M.B.B.Ch Program & Course Specifications

Menoufia Faculty of Medicine

Accredited

M.B.B.Ch.Program & course specifications

CERTIFICATE

This is the program and course specifications

of M.B.B.Ch.of Faculty of Medicine

Menoufia University

studied by:

Mohamed Yousef Mohamed Mohamed Shabaik

Born On 27/05/1990

and completed at: 2013

Vice Dean **Dean**

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Basic Information

- **Faculty :**Medicine
- **University :**Menoufia
- **Program title**:**M.B.B.Ch**
- **Award / Degree:Bachelor of Medicine and Surgery**
- **Program type:** Multiple
- **Departments responsible:**31 departments
- **Coordinator:** Professor Dr. Wafaa Zahran
- **External Evaluator:**Professor Dr. Ahmed Mansour
- **Language of study:**English
- **One Teaching hour** = 60 minutes
- **This Program is directed to : Germany**

1- Responsible departments:

N	Department	N	Department
1	Anatomy & Embryology	16	Cardiovascular medicine
2	Histology	17	Tropical medicine
3	Physiology	18	Dermatology& Venereology
4	Biochemistry	19	Pathology

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N	Department	N	Department
5	Pathology	20	Radiology
6	Pharmacology	21	Pediatrics
7	Microbiology & Immunology	22	General Surgery
8	Parasitology	23	Urology
9	Ophthalmology	24	Orthopedics
10	Otorhinolaryngology (E.N.T)	25	Cardiothoracic Surgery
11	Forensic medicine & Toxicology	26	Neurosurgery
12	Community medicine	27	Plastic Surgery
13	Internal medicine	28	Oncology & Radiotherapy
14	Psychiatry & Neurology	29	Anaesthesiology
15	Chest	30	Obstetrics & Gynaecology
31	Family Medicine		

2- Program aims:

The program aims to provide students with knowledge, skills and attitudes necessary to:

- provide care as family physician/general practitioner, with emphasis on disease prevention and health promotion,

- achieve the standards required to enable them to compete in the national and international labor market,

- be well grounded to the ethics of medical practice and respect the religious, cultural and humanity values that govern the relation between profession and the society,

-be capable to collaborate with and appreciate the role of other health care professionals,

- be able for continuous self learning to cope with the expeditious advancement in the practice of medicine.

3-Intended Learning Outcomes (ILOs) for program:

A-Knowledge and Understanding:

By the end of the program, the graduate will have acquired the ability to:

a1- Describe the normal structure and function of the human body on molecular, cellular and organ system levels and those involved in maintaining body homeostasis.

a2- Describe the normal growth & development of the human body & mind throughout different life

stages, including clinically relevant age and sex variations.

a3- Identify the altered development, growth, structure & function of the body and its major organ systems that are seen in various diseases.

a4-Define etiology of illness & disease, with special emphasis on

environmental &traumatic causes.

a5- List communicable diseases of the community (microbial and parasitic diseases) and the methods of their prevention and control.

a6- Recognize the principles of genetics & the role of genetics in health & disease, as well as the basics of gene therapy and genetic counseling.

a7 –Describe clinical, laboratory and radiological manifestations of diseases.

a8- Discuss differential diagnoses of common acute and chronic diseases, and underline the importance of their relative incidences in establishing the diagnosis.

a9- Recognize methods of early diagnosis of malignancy & screening.

a10-Discuss the principles of early recognition & management of acute illnesses;

including common medical & surgical emergencies.

a11-Identify Principles & international guidelines of management of traumatic

conditions with emphasis on the severely & polytraumatized patient.

a12- Discuss principles and indications for interventions and define the available surgical interventions. .

a13- Describe pre-, peri and post-operative care, pain relief and palliative care.

a14- Describe the natural history of common illness and evaluation of the importance of risk factors and disease prevention.

a15-Discuss principles, indications, relative advantages & disadvantages of various management strategies applied to common clinical situations.

a16- Explain pharmacological principles of treatment including: drug effects/Pharmacokinetics, dosage, drug-drug interaction and adverse reactions.

a17-Underline selected complementary therapies.

a18- Clarify efficacy of traditional and non-traditional therapies.

a19- Demonstrate the basic knowledge of epidemiologic methods and statistical principles that underline evidence based medicine.

a20-Describe normal human psychosocial development across the life span and recognize deviations requiring further evaluation and intervention.

a21- Discuss the application of psychodynamic theories of human thought and behavior in describing and analyzing patient behavior.

a22- Identify possible nature of disability, its impact on community and the principles of management including: rehabilitation, institutional and community care.

a23- Discuss the principles governing ethical decision making in clinical practice and the major ethical dilemma in medicine.

a24- Recognize the implications of cultural, social, economic, and historical contexts for patient care.

a25- Mention the principles of medico legal aspects of medical practice

a26-Express English language as needed for appropriate learning and communication.

a27-Express basic computer knowledge needed to support literature retrieval and learning.

a28- Recognize the Egyptian National Health Care System.

a29- define the principles of clinical audit.

B-Intellectual skills

By the end of the program, the graduate will have acquired the skills to:

b1-Interpret symptoms and physical signs in terms of anatomic, pathologic and functional diagnostic significances.

b2-Apply principles of basic medical sciences to clinical problems using Evidence-Based Medicine.

b3-Identify problem and select the most appropriate and cost effective diagnostic procedures for each problem.

b4-Interpret the results of commonly used diagnostic procedures(laboratory and radiological).

b5-Demonstrate the ability to reason deductively in solving clinical problems

b6-Formulate hypotheses and judge prioritization of the common possibilities for each problem.

b7- Design appropriate patient management plan (both diagnostic and therapeutic) according to integrated history, physical and laboratory findings.

b8- Exhibit clinical decision skills that weigh the pros and cons of the proposed interventions.

b9- Assess patients with life / organ threatening conditions and institute first aid and initial therapy.

b10-Apply principles of sterilization and infection control regulations on hospital and community levels.

b11- Apply principles of disease surveillance and screening, communicable disease control, health promotion, and health needs assessment.

b12- Evaluate the need to engage in lifelong learning to stay abreast of relevant scientific advances

b13- Recognize common medical errors and malpractice.

b14-Formulate a research question.

b15-Apply the basic principles of biostatistics.

b16- React to situations of uncertainty by proper counseling.

b17- Assess risk factors that affect course of the disease in order to determine management plan.

b18-manage time and resources effectively.

C-Professional and Practical Skills

By the end of the program and house officer training the graduate will have acquired the skills to:

C1- Perform essential practical skills in basic medical sciences e.g. reading histological and pathological stained smears; staining and reading microbiological slides and performing biochemical tests

C2- Obtain and document a complete or focused medical history in the outpatient, inpatient and in emergency settings.

C3- Perform and record a complete or focused physical and mental examination.

C4- Perform basic clinical procedures as venipuncture, inserting an intravenous catheter, inserting a nasogastric tube, inserting a Foley's catheter, and suturing lacerations under supervision ; administer childhood vaccine and perform bedside laboratory tests.

C5- Prescribe safe treatment for patients with common diseases as well as those in acute emergencies considering patients, age, weight and health status.

C6-Diagnose medical situations that are immediately life threatening

C7- Perform basic Life support adequately .

C8- Ensure the cost effectiveness of health care management.

C9-Report any physical or mental conditions related to himself, colleagues or any other person that might jeopardize patient safety. '

CI0- Implement a patient management plan that includes attention to health promotion and disease prevention.

C11-Effeciently diagnose health problems faced during field visits.

D-General and transferable skills:

By the end the program, the graduate will have acquired skills to:

d1-Establish professional relationships with patients, their families (when appropriate) and community that are characterized by understanding, trust, respect, empathy and confidentiality.

d2- Summarize clearly and accurately patient findings in verbal presentations, written and electronic forms .

d3- Educate patients about their health problems and motivate them to adopt health promoting behaviors.

d4- Write clear and concise medical records including: admission sheets, progress notes, and physician orders, referrals for consultation, discharge summaries and follow up notes.

d5- Achieve consensus and option informed consent from the patient's surrogate for the treatment plan.

d6- Conduct effective end of life communication.

d7 – Communicate ideas and work effectively as part of a health care team and as a leader with appreciation for the contributions of other health care professionals and agencies to maximize the benefits to patient care and outcomes, and minimize the risk of error.

d8- Perform database searches, retrieve information, analyze numerical data, manage and utilize biomedical information by all means including electronic means for solving clinical problems based on evidence (EBM).

d9-Adopt lifelong self directed learning.

d10-Recognize one's personal abilities and limitations knowing when and how to ask for senior consultation.

d11-Demonstrate social awareness and commitment to the welfare of the underserved communities (rural, urban underserved, and elderly) and willingness to care for the elderly.

d12-Recognize the ethical and legal issues involved in patient –doctor communication and communicate effectively with patients regardless of their social, cultural backgrounds or their disabilities.

d13-Recognize and respond professionally to various common forms of behavioral and emotional presentations.

d14- Communicate effectively with patients during healthcare centers visits.

d15- Evaluate his own and others work through construction feedback.

d16- Effectively manage time and resources and set priorities.

d17- Cope with changing work environment.

d18-Solve problems related to patients, work management and among colleagues.

E-Attitude

By the end of the program, the graduate will acquire the ability to:

e1- Empathize compassionate treatment of patients, and respect of their privacy and dignity.

e2- Consider patient needs and priorities, particularly when in conflict with the student's

e3- Display a professional image in manner, dress, speech and inter personal relationship that is consistent with the accepted contemporary medical profession standards

e4- Commit with ethics of physicians and exhibit integrity in relationships in all aspects of medical practice.

e5- Respect the role of other health care professionals, and collaborate with others in caring of individual patients.

4- Academic Standards:

a.External references for standards :

The National Academic Reference Standards (NARS) for medicine approved by the National Authority for Quality Assurance and Accreditation of Education (January 2009) is used as the academic reference standards

b. Comparison of Provision to selected external references :

1-The objectives and goals in the current program are comparable with other programs in other national medical schools.

2-The objectives in the current program are comparable with that put by the National Authority for Quality Assurance and Accreditation of Education (annex 1).

3-Family medicine and community based medicine are highlighted in the current program.

5- Curriculum Structure and Contents:

a- Programme duration (years) :

6 years + Pre-Registration House Officer

(PRHO) training year.

Curriculum Composition & Duration

b- Programme structure:

1- Pre-clinical stage (years 1-3)

2- Clinical stage (years 4-6)

The program includes 29 compulsory courses:

- **25 major compulsory courses (Anatomy and Embryology I&II - Histology I &II - Physiology and Biophysics I&II - Biochemistry I&II – Pathology – Pharmacology - Microbiology & Immunology – Parasitology – Ophthalmology - E.N.T- Forensic medicine & Toxicology - Community medicine - Internal medicine – Pediatrics - General Surgery - Obstetrics & Gynecology – Family Medicine I, II & III).**

2 minor compulsory courses (English- Psychiatry, Psychotherapy & behavioural Sciences).

2 minor compulsory courses (Computer science- Human rights) which are Menoufia University requirements bylaw .

The sum of the marks of the 25 major compulsory courses + only one minor compulsory course (Psychiatry, Psychotherapy & behavioural Sciences) gives the total cumulative marks of the program (= 6500 marks)..

Curriculum Composition and Duration(one hour = 60 min)

code	Course	No. of study hours of the course			No. of study weeks
		Theoretical (Lectures)	Practical Clinical / lab. Field	Total	
MFM-I 01	Anatomy &Embryology I	120	120	240	30
MFM-I 02	Histology I	60	60	120	30
MFM-I 3	Physiology	210	68	278	30

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code	Course	No. of study hours of the course			No. of study weeks
		Theoretical (Lectures)	Practical Clinical / lab. Field	Total	
	&Biostatistics &Physics I				
MFM-I 04	Chemistry &Biochemistry I	131	89	220	30
MFM-I 05	English Computer	92 30	------ ------	92 30	30 30
MU-HR	Human rights	30	------	30	30
MFM-II 01	Anatomy & Embryology II	120	120	240	30
MFM-II 02	Histology II	60	60	120	30
MFM-II 03	Medical physiology & Physics II	170	80	250	30
MFM-II 04	Biochemistry& Clinical Chemistry II	135	90	225	30
MFM-II 05	Psychiatry, Psychotherapy & behavioural Sciences	124	------	124	30
MFM- III 01	Pathology	145	197	342	30
MFM- III 02	Pharmacology	120	60	180	30
MFM- III 03	Microbiology & Immunology	170	120	290	30
MFM- III 04	Parasitology	60	60	120	30
MFM- IV 01	Ophthalmology	80	80	160	32

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code	Course	No. of study hours of the course			No. of study weeks
		Theoretical (Lectures)	Practical Clinical / lab. Field	Total	
MFM- IV 02	Otorhinolaryngology (E.N.T)	72	50	122	32
MFM- IV 03	Forensic medicine & Clinical toxicology	80	80	160	32
MFM- IV 04	Community medicine	203	100	303	32
MFM- IV 05	Family medicine 1	30	60	90	32
MFM-V 01	Internal medicine& Specialities	436	449	885	36
MFM-V 02	Pediatrics	128	176	304	36
MFM -V 03	Family medicine 2	30	60	90	36
MFM -VI 01	General Surgery& Specialities	316	370	686	36
MFM -VI 02	Obstetrics & Gynaecology	108	180	288	36
MFM -VI 03	Family medicine 3	30	60	90	36
Total		3290	2789	6079	---

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Marks of the Course

Code	Course	Marks of the course				Remarks
		Periodic 20%	Written 50%	Practical or clinical & oral 30%	Total	
MFM-I 01	Anatomy & Embryology I	50	125	75	250	
MFM-I 02	Histology I	30	75	45	150	
MFM-I 03	Physiology &Biostatistics &Physics I	50	125	75	250	
MFM-I 04	Chemistry &Biochemistry I	30	75	45	150	
MFM-I 05	English Computer	----- -----	30 50	------- -------	30 50	Not added
MU-HR	Human rights	------	30	---------	30	Not added
MFM-II 01	Anatomy & Embryology II	50	125	75	250	
MFM-II 02	Histology II	30	75	45	150	
MFM-II 03	Physiology & Biophysics II	50	125	75	250	
MFM-II 04	Biochemistry II	30	75	45	150	
MFM-II 05	Psychiatry, Psychotherapy & behavioural Sciences	--------	50	-------	50	only Written exam
MFM- III 01	Pathology	60	150	90	300	
MFM- III 02	Pharmacology	60	150	90	300	
MFM- III 03	Microbiology &Immunology	40	100	60	200	

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Code	Course	Marks of the course				Remarks
		Periodic 20%	Written 50%	Practical or clinical & oral 30%	Total	
MFM- III 04	Parasitology	30	75	45	150	
MFM- IV 01	Ophthalmology	50	125	75	250	
MFM- IV 02	Otorhinolaryngology (E.N.T)	40	100	60	200	
MFM- IV 03	Forensic medicine & Toxicology	40	100	60	200	
MFM- IV 04	Community medicine	60	150	90	300	
MFM- IV 05	Family medicine 1	10	25	15	50	
MFM-V 01	Internal medicine & Specialities	180	450	270	900	
MFM -V 02	Pediatrics	100	250	150	500	
MFM -V 03	Family medicine 2	10	25	15	50	
MFM -VI 01	General Surgery& Specialities	180	450	270	900	
MFM -VI 02	Obstetrics & Gynaecology	100	250	150	500	
MFM -VI 03	Family medicine 3	10	25	15	50	
Total marks of the program					6500	

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Pre-Registration House Officer (PRHO) Training Year

1. The (PRHO) Year includes 6 PRACTICAL COMPULSORY courses, to be attended in the Hospitals of Menoufia University & Egyptian Ministry of Health Hospitals.
2. Each course lasts 2 Months (consisting of 380 hours) as follows:

(One Hour = 60 minutes)

	Course	Duration
1.	Internal& Clinical Medicine	380 hours
2.	General Surgery	380 hours
3.	Gynaecology & Obstetrics	380 hours
4.	Pediatrics	380 hours
5.	Anaesthesiology & Emergency Medicine	380 hours (190 hours for each)
6.	Elective course: the student elects 2 different clinical departments to attend 1 month (190 hours) in each	380 hours (190 hours for each)

Attached Courses (Academic year)

Anatomy & Embryology I (1 st Year)

Total teaching hours: - Lectures: 120-Practical: 120 - Total: 240
(one hour =60 min)

Course contents:

Topic	Number of hours per Year	
	Lecture hours	Practical hours
1.Introduction: 1. Bones (types and general features). 2. Joints (types). 3. Skin 4. Muscles, Anatomical planes & Terminology	12	---
2.Upper limb: 1. Bones of upper limb (clavicle, scapula, humerous). 2. Pectoral region (breast, muscles and fascia). 3. Axilla (boundaries and contents). 4. Back (muscles and intermuscular spaces). 5. Shoulder region (muscles, vessels and nerves). 6. Anterior compartment of arm (muscles, vessels and nerves). 7. Posterior compartment of arm (muscles,	28	44

Topic	Number of hours per Year	
	Lecture hours	Practical hours
vessels and nerves). 8. Cubital fossa (boundaries and contents). 9. Bones of forearm (general and special features of radius and ulna). 10. Front of forearm (muscles, vessels and nerves). 11. Back of forearm (muscles, vessels and nerves). 12. Hand (muscles, retinaculum, vessels and nerves). 13. Joints (type, ligaments, movements, nerve supply, blood supply and applied anatomy). 14. Nerve injury (brachial plexus, ulnar, radial and median nerves injury). 15.Applied & radiological anatomy		
3.Thorax: 1. Chest wall (intercostal muscles, nerves and vessels). 2. Mediastinum (boundaries and contents). 3. Lung (shape, fissures, surface anatomy, blood and nerve supply) & Pleura (recesses, surface anatomy). 4. Pericardium (function and sinuses) 5. Heart (Rt ventricle, Lt ventricle, Rt atrium, Lt atrium) & its blood supply (Rt coronary, Lt coronary, venous drainage of heart).	44	52

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Topic	Number of hours per Year	
	Lecture hours	Practical hours
6. Great vessels (arch of aorta, SVC, IVC and descending aorta) & nerves (phernic, vagus and sympathetic chain). 7. Thoracic duct (length, coarse, drainage and relations). 8. Thoracic part of trachea (length, coarse, constrictions, blood, nerve supply and relations 9. Thoracic part of esophagus (length, coarse, constrictions, blood, nerve supply and relations).		
4.Abdomen & Pelvis: 1. Anterior Abdominal wall (skin, fascia, muscles, vessels and nerves). 2. Peritoneum (def, compartments, recesses and lesser sac). 3. Stomach (features, shape, blood, nerve supply and surface anatomy). 4. Spleen (site, impressions blood nerve supply and applied anatomy) & Ceoliac trunk (origin and branches splenic, hepatic and LT gastric artery). 5. Pancreas (features, relations, blood and nerve supply) & duodenum (parts, relations, blood and nerve supply). 6. Small intestine) (length, parts, blood nerve supply and peritoneal covering). 7. Large intestine (features, parts, mesentery, blood and nerve supply). 8. Superior & inferior mesenteric vessels	20	24

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Topic	Number of hours per Year	
	Lecture hours	Practical hours
(beginning, coarse, relations, termination and branches). 9.Liver (site, lobes, features, relations, perotineal covering, blood, nerve supply and surface anatomy). 10.Extrahepatic biliary system (common hepatic duct, cystic duct, conmon bile duct). 11.Portal circulation (origin, coarse, termination and tributaries) & portosystemic anastmosis 12. Kidney (site, features, blood, nerve supply and surface anatomy). 13. Suprarenal gland (site, blood, nerve supply and relations). 14. Ureter (length, constrictions, blood, nerve supply and surface marking). 15. Posterior abdominal Wall (muscles and fascia). 16. Bony pelvis (hip bone and sacrum) 17. Muscles of the pelvis (levator ani and coc muscles). 18. Pelvic viscera (rectum, anal canal, UB, ur vas defferance,uterus, vagina, prostate). 19. Blood supply of the pelvis (internal iliac v anterior and posterior iliac vessels). 20. Pelvic peritoneum (superficial and deep		

Topic	Number of hours per Year	
	Lecture hours	Practical hours
pouches and internal pudendal canal).		
5.Embryology: 1. Male genital system. 2. Female genital system. 3. Gametogenesis (spermatogenesis and oogenesis). 4. Ovarian cycle (duration and stages). 5. Menstrual cycle (stages and its duration). 6. First week of pregnancy. 7. Second week of pregnancy. 8. Third week of pregnancy 9. Fetal membranes. 10. Placenta (features and anomalies). 11. Twins. 12. Development and anomalies of G.LT.	16	---
	120	120
	Total = 240 hours	

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Histology I (1st Year)

Total teaching hours: - Lectures: 60 - Practical: 60 - Total: 120

(one hour =60 min)

Course contents:

Topic	Lecture hours	Practical hours	Total hours per year
1- Introduction and microtechniques	6	4	10
2- Cytology and Cytogenetics	12	10	22
3- Epithelium	6	4	10
4- connective tissue	4	4	8
5- Cartilage	4	4	8
6- Bone	4	6	10
7- Blood & haemopoiesis	4	4	8
8- Muscle tissue	4	6	10
9- Nerve tissue	6	8	14
10-Cardiovascular system	4	4	8
11 -Lymphatic (immune) system	6	6	12
	60	60	120

1- Introduction and Microtechniques:

- Preparation of tissues for microscopic examination
- Light microscopy (principles& types)
- Magnification and resolution
- Electron microscopy (Transmission, TEM, and Scanning, SEM,)
- Problems in interpretation of tissue sections
- Radioautography and cell fractionation techniques
- Histochemistry, Cytochemistry and immunocytochemistry

2- Cytology and Cytoqenetics:

*Cytology:

- Cell membrane (plasma membrane) and glycocalyx (LM & EM, Molecular structure, Functions, Endocytosis and Exocytosis; Receptors and signaling reception).

- Mitochondria (LM & EM, Membrane enzymes, Elementary particles, Mitochondrial DNA & RNA, Functions)
- Ribosomes (LM & EM, Free and attached, Polysomes, chemical composition, Functions)
- Endoplasmic reticulum (Rough & Smooth , LM & EM, Functions)
- Golgi apparatus (LM & EM, Functions)
- Lysosomes (LM, histochemical reactions & EM, Origin, Types and Fate, Functions)
- Peroxisomes (LM, histochemical reactions, & EM, Origin, Types, Functions)
- Anuulate lamellae, Coated vesicles and endosomes.
- Cytoskeleton (Microfilaments, Intermediate filaments and Microtubules)
- Centrioles, Cilia and Flagella
- Cytoplasmic inclusions (Stored food, pigments)
- Cytosole (Cytomatrix)
- Nucleus of interphase (Nuclear envelope, Chromatin, Nucleolus, Nuclear sap)
- Microvilli, Stereocilia and terminal web
- Cell (intercellular) junctions (Macular, Zonular & Fascial junctions, Occludens & Adherens Junctions and Gap junction)
- Cell death (necrosis versus apoptosis)

***Cytogenetics :**

- The cell cycle (Interphase G1, S & G2 and mitosis)
- Cell division, Mitosis (Events, Mitotic chromosomes, Mitotic spindle, Phases) & meiosis
- Nucleic acids, DNA & RNA (Chemical composition, Structural differences, nucleotides & genes, codons & anticodons, protein synthesis, transcription, translation, replication & Types of RNA)
- Chromosomal number & sex chromosomes
- Karyotyping & classification of chromosomes
- Structure of chromosomes
- Sex chromatin
- Abnormalities of cell division
- Causes of chromosomal aberrations
- Aberrations in chromosomal number e.g. Mongolism
- Aberrations in chromosomal structure
- Aberrations of sex chromosomes e.g. Turner & Kleinfelter syndromes

3- Epithelium:

- General characteristics of epithelium & its types
- Types of simple epithelium (structure & sites)

- Transitional epithelium
- Structure & sites of stratified squamous & stratified columnar epithelium
- Glandular epithelium with reference to sites
- Neuro- and myo-epithelium with reference to sites
- General functions of epithelium
- Modifications of epithelial cells surfaces: Apical, basal & lateral modifications
- Basement membrane

4- Connective Tissue:

- General characteristics
- Cells of C.T. proper (LM, EM & functions)
- Fibers of C.T.
- Ground substance
- Types of C.T. proper with reference to sites
- General functions of C.T. proper
- Adipose Tissue

5- Cartilage:

- Types of cartilage
- Histology of each type
- Sites of each type
- General functions

6- Bone:

- Types of bone with reference to sites
- Methods of preparation of bone sections
- Bone cells & their functions
- Intercellular substance (components & chemical composition)
- Histology of compact bone
- Histology of spongy bone
- Differences between cartilage & bone
- Ossification (intramembranous & intracartilagenous)

7- Blood & Hemopoiesis:

- Components of Blood
- Staining of blood cells
- Normal structure, size & number of erythrocytes , ultrastructure & functions

- Abnormalities in structure, size & number of RBCs
- Polycythaemia & anaemia and their causes
- Types of WBCs & normal percentage of each
- Total RBCs count
- Total leucocytic count & its clinical importance
- Differential leucocytic count & its importance
- Structure (LM & EM) & function of WBCs
- Structure (LM & EM) & function of platelets
- Types & structure of bone marrow
- Erythropoiesis
- Granulopoiesis
- Development of lympocytes
- Development of monocytes
- Development of platelets
- Blood groups

8- Muscular Tissue:

- General histological characteristics and types of muscle tissue
- Skeletal muscle fibers (LM , EM) & molecular structure
- Types of skeletal muscle fibers
- Mechanism of muscle contraction
- Smooth muscle fibers (LM & EM)
- Cardiac muscle fibers (LM & EM)
- Conducting system of heart

9- Nervous Tissue:

- Types (classification) of neurons & examples
- EM of nerve cell body (Perikaryon) Dendrites & axons
- Types of nerve fibers with examples
- Histology of peripheral nerve fibers
- Structure of nerve trunk
- Spinal & autonomic ganglia
- Synapse
- Degeneration & Regeneration of nerve fibers
- Neuroglia (Definition, Classification & Sites)

- Structure & function of proper neuroglia cells
- Receptors & its types:

-somatic and visceral receptors (mechanoreceptors , thermoreceptors and pain)
-proprioreceptors (muscle and tendon spindles)
-chemoreceptors (taste buds and olfactory mucosa)

10- Vascular System:

- General structure of blood vessels & its significance
- Large, medium sized & small arteries
- Small, medium sized & large veins
- Types, sites & structure of Arteriovenous connections

11- Lymphatic (Immune) System:

- Cells involved in the immune system & their functions
- Antigen presenting cells
- Primary & secondary immune response
- Cellular & Humeral immunity
- Lymph vessels & distribution of lymphoid tissue
- Structure of Lymph node & its immunological function
- Structure of Spleen & its function
- Differences between lymph node & spleen
- Blood supply of spleen & theories of circulation
- Structure of Tonsils
- Structure & functions of thymus
- Thymic barrier

M.B.B.Ch.Program & course specifications

Physiology, Biostatistics & Physics I (1st Year)

Total teaching hours: - Lectures: 210 - Practical: 68 - Total: 278

(one hour =60 min)

Course contents:

Week	Title (Topic)	Theoretical classes		Practical classes	
		Lectures	Time (hours)	Practical	Time (hours)
1st	Introduction	Biophysics Biostatistics	60 5	Introduction to physiology lab.	10
2nd	Introduction	-Physiology of the cell & cell membrane -Membrane transport Cellular connections	5	Introduction to physiology lab.	2
3rd	Blood	-Introduction & function of blood -Plasma proteins	5	Hematocrit value	2
4th	Blood	-RBC's & anemia -Platelets & Hemostasis	5	Haemoglobin determination	2
5th	Blood	-WBC's -Blood groups -Immunity	5	Blood indices	2
6th	Blood		5	Bleeding time	2
7th	Autonomic nervous system	-Classification of nervous system (anatomical & physiological) -Reflex arc (somatic & autonomic)	5	Clotting time	2

M.B.B.Ch.Program & course specifications

Week	Title (Topic)	Theoretical classes		Practical classes	
		Lectures	Time (hours)	Practical	Time (hours)
		-Autonomic ganglia -Sympathetic nervous system (distribution and functions) -Stress (alarm) response			
8th	Autonomic nervous system	-Parasympathetic nervous system (distribution and functions) Central -Integration of autonomic functions -Cholinergic division of autonomic nervous system (acetyl choline)	5	Blood groups	2
9th	Autonomic nervous system	-Drugs affecting parasympathetic nervous system -Adrenergic division of autonomic nervous system (noradrenalin) -Drugs affecting sympathetic nervous system	5	ESR	2
10th	Physiology of the nerve	-Strength-duration curve -RMP - Action potential	5	Simple muscle twitch (SMT)	2
11th	Physiology of the nerve	Effect of sub-threshold stimulus -Excitability changes during AP -Thermal changes the	5	-Effect of temperature on SMT	2

M.B.B.Ch.Program & course specifications

Week	Title (Topic)	Theoretical classes		Practical classes	
		Lectures	Time (hours)	Practical	Time (hours)
		nerve -Conduction of nerve impulses			
12th	Physiology of the nerve	- Neuromuscular transmission -Factors affecting & MEPP	5	-Effect of Fatigue on SMT	2
13th	Physiology of the muscle	--Physiological anatomy of skeletal muscle Mechanical changes (excitation-contraction coupling) -Metabolic & thermal changes	5	Effect of 2 successive stimuli on SMT	2
14th	Physiology of the muscle	Types of sk. muscle contraction -Factors affecting skeletal muscle contraction	5	-Effect of multiple successive stimuli on SMT	2
15th	Physiology of the muscle	-Effect of denervation of skeletal muscle - Physiology of Smooth muscle	5	-Gradation of strength	2

M.B.B.Ch.Program & course specifications

Week	Title (Topic)	Theoretical classes		Practical classes	
		Lectures	Time (hours)	Practical	Time (hours)
16th	Respiration	-Physiological anatomy of respiratory system -Mechanism of respiration -Intrapleural pressure -Respiratory surfactant	5	-Compliance	2
17th	Respiration	-Work of breathing -Lung volumes and capacities -Dead space -Pulmonary function tests -Exchange of gases across -Respiratory center	5	-Acclimatization to high altitude -Effect of muscular exercise on respiration	2
18th	Respiration	-Chemical regulation of respiration -Nervous regulation of respiration	5	-Lung volumes and capacities	2
19th	Respiration	Hypoxia & cyanosis -Acclimatization to high altitude -Effect of muscular exercise on respiration	5	Pulmonary function tests	2
20th	Digestive system	-Structure, innervations & regulation of function of GIT -Salivary secretion -Swallowing	5	Effect of drugs on movement of small intestine of rabbits	2
21st	Digestive system	-The stomach -The pancreas -The gall bladder	5	Effect of drugs on movement of small	2

M.B.B.Ch.Program & course specifications

Week	Title (Topic)	Theoretical classes		Practical classes	
		Lectures	Time (hours)	Practical	Time (hours)
		-The liver		intestine of rabbits	
22nd	Digestive system	-Jaundice - Small intestine	5	Effect of drugs on movement of small intestine of rabbits	2
23rd	Digestive system	Absorption in the GIT -Large intestine -GIT hormones	5	Effect of drugs on movement of small intestine of rabbits	2
24th	Cardiovascular system	-Properties of the cardiac muscle	5	Arterial pulse	2
25th	Cardiovascular system	-ECG -Cardiac arrhythmias -Heart sounds	5	ECG	2
25th	Cardiovascular system	-Cardiac cycle -Arterial pulse -Central venous pressure	5	Measurement of ABP	2
27th	Cardiovascular system	-The heart rate -Cardiac output & measurement	5	Effect of exercise and posture on ABP	2
28th	Cardiovascular system	-Blood flow & its measurement -Arterial blood pressure (ABP)	5	- Cardiovascular adjustment in health and disease	2
29th	Cardiovascular system	-Venous circulation -Capillary circulation	5	Hiss test	2

M.B.B.Ch.Program & course specifications

Week	Title (Topic)	Theoretical classes		Practical classes	
		Lectures	Time (hours)	Practical	Time (hours)
		-Pulmonary circulation			
30th	Cardiovascular system	Lymphatic circulation -Coronary circulation -Cutaneous circulation -Cerebral circulation -Fetal circulation -Hemorrhage & Shock	5	-Effect of exercise of cardiovascular functions	2
			210		68
			Total = 278 hours		

Medical Chemistry & Biochemistry I (1st Year)

Total teaching hours: - Lectures: 131 - Practical: 89 - Total: 220

(one hour =60 min)

Course contents:

Subjects	Lectures	Practical & tutorial	Total Hours per Year

M.B.B.Ch.Program & course specifications

Subjects	Lectures	Practical & tutorial	Total Hours per Year
1-Chemistry.	60	33	93
2-Chemistry of Carbohydrates.	8	8	16
3-Chemistry of Lipid.	8	8	16
4-Chemistry of Protein.	8	8	16
5-Chemistry of Hemoglobin	2	2	4
6-Chemistry of Nucleic acids.	4	2	6
7-Molecular Biology.	12	10	22
8-Cancer and Oncogenes.	4	2	6
9-Cell Cycle and Apoptosis.	2	2	4
10-Biological membranes.	4	2	6
11-Minerals.	6	4	10
12-Enzymes.	6	4	10
13-Free radicals and antioxidants	3	2	5
14-Nutrition	2	2	4
15-Bioinformatics	2	--	2
Total Hours	131	89	220

A) Lectures :

1-chemistry:

1- Molecular structure of water.

2- Different types of bonds.

3- Solution.

4- pOH and pH.

5- Acids and bases.

6- Normal and molar solutions.

7- Buffers and mechanisms of buffer action.

8- Osmotic pressure and surface tension.

9- Adsorption, elution and dialysis.

10- Diffusion.

11- Expression of concentration.

2- Carbohydrates:

1. Definition, functions and classification: Monosaccharide, disaccharides and polysaccharides

2. Monosaccharide: Classification, structures and physical and chemical properties. Sugars exhibit various forms of isomerism.

3. Monosaccharide of physiological importance: glucose, fructose, galactose and mannose.

4. Glycoside formation with each other and with other compounds.

5. Sugar derivatives of importance: sugar acids, sugar alcohols, amino sugars and deoxysugars.

6. Disaccharides: maltose, sucrose, and lactose.

7. Polysaccharides starch, glycogen, cellulose and inulin.

8. Glycosaminoglycans (mucopolysaccharide): Structure, functions and classification.

9. Glycoprotein (mucoprotein) and proteoglycan.

3- Lipids:

1. Lipids of physiological functions - Definition, classification and general function.

2. Fatty acids: Saturated and unsaturated, w3 and w6 PUFA, OH fatty acids and methyl fatty acids.

3. Triacylglycerol the main storage form of lipids.

4. Waxes.

5. Phospholipids: phosphatidyl compounds- sphingomylines. Importance and functions.

6. Glycolipids.

7. Sterols: ergosterol and cholesterol, 7-dehydrocholesterol, vitamin D, bile acids and steroid hormones.

8. Eicosanoids: prostanoids, prostaglandins, prostacyclins, thromboxanes, leukotrienes and lipoxins.

9. Polyprenoids: share the same parent cholesterol, ubiquinone and dolichol

10. Isopernoids: fat soluble vitamins and carotenes

11. Lipid peroxidation and antioxidants.

4- Amino acids and proteins:

1. Amino acids: classification according to different parameters: Essentiality, polarity, nutritionally, and structural.

2. Properties: optical activity, amphoteric and general properties, peptide formation (examples - glutathione- insulin etc) - derived compounds.

3. Biochemical importance and functions of proteins: structural -defense - enzymes - transport - regulation - some hormones.

4. Conformation of the proteins: primary. secondary, tertiary, quaternary - domains - motifs denaturation.

5. Classification: simple - conjugated.

6. Methods of proteins separation.

5- Chemistry of Hemoglobin:

Chemistry of Hemoglobin and Myoglobin, structural function of hemoglobin, hemoglobin derivatives - types of hemoglobin - cytochromes – catalases.

6- Nucleic acids:

Chemistry of nucleic acids: nitrogenous bases: purines and pyrimidines, tautomerization of bases, nucleosides, nucleotides and their analogues.

7- Molecular biology:

1. DNA: structure, function and denaturation .RNA: structure, function and types

2. DNA organization (histones, nucleosome, chromatin, chromosomes, mitochondrial DNA), rearranged genetic material, DNA replication, cell cycle and repair.

3. RNA synthesis, posttranscriptional processing and modification.

4. Protein synthesis, genetic code, mutation and posttranslational processing.

5. Regulation of gene expression (operon model), histones acetylation, methylation of DNA, enhancers, repressors, reporter gene, motifs of regulatory proteins, gene amplification and rearranged.

6. Recombinant DNA technology (genetic engineering), restriction enzymes, cloning, blotting and hybridization techniques, DNA sequencing, polymerase chain reaction (PCR), applications of recombinant DNA technology.

8- Cancer and oncogenes:

1- Causes of cancer.

2- The role of oncogenes in carcinogenesis.

3- Proto-oncogenes and the mechanisms to be converted to oncogenes.

4- Mechanisms of action of oncogenes.

5- Tumor suppressor genes.

9- Cell cycle and Apoptosis:

1- Cell cycle: The resting phase and the different phases of cell cycle.

2- Control of cell cycle: Cyclins and cyclin-dependent kinases.

3- Apoptosis: receptor-mediated apoptosis.

10- Biological membranes:

1. Biological membranes (functions and characters).

2- Membrane structure (lipid, protein and carbohydrates).

3- Membrane transport (active and passive, endo and exocytosis).

4- Signals transmission across membranes.

5- Mutations affecting membrane proteins.

11- Minerals:

1- Macro minerals (Calcium, phosphorus, magnesium, sodium potassium, chloride).

2- Micro minerals (trace elements) (iron, cupper, zinc, manganese, cobalt, iodine, fluoride, selenium, molybdenum, chromium, boron, cadmium, aluminum).

12- Enzymes:

1. Nature of enzymes: protein mainly - ribozymes.

2. Mechanism of actions

3. Specificity.

4. Nomenclature and classification.

5. Coenzyxnes and activators

6. Isoenzymes and zymogens.

7. Enzyme units - activity - specific activity - factors affecting enzyme activity.

8. Enzyme kinetics Michaelis constant km and its significance, V max, Lineweaver -Burk plot (double reciprocal plot) and determinations of km and Vm.

9. Inhibitors: different types and their effect on km and Vm

10. Regulation of enzyme activity.

11. Application and significance of enzyme assay in medicine.

13- Free radicals and antioxidants:

1- Free radicals (sources, toxic effects on tissues).

2- Antioxidants (types and their roles in prevention and treatment of chronic diseases and cancer).

14- Nutrition:

1- Energy requirements.

2-Carbohydrates, lipids, amino acid (nitrogen), fibers, minerals and vitamins requirements.

15-Bioinformatics:

1-Important problems

2-Massive quantities of Data and efficient solution

B) Practical classes:

1. Laboratory orientation includes identification of biochemical reagents and instruments that are used in biochemistry laboratory

2. Studying physical and chemical properties of carbohydrates and individual sugars. Tests for carbohydrates includes: Molish,s test, iodine test, hydrolysis test, Benedict test, Fehling test and Barfoed,s test.

3. Studying physical and chemical properties of lipids and fatty acids.

4. Color reactions of proteins includes: Biuret test, heat coagulation test, acidification test, Xanthoprotiens test, Millon test and Rosenheim test. Identification of unknown protein

5. General scheme for identification of unknown solution.

English Course

Total teaching hours: - Lectures: 92 - Practical: --- - Total: 92

(one hour =60 min)

M.B.B.Ch.Program & course specifications

Course contents:

Subject	Lectures (hours)	Tutorial / Practical (hours)	Total (hours)
1. Medical History , Theory, Ethics of Medicine	30	-	30
2.Medical terminology	30		30
3. The profession of Medicine	3	-	3
4. Doctor-Patient Relationship	3	-	3
5. Preventive Medicine	3	-	3
6. Verbs and Tenses	3	-	3
7. Special Terms	3	-	3
8. Healthcare systems	3	-	3
9.Career exploration	5		5
Total	92	-	92

Computer Course

Total teaching hours: - Lectures: 30 - Practical: --- - Total: 30

(one hour =60 min)

Subject	Lectures (hours)	Tutorial / Practical (hours)	Total (hours)
1 INTRODUCTION TO COMPUTERS	4	-	4
2. COMPUTER COMPONENTS AND ACCESSORIES	6		6
3 OPERATING SYSTEMS	4	-	4

M.B.B.Ch.Program & course specifications

Subject	Lectures (hours)	Tutorial / Practical (hours)	Total (hours)
4. . WINDOWS	**6**	**-**	**6**
5. INTERNET	**4**	**-**	**4**
6. OFFICE PROGRAMS	**6**	**-**	**6**
Total	**30**	**-**	**30**

Human Rights

Total teaching hours: - Lectures: 30 - Practical: --- - Total: 30

(one hour =60 min)

Course contents:

	Subject	Lectures (hours)	Total (hours)
1.	Nature of human rights law	1	1
2.	National resources for human rights	1	1
3.	International resources for human rights	1	1
4.	Types of human rights	1	1
5.	Restrictions on human rights	1	1
6.	Women rights	2	2
7.	Child rights	2	2
8.	People with Special needs rights	1	1
9.	International system for protection of human rights	1	1
10.	Securities & mechanisms of human rights in the national constitutional & law systems	1	1
11.	Protections of human rights in national law and protection of intellectual property & publishing rights	4	4
12.	Professional & Categorical duties & responsibilities in	8	8

Subject	Lectures (hours)	Total (hours)
medical field.		
13. Professional & Categorical duties & responsibilities in educational field.	2	2
14. Professional & Categorical duties & responsibilities in intellectual & media fields	2	2
15. Professional & Categorical duties & responsibilities in scientific & engineering and agricultural fields	2	2
Total	30	30

Anatomy & Embryologyll (2nd Year)

Total teaching hours: - Lectures: 120 - Practical: 120 - Total: 240

(one hour =60 min)

Course contents:

Topic	Number of hours		
	Lecture hours	Practical hours	Total hours per year
1.Head and Neck: 1. SCALP (layers, blood supply, nerve supply and lymphatic drainage) 2. Face (muscles, nerve supply , blood supply and lymphatic drainage) 3. Posterior triangle (boundaries and contents). 4. Anterior triangle (boundaries and contents). 5. Cranial cavity (Dural folds and	46	58	104

Topic	Number of hours		
	Lecture hours	Practical hours	Total hours per year
sinuses). 6. Orbit (boundaries and contents). 7.Submandibular region (gland and lymph nodes) 8. Parotid region (extent, capsule, features, relations, structure within the gland, parotid duct, nerve supply and surface anatomy), 9. Infratemporal fossa (muscles of mastication, mandibular nerve, maxillary nerve, sphenopalatine ganglion; otic ganglion and maxillary artery). 10. Thyroid gland (shape, capsule, features, relations, nerve supply, blood supply, lymphatic drainage and applied anatomy). 11. pharynx (muscles, sagittal section and palatine tonsil). 12. Nose (lateral wall, arterial, nerve and lymphatics). 13.Larynx (cartilage, ligaments and muscles). 14. Mouth cavity (tongue muscles, blood supply, nerve and lymphatics) 15. Cranial nerves (7th , 9 th, 10 th and 12 th). 16. blood supply & venous drainage of head and neck			
2.Neuroanatomy: 1. Development of the nervous	24	28	52

Topic	Number of hours		
	Lecture hours	Practical hours	Total hours per year
system and congenital anomalies. 2. Medulla, Pons and Midbrain (ventral and dorsal surface). 3. Fourth ventricle (boundaries. foramina, communications, cranial nerve nuclei in its floor and choroid plexus) and cerebellum (features, subdivisions and arterial supply). 4. Vertebrobasilar system& circle of Willis (site, formation; anatomical and clinical importance). 5. Diencephalon (boundaries, divisions and arterial supply) and third ventricle (boundaries, recesses. communications, choroid plexus) 6. Arterial supply of the brain; (internal carotid artery, anterior cerebral artery, middle cerebral artery and posterior cerebral artery) arteries) 7. Venous drainage (superior cerebral veins and deep cerebral veins, and CSF (volume, composition, circulation, formation, absorption, function and clinical notes). 8. Brain stem: internal structure 9.Cerebellar connections 10.Thalamus (boundaries, classification of thalamic nuclei,connection of thalamaic nuclei, arterial supply and thalamaic			

Topic	Number of hours		
	Lecture hours	Practical hours	Total hours per year
nuclei) Internal capsule 11. Cerebral hemisphere (sulci, gyri and higher brain functions) 12. Basal ganglia& lateral ventricle (boundaries, connections, foramina and choroid plexus). 13. Nerve fibers in CNS and the limbic system (component and function). 14. Spinal cord Ascending tracts (gracile and cuneate . tract, ventral and dorsal spinocerebellar tracts; lateral spinothalamic tract, ventral spinothalamic tract). 15. Pathway of each tract. 16. Trigeminal system (sensation from the face and trigeminal plexus). 17. Motor systems & descending tracts (lateral and ventral corticospmal tracts, rubrospinal and tectospinal rract; lateral and medial vestibulospinal tract; pontine and medullary reticulospinal tracts and descending autonomic fibers).			
3.Lower limb: 1- Bones of Lower limb (hip bone, femur, tibia; fibula and foot). 2. Front of the thigh (fascia, muscles, vessels and nerves). 3.-Medial aspect of the thigh (muscles, vessels and nerves) 4. gluteal region (muscles, vessels	24	34	58

Topic	Number of hours		
	Lecture hours	Practical hours	Total hours per year
and nerves), 5. Popliteal fossa (bounderies and contents). 6.Back of the thigh (muscles, vessels and nerves) 7.Anterior compartment of the leg (muscles, vessels and nerves) 8. Dorsum of the foot (muscles, vessels and nerves). 10. Sole of the foot (layers, muscles, vessels and nerves- arches). 11. Joints of lower(type,components, ligaments,relations, movement,nerve and blood supply of hip,knee,ankle & foot joints			
4.Embryology: 1. Cardiovascular system (development & anomalies) 2. Respiratory system (development & anomalies) 3. Digestive system (development & anomalies) 4. Urogenital system (development & anomalies) 5. Nervous system (development & anomalies) 6. Endocrine glands (development & anomalies) 7. Face, neck, nose & palate (development & anomalies) 8. Ear & Eye (development & anomalies) 9. Musculo-skeletal system (development & anomalies)	26	0	26

M.B.B.Ch.Program & course specifications

Topic	Number of hours		
	Lecture hours	Practical hours	Total hours per year
10. Integumentary system (development & anomalies)			
TOTAL	120	120	240

Histologyll (2nd Year)

Total teaching hours: - Lectures: 60 - Practical: 60 - Total: 120

(one hour =60 min)

Course contents:

Topic	Lecture hours	Practical hours	Total hours per year
1) RESPIRATORY SYSTEM	4	4	8
2) DIGESTIVE SYSTEM	12	14	26
3) URINARY SYSTEM	6	4	10
4) ENDOCRINE SYSTEM	6	6	12
5) MALE GENITAL SYSTEM	6	6	12
6) FEMALE GENITAL SYSTEM	6	6	12
7) INTEGUMENTARY SYSTEM	4	4	8

Topic	Lecture hours	Practical hours	Total hours per year
8) EYE	4	4	8
9) EAR	4	4	8
10) CENTRAL NERVOUS SYSTEM	8	8	16
Total	60	60	120

1- RESPIRATORY SYSTEM :

- Nasal cavity
- Nasopharynx & larynx
- Trachea & respiratory epithelium
- Lung & blood-air barrier
- Alveolar macrophages
- Fetal lung

2- DIGESTIVE SYSTEM :

ORAL CAVITY

- Lip
- Tongue & taste buds
- Teeth & gingiva
- Palate and Pharynx

ALIMENTARY TRACT

- General structure of GIT
- Oesophagus
- Stomach & gastro-oesphageal junction
- Small intestine & pyloro-duodenal junction
- Large intestine, appendix & Anal canal

DIGESTIVE GLANDS

- Salivary glands
- Pancreas

- Liver & gall bladder

3- URINARY SYSTEM :

- Kidney & blood supply of urineferous tubule
- Blood renal barrier
- Juxta-glomerular complex
- Ureter, Urinary bladder & Urethra

4- ENDOCRINE SYSTEM :

- Distribution of endocrine glands
- Pituitary gland
- Neurosecretory cells of hypothalarnus
- Suprarenal gland
- Thyroid gland
- Parathyroid gland
- Pineal body
- General characteristics of diffuse neuro-endocrine cells, distribution & function

5- MALE GENITAL SYSTEM :

- Testis & blood-testis barrier
- Spermatogenesis & spermiogenesis
- Ultrastructure of sperm
- Vasa efferentia. Epididymis, Vas deferens & spermatic cord
- Seminal vesicles, prostate & penis
- Semen & sperm count

6- FEMALE GENITAL SYSTEM :

b- Ovary
c- Fallopian tube
d- Uterus & menstrual cycle
e- Placenta
f- Vagina & mammary gland

7- INTEGUMENTARY SYSTEM :

- Types & distribution of skin
- Histology of thick skin
- Histology of thin skin

- Colour of skin & melanocytes
- Hair , hair follicles & nails
- Skin glands (sweat & sebaceous glands)

8- EYE :

- Histology of the different components of the eye ball & eye lid

9- EAR :

- Histology of the ear

10- CENTRAL NERVOUS SYSTEM :

- Spinal cord & tractology -Medulla oblongata
- Pons -Mid-brain , Deep origin of cranial nerves
- Cerebellum & cerebellar peduncle , Cerebrum , Pathways, Lemnisci , MLB.

Medical Physiology & Physics II (2nd Year)

Total teaching hours: - Lectures: 170 - Practical: 80 - Total: 250

(one hour =60 min)

Course contents:

Week	Title (Topic)	Theoretical classes		Practical classes	
		Lectures	Time (hours)	Practical	Time (hours)
1st	Endocrine	-Introduction of hormones -Pituitary gland	5	Introduction to physiology lab.	2
2nd	Endocrine	-Growth hormone -Prolactin hormone -MSH	5	Investigationsdone in GH abnormalities	2
3rd	Endocrine	-Oxytocin -ADH	5	Thyroid function tests	2

M.B.B.Ch.Program & course specifications

Week	Title (Topic)	Theoretical classes		Practical classes	
		Lectures	Time (hours)	Practical	Time (hours)
		-Thyroxin hormone			
4th	Endocrine	-Parathyroid hormone -Calcitonin -Active vitamin D	5	-Tests for latent tetany	2
5th	Endocrine	-Adrenal cortex hormones	5	Tests of suprarenal cortex	2
6th	Endocrine	-Adrenal medullary hormones -Pancreatic hormones	5	-Diagnosis of diabetes	2
7th	Endocrine	-Physiology of growth	5	-OGTT	2
8th	Endocrine	-Other organs with endocrine function	5	-Growth curves	2
9th	Reproduction	-Reproductive function of male -Hormonal function of male -Reproductive function of the female	5	Testicular function tests	2
10th	Reproduction	-Hormonal function of the male (estrogen & progesterone hormone)	5	Semen analysis	2
11th	Reproduction	-Functions of placenta & pregnancy tests -Puberty and its mechanism-	5	Pregnancy tests	2

M.B.B.Ch.Program & course specifications

Week	Title (Topic)	Theoretical classes		Practical classes	
		Lectures	Time (hours)	Practical	Time (hours)
		Physiology of lactation			
12th	Sensory nervous system	-Synapse -Neurotransmitters -Sensory receptors -Processing of impulses in the neural pools	5	- Rules for Sensory examination - Examination of crude touch	2
13th	Sensory nervous system	-Somatic sensations -Sensation from the head & headache	5	-Fine touch examination	2
14th	Sensory nervous system	Sensory areas -Abnormalities of somatic sensation	5	- Examination of pain (cutaneous-deep	2
15th	Motor nervous system	-Human nervous reflexes -Spinal cord reflexes & lesions	5	-Examination of Vibration sense Examination of pressure	2
16th	Motor nervous system	-Reticular formation -Vestibular apparatus	5	-Examination of motor system - Muscle state -Muscle tone	2
17th	Motor nervous system	-Basal ganglia	5	-Muscle power	2

M.B.B.Ch.Program & course specifications

Week	Title (Topic)	Theoretical classes		Practical classes	
		Lectures	Time (hours)	Practical	Time (hours)
18th	Motor nervous system	-Cerebellum	5	-Examination of superficial reflexes	2
19th	Motor nervous system	- Electrical activity of brain -Sleep -Speech -Memory and learning	5	-Examination of deep reflexes	2
20th	Motor nervous system	-Hypothalamus & limbic system	5	-Examination of coordination -Types of gaits	2
21st	Motor nervous system	-Thalamus & thalamic syndrome	5	-examination of cranial nerves	2
22nd	Renal physiology	-Kidney (structure, function, renal circulation & J-G apparatus) -Urine formation (GFR, factors affecting, regulation & measurement) -Functions of PCT	5	-Urine analysis -Sp gravity of urine	2
23rd	Renal physiology	-Renal handling of (sodium, potassium, glucose, amino acids) -Functions of DCT & Diuretics	5	-Glucose in urine -ketone bodies in urine -Albumin in	2

M.B.B.Ch.Program & course specifications

Week	Title (Topic)	Theoretical classes		Practical classes	
		Lectures	Time (hours)	Practical	Time (hours)
		-Countercurrent mechanism		urine	
24th	Renal physiology	-Acid –base balance & imbalance (acidosis & alkalosis) -Plasma clearance concept -Renal function tests -Micturition	5	Revision	2
25th	Metabolism	-Energy balance -heat value of food -RQ -MR & BMR -Body temperature regulation	5	O2 consumption	2
26th	Metabolism	Fever & hypothermia -Obesity -Physiology of exercise -Starvation	5	pH meter	2

M.B.B.Ch.Program & course specifications

Week	Title (Topic)	Theoretical classes		Practical classes	
		Lectures	Time (hours)	Practical	Time (hours)
27th	Special senses	-Physiological anatomy of the eye (layers) -Near response -Eye lens & errors of refraction & cataract -Accommodation reflex -IOP & glaucoma -The retina	5	-Pupillary light reflex -Accommodation reflex -Blind spot	2
28th	Special senses	-Retinal changes on exposure to light -Retinal adaptation -Visual acuity & visual field	5	-Visual acuity	2
29th	Special senses	-Color vision -The visual pathway & lesions -Perception of depth	5	-Visual field -Funds examination	2
30th	Special senses	-Physics of hearing -Physiology of smell -Physiology of taste	5	- Hearing tests -Smell tests -taste tests	2
	Physics	Human physics	20	Clinical physics	20
			170		80
			Total Hours 250		

M.B.B.Ch.Program & course specifications

Medical Biochemistry & Clinical Chemistry II (2nd Year)

Total teaching hours: - Lectures: 135 - Practical: 90 - Total: 225

(one hour =60 min)

Course contents:

Subjects	Lectures	Practical & tutorial	TotalHours per Year
Clinical Chemistry	60	30	90
• Carbohydrates metabolism.	14	12	26
• Bioenergetics & Biological oxidation.	2	2	4
• The respiratory chain.	2	2	4
• Lipid metabolism.	12	8	20
• Proteins & amino acids metabolism.	14	12	26
• Heam metabolism.	3	2	5
• Integration of metabolism.	2	2	4
• Purines and Pyrimidines metabolism.	3	2	5
• Vitamins.	8	4	12
	10	6	16
	3	2	5

M.B.B.Ch.Program & course specifications

Subjects	Lectures	Practical & tutorial	TotalHours per Year
• Hormones & their mode of action. • Metabolism of xenobiotics. • Body fluids (Plasma proteins).	2	6	8
Total hours	135	90	225

A) Lectures :

1- Metabolism of carbohydrates:

1- Dietary carbohydrates, digestion and absorption.

2- Glycolysis and oxidation of pyruvate.

3- Citric acid cycle and the catabolism of acetyl CoA,

4- Metabolism of glycogen.

5- Gluconeogenesis and control of blood glucose,

6- Pentose phosphate pathway, uronic acid pathway and other pathways of hexose metabolism (fructose, galactose and aminosugars).

7- Metabolic disorders of carbohydrate metabolism and their clinical implications with special emphasis on diabetes mellitus and other disorders of carbohydrate metabolism and their clinical importance.

2- Bioenergetics and biological oxidation:

1- Free energy & exergonic and endergonic processes.

2- High-energy phosphate.

3- Redox potential.

4- Oxido-reductases (oxidases, dehydrogenases, hydroperoxidases and oxygenases).

3- Respiratory chain:

1- Components of respiratory chain

2- Oxidative phosphorylation.

3- Respiratory chain inhibitors.

4- Chemiosmotic theory.

4- Metabolism of lipids:

1- Dietary lipids, digestion and absorption.

2- Biosynthesis of fatty acids.

3- Oxidation of fatty acids and ketogenesis.

4- Metabolism of unsaturated fatty acids and eicosanoids.

5- Metabolism of Acylglycerols and sphingolipids.

6- Lipid transport (lipoproteins) and storage.

7- Cholesterol synthesis, transport and excretion.

8- Metabolic disorders of lipid metabolism and their clinical implications.

5- Metabolism of proteins:

1- Dietary proteins, digestion and absorption.

2- Biosynthesis of the nutritionally nonessential amino acids.

3- Catabolism of proteins and amino acid nitrogen (metabolism of ammonia and urea cycle).

4- Catabolism of the carbon skeletons of amino acids.

5- Conversion of amino acids to specialized products.

6- Metabolic disorders of proteins and amino acids metabolism and their clinical implications.

6- Metabolism of Heme:

1- Biosynthesis of porphyrins and heme.

2- Catabolism of heme produces bilirubin.

3- Porphyries and hyperbilirubinaemia (unconjugated and conjugated).

7- Integration of metabolism:

1- Interconversion of major food stuffs.

2- Metabolic interrelationship between adipose tissue, the liver and extrahepatic tissues.

3- Starve-fed state: early fasting - fasting - fed.

4- Glucose homeostasis.

5- Metabolic interrelationship of tissues in various hormonal states obesity, exercise, pregnancy and lactation.

8- Purine and pyrimidine nucleotides metabolism:

1- Digestion and absorption of nucleic acids.

2- Biosynthesis of purine and pyrimidine nucleotides.

3- Catabolism of purine and pyrimidine nucleotides.

4- Metabolic disorders of purine and pyrimidine nucleotides metabolism (including gout) and their clinical implications.

5- Synthetic base analogues and their clinical use.

9- Vitamins:

1. Introduction and Classifications

2. Water soluble vitamins (vit. C, B1, B2, Niacin, B6, Biotin, Folic acid, B12, Panthothenic acid, Lipoic acid) and the derived coenzymes - biochemical changes due to deficiency.

3. Fat soluble vitamins (A, D, E, K) and their role in biochemical activities

10- Hormones and their mode of action:

1- Hormones that bind to intracellular receptors.

2- Hormones that hind to cell surface receptors.

3- Secondary messengers (cAMP, cGMP, calcium, phosphatidyl-inositol, kinase and phosphatase).

4- Hormones that regulate calcium: Parathyroid hormones, calcitonin and calciteriol.

5- Endocrine functions of pancreas: Insulin, glucagons, somatostatin and pancreatic polypeptide: Structure, function and their pathological disorders.

6- Hormones of hypothalamus, pituitary, thyroid, adrenal and gonads: Structure, function and their pathological disorders.

11- Metabolism of xenobiotics:

1- Hydroxylation (role of cytochrome P-450)

2- Conjugation (glucuronic acid, sulfate and glutathione), acetylation and methylation.

3- Effects of xenobiotics.

12- Body fluids:

1- Blood: plasma proteins, plasma enzymes, homeostasis and blood coagulation.

2- Urine: physical properties, normal and abnormal constituents.

3- Milk: physical properties, composition and colostrums.

4-Seminal fluid: spermatozoa, characters, constituents.

5-Cerebrospinal fluid: formation, functions, characters and composition.

6- Aqueous humor, sweat, tears, lymph, amniotic fluid and synovial fluid,

B) Practical Classes :

1. Complete urine report.

2. Colorimetric measurement of:

a- Serum glucose

b- Serum total proteins

c- Serum uric acid

d- Serum creatinine

e- Serum cholesterol

f- Serum albumin

3. Case report studies applying the out-comes of previous parameters

C) Clinical Chemistry :

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1. Have an advanced knowledge of the use of quality systems in the clinical laboratory.
2. Explain professionally the concepts of measurement of uncertainty.
3. Perform and interpret appropriate quality control procedures applicable to the clinical laboratory.
4. Integrate the use of biochemical tests and explain their clinical significance in the assessment of kidney, liver, heart function.
5. Professionally apply biochemical tests to health problems and explain their clinical significance in the assessment of lipid, purine and carbohydrate metabolism.
6. Professionally apply biochemical tests used in the assessment of acid/base balance.

Psychiatry, Psychotherapy & Behavioral Sciences

Total teaching hours: - Lectures: 124 - Practical: --- - Total: 124

(one hour =60 min)

Course contents:

Subject	Lectures (hours)
1. Psychiatry sheet.	5
2. Bipolar Disorders	5
3. Anxiety Disorders	5
4. Psychotic Disorders	10
5. Psychosomatic Disorders& Psychotherapy	50
6. Drug Abuse	5
7. Somatoform Disorders	10
8. Child Psychiatry	9
9. Dementia	5
10. Psychopharmacology	20
Total	124

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Topics :

1. The patient doctor relationship.
2. Physical development.
3. Cognitive development.
4. Psychosexual stages (Sigmuind Freud).
5. Moral development.
6. Defense mechanisms.
7. Learning.
8. Thinking.
9. Memory.
10. Attention.
11. Perception.
12. Motives.
13. Frustration.
14. Conflict.
15. Stress.
16. Emotions.
17. IQ.
18. Consciousness.
19. Sleep.
20. Personality.
21. Psychometric measurement of Personality and IQ.
22. Psychosomatic Disorders
23. Psychotic Disorders
24. Psychopharmacology.

Pathology

Total teaching hours: - Lectures: 145 - Practical: 197 - Total: 342

(one hour =60 min)

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Course contents:

	Subjects	Lectures	Practical & tutorial	Total hours
First Term				
1-	General Pathology	60 Hours	60 Hours	120 Hours
1st week	Acute inflammation	4 hours	4 hours	8 hours
2nd week	Chronic inflammation, repair and cell injury	4 hours	4 hours	8 hours
3rd week	Intracellular accumulations, circulatory disturbances	4 hours	4 hours	8 hours
4th week	Circulatory disturbances	4 hours	4 hours	8 hours
5th week	Circulatory disturbances, immunity	4 hours	4 hours	8 hours
6th week	Bacterial infection, T.B	4 hours	4 hours	8 hours
7th week	Sarcoidosis, Actinomycosis	4 hours	4 hours	8 hours
8th week	Leprosy, syphilis	4 hours	4 hours	8 hours
9th week	Bilharziasis	4 hours	4 hours	8 hours
10th week	Bilharziasis	4 hours	4 hours	8 hours
11th week	Bilharziasis, Vitamins deficiency	4 hours	4 hours	8 hours
12th week	Disturbances of growth, Introduction of tumor	4 hours	4 hours	8 hours
13th week	Benign tumors, Malignant tumors	4 hours	4 hours	8 hours
14th week	Malignant tumors	4 hours	4 hours	8 hours
15th week	Lab diagnosis of cancer	4 hours	4 hours	8 hours

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	Subjects	Lectures	Practical & tutorial	Total hours
Second Term				
2-	Special Pathology	60 Hours	60 Hours	120 Hours
1st week	Cardiovascular system	4 hours	4 hours	8 hours
2nd week	Cardiovascular system, blood vessels	4 hours	4 hours	8 hours
3rd week	Blood vessels, respiratory system	4 hours	4 hours	8 hours
4th week	Respiratory system, blood	4 hours	4 hours	8 hours
5th week	Respiratory system, gastrointestinal tract	4 hours	4 hours	8 hours
6th week	Gastrointestinal tract	4 hours	4 hours	8 hours
7th week	Liver	4 hours	4 hours	8 hours
8th week	Urinary tract	4 hours	4 hours	8 hours
9th week	Urinary, Male genital system	4 hours	4 hours	8 hours
10th week	Female genital system	4 hours	4 hours	8 hours
11th week	Breast	4 hours	4 hours	8 hours
12th week	Bone	4 hours	4 hours	8 hours
13th week	Lymph node	4 hours	4 hours	8 hours
14th week	Endocrine system	4 hours	4 hours	8 hours
15th week	Central nervous system	4 hours	4 hours	8 hours
3-	Clinical pathology	---------	27 hour	27 hour
4-	Clinical-pathological Conference	25 hours	50 hours	75 hours

Details of course topics :

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1) GENERAL PATHOLOGY :

1. INFLAMMATION :

Acute inflammation.

Chronic inflammation.

2. REPAIR :

Regeneration.

Healing by fibrosis.

Healing in special conditions.

3. CELL RESPONSE TO INJUIRY :

Causesof cell injury

Effects and types of cell injury

4. INTRACELLULAR ACUMULATIONS AND EXTACELLULAR DEPOSITIONS :

Accumulations and storage (water, fat, mucin, glycogen, protein, pigment).

Depositions (amyloidosis, myxomatous changes).

5. CIRCULATORY DISTURBANCE :

Hyperemia	Venous congestion
Thrombosis	Embolism
Ischemia	Infarction
Gangrene	Hemorrhage
Shock	

6. IMMUNE RESPONSE :

a. Immunity and hypersensitivity.

b. Acquired Immune Deficiency Syndrome (AIDS).

c. Autoimmune diseases.

7. BACTERIAL INFECTION :

Bacteraemia, Pyaemia, Septicaemia and Toxaemia.

Specific infection and Granulomas (T.B. - Syphilis – Leprosy and actinomycosis)

8. VIRAL AND MYCOTIC DISEASES :

CMV, AIDS

9. PARASITIC DISEASES :

Bilharziasis.

10. VITAMIN DEFICIENCIES :

Vitamin A deficiency
Vitamin K deficiency
Vitamin C deficiency
Vitamin B complex deficiency
Vitamin D deficiency

11. DISTURBANCES OF GROWTH :

Congenital anomalies, atrophy, hypertrophy, hyperplasia, metaplasia, and dysplasia.

12. TUMORS :

Benign tumors
Malignant tumors

13. IONIZING RADIATION AND LABORATORY DIAGNOSIS :

Types, mode of action, effects on different tissues

2) SPECIAL PATHOLOGY :

Studied systems are:

1. CARDIOVASCULAR SYSTEM (heart & blood vessels).
2. RESPIRATORY SYSTEM.
3. GASTROINTESTINAL SYSTEM.
4. HEPATOBILIARY & PANCREATC SYSTEM.
5. URINARY TRACT SYSTEM.
6. MALE GENITAL SYSTEM.
7. FEMALE GENITAL SYSTEM.

8. BREAST.

9. ENDOCRINE SYSTEM.

10. BLOOD& LYMPHORETICULAR SYSTEM.

11. BONE &JOINTS.

12. PERIPHERAL & CENTRAL NERVOUS SYSTEMS.

All diseases in each organ system studied are covering:

- Definition, incidence of disease and epidemiology.
- Etiology, pathogenesis and molecular genetics.
- Gross and microscopic changes.
- Fate andcomplications.
- Clinical presentation and prognosis.

3)Clinical Pathology :

- Urine and stool examination
- Liver function tests
- CSF
- Blood picture
- Blood Film
- Serological tests
- Blood transfusions

4) Clinical Pathological Conference :

Non alcoholic steatohepatitis topic.

Other course topics :

- Problem-solving cases:

are based on the topics discussed in the above mentioned list:

1- Acuteand chronicinflammation and repair.

2- Degenerative changes.

3- Necrosis and cell injury.

4- Granulomas.

5- Non specific infections and immunologic disturbances.

6-Circulatory disorders.
7-Neoplasms.
8-Cardiovascular cases.
9-Respiratory cases.
10-G.I.T cases.
11-Hepatobiliary cases.
12-Urinary tract cases.
13-Female genital tract and breast cases.
14-Male genital tract cases.
15-Bone & Joint cases.
16-Peripheral and central nervous system cases.

Practical:

1- List of SLIDES (71 SLIDES) :

GENERAL

1. Acute supportive appendicitis.
2. Granulation tissue.
3. Myocardial scarring.
4. Cloudy swelling kidney.
5. Hyaline change spleen.
6. Fatty change liver.
7. Chronic venous congestion, lung.
8. Early T.B lymph node.
9. Caseating T.B lymph node.
10. Pulmonary tuberculosis.
11. Rhinoscleroma.
12. Bilharziasis, rectum
13. Bilharziasis, urinary bladder
14. Actinomycosis
15. Schwannoma
16. Leiomyoma
17. Lipoma

18. Myxoma
19. Chondroma
20. Capillary haemangioma
21. Cavernous haemangima
22. Cavernous lymphangioma
23. Squamus cell papilloma
24. Adenoma, intestine
25. Fibroadenoma, breast
26. Osteochondrom
27. Osteoclastoma
28. Osteosarcoma
29. Fibrosarcoma
30. Melanocytic naevus
31. Malignant melanoma
32. Squamous cell carcinoma
33. Basal cell carcinoma
34. Invasive duct carcinoma, breast
35. Adencarcinoma, colon
36. Mucoid adenocarcinoma, colon
37. Metastatic carcinoma, lymph node

B) SPECIAL

38. Nasal polyp
39. Emphysema
40. Bronchiectasis
41. Bronchogenic carcinoma
42. Salivary gland pleomorphic adenoma
43. Warthin tumor
44. Chronic hepatitis

45. Liver cirrhosis
46. Hepatocellular carcinoma
47. Chronic diffuse glomerulonephritis
48. Renal cell carcinoma
49. Nephroblastoma, Wilm's tumor
50. Papillary TCC, urinary bladder
51. Nodular prostatic hyperplasia
52. Sertoli cell only
53. Semioma
54. Proliferative phase, edometrium
55. Secretory phase, edometrium
56. Simple endometrial hyperplasia
57. Adenocrcinoma, uterus
58. Squamous cell carcinoma, cervix
59. Vesicular mole
60. Mucinous cystadenoma,Ovary
61. Brenner's tumor
62. Choriocarcinoma
63. Fibrocystic change, breast
64. Follicular hyperplasia, lymph node
65. Non-Hodgkin's lymphoma, lymph node
66. Hodgkin's lymphoma, lymph node
67. Colloid goiter
68. Toxic goiter
69. Papillary carcinoma, Thyroid
70. Meningioma
71. Astrocytoma

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N.B.: Slides of new disorders may be added depending on availability of samples.

2- List of MUSEUM SPECIMENS (109 JARS) :

1. G.I.T (18) jars.
2. Respiratory system (10) jars.
3. Female genital system (26) jars.
4. Breast (2) jars.
5. Urinary system (30) jars.
6. Endocrine system (2) jars.
7. Male genital system (2) jars.
8. Skeletal system (2) jars.
9. Soft tissue (6) jars.
10. Hepatobiliary system (5) jars.
11. Lymphoreticular system (6) jars.

Pharmacology

Total teaching hours: - Lectures: 120 - Practical& Tutorial: 60 - Total: 180

(one hour =60 min)

Course contents:

Topics	Lecture	Practical	Tutorial	Total
1-General Pharmacology	10	4	4	18
2-Autonomic Nervous System	14	6	-	20
3-Ocular Pharmacology	2	2	-	4
4-Autacoids	4	-	-	4
5-Cardiovascular Pharmacology	12	6	6	24

6-Renal Pharmacology	4	2	2	8
7- Pharmacology of Blood	4	2	-	6
8- Chemotherapeutic drugs	18	-	-	18
9-Drugs act in CNS	20	10	6	36
10-Endorine drugs	10	-	4	14
11-Pharmacology of GIT	6	-	2	8
12-Respiratory system	4	-	2	6
13-Vitamines	2	-	-	2
14-Dermatologic Pharmacology	2	-	-	2
15-Gene therapy	1	-	-	1
16-Immunopharmacology	1	-	-	1
17-Drug abuse	2	-	-	2
18-Drug interaction	2	-	-	2
19-Essential drugs	1	-	-	1
20-Rational use of drugs	1	-	-	1
21-Prescription writing	-	-	2	2
Total	120	32	28	180

A) LECTURES (120 hours) :

1-General pharmacology:

Nature and source of drugs , dosage forms ofdrugs ,routes of drug administration , evaluation of new drugs , adversedrug reactions , pharmacodynamics , pharmacokinetics , drugs at theextreme of age.

2-Autonomic Nervous System:

Sympathomimetics , sympatheticdepressants, parasympathomimetics , drugs acting on the neuromuscular junction , drugs acting on autonomic ganglia.

3-Ocular pharmacology:

Drugs acting on the eye and treatment of glaucoma.

4-Autacoids:

Histamine and antihistaminics , serotonin and itsantagonists , eicosanoids , angiotensin and kallikerin-kinin system.

5-Cardiovascular pharmacology:

Treatment of heart failure,antihypertensive drugs ,drug therapy of angina pectoris . Treatment ofshock , antiarrhythmic drugs , drug therapy of peripheral vasculardisease.

6-Renal pharmacology:

Diuretics , alteration of urinary pH.

7-Pharmacology of blood:

Treatment of anaemias , coagulants andanticoagulants ,drugs affecting the fibrinolytic system , drugs affectingplatelet activity , lipid lowering drugs , intravenous fluids , totalparenteral nutrition.

8-Chemotherapeutic agents:

Classification of antimicrobials , Beta-lactam antibiotics , aminoglycosides , tetracyclines , chloramphenicol,macrolides ,quinolones , sulphonamides , chemoprophylaxis , drugtherapy of tuberculosis and leprosy , antifungal and antiviral drugs ,cancer chemotherapy , topical disinfectant and antiseptics ,chemotherapy of malaria , chemotherapy of amebiasis , antiprotozoaland antihelminthics.

9-Drugs act in the CNS:

Central neurotransmitters, sedative-hypnotics ,antiepileptic drugs, analgesic drugs , local and general anaesthetics ,antipsychotics, antidepressants , antimanic drugs and central nervousstimulants.

10-Respiratory system:

Bronchodilators , expectorants , mucolytics ,antitussives , therapeutic gases.

11- Endocrine drugs:

Classification of hormones, anterior and posteriorpituitary hormones , insulin and oral antidiabetic drugs , thyroxin andantithyroid drugs , hormonal regulation of calcium homeostasis ,corticosteroids , sex hormones and anabolic steroids.

12-Pharmacology of GIT:

Drug therapy of peptic ulcer , emetics andantiemetics , prokinetic drugs , purgatives and antidiarrheal drugs.

13- Vitamins.

14- Dermatologic pharmacology:

Percutaneous absorption of drugs ,keratolytics ,counterirritants , antipruitics , drugs affecting skinpigmentation , drug therapy of acne vulgaris , drug therapy ofpsoriasis , retinoids.

15-Gene therapy:

Methods of gene delivery , concept of gene therapy and indications of gene therapy.

16-Immunopharmacology:

Immunomodulating agents , immunosuppressive agents.

17-Drug abuse:

Drug dependence , types of drug dependence , generallines of treatment of drug dependence.

18-Drug-interaction.

19-Essential drugs:

Advantage of essential drug list.

20-Rational use of drugs:

Definition , areas where care is needed while prescribing.

21- Prescription writing.

B) CLINICAL PHARMACOLOGY(PHARMACOTHERAPY) (32 hours) :

No.	Item	Hours
1	Dosage forms of drugs	1
2	Routes of drug administration	1

No.	Item	Hours
3	Drug absorption	1
4	Drug excretion	1
5	Drugs and isolated intestine	4
6	Drugs and isolated rectus abdominis muscle.	2
7	Drugs and the eye	2
8	Drugs and isolated heart	4
9	Action of drugs on blood pressure of rats	2
10	Onset , potency , duration of diuretics	2
11	Anticoagulant drugs	2
12	Oil/water partition coefficient	2
13	General anaesthetics	2
14	Hypnotics and assessment of their potency	2
15	Tests of analgesics	2
16	Antiparkinsonian activity of drugs	2
	Total	32

C) TUTORIALS (28 hours) :

No.	Item	Hours
1	Dosage calculation for pediatrics	2
2	Dosage calculation for in renal diseases	2
3	Drug dosage calculation (drug concentration)	2
4	Congestive heart failure	2
5	Angina pectoris	2
6	Hypertension	2
7	Urinary tract infection	2
8	Gout	2
9	Epilepsy	2
10	Rheumatoid arthritis	2
11	Bronchial asthma	2

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No.	Item	Hours
12	Hyperthyroidism	2
13	Diabetes mellitus	2
14	How to write prescription	2
	Total	28

Microbiology& Immunology

Total teaching hours: - Lectures: 170 - Practical& Tutorial: 120 - Total: 290

(one hour =60 min)

Course contents:

Topic	Lecture	Practical/Tutorial	No. of hours
General Bacteriology	12	18	30
Immunology	22	8	30
Systemic Bacteriology	35	30	65
General Virology	10	-	10
Systemic Virology	10	-	10
General Mycology	4	4	8
Systemic Mycology	7	-	7
Laboratory	10	20	30
Biology	60	40	100
Total	170	120	290

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Parasitology

Total teaching hours: - Lectures: 60 - Practical& Tutorial: 60 - Total: 120

(one hour =60 min)

Course contents:

	Topics	Hours for lectures	Hours for practical	No. of hours per week
1.	Introduction of Trematoda+ Fascioliasis (F.gigantica & F. hepatica)	2	2	4
2.	Halzoun+ H. heterophyes+ Paragonimus	2	2	4
3.	Shistosomiasis (S. haematobium, S.mansoni, S.japonicum)	2	2	4
4.	Snails + introduction of Cestodes + Diphyllopothrium latum.	2	2	4
5.	D.mansoni, sparganosis, Taenia saginata+ T.solium	2	2	4
6.	Cysticercosis+ Echinococcus granulosus + Hydatid disease	2	2	4
7.	Multiceps + Ceonurosis+ Hymenolepis nana+ H.diminuta+ D. caninum	2	2	4
8.	Introduction of Nematoda + Ascaris lumbricoides	2	2	4
9.	Trichuris trichura+ Enterobius vermicularis+ Hook worms	2	2	4

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Topics	Hours for lectures	Hours for practical	No. of hours per week
10. Trichostrongylus + Strongyloides + Capillaria philippiansis	2	2	4
11. Filariasis	2	2	4
12. Trichinella spiralis+ D.medenensis + Visceral and cut. Larva migrans	2	2	4
13. Periodic examination 1	2	2	4
14. Stool , urine and blood examination	2	2	4
15. Introduction of Arthropoda + Mosquitoes	2	2	4
16. Introduction of protozoa + Malaria	2	2	4
17. Student conference	2	2	4
18. Sandfly + Leishmaniasis	2	2	4
19. Musca+ Stomoxyes+ Entamoeba histolytica	2	2	4
20. Free living Amoebae+ B.coli + Giardia	2	2	4
21. Trichomonas vaginalis+ commensals+ Blastocystis	2	2	4
22. Glossina + Trypanosomiasis	2	2	4
23. Mosquitoes +Malaria+ Coccidia	2	2	4
24. Periodic examination 2	2	2	4
25. Calliphoridae + Myaisis + fleas	2	2	4
26. Lice + Bugs	2	2	4
27. Ticks + scorpion	2	2	4

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Topics	Hours for lectures	Hours for practical	No. of hours per week
28. Mites + Cyclops	2	2	4
29. Revision 1	2	2	4
30. Revision 2	2	2	4
Total	60	60	120

Ophthalmology

Total teaching hours: - Lectures: 80 - Practical& Tutorial: 80 - Total: 160

(one hour =60 min)

Course contents:

Lectures & Practical

1. Clinical Ophthalmology
2. Ocular Investigations
3. The eyelids
4. Lacrimal System
5. The Cornea
6. The Conjunctiva
7. Cataract
8. Glaucoma
9. Errors of Refraction
10. Strabismus
11. Retina
12. The uveal tract

13. The Orbit
14. Intraocular tumors
15. Neuro-ophthalmology
16. Ocular trauma
17. Systemic Diseases and the Eye.

Otorhinolaryngology (E.N.T)

Total teaching hours: - Lectures: 72 - Practical& Tutorial: 50 - Total: 122

(one hour =60 min)

Course contents:

Subjects	Lecture	Practical & Tutorial	Total hours
1. Ear	24	10	34
2. Nose	16	12	28
3. Pharynx	10	7	17
4. Oesophagus	2	2	4
5. Larynx	10	7	17
6. Neck	10	12	22
Total	**72**	**50**	**122**

EAR:

- **Basic anatomy & physiology of the ear,hearing and equilibrium.**
- **Diseases of the auricle.**
- **Diseases of the external ear (otitis media-foreign bodies, wax accumulation).**

- Diseases of the middle ear (trauma , acute otitis media, chronic non-suppurative otitis media, chronic suppurative otitis media, complications, otosclerosis, facial nerve paralysis).
- Diseases of inner ear (trauma, labrynthitis, Meniere's diseases).
- Symptoms of diseases of the ear (deafness, tinnitus, vertigo, discharge, earache).
- Principle of some operations and procedures on the ear (earwash , myringotomy, mastoidectomy, tympanoplasty, stapedectomy).
- Basic principles of audiology.

Nose :

- Basic anatomy & physiology of the nose.
- Diseases of the nose and paranasal sinuses (congenital, trauma, rhinitis, sinusitis, sino-nasal, polyps, tumors, deviated nasal septum)
- Symptoms of diseases of the nose (nasal obstruction, nasal discharge, epistaxis, headache).
- Principle of some operations and procedures on the nose (Antrostomy , Radical antrum , Endoscopic sinus surgery , Septoplasty).

Pharynx :

- Anatomy of the pharynx
- Diseases of the pharynx (congenital, traumatic, acute& chronic pharyngitis, acute & chronic tonsillitis).
- Symptoms of diseases of the pharynx
- Principles of some operations (tonsillectomy & adenoidectomy)

Oesophagus :

- Corrosive oesophagitis, Achalasia of the cardia, Cancer oesophgus.

Larynx :

- Anatomy of the larynx
- Diseases of the larynx (congenital, traumatic, inflammatiory, benign & malignant tumors).
- Symptoms of diseases of the larynx

- **Principle & complications of tracheostomy.**

Neck :

- **Anatomy , lymphadenopathy.**

Forensic Medicine & Clinical Toxicology

Total teaching hours: - Lectures: 80 - Practical& Clinical: 80 - Total: 160

(one hour =60 min)

Course contents:

1-Forensic medicine

Topics	Hours		
	Lectures	Practical	Total
1-Identification.	4	3 (Museum)	7
2-Death (Manner of death, medico legal aspects of brain death, death under anesthesia, estimation of postmortem interval).	6	3 (Museum)	9
3- medico legal aspects of sudden death.	1	1 (Morgue)	2
4- medico legal aspects of wounds (fire arm injuries, head injuries, thermal injuries, and electric burn injuries of other parts of the body, transportation injuries).	8	4 (Museum and causality department)	12
5-Paternity investigations	2	2(Lab)	4
6- Medico legal aspects of child abuse and domestic violence (MI conflict)	3	3 (Museum)	6
7-DNA evidence	1	3 (case studies)	4
8-Sexual offences	2	3 (Museum)	5
9- Medico legal aspects of abortion	2	2 (Museum)	4

Topics	Hours		
	Lectures	Practical	Total
10- Medico legal aspects of suspected death in childhood	1	2 (Museum)	3
11-Violent asphyxia	2	2 (Museum)	4
12-Medico legal aspects of suspected death in childhood	2	2 (Museum)	4
13-Medical ethics	3	2 (case studies)	5
14-Malpractice	3	2(case studies)	5
Total	40	40	80

2- Clinical Toxicology

Topic	Hours		
	Lectures	Practical	Total
1-Calssification of poisons	5	4	9
2-Toxicokinetics and dynamics	2		2
3-Focused clinical examinations of a poisoned patient	4	5 (Models and case studies)	9
4-Management of an intoxicated patient	4	5(Models and case studies)	9
5-Household intoxication (corrosive, insecticides, bleaching substances)	4	5(Lab and cases studies)	9
6-Medical toxicology (CNS) depressants and stimulants, analgesics antiphyretics opiates and anticholinergic and cardiovascular drugs)	7	5(Lab and cases studies)	12

Topic	Hours		
	Lectures	Practical	Total
7-Inhalants (CO,CO2, cyanide)	4	4(Lab and cases studies)	8
8-Volatile poisons (ethyl and methyl alcohol and kerosene)	4	4(Lab and cases studies)	8
9-Substances of abuse	2	4(Lab and cases studies)	6
10-Environnemental pollutants	4	4	8
Total	40	40	80

Community Medicine

Total teaching hours: - Lectures: 203 - Practical& Field training: 100

- Total: 303 (one hour =60 min)

Course contents:

Topics	Lectures (hours)	Field training (hours)	Practical (hours)	Total (hours)
• **General Introduction:**and measurementof healthDemography,VitalStatistics,andDiseaseBurden.	6	---	6	12
• **Epidemiological & Quantitive Domain:**				
1. Epidemiological Methods	4	---	6	10
2. MedicalStatistics	6	---	6	12

M.B.B.Ch.Program & course specifications

Topics	Lectures (hours)	Field training (hours)	Practical (hours)	Total (hours)
3. General EpidemiologyofCommunicable Diseases	6	---	---	6
4. EpidemiologyofSelected Communicable Diseases	26		6	32
5. Non-Communicable Diseases	8	2	4	14
• **Prevention, Health Promotion.**	30	---	20	50
• **Communication & Health behavior**	12	---	6	18
• **Mental health**	2	---	---	2
• **Nutrition in HealthandDisease**	8	---	4	12
• **Management & Administration** (HealthCare Management & Health economics)	8	---	6	14
• **HealthSystems, health System andPublic health care in Egypt**	31	---	---	31
• **RuralHealth**	2	---	4	6
• **AdolescentandFacultyHealth**	4	---	---	4
• **PrimaryHealthCare, Basic HealthServices**	4	---	---	4
• **Reproductive Health,**includingMaternaland	6	---	6	12

M.B.B.Ch.Program & course specifications

Topics	Lectures (hours)	Field training (hours)	Practical (hours)	Total (hours)
Child and FamilyPlanning				
• **Health oftheElderly**	2	2	2	6
• **Health of People withSpecialneeds,**including disabilities	2	---	---	2
• **Social and Occupational health** 1. SocialHealth **2.** OccupationalHealth	 8 12	 --- 4	 --- 4	 8 20
• **Clinical Environmental Medicine**	16	---	---	16
• **Job Orientation**	---	---	12	12
Total hours	**203**	**8**	**92**	**303**

Details of the course:

1- Theoretical Course:

1. GENERAL EPIDEMIOLOGY OF COMMUNICABLE DISEASES

- **Patterns of occurrence of disease in communities (sporadic, endemic, outbreak, epidemic, pandemic).**
- **The infectious cycle (causative agent; reservoir: human and animal/zoonosis; mode of transmission; incubation period; period of communicability; susceptibility and resistance).**
- **Preventive measures: general and specific.**
- **Control measures: the case, the immediate contacts, the community especially during epidemics, outbreaks and pandemics.**
- **Surveillance systems, disease elimination and eradication.**
- **Investigation of an epidemic/ outbreak.**
- **Disinfection, sterilization, nosocomial/hospital infection.**

2. EPIDEMIOLOGY OF SELECTED COMMUNICABLE DISEASES

- The selected diseases will include, common endemic diseases, emerging diseases, international diseases and potentially threatening diseases:
- The infectious cycle for each of the selected diseases.
- Prevention and control, and special programs as available.
- Immunization: recommended and potential vaccines.

3. HOSPITAL INFECTION & STERILIZATION

Disinfection, sterilization, nosocomial/hospital infection

4. MESUREMENTS OF HEALTH, DEMOGRAPHY & VITALSTATISTICS

Definitions, census, population estimates and projections, Egypt's population trend, theory of demographic transition, population pyramids, sources of data, vital indices and concepts of quality of life.

5. EPIDEMIOLOGY OF SELECTED NON-COMMUNICABLE DISEASES

General concepts, risk factors, primary and secondary prevention, periodic examination, screening tests, epidemiology of injuries and selected non-communicable diseases (ischemic heart disease, hypertension, rheumatic heart disease, diabetes, cancer, blood disorders, bronchial asthma).

6. COMMUNICATION & HEALTH BEHAVIOUR

Basic behavioral theories, behavioral and social variables, communication, health education, counseling, and community mobilization.

7. MENTAL HEALTH

Definition, Risk factors, impact of mental illness, primary and secondary prevention, mental health program.

8. NUTRITION IN HEALTH & DISEASE

Definitions and concepts, nutrients (sources, functions, requirements), adequate diet, nutritional public health problems, assessment of the nutritional status, diet and chronic diseases.

9. HEALTH CARE MANAGEMENT & ADMINISTRATION

Definition and principles of management, assessment of community needs and resources, problem identification and priority setting, organization-based management , leadership and team building, quality management, health economic

10. HEALTH SYSTEMS & HEALTH SERVICES IN EGYPT

Egypt's health policy, different health systems functioning in Egypt, the organizational structure and function of the MOHP the referral system, the concept of health reform

11. PRIMARY HEALTH CARE & FAMILY HEALTH PRACTICE

Curative/preventive patterns of care, levels of practice (individual, family and community levels), comprehensive health care, PHC (definition and principles, characteristics, elements), PHC services in Egypt, the family practice approach in Egypt.

12. RURAL HEALTH

Health-related problems in rural areas , the rural health program, organization of rural health services ,staffing of the rural health team.

13. REPRODUCTIVE HEALTH

Definitions and concepts, components of comprehensive RH, RH activities and MCH services implemented in Egypt, evaluation of MCH program, FP (the population policy and strategy for Egypt,
the national FP program, and its evaluation).

14. HEALTH OF ELDERLY

Definitions, the physical, mental, and social problems and needs of the elderly, health care programs for the elderly and their relation to other care programs.

15. OCCUPATIONAL HEALTH

Concepts and definitions, hazards/work-related hazards for different occupations and jobs, prevention and control of occupational hazards, ergonomics, occupational health program, the role of the PHC in occupational health.

2- Practical Course :

- Practical course includes pre-visit orientation seminars & post-field visit group discussion.
- Practical includes: exercises, student presentation and group discussions.

Each visit lasts approximately 3 hours (3 hrs per visit).

FAMILY MEDICINE I

Total teaching hours: - Lectures: 30 - Practical : 48 & Field training: 12

- Total: 90 hours (one hour =60 min)

Course contents:

Weeks	topic	No of hours	lecturer

		Theoretical	Practical/round	
1st week	H1N1	1	-----	
2nd week	Introduction to family medicine curriculum Principles of family medicine	1	3	
3rd week	Family & family types in family practice Family dynamics	1	3	
4th week	Family genogram	1	3	
5th week	Health services and family health model	1	3	
6th week	Family physician	1	3	
7th week	Family health record	1	6	
8th week	Basic benefit package (BBP)	1	3	
9th week	Drug prescription in family practice	1	2	
10th week	Ethics in family practice	1	2	
11th week	Travel medicine	1	2	
12th weeks	Communication in family practice (taking history)	1	2	
13th week	Communication in family practice	1	2	
14th week	Anticipatory care (vaccination)	1	2	
15th week	Anticipatory care (health promotion)	1	2	
16th week	Anticipatory care (health maintenance)	1	2	
17th week	Patient compliance	1	2	
18th week	Referral in family practice	1	2	
19th week	Consultation in family practice	1	---------	
20th week	Screening in family practice	1	2	
21th week	Screening in family practice	1	2	
22 week	Health team & management in family practice	1	2	
23 week	Patient education	1	2	
24week	Infection control in family	1	----------	

M.B.B.Ch.Program & course specifications

Weeks	topic	No of hours		lecturer
		Theoretical	Practical/round	
	practice			
25 week	Quality dimension &accreditation in family	1	2	
26 week	Audit	1	-------	
27 week	Work related problem (seminar)	1	2	
28 week	Integrated management of red eye (seminar)	1	2	
29 week	Integrated management of sore throat (seminar)	1	2	
30 week	Integrated management of poison (seminar)	1	--------	

Internal Medicine&Specialities

Total teaching hours: - Lectures: 436 - Practical: 449 - Total: 885

(one hour =60 min)

Course contents:

1- Internal Medicine:

Subject	Lectures (hours)	Practical & Clinical (hours)	Total (hours)
• Introductory Course, X-ray& ECG	18	22	40
• Rheumatology	10	12	22
• GIT &Liver	19	32	51
• Endocrinology&Metabolism	16	16	32
• Hematology &Oncology	15	20	35
• Nephrology	16	16	32

M.B.B.Ch.Program & course specifications

Subject	Lectures (hours)	Practical & Clinical (hours)	Total (hours)
• Immunology	3	5	8
• Genetics	20	40	60
• Pharmacotherapeutics	3	6	9
• Emergency Medicine	33	47	80
• Geriatric Medicine	34	36	70
• General Medicine	40	30	70
• Clinical Medicine	25	10	35
TOTAL	**252**	**292**	**544**

2- Medicine Specialities:

Subject	Lectures (hours)	Practical & Clinical (hours)	Total (hours)
• Cardiology	18	15	33
• Neurology	40	32	72
• Medical Psychology & Sociology	60	40	100
• Diseases of the chest	15	15	30
• Tropical medicine	13	15	28
• Dermatology& Venereology	38	40	78
Total	**184**	**157**	**341**

A- Internal Medicine Topics

1. Introduction, X-Ray, ECG:

Introduction & general examination

Cardiac Examination

Examination of cardiac patient, edema, palpitation

Chest examination, clubbing & cyanosis

Abdominal Examination

Basic Electrocardiography (I)

Basic Electrocardiography (II)

GIT Bleeding& Dysphagia

Pallor, anemia, fatigue, hemorrhagictendencies, lymphadenopathy

Diarrhea &Constipation

Cough, expectoration, hemoptysis & dyspnea

Basic imaging& X-Ray(I)

Basic imaging & X-Ray(II)

Headache &migraine

CNS Examination

Shock

Coma

Tremors

2. Rheumatology:

Classification &DD of arthropathy

Rheumatoid arthritis

SLE

Gout

Seronegative spondyloarthoropathy

Non articular rheumatic disorder (sclerodema, sjog. ,polymyo)

Vasculitis

Corticosteroid & other immunosuppressive agents

Osteoporosis , osteoarthritis

Basic immunology and immune diseases

3. GIT & Liver

Esophageal disorders

Peptic ulcer disease

Stomach disease other than PU

Disorder of G.I.T motility , diarrhea , dysentery , constipation

Malabsorbtion syndrome

Inflammatory bowel disease

Functional colonic disorder

G.I.T malignancy

Pancreas

Gall bladder disease

Jaundice

Acute hepatitis , chronic hepatitis(viral &non viral)

Cirrhosis

Portal hypertension

Liver cell failure

Ascites & peritoneal disease

Hepatocellular failure (focal lesion)

Focal hepatic lesions

Fatty liver

4. Endocrinology & Metabolism:

Principles of endocrinology (hypothalamus, pituitary diseases)

Thyroid diseases

Thyroid diseases

Suprarenal cortex

Suprarenal cortex

Growth problems

Obesity

Gonads

DM(1)

DM(2)

Endocrinal interrelationship & Endocrinal emergency

Endocrinal interrelationship & Endocrinal emergency

Pheochromocytoma

Diabetes insipidus

Calcium metabolism

Calcium metabolism

5. Heamatology & Oncology:

Anemia (introduction & microcytic anemia)

Macrocytic anemia

Haemolysis(1)

Haemolysis (2)

Bleeding disorder

Acute leukemia

Chronic leukemias

Lymphoma & lymphadenopathies

Myeloproliferative disorders

Myelodysplasia, TTP, HUS

Agranulocytosis

Blood transfusion

Anticoagulant

Thrombotic disorders

Splenomegaly & hypersplenism

6. Neohrology:

Structure and function of the kidney

Renal investigation

Interstitial nephritis (analgesic)

UTI

Glomerlopathy , major clinical glomerular syndrome

Acute & chronic GN

Nephrotic syndromes & RPGN

Acute RF

Chronic RF

Renal replacement therapy

Drug & kidney

PCKD , Pulmonary. Renal &cardio renal syndromes

Lupus nephritis , Diabetic nephropathy

Hypertension and kidney

Water , electrolyte

Acid base balance

7. Immunology.

8. Genetics:

Introduction to genetics

Cloning & gene therapy

Common genetic diseases

9. Pharmacotherapeutics.

10. Emergency medicine:

Training on medical emergencies:

Acute poisoning
Acute ischemic syndromes
Arrhythmias
Acute pulmonary edema
Acute dyspnea
Pneumothorax
Pulmonary embolism
Asthma
Respiratory failure
Stroke and metabolic encephalopathy
Diabetic ketoacidosis and hypoglycemia
Addison's disease

Tetany and calcium Hemostasis
Upper and lower Gastrointestinal bleeding
Apnea
Cardio respiratory monitoring
Basic & advanced cardiac life support
Acute renal failure
Coma &disorders of consciousness& Shock
Systemic inflammatory response syndrome and multi-organ failure

11. Geriatric medicine:

Theories of aging

Physiological changes of aging

Common problem in elderly

12. General medicine.

Chronic pain syndromes and suspected narcotic-seeking

Appropriate discharge: geriatric and non-geriatric home safety assessment, post-discharge arrangements and their indications

Inpatient diabetes management (modifying home meds, etc), management of DKA (including cause workup; indications for ICU transfer, common pitfalls/mistakes)

Management of hypertensive urgency and emergency (with indications for ICU transfer), hyper/hyponatremia (most common causes, corrective management with indications for levels of aggresiveness)
Approach to AMS (delirium and obtundation) including indications for CT and for ICU transfer

Workup of syncope, indications for brief vs. expanded workup
Management of asthma and COPD exacerbations (including indications for ICU transfer)
Preop evaluation, risk stratification and medical optimization

Approach to new fever in an inpatient

13. Clinical medicine.

B- Medicine Specialities Topics

1. Cardiology:

- Rheumatic Fever
- Infective endocarditis

- Ischemic Heart disease
- Hypertension
- Core pulmonale
- Pulmonary embolism
- Arrhythmia
- Heart Failure
- Pericarditis
- Cardiomyopathy
- Congenital Heart Diseases
- Cardiovascular drugs
- Large vessel disease

2. Neurology:

- Cerebral atherosclerosis
- Cerebrovascular accidents and stroke
- Hemiplegia
- Paraplegia
- Peripheral Neuropathies
- Ataxia
- Extra pyramidal syndromes
- Neurologic bladder disorders
- Speech abnormalities
- Epilepsy and convulsive disorders
- Space occupying lesions
- Disease of muscles and Neuro-muscular Junction
- Dementia
- Meningitis and encephalitis

3. Medical Psychology & medical Sociology:

- Main groups of Psychotropic medications

- Organic mental disorders
- Mood disorders
- Schizophrenia
- Neurotic ,stress related and somatoform disorders
- Sexual dysfunction not caused by organic disorder or disease
- Eating disorders

4. Diseases of the Chest:

- Obstructive airway diseases
- Respiratory infections and Pneumonias
- Suppurative Lung syndromes
- Tuberculosis
- Interstitial lung diseases
- Respiratory failure
- Occupational lung diseases
- Bronchogenic carcinoma
- Mediastinal Syndrome
- Disorders of the chest wall and pleura
- Lung Cysts

5. Tropical Medicine:

- Fever
- Enteric fevers
- Brucellosis
- Meningitis
- Schistosomiasis
- Tuberculosis
- Amoebiasis
- Malaria
- Lishmaniasis

- Filariasis
- HIV
- Pyrexia of undetermined etiology
- Cholera and Tetanus
- Antibiotics
- Viral infections and anti-viral drugs
- Vaccinations

6. Dermatology & Venereology.

C- Clinical Training course

1. (10 weeks) in internal medicine.

2. (12 weeks) in medicine specialties.

1. Gastroenterology cases :

- Jaundice
- Cirrhosis
- Portal Hypertension
- Ascites and Peritoneal disease
- Hepatic Failure

2. Nephrology cases :

- Chronic renal failure
- Nephrotic syndrome
- Diabetic Nephropathy

3. Endocrinology cases :

- Diabetes
- Cushing syndrome
- Goiter
- Thyrotoxicosis
- Myxedema

- Acromegaly and other pituitary tumors
- Vitamin deficiencies
- Obesity

4. Hematology cases :

- Anemia
- Lymphadenopathy
- Bleeding disorders
- Leukemia

5. Rheumatology cases :

- Joint examination
- Rheumatoid arthritis
- Systemic lupus erythematosis
- Osteoarthritis
- Osteoporosis

6. Cardiac cases :

- Valvular heart diseases
- Ischemic heart diseases
- Core pulmonale
- Pericardial effusions
- Arrhythmias

7. Chest cases :

- Asthma
- COPD
- Suppurative syndromes
- Emphysema
- Pleural diseases
- Interstitial lung diseases

8. Neurological system cases :

- Stroke
- Hemiplegia
- Paraplegia
- Extra pyramidal syndromes
- Peripheral Neuropathies and radiculopathies

9. Tropical Medicine cases :

- Enteric Fevers
- Shistosomiasis
- Amoebiasis

D- Practical Training course

1. Radiology :

- Interpretation of conventional x-rays
- CT scans

2. ECG Interperitation.

3. Imaging in Cardiology

4. Pulmonary Function tests

5. Imaging in Neurology

6. Hemodialysis

7. Peritoneal dialysis

8. Central venous catheterization

9. Imaging in Hepato-biliary diseases

10. Gastro-intestinal endoscope

Attendance and making a short reportabout:

- 5 different cases from Outpatient Clinic
- 5 different cases from the Emergency Room (ER)

- 5 different cases from the Intensive Care Unit (ICU)
- 2 different cases from Special Unites (S.U), (Endoscope, Haemodialysis & Ultrasound)

Observation of at least 5 bedside procedures in the internal medicine wards:,

e.g., ECG making, paracentesis, IV line and cannulation, upper GIT tubes (ryle & sungestaken) blood sampling, enema, catheterization, etc.

Pediatrics

Total teaching hours: - Lectures: 128 - Practical& Clinical: 176- Total: 304

(one hour =60 min)

Course contents:

Topic	Lecture hours	Practical& Clinical hours
1- Growth and Development	7	9
2- Nutrition and Infant Feeding	9	11
3- Perinatology/Neonatology	9	11
4- Social and Preventive Pediatrics	3	8
5- Genetics and Dysmorphology	20	20
6 Nephrology	5	7
7- Cardiovascular System	7	10
8 Respiratory System	7	10
9- Hematology/Oncology	10	10
10- Infectious and Parasitic Diseases	13	13
11- Endocrinology and Metabolism	8	6
12- Neuromuscular Disorders	8	11
13- Gastroenterology and Hepatology	8	10
14 - Pediatric Emergencies	10	20

Topic	Lecture hours	Practical& Clinical hours
15 - Behavioral Pediatrics	4	20
Total	128	176
	Total = 304 hours	

Details of the course:

A- Theoretical Course:

1. GROWTH & DEVELOPMENT

- Normal patterns of growth and development and factorsaffecting them.
- Normal developmental milestones.
- Abnormal patterns of growth and development and causativefactors.
- Instruments of anthropometric measurement and theirapplication including body-mass index (BMI), normal andabnormal.
- Tools of developmental evaluation in infancy, childhood, andadolescence.

2. NUTRITION & INFANT FEEDING

*** Nutritional counseling of families regarding:**

- Breastfeeding
- Complementary feeding
- Appropriate balance of food groups qualitatively andquantitatively in the diet.
- Basic vitamin groups and their common dietary sources.
- Dietetic history that includes the types, amount, and frequencyof milk feeds, solid foods and dietary supplements.
- Infant weaning.

*** Protein energy malnutrition syndromes.**

*** Common vitamins and mineral deficiencies.**

*** Nutritional risk factors for cardiac disease and diabetes.**

* Nutritional assessment in children beyond infancy in situations when growth is inadequate or excessive or when family riskfactors suggest the possibility that nutritional modification willbe needed.

3. PERINATOLOGY & NEONATOLOGY

- Obstetrical and neonatal risk factors.
- Care of the normal newborn.
- Neonatal resuscitation.
- Growth patterns and nutrition of the newborn.
- Neonatal mortality.
- Common neonatal problems:
  - Prematurity and low birth weight.
  - Birth injuries.
  - Respiratory disorders.
  - Hyper-bilirubinemia.
  - Sepsis.
  - Neurological disorders.
  - Cardiovascular disorders.
  - Hematological disorders.
  - Metabolic disorders.
  - Surgical emergencies.

4. SOCIAL & PREVENTIVE PEDIATRICS

- Pattern of morbidity and mortality in the society.
- Integrated Management of Childhood Illness (IMCI) and its rolein preventive and social aspects of pediatrics.
- Immunization program & injury prevention.
- Common teratogenic agents and their effect on child health .

5. GENETICS & DYSMORPHOLOGY

- Basic mechanism of Mendelian inheritance, multifactorial inheritance, and the “carrier” state.
- History taking and examination skills relevant to genetic anddysmorphologic disorders.

- Causes of malformation and genetic disorders and basicknowledge of the appropriate diagnostic tests and clinicalcourse for common disorders.
- Antenatal diagnosis and newborn screening programs.
- Common chromosomal syndromes (Down Syndrome).

6. NEPHROLOGY

- Common symptoms of renal and urinary tract disorders.
- Developmental renal and urinary tract disorders.
- Acquired glomerular diseases (nephrosis, nephritis, acute andchronic renal failure).
- Urinary tract infections.

7. CARDIOVASCULAR SYSTEM

- Hemodynamics of the normal heart.
- Rheumatic fever and rheumatic heart disease.
- Pathophysiology of the more common congenital heart defects(ASD, VSD, PDA, PS, and Fallot's tetralogy).
- Indications, and hazards of various types of cardiovascularinvestigations.
- Basic mechanisms of heart failure and the principles of itsmanagement in the pediatric patient.

8. RESPIRATORY SYSTEM

- Rhinitis, pharyngitis, tonsillitis, adenoiditis, and otitis media.
- Laryngitis, epiglottitis, and tracheitis.
- Bronchitis, bronchiolitis, and bronchiectasis.
- Acute pneumonia.
- Wheezy chest and bronchial asthma.
- Pleural effusion, pneumothorax.
- Foreign body inhalation.

9. HEMATOLOGY / ONCOLOGY

- Normal hematopoiesis.

- Normal hemostasis.
- Common anemias.
- Bleeding and coagulation disorders.
- Common pediatric malignancies.

10. INFECTION & PARASITIC INFECTION

- Common exanthemata: measles, German measles, roseolainfantum, fifth disease, scarlet fever, varicella-zoster, etc.
- Common enanthemata (e.g., oral moniliasis, herpeticstomatitis).
- Diphtheria, tetanus, pertussis, mumps and hemophilus.
- GIT and hepatic infections (e.g., salmonellosis, shigellosis,hepatitis).
- Common parasitic infestations: schistosomiasis, malaria,amebiasis, giardiasis.
- CNS infections: meningitis, encephalitis , tuberculosis , septic shock.
- Fever of unknown etiology.

11. ENDOCRINOLOGY & METABOLISM

- Short stature.
- Inborn errors of Metabolism.
- Diabetes mellitus.
- Thyroid disease (congenital and acquired).

12. NEUROMUSCULAR DISORDERS

- Normal milestones of development.

o Microcephaly & Hydrocephalus.

o Floppy infants.

o Mental retardation.

o Cerebral palsy.

o Seizure syndromes.

- Hereditary myopathies (muscle dystrophy).
- Anticonvulsant drugs.

13. GASTROENTEROLOGY

- Acute GE, chronic and persistent diarrhea.
- Dehydration.
- Vomiting.
- Abdominal pain.
- Ascitis.
- Hepatomegaly/splenomegaly.
- Jaundice .

14. PEDIATRIC EMERGENCIES

- CPR.
- Shock.
- Seizures.
- Coma.
- Airway obstruction.
- RD/Apnea.
- Metabolic emergency.
- Drowning and near drowning.

15. BEHAVIORAL PEDIATRICS

- Genetic and environmental influences on behavior.
- Age-appropriate behavioral concerns during the health caresupervision visit.
- Counseling the parents and children on management ofcommon behavioral such as discipline, toilet training (enuresis,encopresis) and eating disorders.

B- Clinical Training Course :

- History taking
- General Examination
- Clinical Cases:

1. NUTRITION

- PEM.
- Rickets.

2. GENETIC

- Trisomy 21.
- Mental retardation.

3. NEONATOLOGY

- Preterm.
- Jaundice.

4. RESPIRATORY

- Bronchial asthma.
- Acute bronchiolitis.
- Pneumonias.
- Pleural effusion.

5. CARDIOVASCULAR & RHEUMATOLOGY

- Acute rheumatic fever.
- Rheumatoid arthritis.
- Rheumatic heart disease (mitral regurge, mitral stenosis).
- Congenital heart disease (VSD, Fallot tetralogy).

6. NEUROLOGY

- Cerebral palsy.
- Convulsions.
- Hydrocephalus.
- Duchene-muscular dystrophy.

7. NEPHROLOGY

- AGN.
- NS.

8. GIT

- Gastroenteritis.
- Dehydration.
- Hepatosplenomegaly.

9. HEMATOLOGY

1. Anaemias.
2. Purpura.
3. Leukemia (All).

10. ENDOCRINOLOGY

1. Short stature.
2. Hypothyroidism.
3. Diabetes mellitus.

Physical signs (OSCE):

1. NEONATOLOGY

- Neonatal resuscitation (model).
- Moro reflex.

2. CARDIOVASCULAR

- Pulse.
- ABP.
- Neck veins.
- Apex beats.
- Pulmonary area pulsations.
- Epigastric pulsations.
- Percussion of the heart.

3. CHEST

- Percussion of the chest.

4. ABDOMEN

- Liver.
- Spleen.
- Ascites.

5. CNS

- Knee jerk.
- Planter reflex.
- Signs of meningeal irritation.

6. NEPHROLOGY

- Palpation of kidneys.
- Oedema.

7. NUTRITION

- Head circumference.
- Anterior frontanelle.

C- Practical Training Course :

Clinical course activities :

1. The student should ; Present (5 cases & one talk): one talk of 10 – 15 min. on a common symptom, sign or differential diagnosis e.g., dyspnea, cyanosis, clubbing, edema , jaundice, etc…..
2. Write (an essay) about 10 pages on one common medical subject e.g., bleeding tendency, hemolytic anemia, purpura, lymphomas etc…..
3. Make Interperetation of conventional X-rays.

Attend (at O.C , ER, ICU.)and make a short reportabout:

- 5 different cases from Outpatient Clinic
- 5 different cases from the Emergency Room (ER)
- 5 different cases from the Intensive Care Unit (ICU)
- 2 different cases from the Neonatal Intensive Care Unite (ICU)

M.B.B.Ch.Program & course specifications

Total teaching hours: - Lectures: 30 - Practical :51& Field training: 9

- Total: 90 (one hour =60 min)

Course contents:

Weeks	topic	No of hours		lecturer
		Theoretical	Practical/round	
1st week	H1N1	1	-----	
2nd week	Review (fourth year curriculum)	1	3	
3rd week	Evidence based Medicine	1	2	
4th week	Problem solving	1	3	
5th week	Primary health care for neonate in family practice	1	3	
6th week	Primary health care for children in family practice	1	4	
7th week	Primary health care for adolescent in family practice	1	4	
8th week	Fatigue in adult patient	1	3	
9th week	Primary health care for common respiratory tract diseases in family practice	1	2	
10th week	Adult care in family practice(common GIT problems)	1	2	
11th week	Adult care in family practice(common GIT problems)	1	2	
12th weeks	Adult care in family practice(liver diseases)	1	2	
13th week	Adult care in family practice (parasitic infestation)	1	2	
14th week	Adult care in family practice (HIV&AIDS)	1	2	
15th week	Adult care in family practice (HIV&AIDS)	1	2	
16th week	Common joint and musculoskeletal diseases in family practice	1	--------	
17th	Common joint and	1	----------	

M.B.B.Ch.Program & course specifications

Weeks	topic	No of hours		lecturer
		Theoretical	Practical/round	
week	musculoskeletal diseases in family practice			
18th week	Role of family physician in management of chronic disease (hypertension)	1	2	
19th week	Role of family physician in management of chronic disease (hypertension	1	---------	
20th week	Role of family physician in management of chronic disease (Diabetes mellitus)	1	2	
21th week	Role of family physician in management of chronic disease (Diabetes mellitus)	1	2	
22 week	Role of family physician in management of chronic disease (Rheumatic fever)	1	2	
23 week	Role of family physician in management of chronic disease (Mental health)	1	2	
24week	Role of family physician in management of chronic disease (chest pain)	1	2	
25 week	Integrated seminar (Acute chest pain)	1	2	
26 week	Integrated seminar with internal medicine department	1	2	
27 week	Integrated seminar with internal medicine department	1	------	
28 week	Integrated seminar with paediatric medicine department	1	------	
29 week	Integrated seminar with paediatric medicine department	1	4	
30 week	Integrated seminar with paediatric medicine department & psychiatric department	1	4	

M.B.B.Ch.Program & course specifications

General Surgery &Specialities

Total teaching hours: - Lectures: 316 - Practical & Clinical: 370 - Total: 686

(one hour =60 min)

Course contents:

1- General Surgery:

Subject	Lectures (hours)	Practical& Clinical (hours)	Total (hours)
1. Introduction to surgery	20	---	20
2. Plastic surgery and Burns& Maxillofacial surgery	20	20	40
3. Vascular surgery	20	10	30
4. Endocrine surgery	10	---	10
5. Breast surgery	20	10	30
6. GIT & Abdominal wall surgery	60	20	80
Total	**150**	**60**	**210**

2- Surgery Specialities:

Subject	Lectures (hours)	Practical & Clinical (hours)	Total (hours)
1. Urology	20	55	75
2. Orthopaedic surgery	20	55	75
3. Neurosurgery	6	25	31
4. Cardiothoracic surgery	10	30	40
5. Anaesthesiology	30	50	80
6. Paediatric surgery	20	40	60
7. Imaging Procedures, Radiotherapy, Radioprotection	30	40	70
8. Palliative Care	20		20
9. Rehabilitation, Physical Therapy, Natural Remedies	10	15	25
Total	**166**	**310**	**476**

A- General Surgery Topics

Introduction to surgery:

- Wounds, wound healing and wound management.
- Surgical infections and nosocomial infection and their management.
- Management of the severity injured and critically ill patient including metabolic response to trauma.
- Preoperative assessment and postoperative complications of the surgical patients.
- Hemorrhage, hemorrhagic disorders and blood transfusion.
- Fluids, electrolytes and acid-base balance.
- Shock.
- Burns.
- Nutrition in surgery.
- Tumor biology and management.
- Organ transplantation.
- Medical problems in the surgical patient including metabolic disorders.
- Lymph node diseases.

Plastic surgery and Burns& Maxillofacial surgery:

- Principles of (grafts, flaps, repair of tissue defects and craniomaxillofacial surgery).
- Face, lips, and palate.
- Surgery of nerves.
- Disorders of muscles, tendons and fascia.
- Hand infection and hand injuries.
- Burn management.
- Breast reconstruction.

Vascular surgery:

- Arterial system (injuries; acute ischemia; occlusive arterial disease includes aneurysms; arteriovenous malformation; vasculitis).
- Venous system (V.V and venous thrombo-embolism, CVI).
- Lymphatic system: lymphangitis, lymphatic obstruction and lymphoedema, lymphatic malformation.

Endocrine surgery:

- Thyroid, parathyroid and adrenal glands.

Breast surgery.

- Congenital , traumatic , inflammatory diseases of the breast.
- Breast tumors ; benign & malignancy

- Principles of breast surgery.

GIT &abdominal wall surgery:

- Abdominal trauma.
- Abdominal wall hernia.
- Endoscopic and laparoscopic surgery.
- Acute abdomen.
- Esophagus.
- Stomach and duodenum.
- Liver.
- Portal hypertension.
- Biliary system.
- Pancreas.
- Spleen.
- Small intestine.
- Larger intestine.
- Appendix.
- Peritoneum, mesentery and omentum.
- Diaphragmatic hernia.
- Obesity & bariatric surgery.

B- Surgery Specialities Topics

UROLOGY:

- Anatomy and embriology.
- Symptomatology & physical examination.
- Investigations of urinary tract.
- Congenital anomalies.
- Trauma to urinary tract.
- Urinary tract infections.
- Inguinoscrotal swellings.
- Varicocele and male infertility.
- BPH.
- Obstructive uropathy.
- Stone disease.
- Urogenital neoplasms.
- Voiding disorders.
- Pediatric urology.
- Parasitic infection.
- Eectile dysfunction.
- Endourology.

- Infertility.

ORTHOPEDIC SURGERY:

- Infection.
- Bone tumors.
- Deformities.
- Arthritis.
- Perth`s disease.
- CDH.
- Knee.
- Flat foot.
- TEV.
- Recurrent dislocation of shoulder.
- Supraspinatus tendonitis.
- Tennis elbow.
- Tenosynovitis, trigger finger, ganglion (wrist & hand).
- CTS (wrist & hand).
- Scoliosis, kyphosis, lordosis.
- Infection of the spine.
- Tumors of the spine.
- trauma surgery including:
- General principle of bone fractures.
- Neurovascular injuries and acute ischemia.
- Open fractures.
- Complications of fractures (local& systemic).
- Shoulder, arm, elbow injuries.
- Forearm, wrist injuries.
- Hand injuries.
- Pelvic injuries.
- Fractures around hip joint.
- Femoral fractures.
- Knee injuries.
- Leg injuries.
- Ankle and foot injuries.
- Spinal fractures.
- Fractures in children.
- Basic principles of internal fixation.

Neurosurgery:

- Injuries of peripheral nerves.
- Autonomic nervous system.

- Nerve tumors.
- Congenital anomalies of the skull.
- Fracture of the skull.
- Intracranial injuries.
- Hydrocephalus.
- Brain abscess.
- Intracranial tumors.

Cardiothoracic surgery:

- Chest trauma.
- Empyema.
- Bronchogenic carcinoma.
- Principles of cardiac surgery.
- Valve surgery.
- Surgery of congenital heart disease.
- Surgery of pulmonary T.B.
- Surgery of suppurative lung disease.
- Surgery of mediastinal disease.
- Surgey of ischemic heart disease.
- Pleural disease

Anaesthesiology:

- Preopereative assessment & premedication.
- I.V anesthesia.
- Inhalational anesthesia.
- Muscle relaxants.
- Endotracheal intubation.
- Local anesthesia, spinal, epidural.
- Fluid therapy.
- Shock.
- Blood transfusion.
- Cardiac arrest.
- Postoperative pain relief.

Paediatric surgery:

- Principles of paediatric surgery and common GIT congenital anomalies.

Imaging Procedures, Radiotherapy, Radioprotection:

- Ionizing & Non-Ionizing Radiation
- Health Effects
- Radiation Protection Basics

- Radiation Doses in Perspective
- Other Topics
- Protecting People and the Environment
- Managing Radioactive Materials Waste
- Responding to Radiological Emergencies
- Cleaning up Radioactive Site
- Smoke Detectors
- Food Irradiation
- Mail Irradiation
- Tobacco Smoke

Palliative Care:

- Ethical Aspects of End of Life Care
- Hope and Breaking Bad News
- Prognosis
- Pain Assessment and Etiology
- Basic and Advanced Pain Management
- Gastrointestinal Issues
- Neurological Issues
- Respiratory Issues
- Using a Palliative Approach in Non-cancer Illness
- Sexuality and Intimacy Issues
- Team Issues
- Pediatric Care
- Spiritual Care
- Care Through Death
- Grief and Bereavement

Rehabilitation, Physical Therapy, Natural Remedies:

1. Pathophysiology
2. Neurophysiology
3. Assessment Procedures
4. Overview of Rehabilitation Diagnoses
5. Neuroanatomy
6. Exercise Physiology
7. Therapeutic Exercise Procedures
8. Management of Musculoskeletal Disorders
9. Neuro-rehabilitation
10. Physical Therapy Administration

11. Rehabilitation Psychology
12. Biomechanics of Exercise

C- List of Clinical Cases studied in Practical section

1. History taking and clinical examination.
2. Clinical diagnosis of swelling and tumors.
3. Common conditions like: cellulitis, abscess, lipomas etc.
4. Ulcers, sinuses, fistulae.
5. Lesions of the head, scalp, skull, face, lips, tongue, palate, cheek, jaw, and floor of the mouth.
6. Parotid swellings.
7. Swellings at the side, in the medline, and in the submandibular regions of the neck.
8. Thyroid lesions including physiological, nodular, toxic, malignant, and its lesions.
9. Breast lesions including; lumps, pain, nipple discharge.
10. Axillary swellings.
11. Clinical diagnosis of acute abdomen.
12. Abdominal swellings including; organomegally and swellings in different quadrants.
13. Abdominal pain and dyspepsia.
14. Dysphagia.
15. Haematemesis.
16. Jaundice of surgical importance.
17. Hepatomegally.
18. Splenomegally.
19. History taking in anal and rectal disease.
20. Clinical diagnosis of hernia cases: inguinal, femoral and umblical.
21. Scrotal and inguinoscrotal swellings.
22. History taking and examination of urological cases.
23. Peripheral ischemia.
24. Gangrene.
25. Varicose veins.
26. Peripheral nerve injuries.
27. Oedema of limbs.
28. A swelling in the ends and shaft of long bones.
29. A swelling in popliteal fossa.
30. Joint disease.
31. Diseases of the spine.

D- List of Jars studied in Practical section

1- GIT Jars:

- Carcinoma of the stomach.
- Colon polyps.
- Carcinoma of the rectum.

- Carcinoma of the ceacum.
- Intussusception.
- Multiple polyposis of the colon.
- Acute appendicitis.
- Typhoid ulcer of the colon.

2- Hepatobiliary:

- Chronic calcular cholecystitis.
- Multiple liver metastasis.
- Chronic calcular cholecystitis with a solitary cholesterol stone.

3- Urology:

- Hydronephrosis due to pelvi-ureteric junction (PUJ) obstruction.
- Hydroureter and hydronephrosis.
- Renal cell carcinoma (hypernephroma).
- Renal tuberculosis.
- Cancer of urinary bladder with back perssure effects (bilateral hydroureter).
- Polycystic kidney.
- Seminoma of the testis.
- Testicular tumors.

4- Spleen:

- splenic injury.
- Splenomegally.
- Splenic focal lesion.
- Multiple focal lesions of the spleen.

5- Breast:

Breast cancer (modified radical mastectomy).

6- Head & Neck:

- Solitary thyroid nodule.
- Multinodular goitre.
- Total thyroidectomy.
- Lymph node excisional biopsy.
- Oesophageal atresia.
- Epithelioma of the scalp.

E- List of Surgical Anatomy Topics

- The scalp.
- The thyroid.
- The parotid gland.

- The breast.
- Axillary and brachial arteries.
- Radial, median and ulnar nerves.
- Abdominal wall.
- The inguinal canal.
- The stomach.
- The rectum and anal canal.
- The liver.
- The spleen.
- The kidneys.
- The ureters and urinary bladder.
- Femoral and popliteal arteries.
- Long and short saphenous veins.
- Sciatic, medial and lateral popliteal nerves.
- Muscles: sternomastoid, deltoid, pectoralis major, latisssimus dorsi, rectus abdominis, quadriceps, psoas major, scalenie muscles, gluteus maximus, diaphragm.

F- List of Operative Procedures

- Principles of coverage of skin defects.
- Management of compound depressed fracture of the skull.
- Indications and principles of surgical interference in head injuries.
- Thyroidectomy.
- Principles of management of hyperthyroidism.
- Principles of management of carcinoma of the thyroid gland.
- Management of cold abscess in the neck.
- Hand infections.
- Management of fracture clavicle.
- Management of a sucking wound in the chest.
- Management of hemothorax.
- Management of pneumothorax.
- Acute lactational mastitis and breast abscess.
- Principles of management of carcinoma of the breast.
- Hernia operations.
- Management of inguinal hernia (technique).
- Management of strangulated inguinal hernia.
- Surgical management of hydrocele.
- Varicocelectomy.
- Appendectomy.
- Management of a stab wound in the right hypochondrium.
- Management of rupture spleen.
- Principles of management of adhesive intestinal obstruction.

- Management of bleeding esophageal varices.
- Management of bleeding peptic ulcer.
- Management of perforated duodenal ulcer.
- Management of infantile ileocecal intussusception.
- Principles of management of hemorrhoids.
- Management of acute anal fissure.
- Management of a stone in the left kidney.
- Exposure of the ureter.
- Management of stone ureter.
- Acute urinary tract infection: causes and treatment.
- Male circumcision.
- Management of fracture shaft femur.
- Management of fracture neck femur.
- Principles of management of arterial injuries.
- Above knee amputation.

G- List of Surgical Anatomy Topics

a) IV, IM and SC injection.
b) Insertion of IV canula.
c) Insertion of urinary catheter.
d) PR/PV examination.
e) Insertion of nasogastric tube.
f) Simple skin suturing.

Gynaecology&Obstetrics

Total teaching hours: - Lectures: 108 - Practical& Clinical: 180 - Total: 288

(one hour =60 min)

Course contents:

A- Obstetric Topics

Obstetric Topics	Lecture	Practical
Part (1) Normal pregnancy		
1. Reproductive biology	**2**	**---**
2. Physiological changes during pregnancy	**1**	**2**
3. Diagnosis of pregnancy	**1**	**2**
4. Antenatal care	**1**	**2**
Part (2) Abnormal pregnancy		

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Obstetric Topics	Lecture	Practical
1.Hemorrhage in early pregnancy 2. Abortion 3. Ectopic pregnancy 4. Molar pregnancy	4	2
1.Hemorrhage in late pregnancy 2. Classifications of Antepartum hemorrhage 3. Placenta previa 4. Abruptio placenta	3	2
Part (3) Medical disorders with pregnancy		
1. Vomiting with pregnancy	1	2
2. Hypertensive disorders in pregnancy	1	2
3. Heart disease in pregnancy	1	2
4. Anemia in pregnancy	1	2
5. Diabetes mellitus in pregnancy	1	2
6. Urinary tract infections & pyelitis with pregnancy	1	2
7. Infectious disease in pregnancy	1	2
8. Polyhydramnios and oligohydramnios	1	2
9.Miscellaneous disorders with pregnancy a. Pendulous abdomen b. Gynecologic tumors with pregnancy c. Abdominal pain during pregnancy d. Elderly primigravida e. Grand multipara	1	2
10. High-risk pregnancy	1	2
Part (4) Normal labor		
1. Components of labor a. Passages (Female pelvis) b. Passengers (Fetal skull and the fetus)	1	2
2. Mechanism and physiology of uterine Contraction	1	2
3. Management of normal labor 4. Newborn baby	1	2
5. Obstetric analgesia and anesthesia	1	2
Part (5) Abnormal labor		
1. Malposition and malpresentation	4	12

Obstetric Topics	Lecture	Practical
• Occipito-posterior position • Face presentation • Brow presentation • Complex presentation • Breech presentation • Shoulder presentation • Unstable lie and shoulder dystocia • Cord presentation and prolapsed		
2. Multiple (Multi-fetal) pregnancy	1	2
3. Abnormal uterine action	1	2
4. Obstructed labor including Contracted pelvis	1	2
5. Obstetric genital tract injuries • Uterine rupture • Cervical lacerations • Vaginal lacerations • Perineal lacerations • Genital tract haematomas	2	2
6. Postpartum hemorrhage and obstetric shock	1	2
7. Other complications of the third-stage of labor • Retained placenta • 2. Acute uterine inversion	1	2
8. Acquired coagulation defects in obstetrics	1	2
Part (6) Normal puerperium		
1. Normal puerperium 2. Postnatal examination	1	2
Part (7) Abnormal puerperium		
1. Puerperal pyrexia 2. Puerperal sepsis	1	2
Part (8) The Fetus and Newborn baby		
1. Assessment of fetal growth, maturity and well being	2	2
2. Neonatal jaundice and Rh isoimmunisation	1	2
3. Placental insufficiency: fetal growth retardation and macrosomia **4**. Intra-uterine Fetal death	1	2

Obstetric Topics	Lecture	Practical
5. Fetal asphyxia	1	2
6. Respiratory distress syndrome	1	2
7. Injuries of the newly born infants	1	2
8. Pre-term labor **9**. Premature rupture of membranes	1	2
10. Post-maturity and post-maturity syndrome **11.** Congenital anomalies and Prenatal diagnosis of congenital defects	1	1
Part (9) Operative obstetrics		
a. Therapeutic abortion and induction of abortion b. Induction of labor	1	2
c. Forceps delivery in modern obstetrics d. Vacuum extraction	1	1
e. Episiotomy f. Cesarean section	1	1
Part (10) Appendages		
1.Uterine relaxants (Tocolytics) 2. Uterine stimulants (Ecbolics and oxytoxics) 3. Maternal and perinatal mortality	1	1
Total	54	90

B- Gynaecology Topics

Gynaecology Topics	Lecture	Practical
Part (1) Anatomy of the female genital tract		
1. External genitalia	1	2
2. Internal genitalia	1	2
3. Female pelvic structures and its blood supply	1	2
Part (2) Embryology and Genetics		
1. Development of the female genital organs	1	---
2. Congenital abnormalities of the genital tract	1	---
3. Basic genetics for gynecologist	1	---
Part (3) Physiology of menstruation		
1.Hormonal control, ovarian cycle and menstrual	1	---

Gynaecology Topics	Lecture	Practical
cycle		
2. Puberty 3. Menopause	1	2
Part (4) Disorders of menstruation		
1. Dysmenorrhea 2. Premenstrual tension syndrome	1	2
3. Amenorrhea	1	2
4. Abnormal menstruation and bleeding: a. Oligomenorrhea b. Hypomenorrliea c. Menorrhagia d. Polymenorrhea e. Metrorrhagia f. Dysfunctional uterine bleeding g. Post menopausal bleeding h. Prepubertal bleeding	1	2
Part (5) Infertility and sexuality		
1. Anovulation, PCO and induction of ovulation	1	2
2. Cervical factors of infertility **3.** Uterine factors of infertility **4.** Tubal factors of infertility	1	2
5. Vaginal factors of infertility **6.** Male factors of infertility **7.** Unexplained infertility	1	2
8. Hirsutism	1	2
9. Female sexuality and sexual dysfunction	1	2
Part (6) Contraception		
1. Physiological methods of contraception 2. Mechanical methods of contraception 3. Chemical contraceptives (spermicides)	1	2
4. Intrauterine contraceptive devices	1	2
5. Hormonal contraceptives	1	3
6. Sterilization	1	3
7. Post coital contraception	1	3

Gynaecology Topics	Lecture	Practical
8. Contraception for newly married couples		
Part (7) Genital infections		
1. Sexually transmitted diseases	**1**	**3**
2. Vulvitis 3. Pruritus vulvae 4. Vulval swellings	**1**	**3**
5. Vaginitis 6. Leucorrhea	**1**	**3**
7. Cervicitis	**1**	**3**
8. Salpingitis	**1**	**3**
9. Genital tuberculosis 10. Billiarziasis of female octal tract	**1**	**3**
Part (8) Genital displacements		
1. Genital prolapse	**1**	**3**
2. Retroverted retroflexed uterus (R.V.F) 3. Chronic inversion of the uterus	**1**	**3**
Part (9) Pelvic injuries & disturbances of micturition		
1. Genito-urinary fistula	**1**	**3**
2. Stress incontinence **3.** Causes of frequency of micturation **4.** Causes of retention of urine	**2**	**2**
5. Old complete perineal tear **6.** Recto-vaginal fistula	**2**	**2**
Part (10) Endometriosis	**2**	**2**
Part (11) Gynecologic oncology		
1.Tumors of the vulva 2. Tumors of the vagina	**2**	**2**
3. Tumors of the cervix	**2**	**2**
4. Tumors of the body of the uterus a. Uterine fibroid b. Endometrial carcinoma c. Choriocarcinoma	**2**	**4**
5. Tumors of the ovary	**2**	**3**
Part (12) Differential diagnosis in gynecology		

Gynaecology Topics	Lecture	Practical
1. Causes of pelvi-abdominal swelling. 2.Causes of a mass felt in pouch of Douglas 3.Causes of abdominal pain in gynecology 4.Causes of low backache	2	2
Part (13) Gynecological therapy & diagnosis		
1. Radiotherapy and chemotherapy in gynecology	2	1
2.Hormone therapy in gynecology 3. Toxic shock syndrome	2	2
Part (14) Gynecological operations		
a. Dilatation & curettage b. Hysterectomy	2	2
c. Laparoscopy and other endoscopy	2	2
Total Hours	**54**	**90**

C- List of INSTRUMENTS

Gynaecology :

- **Uterine curettes (types).**
- **Uterine sound.**
- **Cervical dilators (types).**
- **Cervical biopsy punch forceps.**
- **Sharman's (Novak's) endometrial biopsy curette.**
- **Pipell endometrial sampling device.**
- **Volsellum forceps (types).**
- **Vaginal specula (types).**
- **Vaginal retractors (types).**
- **Self retaining abdominal retractors (types).**
- **Trocar and cannula for laparoscopy.**
- **Uterine holding forceps.**
- **Female metal catheter.**
- **Cannula for HSG (types).**
- **Trocar , cannula and Verres needle for laparoscopy.**
- **Kochers and clamps (types).**
- **Bonney's myomectomy clamp.**
- **Doyen's myoma screw.**
- **Female metal catheter.**
- **Ayre's spatula.**

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Obstetrics :

1. Obstetric forceps (types).
2. Vacuum extractor.
3. Ovum forceps.
4. Ring forceps.
5. Bozemann's dressing forceps
6. Suction curette.
7. Green Armytage' s hemostasis forceps.
8. Pinard's fetal stethoscope.
9. Doyen's retractor.
10. Amniotomy hook.
11. Meltal mucus catheter.

D- OTHERS

1. Jars.
2. X-rays.
3. Contraceptive methods.
4. Equipments: Doppler, CTG, Ultrasound.

FAMILY MEDICINE III

Total teaching hours: - Lectures: 30 – Practical :57 & Field training: 3

- Total: 90 (one hour =60 min)

Course contents:

Weeks	topic	No of hours		lecturer
		Theoretical	Practical/round	
1st week	Low back pain	1	2	
2nd week	Neck pain	1	4	
3rd week	carpal tunnel syndrome	1	2	
4th week	Haematuria	1	1	
5th week	Incontinence	1	1	

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Weeks	topic	No of hours		lecturer
		Theoretical	Practical/round	
6th week	Urinary tract infection	1	2	
7th week	Acute abdominal pain	1	2	
8th week	women health	1	2	
9th week	contraception	1	2	
10th week	Ante-natal care	1	2	
11th week	Natal and postnatal care	1	2	
12th weeks	Diabetes in pregnancy	1	2	
13th week	Rheumatic heart disease in pregranancy	1	2	
14th week	hypertension in pregnancy	1	2	
15th week	iron deficiency anaemia in pregnancy	1	2	
16th week	menstrual irregularity	1	2	
17th week	vaginal discharge	1	2	
18th week	oedema	1	2	
19th week	premenstrual care of adolescent	1	2	
20th week	acute appendicitis	1	2	
21th week	high risk pregnancy	1	2	
22 week	menopausal syndrome	1	1	
23 week	osteoporosis	1	2	
24week	breast health	1	2	
25 week	pelvic inflammatory diseases	1	3	
26 week	cardiopulmonary resuscitation	1	2	
27 week	dysuria	1	2	

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Weeks	topic	No of hours		lecturer
		Theoretical	Practical/round	
28 week	stress fracture	1	2	
29 week	enuresis	1	2	
30 week	revision	1	2	

Pre-Registration House Officer (PRHO) Training Year

1. **The (PRHO) Year includes 6 PRACTICAL COMPULSORY courses, to be attended in the Hospitals of Menoufia University & Egyptian Ministry of Health Hospitals.**
2. **Each course lasts 2 Months (consisting of 380 hours) as follows:**

(One Hour = 60 minutes)

	Course	Duration
1.	Internal& Clinical Medicine	380 hours
2.	General Surgery	380 hours
3.	Gynaecology & Obstetrics	380 hours
4.	Pediatrics	380 hours
5.	Anaesthesiology & Emergency Medicine	380 hours (190 hours for each)
6.	Elective course: the student elects 2 different clinical departments to attend 1 month (190 hours) in each	380 hours (190 hours for each)

Comparison of M.B.B.Ch curriculum with the German medical curriculum

M.B.B.Ch.Program & course specifications

Language of study: English

(One Teaching Hour = 60 minutes)

ERG (Subjects according to Paragraph 27 ÄAppO) Regulations for the Licensing of medical doctors	Subject hours according to M.B.B.Ch curriculum - Menoufia University
Anatomy & Embryology I	240 hours
Anatomy & Embryology II	240 hours
Histology I	120 hours
Histology II	120 hours
Physiology I	278 hours
Physiology II	250 hours
Biochemistry I	220 hours
Biochemistry II	225 hours
English Course	92 hours
Computer Course	30 hours
Human rights	30 hours
Parasitology	120 hours
Physics	100 hours in Physiology (60 hr. in Physiology I&40 hr. in Physiology II)
Chemistry	93 hours in Biochemistry & Chemistry I
Medical Terminology	30 hours in English course
Community medicine	303 hours
Biology	100 hours in Microbiology & Immunology
Clinical Medicine	Included in 885 hours of internal medicine
Medical Psychology and Medical Sociology	100 hours included in 885 hours of internal medicine

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ERG (Subjects according to Paragraph 27 ÄAppO) Regulations for the Licensing of medical doctors	Subject hours according to M.B.B.Ch curriculum - Menoufia University
General medicine	70 hours included in 885 hours of internal medicine
Anesthesiology	80 hours (theoretical & practical) included in Surgery course + 190 hours in practical year
Occupational medicine& Social medicine	20 hours included in community medicine
Ophthalmology	160 hours
Surgery	686 hours(theoretical & practical) + 380 hours in practical year
Dermatology & Venereology	78 hours
Gynaecology, Obstetrics	288 hours (theoretical & practical) + 380 hours in practical year
Otorhinolaryngology	122 hours(theoretical & practical)
Human genetics	100 hours (60 hr. included in internal medicine& 40 hr. in pediatrics)
Hygiene, Microbiology, Virology	290 hours
Internal Medicine	885 hours (theoretical & practical) + 380 hour in practical year
Pediatrics	304 hours(theoretical & practical) + 380 hours in practical year
Clinical Chemistry, Laboratory Diagnostics	# Cl. Chemistry = 90 hours in Biochemistry II # Lab. Diagnostics = 30 hours in Microbiology +

M.B.B.Ch.Program & course specifications

ERG (Subjects according to Paragraph 27 ÄAppO) Regulations for the Licensing of medical doctors	Subject hours according to M.B.B.Ch curriculum - Menoufia University
	27 hours Clinical pathology
Neurology	72 hours
Orthopedics	75 hours
Pathology	342 hours
Pharmacology, Toxicology	Pharmacology= 180 hours Toxicology = 80 hours
Psychiatry and Psychotherapy	124 hours
Psychosomatic Medicine and Psychotherapy	50 hours in Psychiatry
Forensic Medicine	80 hours
Urology	75 hours
Elective Subject	122 hours (Computer & English language courses)
Epidemiology, Medical Biometry and Medical Information Technology	# Epidemiology = 74 hours included in Community medicine # Biostatistics = 5 hours in physiology1 # Bioinformatics = 2 hours in Biochemistry1
History, Theory, Ethics of Medicine	30 hours included in English course
Health Economics, Health System, Public Health Care	31 hours included in community medicine
Infections, Immunology	66 hours = 30 hours included in Microbiology & Immunology + 26 hours in pediatrics + 8 hours immunology in internal medicine
Clinical-Pathological Conference	75 hours included in pathology
Clinical Environmental Medicine	16 hours included in Community

M.B.B.Ch.Program & course specifications

ERG (Subjects according to Paragraph 27 ÄAppO) Regulations for the Licensing of medical doctors	Subject hours according to M.B.B.Ch curriculum - Menoufia University
	medicine
Aging Medicine and Geriatrics	70 hours included in Internal medicine
Emergency Medicine	110 hours (80 hr included in Internal medicine + 30 hr. in Pediatrics) + 190 hours in practical year
Clinical Pharmacology/Pharmacotherapy	32 hours included in pharmacology
Prevention, Health Promotion	50 hours included in Community medicine
Imaging Procedures, Radiotherapy, Radioprotection	70 hours included in Surgery
Rehabilitation, Physical Therapy, Natural Remedies	25 hours included in surgery
Palliative Care	20 hours included in surgery
Family medicine I	90 Hours
Family medicine II	90 Hours
Family medicine III	90 Hours
Total hours	**8359**

Register **Dean**