal use; ICMR, New Delhi; 2001.
8. Melmon & Morrrelli's Clinical pharmacology; 4<sup>th</sup> Edition; S.G. Carruthers , B.B.Hoffman , K.L Melmon , D.W. Nierenberg; Mc Graw Hill –International edition health care professions series; 2003.
9. Research methodology and bio-statistics in pharmacology; M.Aslam & S .Singh; Academic publication, Nai sarak, New Delhi; 2005.
10. Screening Methods of Pharmacology; R.Turner; 1965.
11. Satoshkar, Kale, Bhandarkar's Pharmacology and Pharmacotherapeutics; R.S Satoshkar and Bhandarkar; Popular prakashañ Bombay.

#### Quality Control and Quality Assurance of Unani Drugs

1. Animal origin drugs of Unani Medicine; S.B.Vohra, MSY Khan; CBS New Delhi.
2. Bibliography of Pharmacognosy of Medicinal plants; R.Mitra; EBIS, Lucknow.
3. Chemistry of Medicinal plants; CCRUM New Delhi; CCRUM New Delhi.
4. Pharmacognosy, Phytochemistry, Pharmacology and clinical studies of Unani medicinal plants; S.H. Afaq; Publication Div. AMU, Aligarh.
5. Physico-chemical standardization of Unani Medicine; CCRUM, New Delhi; CCRUM, New Delhi.
6. Plant microtechnique; J.D. Alexender; Tata Macgra Hill, Bombay.
7. Standardization of herbal drugs; S.H. Afaq; Publication Division. AMU, Aligarh.
8. Standardization of single Unani medicine; Part I – III, CCRUM, New Delhi.
9. Unani Advia Mufrada; Safiuddin, National Council; New Delhi; 1996.
10. Trease and Evans pharmacognosy; 15th Edition; William Charles Evans; Saunders An imprint of Elsevier Science; 2002.

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**CENTRAL COUNCIL OF INDIAN MEDICINE**

**NISABE TALEEM OF MAHIR-E-TIB  
(ILAJ BIT TADBEER)**

**SYLLABUS OF  
DOCTOR OF MEDICINE (MD-UNANI)  
(REGIMENAL THERAPY)**

**3 YEARS DEGREE COURSE**

**CENTRAL COUNCIL OF INDIAN MEDICINE  
61-65, INSTITUTIONAL AREA,  
JANAKPURI  
NEW DELHI - 110058**

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**(April, 2015)**



## Syllabus of M. D. (Ilaj-bit-Tadbeer)

### **M.D. First year**

- i. Research Methodology and Biostatistics
- ii. Applied Anatomy & Physiology (Itlaqui Tashreeh wa Munafe-ul Aza)
- iii. Ilaj Bit Tadbeer I (Ilaj Bit Tadbeer Umoonji)
- iv. Principles of Diagnosis and Treatment (Usoole Tashkhees o Ilaj)

### **M.D. Final Year**

- i. Biomechanics
- ii. Ilaj Bit Tadbeer II (Ilaj Bit Tadbeer Khusoosi)
- iii. Ilaj Bit Tadbeer III (Amraze Nizame Badni ka Tadbeeri Ilaj)





**First Year  
Paper-I**

**“RESEARCH METHODOLOGY AND BIOSTATISTICS”  
(Usool-e-Tahqeeqat-e-Ilaj-e-Tadbeeri wa Hayati Shumariyat)**

**Fundamentals of Research Methodology in Regimnal Research**

- **Types of research**
  - (a) Literary research
  - (b) Clinical research
    - (i) Phases of Clinical Trails
  - (c) Experimental research
  - (d) Observation and field studies
- **Trends and possibilities of research in Ilaj Bit Tadbeer**
- **Recent research and developments in Ilaj Bit Tadbeer**
- **Research problems**
  - (a) Definition
  - (b) Selection and sources of research problems
- **Hypothesis**
  - (a) Types: Null and alternate hypothesis
- **Research designs**
  - (a) Types of research designs
- **Controls in research designs**
  - (a) Selection criteria
  - (b) Placebo and plain control
  - (c) Randomization
  - (d) Balancing and matching
- **Factors effecting research results**
- **Tools and techniques in research**
  - (a) Interview, questionnaire, inventories, scales
  - (b) Rating scales
  - (c) Analytical tools for experimental research introduction
- **Computer programme used in research**
  - (a) Minitab
  - (b) SPSS
- **Protocols for research and report writing**
  - (a) Protocols for experimental, clinical and community based research
  - (b) Writing research report
  - (c) References in research report
    - (i) Books
    - (ii) Journals
    - (iii) Compendia
    - (iv) Bulletins
    - (v) WHO Report
    - (vi) Internet sites
- **Guide lines for research**
  - (a) WHO

- (b) ICMR
- (c) CPCSEA
- **Clinical Research and Trials**
- **Bias in Clinical Trials**
  - (a) Form Bias
  - (b) Source Bias
  - (c) Methods of Correcting the Bias
- **Issues and Prospects of Clinical research in Unani Medicine**
- **Regulatory and Ethical issues in Clinical trails**
  - (a) Declaration of Helsinki
  - (b) Ethical principles
  - (c) Constituting ethical committee
  - (d) Informed consent
  - (e) Patient information sheet (Modular CRF)
  - (f) Ethical issues pertaining to Leech therapy and Venesection

### **Bio-Statistics**

- **Scope and utility of Biostatistics**
- **Descriptive statistics**
  - (a) Analysis of Data
    - (i) Data collection, tabulation and presentation of data
    - (ii) Measure of central tendency - Mean, Median and Mode
    - (iii) Measures of dispersion: Range, quartile deviation, standard deviation
  - (b) Probability
    - (i) Definition and laws of probability
    - (ii) Types of probability distribution
    - (iii) NPC and its application size
    - (iv) Randomized sampling
  - (c) Sampling
    - (i) Types and sample size
    - (ii) Randomized sampling
- **Inferential statistics**
  - (a) Correlation and linear regression
    - (i) Karl Pearson correlation coefficient
    - (ii) Linear regression equations
  - (b) Test of significance
    - (i) 't' test
    - (ii) 'z' test
  - (c) Test of variance
    - (i) ANOVA one way (ii) ANOVA two way X2
  - (d) Non-parametric tests
    - (i) Median test, Mann Whitney U test
    - (ii) Kruskal Wallis test, Fried test
- **Vital statistics**
  - (a) Rate and Ratios
  - (b) standardization of population
  - (c) Risk factors

**Reference Books**

S. No	Title of the book	Publisher	Year of publication
1	INSA Guidelines for care and use of animals in Research		2000
2	CPCSEA Guidelines		2001
3	Ethical Guidelines for Biomedical research in human subjects	ICMR New Delhi	2000
4	ICMR Guidelines on animal use	ICMR New Delhi	2001
5	Clinical Research in Traditional Medicine	Dr. Ghazala Javed	

**Text Books**

S. No	Title of the book	Edition & Volume	Name of the author	Publisher	Year of publication
1	Medical Ethics	2 <sup>nd</sup> Edition	Francis CM	Jay Pee brothers, Medical Publishers, New Delhi	2004
2	Practical approach to PG Dissertation	1 <sup>st</sup> Edition	Raveendran R and Gitanjali	Jay Pee brothers, Medical Publishers, New Delhi	1997
3	Research Methodology and Biostatistics in Pharmacology	1 <sup>st</sup> Edition	Mohd Aslam and Dr. Surender Singh	Academic Publisher New Delhi	2006

**First Year  
Paper II**

**“ITLAQI TASHREEH WA MUNAFE-UL AZA”  
(Applied Anatomy and Physiology)**

**Umoomi Tashreeh wa Munafe (General Anatomy & Physiology)**

Anatomical positions of the body, axes, planes, common anatomical terminologies and surface anatomy of vessels & viscera.

Joint design, Materials used in human joints, General properties of connective tissues, Human joint design, Joint function, Joint motion, General effects of disease, injury and immobilization.

**Nizame Asaab (Nervous system)**

Introduction, organization of central and peripheral nervous system, receptors, peripheral nerves, the brain stem, muscle tone, postural reflexes, the cerebellum, structure of cerebral cortex, Somatic sensory cortex, and parietal lobe, excitomotor areas, pyramidal tracts, clinical hemiplegia, regulation of body temperature, basal ganglia, spinal lesion, autonomic nervous system.

**Nizame Izam wa Azlaat (Musculoskeletal system)**

Introduction, types and functions of muscular tissues, contraction of muscular tissue, exercise and skeletal muscular tissue, Neuromuscular Junction, regeneration of muscular tissue, physiology of skeletal muscle movement, effect of exercise on oxygen transport, muscle strength, endurance, BMR, R.Q. Joints: classification, structure, blood supply and nerve supply, range of motion and movement of synovial joints.

Mobility and stability functions of muscles

Elements of muscle structure

Muscle function

Effects of immobilization, injury and ageing

**Nizame Qalb wa Urooq (Cardiovascular system)**

Introduction, anatomy of blood vessels, general description of various arteries and veins, the capillary circulation, veins and venous return, cutaneous circulation, nervous control of the skin circulation, lymph circulation, muscle circulation.

**Heamopoitic System**

**Nizame hazm (Gastrointestinal system)**

Introduction, histology of GI tract, movements of elementary canal, vomiting, diarrhea, constipation.

**Nizame Boul (Urinary system)**

Urine formation, physiology of micturition, kidney and regulation of body fluid

**Nizame Jild (Integumentary system)**

Introduction, anatomy, functions and epidermal derivatives, applied aspect of integumentary system, pain receptors & dermatome



**Nizame Tannauffus (Respiratory system)**

Introduction, mechanism of breathing, control of respiration, cough reflex, sneeze reflex, applied aspect of respiratory system.

**Books**

S. No	Name of Book	Author's Name
1.	Essential of Medical Physiology	Sambulinghalm
2.	Medical Physiology	Guyton
3	Principles of Anatomy and Physiology	Tortora GF
4	Kulliyate Asri	Ishtiyag Ahmad



First Year  
Paper – III  
Ilaj Bit Tadbeer-I  
(ILAJ BIT TADBEER UMOOMI)

**Note:**The preventive aspects of Modification and moderation in Asbabe Sitta Zaroriya in context with Ilaj bit Tadbeer.

- **Introduction, Principles and Scope**
- **Asbab Sittah Zaruriyah** (Six Essential Factors):

**1. TADABEER MAHUAL WA HAWA UL MUHEET**

**Aab-o-Hawa** (Climate): Classification, Effects of different climates on the body

Nami (Humidity), Khushki (Dryness), Sardi (Coldness), Garmi (Hotness) and its Effects on human body

- **Mausam** (Season): Effects of seasons on the body, Changes produced in the body by spring season, Changes produced in the body by summer season, Changes produced in the body by autumn season, Clothing, Diseases specially associated with the seasons.
- **Khusoosiyat Sehat Mand Hawa** (Properties of the healthy air)
- **Takaddur-e Hawa** (Air pollution): Pollutants, Natural sources, Major primary pollutants produced by human activity, effects on Health, Air born diseases, Reduction efforts (Tadabeer) Control devices(Air filters, Air freshening), Tabdeeli Masakin wo Aab wo Hawa se Ilaj

**2. TADABEER GHIZA : MAKUL WAI MASHROOB (FOOD AND DRINKS):**

- **Al-Makul (Food):** General description of food and its classification based on digestion, chyme, nutrients, functions and classification of food based on dieto-therapy.
  - Sources of food their functions and their role in maintaining the health
  - Cooked and uncooked food and their properties
- **Al-Mashrub (Drinks):**General description of drinks, their sources, functions and uses.
  - Al-Maa (Water) its uses, good quality water, recommended servings of water per day; dietary sources of water.
  - Water contamination its principle sources, its contaminants, diseases caused by water pollution, its preventive measures and therapeutic value.
  - Importance of milk (Laban/Sheer/Doodh), Honey (Asl-un Nahal/Shahad), Vinegar (Khall/Sirka) and Wine / Alcoholic beverages (Khamr/Sharab)
- **Balance Diet:** General description of balance diet its planning for healthy/diseased persons
  - Taqleele Ghiza:- Indication, contraindication, advantages and disadvantages
  - Takseere Ghiza:- Indication, contraindication, advantages and disadvantages
  - Tarke Ghiza:- Indication, contraindication, advantages and disadvantages
  - Dietary regimen for life style disorders ie Diabetes, Obesity , Hypertension, Hyperlipidaemia, IHD etc



3. **TADABEERE HARKAT WAS-SUKUNE BADANI** (Regimen for Physical or bodily movement and repose)
  - **Harkat-ul Badaniyah** (Physical or Bodily movement): Tadaabeer Harkat wa Sukoon: Physical Fitness--Basics of the physical fitness, Daily workout schedule, Clothing, Fitness Formula, Exercises in different Seasons, Effects of exercise, Exercise programs at home & office, Exercise for daily fitness, Exercises for a healthy back, Exercise during pregnancy.
  - **Sukun ul Badani** (Repose): Need and importance of rest for maintaining and restoring health.
4. **TADABEER HARKAT WA SUKUN NAFSANI** :(Regimen for Mental or psychic movement and repose)
  - **Harkate Nafsaniyah** (Mental or psychic movement)
  - **Sukune Nafsani** (Repose)
5. **AN-NAUM WA-YAQZAH** (Sleep & wakefulness)
  - **An-Naum** (Sleep): Polysomnography, Science Wakes Up to Sleep Disorders, Sleep disorders (Hypersomnia, Insomnia, Snoring, Specific Regimental therapies in sleep disorders)
  - **Al-Yaqzah** (Awakefulness): Effects of prolonged awakenss, General recommendations to treat insomnia, Psychological therapies
6. **TADABEERE IHTIBAS WA ISTIFRAGH** (Retention and Evacuation)
  - **Al-Ehtibas** (Retention): General consideration of Ehtibas and its scope
  - **Al-Estifragh** (Evacuation)
7. **General description of Asbabe Ghair Zarooriyah**
8. **Tadabeere Naumaulood wa Atfaal** (Regimens for neonates and infants)
9. **Tadabeer for Menstrual Disorders**
10. **Tadabeere Hamela** (Regimens for pregnant)
11. **Tadabeere Razaa't** (Breast feeding and top feeding regimens)
12. **Tadabeer for Menopausal disorders**
13. **Tadabeere Mashaikh** (Regimens for the elderly)
14. **Tadabeere Asnan i.e. Tadabeer Saba /Naujawan** (Regimens for different age groups)
15. **Tadabeer for Psychosomatic disorders.**

### Books

S. No	Title of the book	Name of the author
1	Park's Social and Preventive Medicine	Park, K
2	Al Qanoon Fit Tib	Ibne Sina
3	The Canon of Medicine by Avicenna	Mazhar H. Shah
	Kulliyat-e Nafisi	Burhanuddin Nafisi
4	Tauzihat Asbab Sittah Zarooriya	Abu Waris Jamil
5	Ilaj bit Tadbeer	Ehsanullah & Inayatullah
6	Other thesis	Work done in AMU, Jamia Hamdard, NIUM Bangalore and other research institute

First Year  
Paper - IV

Usoole Tashkhees wa Ilaj  
(Principle of Diagnosis and Treatment)

- **Tashkhees ki Ghaz-o-Ghaiyat**
- **Aam Istifasarat**
  - **Rudad e Mareez**
    - (a) Present complaint
    - (b) History of present illness
    - (c) Past History
    - (d) Family History
    - (e) Personal History
    - (f) Treatment History
- **Khusoosi Istifasarat**
  - Nizami Istifasarat
- **Umoomi Imtehan e Mareez (General examination)**
  - (a) General appearance
  - (b) Mental and Emotional states
  - (c) Attitude, gait, physique
  - (d) Face, eyes, neck, thyroid gland
  - (e) Upper limb, lower limb
  - (f) Lymphatic system
  - (g) Pulse
  - (h) Respiration
  - (i) Temperature
  - (j) Blood Pressure
- **Imtehan-e-Zufur wa Sha'ar ma Jadeed Tashkheesi Zarai**
- **Imtehan-e-Jild ma Jadeed Tashkheesi Zarai**
- **Imtehan-e-Nizam e Hazm**
  - (a) Clinical Symptoms
  - (b) Examination
  - (c) Investigations
  - (d) Recent diagnostic techniques
  - (e) Usool-e Ilaj
- **Imtehan-e Nizam e Tanaffus**
  - (a) Clinical Symptoms
  - (b) Examination
  - (c) Investigations
  - (d) Recent diagnostic techniques
  - (e) Usool-e Ilaj
- **Imtehan-e-Nizam e Baul**
  - (a) Clinical Symptoms
  - (b) Examination
  - (c) Investigations
  - (d) Recent diagnostic techniques
  - (e) Usool-e Ilaj
- **Imtehan-e-Nizam e Dauran-e Khoon wa Qalb**
  - (a) Clinical Symptoms



- (b) Examination
- (c) Investigations
- (d) Recent diagnostic techniques
- (e) Uloom-e Ilaj
- **Imtehan-e-Nizam e Asaab**
  - (a) Clinical Symptoms
  - (b) Examination
  - (c) Investigations
  - (d) Recent diagnostic techniques
  - (e) Uloom-e Ilaj
- **Imtehan-e-Nizam e Ezam wa Mafasil**
  - (a) Clinical Symptoms
  - (b) Examination
  - (c) Investigations
  - (d) Recent diagnostic techniques
  - (e) Uloom-e Ilaj
- **Imtehan-e-Nafsanī**
  - (a) Cardinal symptoms
  - (b) Examination
  - (c) Investigations
  - (d) Recent diagnostic techniques
  - (e) Uloom-e Ilaj
- **Imtehan-e-Ghudad e Jaqanatiya**
  - (a) Clinical Symptoms
  - (b) Examination
  - (c) Investigations
  - (d) Recent diagnostic techniques
  - (e) Uloom-e Ilaj
- **Imtehan-e-Mashaikh**
  - (a) Clinical Symptoms
  - (b) Examination
  - (c) Investigations
  - (d) Recent diagnostic techniques
  - (e) Uloom-e Ilaj
- **Nabz**
  - (a) Sharait e Nabz, Fareeqa e Imtehan
  - (b) Ajjnas e Nabz
  - (c) Nabz-e Mufrad, Nabz e Murakkab
  - (d) Ashaab-e Nabz
  - (e) Nabz ke Tabai Ikhtelafaat
  - (f) Nabz ke Marzi Ikhtelafaat
- **Baul**
  - (a) Nazri wa Khurdbeeni Imtehan
  - (b) Aqam-e Baul
  - (c) Dala'el-e Baul
- **Baraaz**
  - (a) Nazri wa Khurdbeeni Imtehan
- **Uloom-e-Ilaj**
  - (a) Ilaj ke Kulli Fareeqa
  - (b) Ilaj Bid Dawa ke Qavaneen
  - (c) Auram ka Uloom-e Ilaj

- (d) Tareeqa e Taadil wa Tanqiya Akhlat  
 (e) Qavaneen wa Zariye Istifragh Is'hal, Qai, Idrar, Huqna, Tareeq, Tanfees, Hijamat, Irsal e Ahaq, Pasd

### Practical

The students of Ilaj Bit Tadbeer 1 year will be posted at the IPD unit for imparting practical training.

### Reference Books

S. No	Title of the book	Name of the author	Year of publication
1	Hutchinson's Clinical Methods	Michael Swash Michael Glynn	2009
2	Amali Saririyat	Mohd. Yunus Siddiqui	2003
3	Rahnumai e Tashkhees	Ehtishamul Haque Quraishi	1984
	Kitab ut Tashkhees	Mohd. Anwar	2002
5	MacLiford's Clinical Examination	Graham Douglas, Fiona Nicol, Colin Robirtson	2009
6	Chamberlin's Clinical Medicine	Colin Ogilvie, Christopher C. Evans	1997

- Determination of Shelf life of a Kushta.

#### **Practicals:**

Training in processes mentioned in theory

### **PAPER III**

#### **General and Experimental Pharmacology**

**General Pharmacology and its various branches:** Pharmacokinetics, Pharmacodynamics, Pharmacotherapeutics, Toxicology, Clinical pharmacology, Pharmaceutics, Posology.

- **Routes of Administration of Drugs**
- **Pharmacokinetics:** Absorption, Distribution of drugs, Metabolism and Excretion of drugs, Bioavailability and half life of drugs, Dose response curve, LD<sub>50</sub>, ED<sub>50</sub>
- **Pharmacodynamics:** Receptor theory of drug action, Receptor Families, Receptor – ligand Binding, Factors modifying drug actions
- **Pharmacovigilance:** Drug interactions, Adverse Drug Reaction, Reporting and monitoring of ADR.
- **Principles of Toxicology.**

#### **Experimental Pharmacology:**

Common laboratory animals, characteristics and experimental uses

Factors affecting drug response

Drug administration (Oral and IV) and withdrawal of blood samples

Dose conversion factors

Vehicles for animal administration

Isolated tissue preparations.

Methods of rendering the animals unconscious, and anaesthetics used.

Physiological salt solutions

Standard drugs and chemicals

**Bio assay:** Scope, Principles, Designing, Types.

**Drugs Screening:** Low & High throughput screening.

Low throughput (Simple Blind Programmed Screening)

High put Screening

**Toxicity Studies:** Acute, Sub acute, Chronic studies.

**Neuro-pharmacological Studies:** Irwin's profile, Smith's profile.

Anticonvulsant activity

Analgesic, Antipyretic, Anti-inflammatory, and Anti-ulcer activities

Hepatoprotective, Nephroprotective Activities

Hypoglycemic and Hypolipidemic Activities

Action of drugs on cardiovascular system

#### **Practicals**

##### **In-vivo Experiments**

- To study the general pharmacology and gross behaviour in mice/ rats.
- To study the effects of pentobarbital Induced hypnosis in mice.
- To study the effects of chlorpromazine on the locomotor activity using photoactometer in rats.
- To study the analgesic activity of morphine using tail flick method by analgesiometer in mice.

- To study the analgesic activity of morphine using hot plate method in mice.
- To study the analgesic activity of aspirin using acetic acid induced writhing test in rats.
- To study the anti-inflammatory activity of aspirin / indomethacin against carrageenin induced paw edema in mice.
- To study the anticonvulsant activity of phenytoin using convulsiometer in rats.
- To study the antisecretory and ulcer protective effect of H<sub>2</sub>-Blockers in rats.

#### **In-vitro Experiments (on isolated preparations)**

- To record a concentration response curve (CRC) of acetylcholine using ileum preparation in rats.
- To record the effect of physostigmine (Eserine) on the CRC of acetylcholine using ileum preparation in rats.
- To record the blocking effect of atropine sulphate on the CRC of acetylcholine using ileum preparation in rats.

## **FINAL YEAR EXAMINATION**

### **Paper I**

#### **Pharmaceutical Developments & its Applications in Saidla**

- **Pharmaceutical Dosage Forms and their methods of preparations:**
  - **Oral Solid Dosage Forms:** Powder, Tablets, Capsules, Sustained release dosage forms, Suppositories and Pessaries.
  - **Oral Liquid Dosage Forms:** Solution, Suspension and Emulsion.
  - **Topical Semisolids:** Ointments, Pastes, Creams, Gels and Poultices
  - **Topical Liquids:** lotions, liniments, topical solutions, gargles, mouthwashes, ear drops and nasal preparations.
- **Principles of Pharmaceutical Processing, designing and application in Unani Pharmacy:**
  - Cutting, Milling and Mixing: Pulverizer, Grinders, Sieving shakers, Mixers, Impellor Mixer (for liquids), Ribbon Blender, Mixer (for solids), Triple rolling mills, Ball mill, Edge runner.
  - Incineration: Furnaces and ovens.
  - Drying of crude drugs and methods of drying: Type of Dryers (Oven, Spray dryer, Freeze dryer, Tray Dryer)
  - Granulation: Granulators
  - Tablet making machine
  - Pills making machine
  - Tablet Coating & Polishing machine
  - Capsule filling machine
  - Emulsions: Emulsifier, Homogenizer, Surfactants, emulsifying agents,
  - Ointment, pastes, gels and creams filling machine
  - Extracts and tinctures: various methods of Extraction.
  - Centrifugation: Centrifuge (Filter Centrifuge)
  - Pharmaceutical Aerosols: Various actuators and applicators.
  - Suppositories: Manufacturing and bases of suppositories.
  - Filtration: Different types of Filter equipments and Filter Aids
  - Evaporation and crystallization: Spray drying
  - Evaporation and Different types of Evaporators
- Humidifier and Dehumidifier





## Final Year

### Paper -I

#### “BIOMECHANICS”

- General description of Biomechanics and its scope
- Fundamentals of biomechanics
  - Basic mechanical concepts
    - Types of Motion, Location of Motion, Direction of Motion, Magnitude of Motion, Definition of Forces, Force of Gravity, Reaction forces, Equilibrium, Objects in Motion, Force of friction, Concurrent force systems, Parallel force systems, Work, Moment arm of force, Force components, Equilibrium of levers
- Application of biomechanics in strength and conditioning
- Mechanics of musculoskeletal system
  - Biomechanics of upper and lower limb
  - Biomechanics of walking and running
  - Assessment and correction of limb biomechanics

#### **Analysis of Posture and Gait:**

Static and dynamic posture, postural control, kinetics and kinematics of posture, ideal posture analysis of posture, effects of posture on age, pregnancy, occupation and recreation; general features of gait, gait initiation, kinematics and kinetics of gait, energy requirements, kinematics and kinetics of the trunk and upper extremities in relation to gait, stair case climbing and running, effects of age, gender, assistive devices, disease, muscle weakness, paralysis, asymmetries of the lower extremities, injuries and mal-alignments in gait; Movement Analysis: ADL, activities like sitting -- to standing, lifting, various grips, pinches.

#### **Introduction to Exercise Therapy**

- Introduction, Effect of therapeutic exercise, Types of skeletal muscle fibers (Type I & Type II)

#### **Classification of muscle Based on arrangement of fascicule**

- Parallel strap, fusiform, rhomboidal, triangular
- Oblique Unipennate, bipennate, multipennate
- Circular

#### **Types of muscular contraction**

Isotonic, Isometric, Concentric, Eccentric

#### **Group muscle action**

Agonist, Antagonist, Neutralizer, Stabilizer or Fixator

#### **Range of muscle work**

Full range, Inner range, Middle range, Outer range

#### **Methods of Testing**

- Functional tests
- Measurement of Joint range: ROM Definition, Normal ROM for all peripheral joints
- & spine, Goniometer parts, types, principles, uses., Limitations of goniometry,
- Techniques for measurement of ROM for all peripheral joints
- Tests for neuromuscular efficiency
  - Electrical tests, Manual Muscle Testing: Introduction to MMT, Principles & Aims, Indications & Limitations, Techniques of MMT for

group & individual muscles: Techniques of MMT for upper limb / Techniques of MMT for lower limb / Techniques of MMT for spine, Anthropometric Measurements: Muscle girth – biceps, triceps, Forearm, quadriceps, calf. Static power Test, Dynamic power Test, Endurance test, Speed test, Tests for Co ordination

- Tests for sensation
- Pulmonary Function tests
- Measurement of Limb Length: true limb length, apparent limb length, segmental limb length
- Measurement of the angle of Pelvic Inclination

### Basic Concepts in Electrical Stimulation

Resting Membrane Potential, Action Potential, Propagation of Action Potential, Motor Unit

**Electrotherapy:** Types of currents used in Physiotherapy, Electrotherapy modalities used in Physiotherapy, Therapeutic and Physiological effects, Indications and Contraindications, EMG.

### Books

S. No	Title of the book	Name of the author
1	Basic Biomechanics of the Musculoskeletal system	Margaret Nordin
2	Brunnstrom's Clinical Kinesiology	Peggy A. Houglum Dolores B. Bertoti
3	Joint Structure and Function A Comprehensive Analysis	Cynthia C. Norrin
4	Electrotherapy Explained principles and Practice	John Low, Ann Reed
5	Text book of Bio mechanics and Exercise Therapy	Dr.C.Nagavani

Final Year  
Paper – II

Ilaj Bit Tadbeer-II

"ILAJ BIT TADBEER KHUSOOSI"

- **Usool-e Istifragh wa Tanqiya:** General consideration of Al-Istifragh, its scope and types, detailed description of Nuzj wa Tanqiya.
- **Qai (Emesis):** Introduction, Definition, aims and objectives, Drugs used for Qai, Indications and contraindications, awqat, Qai ke bad Munasib Tadabeer, Qai ke Aaraz aur unka Ilaj, Kasrate Qai ke Nuqsanat, Therapeutic efficacy of vomiting, vomiting in various systemic diseases, Pharmacology of emetic drugs.
- **Is'baal (Purgation)** Introduction, Definitions, Principles, Classification, Indications and contraindications, Drugs used for purgation, Ayyam wa Awqat (dosage and timings) Tadbeer Daurane Mus'hil/ Mushil ke bad Aab wa Ghiza, Tabreed Iskal for prevention of disease and promotion of health, Mushil ke bad Ghiza, Therapeutic efficacy of purgation and pharmacology of purgatives.
- **Huqna (Enema)**  
Definition, principles, aims, Objectives, Classification, Procedure, Drugs used in Huqna, Indications and contraindications
- **Tanfees (Expectoration).** Definition, principles, aims, Objectives, Procedure, Drugs used in Tanfees, Indications and contraindications
- **Idrar (Diuresis).** Introduction, Definitions, Scopes and objectives, Indications and Contraindications, Drugs used for Idrar/ diuretic drugs, Diuresis in hepatorenal diseases, urolithiasis, hypertension, abnormalities related to micturition and their management, Catheterization, Bladder care in bed ridden patients
- **Tareeq (Diaphoresis / Sweating)** Definition, Aims and Scopes, Methods and Procedures, Indications and contraindications, adverse effects of Tareeq
- **Fasd-al Wareed (Phlebotomy or Venesection) (ii) Fasd-ash-Sharyan (Arteriotomy)**
  - Procedure of blood-letting, Definition, Sites of Venesection, Description of Vessels of Venesection, Instruments used in Venesection, Pre Venesection Procedure, Investigations like (Hb%, Bleeding Time, Clotting Time, Prothrombin time, platelet count, blood sugar, Blood group with Rh typing, HIV, HbsAg), precautions & Complications, Indications and Contraindications, Management of Post procedural problems, Waqt (Timings), Venesection as a mean of reducing Intela, Effects on circulatory system, Recommendations regarding amount and sites, Antiseptic precautions, Management of Hemorrhage and associated Complications
  - Standard operative procedures
- **Irsale Ahaq (Leeching):**
  - History of Leech Therapy, Definition, Description of Leeches, Breeding of leech and domestication, types / Classification of leech, Leech collection, storage and preservation, Leeching procedure /

- application and removal of leech, Precautions, Indications and contraindications, Medicinal efficacy of enzymes present in leech saliva, Zoological description of leech, Leeching and vascular diseases, Threat of disease transmission HIV, HBV, Complications – Immediate and delayed management of Haemorrhage, Leech therapy- Anaphylaxis and its management, Standard operative procedures
- **Al Hijamah (Cupping Therapy)**
  - \* History Greeko Arab practice of Hijama, Modern cupping, Introduction & Definition, Types of cupping (Hijamat Bish Shart & Bila Shart), sites of application in relation to different diseases and procedures of Hijamat, indications, required investigations and contraindications, duration, Mode of action, Application of Hijama in prevention of various disorder in healthy individual, Therapeutic effects, sites to be excluded for wet and dry cupping, Contraindications, Local effects, Instruments and their care, Antiseptic precautions, risk of disease transmission, complications and their management,
  - \* Standard operative procedures
- **Dalk (Massage Therapy)**
  - Definition, scopes: Principles and Objectives, Classification (Aqsam) of Dalk, specialised Dalk for various muscles, Effects of adjuvant drugs in Dalk, Indications and therapeutic uses, Duration of Dalk, Condition for specific Dalk, Adverse effects / Contraindications, Physiological effects, Applied aspects of Dalk, Sequence of Dalk, Therapeutic properties of oils used in massage, Modes of action and effects, Massage in musculoskeletal disease, neurological disease, Rehabilitation therapy, Methods of preparation of important oils used in Dalk
  - Standard operative procedures
- **Hamman** : Definition, Principles, Objectives, Types of Hammam / Classification, Kinds of Hammam rooms and its importance, Therapeutic uses, indications, Contraindications & effects, Adverse effects, Sharaite Hammam (Conditions), Electrolyte imbalance, modulation and maintenance of Mizaj, Relation of Hamam with Kaifiyate Arba and their diseases, Hamam and cutaneous circulation, Effects of Hamam on autonomic nervous system, Neuromuscular diseases, Thermo regulation, body weight & Reflexo- genic effect of Hamam, Hamam in Amraze Barida, Rataba and Yabisa.
- **Takmeed (fomentation)** Definition, types = {Takmeed Haar (Hot fomentation) Takmeed Barid (Cold fomentation)}, Indications, Contraindications.
- **Riyazat (Exercise)**  
Definition Aghraz wa Maqasid (Scope and objectives), Principles, types, Scientific interpretation and effects of Riyazat in certain disease like Sports induced diseases, Fawaid (Therapeutic importance), indications, Adverse effects, Conditions( Sharait) for general and Organ specific Riyazat, contraindications, Timing/Duration of exercise, Exercise in cardiovascular and neurological diseases, Movements at different joints and their limitation Effect of Riyazat on Tabiyat, Hararate Gharizia and dissolution, Tiredness (Uiya) and its management, Traditional methods of exercise, Riyazat in



prevention of Ifqarie Marze qalb (III), Zightuddam Qavi (hypertension), obesity, diabetes and other life style diseases.

• **Amale Kai (Cauterization)**

Introduction, Definition, Aims, Objectives, Procedure, Precautions, Indications and contraindications, Mechanism of action, Kai in Amraze Barida, Amraze Mafasil and modulation of Mizaj, Modern methods of cauterization, post cauterization care of patients.

**Standard Operative Procedures (SOPs) whichever is available**

- The procedures, where SOP are not available, department should start to develop and finalized after submitting at appropriate level

**MUTAEFARRIQ TADABEER (MISCELLANEOUS REGIMENAL THERAPIES)**

- Lakhlakha / Shamoom / Nashooq / Sauoot (Aroma Therapy)
- Inkebab (Steam inhalation)
- Amle-e-tees (Sternutation/Sneezing).
- Haam (Counter irritation) Counter Irritants, Indications for Counter-irritants
- Sukoob / Nutool
- Aabzan
- Pashoya
- Bakhoor / Dhuni
- Miscellaneous procedures.

**Books**

S. No	Title of the book	Name of the author
1	Haj bit Tadbeer	Ehsanullah & Inayatullah
2	Kulliyat e: Qanoon	Ibn Sina/ Kabeeruddin
3	Kulliyat e Nafisi	Burhanuddin Nafisi
4	Tauzihat Ashab Sittah Zarooriya	Abu Waris Jamil
5	Kitabul Umda Fil Jarahaat	Ibn Quf
6	Kitabul Mukhtarat	Ibn Hubl
7	Kitabul Kulliyat	Ibn Rushd

Final Year  
Paper-III

Ilaj Bit Tadbeer-III

"AMIRAZE NIZAME BADNI KA TADBEERI ILAJ"

(Application of Therapeutic Regimens in Systemic Diseases)

- **Amraz Nizam e Dauran-e-Khoon (Diseases of circulatory system)**
  - Amraz e Qalb (Diseases of heart)
  - Amraz e Urooq e Damiyat (Diseases of blood vessels)
- **Amraz Nizam e Tanaffus (Diseases of respiratory system)**
  - Amraz e Riya (Diseases of lungs)
  - Amraz e Ghishur Riya (Diseases of pleura)
- **Amraz Nizam e Hazam**
  - Amraz Dahlan (Diseases of Buccal cavity)
  - Amraz Ashul Uzn (Diseases of Salivary glands)
  - Amraz Mari (Diseases of Oesophagus)
  - Amraz Medawa Isna e Ashri (Diseases of stomach and Duodenum)
  - Amraz Ana (Diseases of Intestine)
  - Amraz Kabid wa Mirarah (Diseases of Liver and Gall bladder)
- **Amraz Nizam e Baul wa Tanasul**
  - Amraz Nizam e Baul (diseases of Urinary tract)
  - Amraz Tanasul (Diseases of Reproductive system)
- **Amraz Jild**
  - Amraz e Jild (Skin diseases)
- **Amraz Azalat wa Mafasil**
  - Amraz e Mafasil (Joint diseases)
  - Amraz e Azalat (Muscular disease)
- **Amraz Nizam Asab wa Dimagh**
  - Amraz e Asab wa Dimagh
- **Amraze Nafsanīya**
- **Hummiyat (Fever):**
  - Hummiyat mein Ghizai Ahkam (Dieto therapy in fevers)
  - Tadabeer e Taqleel e Hararat (Regimes for lowering fever)
  - Hummiyat e Yaum ka Tadabeeri Ilaj (Regimes for Humma-e-Yaum)
  - Hummiyat e Khilti ka Tadabeeri Ilaj (Regimes for Humma-e-Khilti)
  - Hummiyat e Diqqi ka Tadabeeri Ilaj (Regimes for Humma-e-Diqqi)
- **Tadabeer-e-Mashaikh (Geriatric Care):**
  - Mashaikh mein Ahkam e Ghiza, Ahkam e Riyazat, Dal'k wa Deegar Tadabeer (Dieto therapy and other regimes)
- **Metabolic diseases:** Metabolic Syndrome, Diabetes mellitus, Obesity, Hypertension, Thyroid disorders.
- **Haemopoietic system**
- **Psychotic disorders.**

**Miscellaneous Diseases:**

Daur ul-Jel, Dawali, Da'us Sadaf, Falije Nisfi, Falije Asfal, Waja-ul Mafasil, Waja-ul Zahr, Siman-e-Mufrit, Ziqhi ud-Dam Qawi, Sahar, Ra'sha, post

Stroke, Rehabilitation, Suda Bars, Cervical Spondylosis, Lumbar Spondylosis, Frozen shoulder, Muscular dystrophy, chronic non-healing ulcer, Qabz, Saqeeqa, Deep vein thrombosis, varicose ulcer, Waja-ul Asab, Irq-un Nisa, Myopathy, Spinal cord disease, Neurodegenerative disease, and Life style disease, Anxiety, Depression.

• **Reference books:**

S.No.	Books	Author
1	Al Qanoon Fi Tibb	Ibne Sina
2	Al Akseer	Hkm Azam Khan
3	Zakheera Kumawatzi Shahi	Hkm Ismaeel Jurjani
4	Harrison's Internal Medicine	Fauci AS, Braunwald E, Kasper L, Edwards CR
5	Davidson's Principles and Practice of Medicine	
6	Sharah e Asbab	Translated by Khuaja Rizwan Ahmiad

**Clinical skills**

1. **Day to day work:** Skills in Out Patients and ward work should be assessed periodically. The assessment should include the candidate's sincerity & punctuality, analytical ability and communication skill.
2. **Clinical meetings:** Candidate should periodically present cases to his/her peers & faculty members. This should be assessed using a checklist.
3. **Journal Club Presentation:** P.G. Scholars should periodically present research papers of various journals related to Ilaj Bit Tadbeer.
4. **Practical Training:** P.G. Scholars should be posted in regimenal and physiotherapy units of the hospital for the practical training of various procedures and techniques.
5. **Clinical and procedural:** The candidate should be given graded responsibility to enable learning by apprenticeship. The performance is assessed by the guide direct observation. Particulars are recorded by the students in the log book.

**Research work**

1. PG Scholars should submit the synopsis of Research work within Six month after completion of admission.
2. PG Scholars shall be posted in IPD/OPD section of Hospital during the period of Course.
3. The Thesis must be submitted six month before the completion of Course.

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**CENTRAL COUNCIL OF INDIAN MEDICINE**

**AMRAZE JILD WA TAZYEENIYAT  
(SKIN & COSMETOLOGY)**

**SYLLABUS OF  
DOCTOR OF MEDICINE (MD-UNANI)**

**3 YEARS DEGREE COURSE**

**CENTRAL COUNCIL OF INDIAN MEDICINE  
61-65, INSTITUTIONAL AREA,  
JANAKPURI  
NEW DELHI - 110058**

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**(OCTOBER, 2017)**





### **PG Syllabus in -Amraze jild wa tazeeniyat (Skin & Cosmetology)**

Dermatology is one of the important basic clinical speciality. Considerable advances have taken place in the understanding of dermatological disorders and their treatment. There is a scarcity of trained personnel in this speciality. Very few colleges in the country impart sufficient knowledge about these diseases at Undergraduate level and Postgraduate courses are not available in Unani Medicine.

The syllabus of PG Degree course in Amraze Jild Wa Tazeeniyat has been designed matching the other clinical specialties at the Institute. An attempt has been made to give an ample training to the students including basic subjects and recent advances.

#### **OBJECTIVES**

At the end of this study a candidate should be able to

1. Diagnose and manage independently common skin diseases.
2. Adopt preventive measures at individual and community levels against communicable skin diseases.
3. Adopt a compassionate attitude towards the patients.
4. Critically evaluate and initiate investigation for solving problems relating to skin disease.

#### **SKILLS TO BE LEARNT**

1. History taking for dermatology.
2. Describe cutaneous findings in dermatological terms in a systematic way.
3. Evaluate and manage the common diseases in dermatology and have a broad idea how to approach an uncommon disease.
4. Systemic examination relevant for dermatologic condition
5. To achieve adequate skills for tests done in side laboratory in day-to-day practice and be familiar with other sophisticated investigations.

**Duration of Course of Study : THREE ACADEMIC YEARS**

**Minimum Educational Qualification Required For the Course: B.U.M.S**

**Criteria For Admission : Through Competitive Examination**

**Medium of Instruction and Examinations: Urdu Substantiated by English Scientific Terminology**

**Scheme of Examination : Annual examination system**

**First year**

Two theory papers of 100 marks each. First year examination will be held at the end of first academic year after admission

**Final year** : Four theory papers of 100 mark each.

**Dissertation submission:** 06 months before the commencement of final exam.

**First year****Paper-I****Research & common paper for all discipline****Paper II****Usool-e Tashkhis-o-Tajveez****Applied anatomy and physiology of skin-**

- The structure, functions and development of human skin.
- Biology of melanocytes and melanin formation.
- Mechanism of cutaneous wound healing.

**Basic Pathology reaction pattern in skin****Approach to the patient with skin disease**

- Terminology – General terms, Types of lesions, Modification of lesions.
- Physical examination– Distribution, arrangement and morphology of lesions.
- History- Chronology, evolution of the lesion, previous therapy, occupation and family history, socioeconomic status and psycholglcal factors.

**Recent Diagnostic Procedures**

**Common and special histopathological stains and procedures used in the diagnosis of skin diseases and Special techniques such as immunofluorescence, immunoperoxidase, related serological tests and other related techniques.**

**Biopsy**

- Punch Biopsy
  - Shave Biopsy
  - Elliptical Biopsy
- KOH Examination
  - Fungal Culture

- Tzank Preparation
- Scabies Preparation
- Wood's Light Examination
- Patch Testing.

#### Principles of treatment

- a) Dietotherapy.
- b) Regimenal therapy.
- c) Pharmacotherapy- General principles, Topical Therapy, Systemic Therapy.

#### **Practical**

Posting in hospital in skin OPD & IPD for practical training

### **FINAL YEAR**

#### **Paper- I Amaze Jild**

Amraze Sue mizaj jild (Sada wa Maddi)

Amraz Fasade laun (Vitiligo, Albinism, Hyperpigmentation, leucoderma, hypomelanosis and DLE)

Taqashshure jild (Psoriasis, Pityriasis rubra pilaris, Pityriasis rosea, Palmoplantar Keratodermas. Ichthyoses)

Narfarsi (Eczema)

Kharish/Hikkah(Pruritus)

Busoorat - busoorate labaniya (Acne), busoorate saudaviya (Lichen Planus), Busoorate Ghareeba

Daus Salab (Alopecia areata)

Sa'fa (Favus)

Diseases of the Veins and Arteries: stasis dermatitis, venous ulcer, quroohe muzmina (chronic ulcer)

Skin diseases due to cold or heat exposure

Abnormal vascular response-Share (Urticaria), PLE

#### **Jildi Amraze ghair mudawwina and their possible management-**

Pityriasis Rosea, Ichthyoses, Atopic Dermatitis, Seborrheic Dermatitis, Angioedema, Vasculitis, Immunobullous Diseases, Cutaneous signs of systemic malignancy,

Metabolic and nutritional disorders, - Lupus erythematosus, Raynauds phenomenon,

### Paper II

#### Amraze Muta'addi

Humra (Erysipelas)

Namla and its types (Herpes and its types)

Saleel (Warts)

Qooba (Fungal Infection) and its types

Bahaq Abyaz (Tinea versicolor)

Bahaq Aswad (Tinea nigra)

Jarb (Scabies), hikka (Pruritis)

Qummal (Pediculosis)

Important systemic diseases with skin involvement-

- Humaiqa (Varicella)
- Khasra (Measles)
- Hummae qirmizya (Scarlet fever)
- Juzam (Leprosy)

Tuberculosis of skin

Folliculosis and its type

Molluscum contagiosum

AIDS

Suzak

Atishak

Da, ul feel

Arqe madani'

Parastitic infection of jild

#### Jildi Amraze ba sababe Naqse Taghzia

#### Miscellaneous disorders

Kasrate Arq, Butlane Arq, Arqe Mantum

### Paper III

**Jildi Amraze Atfal**

**Jildi Amraze Sine shaikhookhat**

**Sala'ate/sartane jild**

**Skin Manifestations of systemic disorders**



- a) Skin and disorders of the alimentary tract
- b) Hepatobiliary system and the skin
- c) Cutaneous changes in renal disorders, cardiovascular, pulmonary disorders and endocrinal disorders
- d) Skin changes in pregnancy
- e) Pyschoneuro dermatological disorders
- f) Genetic disorders, immunological disorders and skin diseases

#### **Paper IV**

### **Tazeeniyat (Unani Cosmetology)**

#### **Disorder of Nail**

Talqiya, Tashaquqe Azfar, Ta' aqufe Azfar, Namshul Azfar, Asnanulfar, Juzamul Azfar, Taqallaul Azfar.

#### **Disorders of Hair and Scalp**

Shaibe Sha'r, Tamarrute Sha'r, Huzaz, Intesare Sha'r, Tashaquqe Sha'r, Tatweele Sha'r, Tasweede Sha'r, Taeweene sha'r, Sula, Muja'ad sha'r.

#### **Disorders of Sweat glands**

Kasrate arq, Arqe Muntin.

#### **Face**

Busoore labania, kalaf, Tahseene laun (Change of complexion), Removal of unwanted hair, Removal of marks, Tajalliye bashra.

#### **The Breast**

#### **Treatments and Procedures for Ageing Skin**

#### **Facial cosmetics and skin care products formulation in Unani medicine**

Ghaza, Ghalla, Ubtan, Zimad, Masooh, Dalook, Sibagh etc.

#### **Tasmeen wa tahzeel**

#### **Recent advancement in cosmetology**

#### **Relevant and regulatory provisions of Unani drugs in Drugs and Cosmetics Act**

#### **Practical**

Posting in hospital in skin OPD & IPD for practical training

**CENTRAL COUNCIL OF INDIAN MEDICINE**  
**NISABE TALEEM OF**  
**MAHIR-E- TIB MD (MAHIYATUL AMRAZ)**

**SYLLABUS OF**  
**DOCTOR OF MEDICINE (MD)**  
**3 YEARS DEGREE COURSE**

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MD 1<sup>ST</sup> YEAR

1. RESEARCH METHODOLOGY AND  
BIOSTATICS
2. ILMUL AHWAL WA ASBAB
3. ILMUL ALAMAT
4. MAHIYATUL AMRAZ UMOOMI MAE  
JADEED IZAFAT

MD FINAL YEAR

5. ILMUL JARASEEM WA TUFALIYAT
6. ITLAQI MAHIYATUL AMRAZ NIZAMI  
MAE JADEED IZAFAT



# Research Methodology and Biostatistics

## PAPER-I

(Common Paper for all Specialties)

### PAPER 1

#### Theory

Teaching Hours 100

100 Marks

#### Research Methodology

**Types of research**

- (a) Literary research
- (b) Clinical research
- (c) Experimental research
- (d) Observation and field studies

**Trends and possibilities of R&D of Unani Drugs**

**Research problems**

- (a) Definition
- (b) Selection and sources of research problems

**Hypothesis**

- (a) Types: Null and alternate hypothesis

**Research designs**

- (a) Types of Research designs

**Controls in research designs**

- (a) Selection criteria
- (b) Placebo and plain control
- (c) Randomization
- (d) Balancing and matching

**Factors effecting research results.**

**Tools and techniques in research**

- (a) Interview, questionnaire, inventories, scales
- (b) Rating scales

**Computer programme used in research**

- (a) Minitab
- (b) SPSS

**Protocols for research and report writing**

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- (a) Protocols for experimental, clinical and community based research.
- (b) Writing research report.
- (c) References in research report:
  - (i) Books
  - (ii) Journals
  - (iii) Compendia
  - (iv) Bulletins
  - (v) WHO Reports
  - (vi) Internet Sites

**Guidelines for Research**

- (a) WHO
- (b) ICMR
- (c) CPCSEA

**Bio-Statistics**

**Scope and utility of Biostatistics**

**Descriptive Statistics**

(a) Analysis of Data

(i) Data collection, tabulation and presentation of data.

(ii) Measure of central tendency – Mean, Median and Mode.

(iii) Measures of dispersion: Range, quartile deviation, standard deviation.

(b) Probability

(i) Definition and laws of probability

(ii) Types of probability distribution

(iii) NPC and its application size

(iv) Randomized samples

(c) Sampling

(i) Types and sample size

(ii) Randomized sampling

**Inferential Statistics**

(a) Correlation and linear regression

(i) Karl Pearson correlation coefficient

(ii) Linear regression equations.

(b) Test of significance

- (i) 't' test
- (ii) 'z' test.
- (c) Test of variance
  - (i) ANOVA one way
  - (ii) ANOVA two ways
  - (iii) X<sup>2</sup>
- (d) Non-parametric tests
  - (i) Median test, Mann Whitney U test.
  - (ii) Kruskal Wallis test, Fried test.

☐ Vital Statistics

- (a) Rate and Ratios
- (b) Standardization of population  
Risk factors

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## Ilmul Ahwal wa Asbab

PAPER. 2

Teaching Hours 100

Theory

Marks 100

### Ilmul Ahwal

- 1) Sabab, Maraz aur Arz
- 2) Ahwale badan-sehat ,Marz aur Halat-e -sahsa
- 3) Ajnase Amraz
  - A) Amraz-e-mufradah
    - 1) Soo-e-mizaj ,Soo-e-tarkeeb ,Tafarraque-ittesal
    - B) Amraz Murakkabah
      - Auram wa Basoor
      - Waram-e-har
      - Auram ghair harra ki aqsam
      - Suadavi madda se paida hone wale waram ki aqsam
      - Balghami waram ki aqsam
      - Reehi awram
      - Basoor ki aqsam
  - 4) Amraz-e-Shaar
  - 5) Fasad e Alvaan -e-Jild
  - 6) Nomenclature of diseases
  - 7) Amraz-e-zahira wa batena
  - 8) Amraz-e-Asli wa Shirki

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9) Marz-e-musallam wa ghair Musallam

10) Inteqal Marz

11) Mutaddi Amraz

12) Mauroosi Amraz

### Ilmul Asbab

Asbab Kulli wa Juzvi aur Iski Darjabandi

1) Asbab-e- sabiqah

2) Asbab-e- badia

3) Asbab-e- wasila

Sharaiat -e-Asbab

Asbab-e- Mukhallefa wa ghair Mukhallefa

Asbab-e-Zarooriya wa ghair Zarooriya

Hawai tabdeeliyon ke asrat

Harkat-e-wa sakoon ke asrat

Neend wa bedari ke asrat

Harkat nafsania ke asrat

Istefrage wa Ehteba ke asrat

### Umoomi Asbab

Asbab-e-Hararat

Asbab-e-Baroodat

Asbab-e-Ratoobat

Asbab-e-Yaboosat

Asbab-e-Mufsadate shakal

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Asbab-e-Sudda wa zeeq Majari

Asbab-e-Ittesa-e-Majari

Asbab-e-Khashoonat

Asbab-e-Malasad

Asbab-e-Khala

Asbab-e-Sue Tarkeeb

Asbab-e-Tafarruk-e-Ittesal

Asbab-e-Waram

Asbab-e-Waja

Asbab-e-Taskeen Waja

Waja ke asrat

Lazzat ke asbab

Waja ba sabab Harkat

Waja ba sabab Khilt

Waja ba sabab Reeh

Asbab-e-tukhma wa Imtela

Asbab Istifrag wa Ehtebas

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Paper -2

## PRACTICAL

Ilmul Ahwal wa Asbab

1. Darjate e Amraz Practical demonstration
2. Maddah ke libaz se awram ki tashkhees.
3. Musaakinat, Mubarridat, Murattabat aur Mujaffifat ke Asrat ka amli Mushahida.
4. Corelation of Ilmul Ahwal with modern theory

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## Ilmul Alamat

PAPER 3

Teaching Hours 100

Theory

100 Marks

### 1) Ilmul Alamat

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Alamat saheeyah wa alamat marzia

Alamat amraz-e-batena

Alamat amraz zahera

Quwwat Basra ke zariye tashkhees marz

zahiri alamat se Istedlal marz

Andarooni amraz ki alamat

Afaal aza ke zariye Istedlal

Istedlal ba istefrag wa ehtebas

Istedlal ba waja

Istedlal ba waran

Istedlal ba waza

Istedlal ba Aaraz munaseba

Amraz khassa wa amraz shirkia ki alamat-e-fariqa

Alamat-e-Amzaja

Alamat Mizaj Motadil

Alamat Aarzi mizaj

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Alamat Ghair moatadil mizaj

**Alamat wa aqsaam-e-Imtela**

Alamat Akhlat-e-arba

Alamat-e-sudda

Alamat-e-reyah

Alamat-e-waram

Alamat-e-tafarruq-e-ittesal

## 2) Baul

Qaroorah ka Aam bayan

Muayana baul

Dalayat baul

Alwan-e-baul

Baul ka qiwwam wa kadurat

Jhag ke zariye halat badan maloom karna

Rasoob ke zariye halat-e-badan maloom karna

Qaroorah ki kami wa beshi se halat badan maloom karna

Tabaee qaroorah

Mukhtalif Umron ka qaroorah

Mardon aur Aurton ka qaroorah

Hamal Aur Naffaas wali aurton ka qaroorah

## 3. Baraz

(a) miqdar (b) qiwwam (c) Jhag (Zubda) (d) Khushki (e) Alwan e Baraz (f) hayat (g) Akhraj --e-Baraz ka waqt (h) Baraze Mahmood (i) Baraze Ghair Mahmood (j) Baraz-ud-dam

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## PRACTICAL

## Paper-3

Humul Alamat

1. Alamate Amzija se Mizaj ki Tashkhees.
2. Alamate imtila se Anraz ki Tashkhees.
3. Alamate imtila se khilte ghalib ki pehchan.
4. Muayene Baul wa Baraz.

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## Mahiyatul Amraz Umoomi Mae Jadeed Izafat

PAPER. 4

Teaching Hours 100

Theory

100 Marks

1- Introduction and divisions of Pathology

2- Tatabuq (Cellular adaptations)

(a) Zamoor (Atrophy)

(b) Tazakhkhum (Hypertrophy)

(c) Faratul Unseja (Hyperplasia)

(d) Tanassuj (Metaplasia)

(e) Khalal e Taniseej (Dysplasia)

3- Zarbe Khalia (Cell injury)

(a) Etiology and Pathogenesis

Reversible cell injury

Irreversible cell injury

(b) Morphology of Irreversible cell injury

(i) Nakhar (Necrosis)

(ii) Apoptosis

(iii) Ghangarana (Gangrene)

(iv) Pathologic calcification

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4- Shaikhookhee khaliā (Cell Ageing)

(a) Definition and theories of ageing

b) Organ changes in ageing

5- Diseases of Immunity

a) The immune system

(i) General description

(ii) Organ and cells of immune system

(iii) Histocompatibility

(iv) Transplant rejection

6- Amyloidosis

7- Fasadat ratubat-e-badan (Fluid and electrolyte imbalance)

(a) Tahabbuj (Oedema)

(b) Qillat-e-ratoobat (Dehydration)

(c) Kasrat-e-ratoobat (Over hydration)

8- Fasad-e-khoon aur fasad-e-dauran khoon

(Haemodynamic disorders)

(a) Hypermia and congestion

(b) Nazaf-ud-dam (Haemorrhage)

(c) Sadma (Shock)

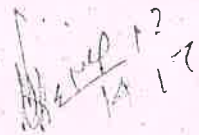
(d) Takhassur-e-dam (Thrombosis)

(e) Tasaddud-e-dam (Embolism)

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(f) Aflasuddam (Ischaemia)

(g) Infarction

9- Iltehab wa Indemal (Inflammation and wound healing)

(a) Acute inflammation

(b) Chronic inflammation

(c) Wound healing

(i) Regeneration

(ii) Repair

10- Ghiza ki kamee wa ziadati ke Amraz (Nutritional disorders)

(a) Vitamin Deficiencies

(b) Protein energy malnutrition

(c) Starvation

(d) Obesity

11- Environmental diseases

(a) Environmental pollution

(b) Injury by physical agent

(c) Injury by chemical agent

12- Transfusion Medicine (Blood Banking)

Basic Immunology

A, B, O and Rh Group

Clinical significance of other blood groups



Transfusion therapy

The use of whole blood and RBCs concentrates, Blood components

13. Neoplasia (Neoplasia)

(i) Nomenclature and classification

(ii) Characteristics of tumours

(iii) Carcinogens and carcinogenesis

(iv) Pathologic diagnosis of cancer

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## Paper-4 PRACTICALS

Mahiyatul Amraz Umoomi Wa Jadid Izafat**Hematology:**

1. Collection, Transport and processing of blood samples for different hematological investigations.
2. Haemogram, ESR.
3. Preparation of Stains and interpretation of peripheral blood smear.
4. Demonstration of Common Blood Parasites.
5. Clotting profile
6. Clinical pathology
  - a. Urine.
  - b. Stool.
  - c. sputum
  - d. CSF Analysis
  - e. Peritoneal fluid Analysis
  - f. Pleural Fluid Analysis
  - g. Pericardial fluid Analysis
  - h. Amniotic Fluid Analysis
  - i. Semen Analysis
  - j. Synovial Fluid Analysis

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## Ilmul Jaraseem wa Tufailiyat

PAPER. 5

Teaching Hours 100

Theory

100 Marks

### 01. Tadiya wa Taaffun (infection)

Ilm-e-Tib mein Tadiya ka Tassavur

Ufoonat wa Mustavaqad-e-Ufoonat

Tadiya ke Aqsaam (Classification of infection)

Inteqaal taadiya (Method of transmission of infection)

Characters of pathogens

Factors predisposing to microbial pathogenicity

### 02. Bacteriology

- Introduction, Classification, Morphology & Genetics
- Growth & nutrition of bacteria,
- Qulwin (staining) - The identification of bacteria and staining
- Bacteria in Health and Disease.

### 03. General Description of the following Bacteriae

Staphylococcus, Streptococcus, Pneumococci, Neisseria,  
Corynebacterium, Bacillus, Clostridium, Entereobacterium,  
Pseudomonas, Vibrio, Camphylobacter, Helicobacter pylori, Brucella,  
Pasteurella, Yersinia, Haemophilus, Bordetella, Spirochaetes, Rickettsia,  
Chlamydia, Mycobacteria

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**03. Virology**

General characteristic of viruses

Classification of viruses

Oncogenic viruses

DNA viruses

RNA viruses

Acquired Immune Deficiency Syndrome (AIDS)

Hepatotropic Viruses (Hepatitis A, B, C, D, E, F, G)

**04. Mycology**

- General introduction and classification
- Superficial mycosis
- Subcutaneous mycosis
- Systemic mycosis

**05. Parasitology**

Introduction and Classification

Protozoa

Helminthes

**06. Diagnostic microbiology** :- Approach to lab Diagnosis

**07. Rapid and Automation method in Diagnostic microbiology**

**08. Methods of Sterilization and disinfection**



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Ilmul Jarasim Wa Tufailiyat**PRACTICAL****Clinical Microbiology:**

1. Demonstrate of instruments, Reagents and safety in microbiology lab.
2. Staining- Gram staining & Acid fast staining.
3. Methods of collection and transport of specimen and technique used for clinical samples e.g. Blood, Bone marrow, Spleen, Liver, Lymphnodes Aspirates, CSF, Pus formed closed cavities and open wounds,
4. Swabs (Nasal, Pharyngeal, Vaginal, rectal and Conjunctival etc.
5. Culture Media and their Preparation, Inoculation & Uses.

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## Itlaqi Mahiyatul Amraz Nizami wa Jadeed Azafat

(Applied systemic Pathology with recent advancement)

PAPER. 6

Teaching Hours 100

Theory

100 Marks

### 1. Disorders of Red Blood cells and Platelets

- (a) Anemia and types
- (b) Bleeding diathesis due to platelet disorders

### 2. Disorders of Leucocytes and lymph reticular tissue

- (i) Leukemia and lymphomas
- (ii) Acute myeloid leukemia
- (iii) Hodgkin's disease & Non Hodgkin's Disease

### 3. Amraz-e-Qalb wa urooq (Disease of Heart and blood vessels)

#### A) Avaiya-e- Damavi (Vascular disorder)

- i) Salabat-e-shiryani aur aqsam (Arteriosclerosis and types)
- ii) Aneurysma (Aneurysm)
- iii) Waram Avaiya (Vasculitis)
- iv) Dawali (Varicosity)

#### B) Heart Disorder

- i) Zubah sadriya (Angina pectoris)
- ii) Maitutat-e-qalb (Myocardial infarction)
- iii) Iltehab batana-e-qalb (Endocarditis)
- iv) Marz-e-qalb Hudari (Rheumatic Heart disease)



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- v) Amraz azlat qalb (Cardiomyopathy)
- vi) Zaghtuddam qavi (Hypertension)
- vii) Khalqi amraz qalb (Congenital Heart disease)
- viii) Amraz samamat qalb (Valvular Heart disease)
- ix) Iltehab ghilaful qalb (Pericarditis)

#### 4. Amraz Nizam Tanaffus (Diseases of Lungs and vessel)

- i) Zaghtuddam Revi (Pulmonary Hypertension)
- ii) Zat-ur-riya (Pneumonia)
- iii) Khuraj riya (Lung abscess)
- iv) Diq-e-riya (Pulmonary Tuberculosis)
- v) Iltehab shoab (Bronchitis)
- vi) Nafkhaturriya (Emphysema)
- vii) Zeeq-un-nafas (Bronchial asthma)
- viii) Ittesa shoabat-ur-riya (Bronchiectasis)
- ix) Sartan riya (Bronchogenic carcinoma)
- x) Zat-ul-janb (Pleurisy)
- xi) Pneumothorax
- xii) Interstitial Lung Disease

#### 5. Amraz-e-Mari, Me'da wa Am'aa

- i) Achalasia and Hiatus hernia
- ii) Oesophageal varices
- iii) Reflux oesophagitis
- iv) Sartan mari
- v) Waram-e-me'da (Gastritis)
- vi) Qarha me'di wa asna ashri (Peptic ulcer)
- vii) Sartan me'da (Gastric carcinoma)
- viii) Qurooh-e-Qoloon (Crohn's disease & ulcerative colitis)
- ix) Diq-e-Am'aa (Intestinal Tuberculosis)
- x) Humme-e-Mevi (Enteric Fever)
- xi) Zaheer (Dysentery)

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- xii) Iltehab Ziada Aawar:(appendicitis)
- xiii) Bawaseer (Piles)

#### 4) Amraz Kabid wa Mararah (Diseases of Hepatobiliary System)

- i) Yarqan (Jaundice)
- ii) Saqoot Kabid (Hepatic Failure)
- iii) Iltehab-e-Kabid (Hepatitis)
- iv) Dubailatul Kabid (Liver Abscess)
- v) Talayyaful Kabid (Cirrhosis of Liver)
- vi) Sartan-e-Kabid (Carcinoma of Liver)
- vii) Hasat-e-Mararah (Cholelithiasis)
- viii) Iltehab-e-Mararah (Cholecystitis)
- ix) Sartan-e-Mararah (Carcinoma of Gall Bladder)

#### 5) Amraz-e-Banqaras (Disease of Pancreas)

- i) Iltehab-e-Banqaras (Pancreatitis)
- ii) Sartan-e-Banqaras (Carcinoma of Pancreas)

#### 6) Amraz-e-Kulliya wa Masana (Disease of Kidney & urinary Bladder)

- i) Saqoot-e-Kulliya (Renal Failure)
- ii) Waram-e-Kulliya Qumbali (Glomerulonephritis)
- iii) Iltehab-e-Hauzul Kulliya (Pyelonephritis)
- iv) Hisat Kulliya wa Masana (Renal wa Bladder Stone)
- v) Iltehab-e-Halib (Ureteritis)
- vi) Iltehab Mujrai Baul (Uretheritis)

#### 7) Male Reproductive System & Prostrate

- i) Epididymitis & Orchitis
- ii) Iltehab Ghudda-e-Mazi (Prostatitis)
- iii) Azm Ghudda-e-Mazi (Prostatic Enlargement)

#### 8) Female Genital Tract

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- i) Vaginitis
- ii) Cervicitis
- iii) Cervical Cancer
- iv) Endometrioses
- v) Adenomycosis
- vi) Carcinoma of Endometrium
- vii) Salphingitis
- viii) PCOD
- ix) Uterine and Ovarian tumours

**9) Breast Disorder**

- i) Mastitis & Breast Abscess
- ii) Tumours of the Breast
- iii) Carcinoma of Breast

**10) Skin Disorder**

- i) Melanocytic Nevus
- ii) Melanoma
- iii) Preinalignant & Malignant epidermal tissues
- iv) Psoriasis
- v) Vitiligo
- vi) Eczema
- vii) Scabies
- viii) Fungal Infection
- ix) Lichen planus

**11) Endoerine Disorders**

- i) Hypo & Hyper Pituitarism
- ii) Diseases of Adrenal Glands
- iii) Thyroid disorders
- iv) Diabetes Mellitus
- v) Gynacomastia



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## 12) Bone &amp; Joint Disorder

- i) Osteomyelitis
- ii) Osteoarthritis
- iii) Rheumatoid Arthritis
- iv) Gouty Arthritis
- v) Osteoporosis
- vi) Osteomalacia

## 13) Amraz Dimagh

- i) Iltehab Aghshia Dimagh (Meningitis)
- ii) Encephalitis
- iii) Cerebral Vascular Accidents
- iv) Cerebro meningeal tumours

## 14) Basic Diagnostic Cytology

- i) Branches of Cytology
- ii) Exfoliative Cytology
- iii) Interventional Cytology

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## Paper-6 Practicals

Itlaqi Mahiyatul Amraz Nizami wa Jadeed Ezafat**Clinical Biochemistry:**

1. Exposure of Students to Lab Instruments and Automation.
2. Manual and Automated Methods of estimation of following Test:
  - i. Renal Function Test.
  - ii. Liver Function Test.
  - iii. Lipid Profile.
  - iv. Blood glucose estimation.
  - v. S. Amylase, Lipase.
3. Serological Tests  
(Widal, VDRL, HIV I & II, C-RP, HbsAg)
4. Tumour Markers.
5. Thyroid Profile

**Histopathology:**

1. Exposure of Students to Histopathology Lab Equipments and instruments.
2. Various methods of Preparation of tissue stain.
3. Method of Fixation and reagent employed as fixatives.
4. Method of Examination of Tissues and Cells.
5. Gross examination of fixation of specimen.
6. Staining of Tissue Section.



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