

Central Council of Indian Medicine

Nisabe Tal eem of Mahir-e-Tib &
Mahir-e-Jarahat

Syl l abus of
DOCTOR OF MEDICINE (MD-Unani) &
Master of Surgery (MS-Unani)

3 Years Degree Course

Central Council of Indian Medicine
61-65, Industrial Area,
Janakpuri,
New Del hi - 110058



भारतीय चिकित्सा केन्द्रीय परिषद्

(स्वास्थ्य एवं परिवार कल्याण मंत्रालय, आयुष विभाग, भारत सरकार के अधीन मांविधिक निकाय)

कार्यालय : 61-65 संस्थानिक क्षेत्र, जनकपुरी, नई दिल्ली-110058

CENTRAL COUNCIL OF INDIAN MEDICINE

(A Statutory Body under the Ministry of Health & Family Welfare, Deptt. of Ayush

Government of India, Constituted under the IMCC Act, 1970)

Off. : 61-65, Institutional Area, Janakpuri, New Delhi-110058

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

INDEX

S. No.	Content	Page No.
1.	PRELIMINARY EXAMINATION Paper-I Research Methodology and Biostatistics (Common paper of preliminary examination for all speciality)	1-2
2.	PRELIMINARY EXAMINATION- ILMUL ADVIA Paper – II Qawanine Advia Paper – III Ilmul wasful Aqaqeer Paper – IV General, Systemic and Experimental Pharmacology	3-7
	FINAL EXAMINATION - ILMUL ADVIA Paper – I Advia Mufrada Paper – II Advia Murakkaba Wa Dawasazi Paper – III Standardisation of Unani Drugs	8-11
3.	PRELIMINARY EXAMINATION- MOALAJAT Paper – II Clinical Biochemistry and Genetics Paper – III Usoole Tashkhees wa Tajweez Paper – IV Ilaj bil Tadbeer	12-17
	FINAL EXAMINATION- MOALAJAT Paper – I Amraze Nizame Aasab, Amraze Nafsania wa Ghudade Laqanati Paper – II Amraze Nizame Tanaffus wa Daurane Khoon, Tauleede Dam, Ghudade Lymphaviah Paper – III Amaraze Nizame Hazm, Baul wa Tanasul wa Istahala Paper – IV Amraze Mutaddiyah, Hummiyat, Jild wa Mafasil	18-22
4.	PRELIMINARY EXAMINATION- KULLIYAT Paper – II Hayati Keemiya wa Ilaqi Afal-ul-Aza Paper – III Kulliyate Umoore Tabiya-I Paper – IV Kulliyate Umoore Tabiya-II	23-25
	FINAL EXAMINATION- KULLIYAT Paper – I Kulliyate Usule Ilaj, Asbab Wa Alamat Paper – II Kulliyate Nabz wa Baul o Baraz Paper – III Ilaqi Kulliyat	26-27
5.	PRELIMINARY EXAMINATION-TAHAFFUZI WA SAMAJI TIB Paper – II Epidemiology Paper – III Asbabe Sitta Zarooriya Paper – IV Environment Health and Sanitation	28-33
	FINAL EXAMINATION-TAHAFFUZI WA SAMAJI TIB PAPER – I Amraze Mutaddi Wabae PAPER – II Tadabeer Hifze Sehat PAPER – III Health Care System	34-36
6.	PRELIMINARY EXAMINATION-QABALAT WA AMRAZE NISWAN PAPER – II Hyati Kimiya wa Ilaqi Janiniyat PAPER – III Ilaqi Tashreeh Wa Munafeul Aza	37-40
	FINAL EXAMINATION- QABALAT WA AMRAZE NISWAN PAPER – I Qabalat Wa Amraze Naumaulood PAPER – II Amraze Niswan PAPER – III Medical and Surgical Complications in Obstetrics and Gynaecology	41-43
7.	PRELIMINARY EXAMINATION-ILMUL JARAHAT PAPER – II Basic principles of diagnosis and management & Unani drugs used in Surgical practical PAPER – III Takhdeere Umoomi wa Muqami	45-47
	FINAL EXAMINATION-ILMUL JARAHAT PAPER – I Jarahate Umoomi PAPER – II Jarahate Nizami PAPER – III Amalyate Jarahiyat	48-54

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 nizamhaaye 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, terpenenes, 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, LD₅₀, ED₅₀
- **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 convulsimeter in rats.
- To study the antisecretory and ulcer protective effect of H₂-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 (3rd 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, Khilla, 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'eed, 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, HPTLC, 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.

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 Hazm** (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
- **Imtehane 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
- **Imtehane 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) Sharaite 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 1st 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 (Regimenal 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

- **Hammam (Bathing)**
 - (a) Definition, Principles, Objectives
 - (b) Types of Hammam
 - (c) Kinds of Hammam 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 1st will be posted at the ilaj bil'tadbeer unit for imparting practical training in various regimens.

FINAL YEAR EXAMINATION (3rd Year)

MOALAJAT

PAPER – I

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, Warne dimaghi nukhai, Warne Aghshiyae dimagh, Duar, Qoma, Sara, Tashannuj, 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, Izmehlaal, 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), Ziabetes 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., Ziabetes 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 (Phoehromocytoma), 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), Aajil 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 Lymphaviyah

(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, Nafkhatul Riya, Taqayyuhe Sadr, Istesqaus Sadr, Sartaane Riya, Suqoote Riya, Suddae Riya, Tadarrune Revi, Ittesae 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

Tazaiuqur raseen (mitral stenosis), qusoorur raseen (mitral incompetence), tazaiuqe aurata (aortic stenosis), qusoore 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 jadeed tareeqon ke bare mein malumat. (e.g. ECG, Echocardiography, Cardiac imaging, Catheterization etc.)

Amraze Dam

Faqrudam, Abyazuddam, Thalasaemia, Fasade Khoon, Nazafuddam Mizaji, Amraze Injimaduddam. thrombocytopenia

Immunological Disorders

Haemopoitic 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):-

- Zofe medah

- Sue mizaje medah
- Warne 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-e-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)
- Mutafarrique 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

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. β -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, α -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 members 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, λ_{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, aqsam-e-rutubat, Akhlat ke aqsam 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-Raeesa, Aza-e-Asliya, Aza-e-aaliya, Aza-e-nafsaiyah, Aza-e-Tabiyeah, 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 taaluuq. Quwwat-e-Tabiyeah, Quwwat-e-haiwaniyah, Quwwat-e-Tanasuliyah, Inka Taqabali mutalah Tibb-e-jadeed ki raushni mein, ECG ka mutalah.
3. Afa'al ki Tareef aqam aur inki misalein.

Practical

1. Maamali Imtehanat 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, Qiwwam ke itebar se, Albumin, Globulin, hormones, shakar, namakiyat, jaseemat ka maloom karna, (Maamali imtehanat 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-ittesal, 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-ittesal, 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, Tukhma, 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 Umoomi Tazkirah,, Amraz-e-Khassa aur Amraz-e-Shirkiyah ke Almat-e-Fariqa, Alamat-e-Amzajah, Mizaj-e-Motadil ke Alamat, Etedal se Kharij ki almat, Imtila ki almat, Her her Khilt ke ghalbe ki alamat, Suddah ki alamat, Riyah ki alamat, Awran ki alamat, Alamat-e-Tafarruq-e-ittesal,

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 aqşam, 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, Qiwwam, Shaffafiyat, Takadur, Rusub, Zubda (Jhag) aur Radd-e-Amal, Amraz ki Tashkhees baul ke mushahide ke zariyah.
4. Baraz: Zarayah-e-Istidlal, Rang, bu, Miqdar, Qiwwam, 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 Imtihanat: 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
Itlaqui Mutalah, Tadbeeri Tareequi: Qai, ishal, idrar, tareeq
5. Ilaj Bil ghiza: Tareef wa tafseel maā itlaqi mutalah Ahkam-e-ghaza wa paani, Ghiza ke kaifiyat, Nauyiyat wa Awqat, Taghzia wa Naqs-e-Taghzia.
6. Ilaj Biddawa: Tareef wa Taqseem maā italaqi mutalah,
Dawa ki aqşam: Taskheen, Tabreed, Tarteeb, Tajfeef-e-Badan
7. Ilaj Bilyad: Tareef wa tafseel maā itlaqi mutalah, Fasd, Kai, Hajamat, Taleeq.

Practical

Mazkura bala umoor ka matab mein mushahida.

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, Zarae'y, 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, Zarae'y, 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, Zarae'y, Mae 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 Nafsani (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 Anaemia
- 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 (3rd Year)

PAPER I

Amraze Mutaaddi Wabae

Epidemiology of infectious disease

- Explanation of related terms
- Concept of putrefaction and its impact on *rutubate badania*
- 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, Aqsam, Fawaid, Sharait, Condition Specific Riyazat

Aa'ya:

- Ta'reef, Aqsam, Tadabeer

Dalak:

- Ta'reef, Aqsam, 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 vareeden, 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.

.....

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 (3rd 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
- Thrombocythemia-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 Hypertension

- 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 donlas syndrome

XIV. Neurological and Psychiatric Disorders

XV. Dermatological Disorders

- A. Physiological changes in pregnancy (hyperpigmentation, nevi, vascular change)
- B. Dermatoses 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, rubeola, 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 venerum
- 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

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/ Dafe 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- (3rd Year)

PAPER I

Jarahate Umoomi

(General surgery)

Part A: Jarahate Umoomi (General surgery)

1. Jiryannuddam wa Sadma (Haemorrhage & Shock.)
2. Tadiya makhsoosa (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), Iltihab-e-khulvi (Cellulitis),
5. Harq (Burns)
6. Amraz-e-Sadeen wa Sartan (Breast Diseases including carcinoma of Breast)
7. Amraz-e-Ghudood-e- 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. Hydrocephalous
 - 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) Miree (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 Ulcer and Complications
 - (iii) Carcinoma of Stomach
 - (iv) Hitatus Hernia
 - (v) Gastric outlet obstruction
 - (c) Jigar wa Mirara (Liver and Gall Bladder):
 - (i) Liver Abscess
 - (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) Paraphimosis
- 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

Amaliyate 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. Gynaecomastia
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 J 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 I 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.
