

**CENTRAL COUNCIL OF INDIAN MEDICINE**

**NISABE TALEEM OF**

**MAHIR-E- TIB MD (MAHIYATUL AMRAZ)**

**SYLLABUS OF**

**DOCTOR OF MEDICINE (MD)**

**3 YEARS DEGREE COURSE**

*12/14/17*

## 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 TUFAILYAT
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

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- (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 -salesa
- 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

Sharaiyat -e-Asbab

Asbab-e- Mukhallee wa ghair Mukhallee

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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Ilmul Ahwal wa Asbab

1. Darjate e Amraz Practical demonstration
2. Maddah ke lihaz se awram ki tashkhees.
3. Musaakinat, Mubarridat, Murattabat aur Mujaffifat ke Asrat ka aqli 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 waram

Istedlal ba waza

Istedlal ba Aaraz munaseba

Amraz khasa 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

Dalayal baul

Alwan-e-baul

Baul ka qiwam 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) qiwam (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

### Ilmul Alamat

1. Alamate Amzija se Mizaj ki Tashkhees.
2. Alamate imtila se Amraz 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 Tanseej (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 khalia (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

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Transfusion therapy

The use of whole blood and RBCs concentrates, Blood components

13. Salaat (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

Theory

Teaching Hours 100

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 pathogenecity

### 02. Bacteriology

a. Introduction, Classification, Morphology & Genetics

b. Growth & nutrition of bacteria,

c. Qulwin (staining) - The identification of bacteria and staining

d. 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)

- 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 (Crohns 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) Itlehab 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) Premalignant & Malignant epidermal tissues
- iv) Psoriasis
- v) Vitiligo
- vi) Eczema
- vii) Scabies
- viii) Fungal Infection
- ix) Lichen planus

#### 11) Endocrine Disorders

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

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**12) Bone & 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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