

# Handbook MBBS Degree Programme 2015/2016

## FACULTY OF MEDICINE GENERAL SIR JOHN KOTELAWALA DEFENCE UNIVERSITY

## THE LOGO OF THE FACULTY OF MEDICINE, GENERAL SIR JOHN KOTELAWALA DEFENCE UNIVERSITY



The two swords, anchor and wings represent the Sri Lanka Army, Navy and Air force respectively. The serpents and winged staff represent the symbol of the medical profession.



## FOREWORD

I congratulate you on being selected to train as a medical professional at the Faculty of Medicine, General Sir John Kotelawala Defence University (FOM, KDU), the only medical school which trains military medical students in Sri Lanka.

Our undergraduates at the FOM include both military medical students (Cadets) as well as non military foreign students. The FOM, KDU is a unique medical school because it includes subjects such as aeronautical, naval, nuclear, emergency, trauma and critical care medicine in addition to the subjects of a normal medical curriculum. This is done because these subjects are deemed essential to a military (Army, Navy Air Force) doctor. The academic programme aims to develop your knowledge, skills and attitudes with the intention of producing competent, dedicated and compassionate medical professionals who will also be continuous learners and researchers. The exposure to military practices will further enrich your university life and enable you to develop integral life skills such as discipline, commitment, teamwork, leadership and time management. Students at KDU are also encouraged and given ample opportunity to take part in sporting and other aesthetic events. The end result of all of the above will be to produce a well rounded medical professional.

This handbook contains a brief history of the FOM KDU, the medical course, assessment methods leading to the MBBS degree, the code of conduct and examination by-laws which all medical students are expected to abide by. Disciplinary action will be taken in accordance with the rules of the KDU against any student who fails to abide by the rules and regulations of the KDU.

As you start your medical education, I wish you the very best for a successful and enjoyable career in the medical profession.

**Prof. MHJ Ariyaratne** Dean – Faculty of Medicine Sir John Kotelawala Defence University January2016



## VISION

To be a medical school nationally and internationally known for its unique ability to produce military and civilian medical graduates who will fulfill the health requirements of the tri-services, state sector and society at large with global outreach.

## MISSION

To prepare skilled leaders in the medical profession who practice patient-centered medicine of the highest ethical and medical standards across widely differing fields through training, research and lifelong education.



## CONTENTS

Foreword	i
Vision and Mission	iii
Institutional Objectives	2
Intended Learning Outcomes	3
List of Administrative and Academic staff	4
The University and Faculty of Medicine	14
The Academic Programme	17
The Pre-clinical Sciences	19
Anatomy	19
Biochemistry	23
Physiology	28
The Para-clinical Sciences	32
Microbiology	32
Parasitology	37
Forensic Medicine	42
Pathology	46
Pharmacology	52
Public health and Family Medicine	56
The Clinical Sciences	62
Medicine	62
Surgery	66
Paediatrics	70
Obstetrics and Gynaecology	76
Psychiatry	83
Examination By-Laws	88
Rules for students	99





## **INSTITUTIONAL OBJECTIVES**

- To be a centre of excellence in providing high quality medical care, meeting the highest international standards, responding to the changing external environment with vision, advocacy and resilience.
- To produce highly disciplined, self-motivated and dedicated doctors who show compassion and respect towards their patients and meet their health needs in the context of their families and society.
- To produce doctors with the ability to deal with humanitarian crises such as war, terrorism, man-made and natural disasters and ensure safety of civilians as well as military personnel.
- To be a centre which provides continuing professional development and postgraduate training to health care professionals.
- To be a centre for medical innovation and research which generates new knowledge to meet the health needs of the society at large.



## INTENDED LEARNING OUTCOMES OF THE MEDICAL GRADUATES

- 1. To acquire knowledge, skills and attitudes required to manage common diseases within the social, religious, cultural and economic milieu of medical practice in Sri Lanka.
- 2. To be able to gain the trust of patients, communicate effectively and enable patients to make informed decisions about their own health.
- 3. To be able to provide promotive, preventive, curative and rehabilitative care to fulfill the health needs of the individual, family and community.
- 4. To be able to function efficiently in multi-professional and multidisciplinary teams, both as a team player as well as a team leader.
- 5. To develop skills of critical thinking and appraisal of medical evidence in order to practice evidence based medicine.
- 6. To be able to perform basic medico-legal procedures and discharge statutory duties.
- 7. To acquire the skills and experience required to plan, conduct and report research using a systematic and scientific approach.
- 8. To be a health care professional who applies ethical principles in medical practice, in conducting research and in one's personal life.
- 9. To be committed to teach health professionals as well as educate society and develop the skills required to be a competent teacher and trainer.
- 10. To possess the appropriate attitudes towards personal and professional development through reflective practice and life-long learning.

## ADMINISTRATIVE STAFF

Dean	: Prof. MHJ Ari MBBS (Col), N Fellow, PGIM Office Mobile Email	iyaratne AS (Col), FRCS (Ed), FRCS (Eng),Senior (Col), FCS (SL) : 0112 – 638656 (Ext – 310) : 0777 – 397373 :mhjari@gmail.com
Staff Officer	:SqnLdr (Dr) H MD (USSR), S Office Mobile Email	CN Gajaweera LMC registered, Dip in Av Med (Primary) : 0112 – 638656 (Ext – 315) : 0714 - 497474 : champikawijesinghe@yahoo.com
Assistant Registrar	: Ms. SDKC Sar BSc (Sp), (Ho Office Mobile Email	ndanayake ns) (Sabaragamuwa) : 0112 – 638656 (Ext – 315) : 0715 - 709015 : kcsandanayke@gmail.com

## **ACADEMIC STAFF**

## DEPARTMENT OF PRE-CLINICAL SCIENCES

#### **Head of Department**

Professor J. Welihinda BSc (Col), PhD (Col), C.Chem, M.I. Chem C, M.I. Biol

#### Anatomy

Dr. KMN Kumarasinghe Head - Anatomy Senior Lecturer in Anatomy (Grade II) MBBS (USJP), PhD (Australia)

Lt. Col. (Dr) HHLK Fernando Senior Lecturer in Anatomy (Grade II) MBBS (Ruhuna), MPhil (Ruhuna), PGDip (Col), Executive MSc (Malaysia)

Dr. KAE Fernando Senior Lecturer in Anatomy (Grade II) MBBS (Col), MD (Col), FRCS (Ophth)

Dr. G Senanayake Senior Lecturer in Anatomy (Grade II) MBBS (Col), MD (Col), FRCR (UK)

Dr. TV Sanjeewanie Senior Lecturer in Anatomy (Grade II) MBBS (USJP), MD (Col), DO-HNS (Eng)

## Physiology

Prof. P Hettiarachchi Head – Physiology Associate Professor in Physiology MBBS (Col), MPhil (USJP), PhD (USJP)

Prof. SW Wimalasekara Associate Professor in Physiology MBBS (NCMC), MPhil (USJP), PhD (USJP)

Dr. LS Kaththiriarachchi Lecturer (Probationary) in Physiology MD (Rus)

Dr. PV Logenthiran Lecturer (Probationary) in Physiology MBBS(USJP)

#### Biochemistry

Major WMMS Bandara Head – Biochemistry Senior Lecturer in Biochemistry (Grade II) BSc (Perad), MSc (Perad), MS (USA), M.I. Biol

Prof. J Welihinda Professor in Biochemistry BSc (Col), PhD (Col), C.Chem, M.I. Chem C, M.I. Biol

Dr. CL Goonasekara Senior Lecturer in Biochemistry (Grade II) BSc (Col), PhD (Canada)

Mrs. AJIS Rathnayake Senior Lecturer in Biochemistry (Grade II) BSc (Col), MS (USA)

## **DEPARTMENT OF PARA-CLINICAL SCIENCES**

#### Head of the Department

Lt. Col. (Dr) A Balasuriya MBBS (Col), MSc (Col), MD (Col), MA (Kelaniya), PGDBS (BPU)

#### Microbiology

Dr. PBV Navaratne Head – Microbiology Senior Lecturer in Microbiology (Grade II) MBBS (NCMC), Dip Med Micro (Col), MD (Col), BSc (USA)

Dr. HAKM Gunasekara Senior Lecturer in Microbiology (Grade II) MBBS (Col), MPhil (Col)

Dr. NP Senanayake Lecturer in Microbiology MBBS (Perad), Dip Med Micro (Col), MD (Col)

#### Parasitology

Prof. MV Weerasooriya Head - Parasitology Senior Professor of Parasitology MBBS (SL), DMSc (Kyushu), FNASSL

Lt. Col. (Dr) PH Premaratne Senior Lecturer in Parasitology (Grade II) BSc (Col), PhD (Col)

#### Pharmacology

Prof. BMR Fernandupulle Head – Pharmacology Senior Professor in Pharmacology MBBS (Ceylon), PhD (Col), FCGPSL

Dr. GK Jayatilaka Lecturer in Pharmacology BMedSci (Nottingham), BMBS (Nottingham), MD (Col), FRCA

#### **Forensic medicine**

Dr. PR Ruwanpura Head – Forensic Medicine Senior Lecturer in Forensic Medicine (Grade I) MD (Minsk), DLM, MD (Col), DFM (RCPA), DMJ Clin et Path (Lond)

Ms. BWMTJ Basnayake Lecturer (Probationary) in Toxicology BMedSc (Birmingham), MSc.BMed (Sheffield Hallam)

#### Pathology

Dr. IHS Kumarasinghe Head – Pathology Senior Lecturer in Pathology (Grade II) MBBS (Col), D.Path (Col), MD (Col)

Dr MK Premasiri Senior Lecturer in Pathology (Grade II) MBBS (Ruhuna), D Path (Col), MD (Col)

Dr. JV Galhenage Senior Lecturer in Pathology (Grade II) MBBS (SL), DTM (Col), MD (Col)

#### Public Health & Family Medicine

Lt. Col. (Dr) A Balasuriya Head – Public health & Family Medicine Senior Lecturer in Community Medicine (Grade I) MBBS (Col), MSc (Col), MD (Col), MA (Kelaniya), PGDBS (BPU)

Prof. SR De Alwis-Seneviratne Senior Professor in Community Medicine MBBS (Cey), Dip. Med Ed (Dundee), MMED (Dundee), MD (Col), FCCP (SL)

Prof. N de Silva Senior Professor of Family Medicine MBBS (Cey), DCH (Col), DFM (Col), MD (Col), FCGPSL

## **DEPARTMENT OF CLINICAL SCIENCES**

#### Head of the Department

Dr. RANK Wijesinghe MBBS (Ruhuna), MD (Col), FRCPE, FRACP, FCCP, FCSANZ

#### Medicine

Dr. RANK Wijesinghe Head - Medicine Senior Lecturer in Medicine (Grade II) MBBS (Ruhuna), MD (Col), FRCPE, FRACP,FCCP, FCSANZ

Prof. MH Rezvi Sheriff Senior Professor of Medicine MD, FRCP, FRCPE, FRACP, FCCP, FNASSL, FCGPSL, FIMACGP

Dr. KASJ Balawardane Senior Lecturer in Medicine (Grade I) MBBS, MD (Col)

Dr. DH Jayasena Lecturer (Probationary) in Medicine MBBS (London), MRCP (UK), MD (Bristol)

Dr. AMNL De Silva Lecturer (Probationary) in Medicine MBBS (Col)



#### Surgery

Dr. RN Ellawala Head – Surgery Senior Lecturer in Surgery (Grade I) MBBS (Col), MS (Col), FRCS (Glas), Hon.FCS (SL)

Prof. MHJ Ariyaratne Professor in Surgery MBBS (Col), MS (Col), FRCS (Ed), FRCS (Eng), Senior Fellow, PGIM (Col),FCS (SL)

Col. (Dr) PTR Makuloluwa Senior Lecturer in Anaesthesia (Grade I) MBBS (Col), MD (Col), FRCA

Surgeon Cmdr NRP Perera Senior Lecturer in Surgery (Grade II) MBBS (Col), MS (Col), MRCS (Eng)

Dr. WDD De Silva Senior Lecturer in Surgery (Grade II) MBBS (USJP), MD (Col), MRCS (Eng), DU Chir. Lap (Stras)

Dr. KDW Wijenayake Senior Lecturer in Surgery (Grade II) MBBS, MS (Col), MRCS (Eng)

Dr. AN Senanayake Senior Lecturer in Surgery (Grade II) MBBS (Col), MD (Col), MRCS (Eng)

Dr. BCIJ Nanayakkara Lecturer (Probationary) in Surgery MBBS (Col)

#### **Paediatrics**

Lt. Col. (Dr) MDAS Gunatilleke Head – Paediatrics Senior Lecturer in Paediatrics (Grade II) MBBS (Col), MD (Col), DCH

Prof. ND Warnasuriya Senior Professor of Paediatrics MBBS (Cey), FRCP (Lond), FCCP, FSLCP, FCGPSL, DCH (Eng)

Dr. GDI Rodrigo Senior Lecturer in Paediatrics (Grade I) MBBS (Col), DCH, MD (Col), MRCP (UK), MRCPCH, D Phil (Oxon)

#### **Obstetrics & Gynaecology**

Prof. UWHCH Perera Head –Obstetrics and Gynaecology Hon. Clinical Professor in Obstetrics and Gynaecology MBBS, MS, FRCOG

Prof. MAJ Jayawadana Professor of Obstetrics and Gynaecology MBBS (Cey), MS (Col), FCGPSL, FSLCOG, FRCOG

Dr. SNK Rodrigo Senior Lecturer in Obstetrics and Gynaecology (Grade II) MBBS (Col), MS (Col), MRCOG, DFSRH

## Psychiatry

Dr. NFJ Fernando Head – Psychiatry Senior Lecturer in Psychiatry (Grade I) MBBS (Col), MD (Col), FSLCPsy

Dr. IUK Mudalige Senior Lecturer in Psychiatry (Grade II) MBBS (Col), MD (Col), MCCP

Dr. RMCRR Gamage Senior Lecturer in Psychiatry (Grade II) MBBS (Col), MD (Col)

Mrs. MKOK De Silva Lecturer (Probationary) in Clinical Psychology BS (USA), MSc (Coventry), Dip Child Psych, Dip Psych

## SRI JAYEWARDENEPURA GENERAL HOSPITAL

Prof. UWHCH Perera Hon. Clinical Professor in Obstetrics and Gynaecology MBBS, MS, FRCOG

Prof. DL Piyarisi Hon. Clinical Professor in Surgery MS, FRCS (Ed)

Prof. RARD Aloysius Hon. Clinical Professor in Paediatrics MBBS, MD

Prof. RL Satarasinghe Hon. Clinical Professor in Medicine MBBS, MD, FRCP(Lond), FRCP(Edin), FRCP(Glasg), FRCP(Cey), CCST(UK)



## The University

General Sir John Kotelawela Defence University (KDU) was initially established as the "General Sir John Kotelawala Defence Academy" by the Parliamentary Act No 68 of 1981 and subsequently elevated to University status by the Amendment Act No 27 of 1988. KDU is located at the Kandawala Estate in Ratmalana, which was donated by the late General Sir John Kotelawala. There are nine Faculties of study currently established and functional in the KDU. They include the Faculty of Defence and Strategic Studies, Faculty of Law, Faculty of Management, Social Sciences and Humanities, Faculty of Engineering, Faculty of Medicine, Faculty of Allied Health Sciences, Faculty of Graduate Studies, Faculty of Built Environment and Spatial Sciences and Faculty of Computing. The last two are located in the Southern Campus at Sooriyawewa. The other Faculties, and the main administrative buildings are located in the main campus at Kandawala, Ratmalana. A specific facility for research and innovation, KDU –CARE is also located within the main campus. It is presently affiliated to the Faculty of Medicine but is expected to become an independent entity in the future.

### The Faculty of Medicine

The Faculty of Medicine, KDU was established in 2009 under a memorandum of understanding with the Faculty of Medicine, University of Ruhuna (UOR). The Faculty of Medicine (FOM), KDU adopted the curriculum of the Faculty of Medicine (UOR) with few modifications necessitated due to it being a Medical Faculty within a Defence University. Few additional subjects such as aeronautical, naval, nuclear, emergency, trauma and critical care medicine and military training were included in the course without harming the core components of the generic curriculum. The course covers a total period of 5 years.

The first 3 batches of medical students numbering 25, 22 and 26 respectively consisted exclusively of cadets affiliated to the tri-services. They were a constituent of the 27<sup>th</sup>, 28<sup>th</sup> and 29<sup>th</sup> intakes to the KDU/KDA since its inception and are thus identified. The pre- clinical course upto the 2<sup>nd</sup> MBBS examination was conducted at the University of Ruhuna for the first 2 batches.

During this time, the construction of the FOM building was completed and academic and non-academic staff were recruited and trained. From the third intake (29<sup>th</sup>) the course is conducted entirely on site at Ratmalana.



Due to the requirement of a minimum critical mass of students to run a viable and sustainable Medical school, the Board of Management of the KDU decided to recruit academically eligible foreign students on a fee levying basis to complement the military students from the fourth (30<sup>th</sup>) intake onwards, subject to an upper limit of 100 students per batch. There have been seven intakes up to date numbering 25, 22, 26, 56, 47, 103 and 92 respectively as a combination of military cadets and foreign civilian students. Up to the third intake only males were recruited. Subsequent intakes have included a significant number of females. The MBBS degree programme is conducted by qualified and experienced academic and medical professionals including six Senior Professors. Senior Consultants in charge of the four Professorial Units at Sri Jayewardenepura General Hospital have been accorded the title of Honorary Clinical Professor. Details of the teachers at the FOM can be accessed at the KDU website. (www.kdu.ac.lk)



The Faculty of Medicine

From the 3<sup>rd</sup> batch (29<sup>th</sup> intake) of medical students onwards the educational activities in the first 3 semesters are carried out at the FOM in the KDU campus. From the 4<sup>th</sup> semester onwards, clinical training is carried out at hospitals including the Military Hospital Narahenpita, National Hospital of Sri Lanka, Lady Ridgeway Hospital for Children, Castle Street Hospital for Women, Sri Jayewardenepura General Hospital and Teaching Hospital Karapitiya. In the final year, all the professorial appointments are at Sri Jayewardenepura General Hospital with the exception of Psychiatry which was in the Teaching Hospital, Karapitiya for the 27<sup>th</sup> intake and at Ward 59, National Hospital of Sri Lanka (NHSL) for the subsequent batches.



The Dehiwela – Mount Lavinia Medical Officer of Health (MOH) division has been made accessible to the KDU since 2011 for the purpose of field training in community medicine. A few designated general practices have been identified for an exposure to family medicine. The clinical training in forensic medicine is being conducted at the office of the Judicial Medical Officer (JMO), Colombo South Teaching Hospital.

The KDU was given the right to conduct a MBBS course which is registrable with the Sri Lanka Medical Council (SLMC) by an Act of Parliament in 2013. The Sri Lanka Medical Council having made a desk review of the submission made by the KDU made a site inspection in 2014 and granted full recognition to the MBBS course at KDU for the purpose of registration under section 29 of the Medical ordinance. The first batch of military medical graduates from the KDU graduated in September 2014 have completed their internship in state hospitals in Sri Lanka. Feedback obtained from the Consultants under whom they worked, indicate that they performed their duties satisfactorily on par with graduates from other state medical faculties

The Kotelawala Defence University Teaching Hospital is currently under construction at Werahera and is to be completed by the middle of 2016. Following its completion, all professorial clinical teaching and other relevant tertiary clinical teaching will be carried out there. There will also be a section for training in family medicine and ambulatory care. However, students will continue to have access to a limited number of state hospitals including the tri-service hospitals for their 3<sup>rd</sup> and 4<sup>th</sup> year clinical clerkships.

#### Facilities at the Faculty of Medicine

The FOM building houses all the academic and administrative staff of the FOM, lecture halls, tutorial rooms, an auditorium, state of the art teaching and research laboratories, dissection room for anatomy, the anatomy museum, medical library, clinical skills laboratory and student canteen. A multidisciplinary museum is also being developed and will be available by early 2016. Facilities for sports and recreation are available at the KDU campus whilst the swimming pool is conveniently situated at the FOM.

#### **The MBBS Degree**

The FOM teaches 14 subjects leading to the award of the degree of Bachelor of Medicine and Bachelor of Surgerv (MBBS). Instruction takes the form of lectures, tutorials, small group discussions (SGD), problem based learning (PBL), fixed learning modules (FLM), community based learning. practical laboratory sessions as well as clinical and ward classes.

The Pre-clinical sciences course runs through 3 semesters and covers the subjects of Anatomy, Physiology and Biochemistry. At the end of the course, the 2<sup>nd</sup> MBBS examination is held, following which the Para clinical Sciences course commences for a further duration of 4 semesters. This covers 6 subjects namely Parasitology, Microbiology,

Medicine. At the end of the 5<sup>th</sup> Semester the 3<sup>rd</sup> MBBS part 1 examination is held covering the subjects of Parasitology and Microbiology. At the end of the 7<sup>th</sup> Semester the 3<sup>rd</sup> MBBS part 2 examination is held covering the remaining 4 subjects. The clinical course commences in the 4<sup>th</sup> Semester covering the subjects of





Pathology, Pharmacology, Public Health and Family Medicine and Forensic



Clinical Medicine, Surgery, Obstetrics and Gynaecology, Paediatrics and Psychiatry and is completed in the 10<sup>th</sup> Semester at which point, the final MBBS examination is held.



Details of assessment methods are given under each subject. The theory component is assessed through multiple choice questions (MCQs), best response type questions (BRQs) and structured essay questions (SEQs). The practical/ clinical component is assessed through spot examinations, viva examinations, objective structured practical examinations (OSPE), objective structured clinical examination (OSCE), short clinical cases and long clinical cases. In each subject, 20-30% of the total marks are given for continuous assessment which in some subjects includes a research project.

### The Military Training Programme

The military training programme is a compulsory component for all medical students who are officer cadets and is run parallel to the medical curriculum. This programme is conducted by the Faculty of Defence and Strategic Studies and enables officer cadets to confidently assume the responsibilities of commissioned officers of the armed forces.

The Department of Defence Studies is under the guidance of the Dean of the Faculty of Defence and Strategic Studies who is assisted by Squadron Commanders in charge of each intake and Troop Commanders in charge of each troop. These officers with the assistance of the other rank instructors impart the essential military knowledge both in the classroom and on the field to the officer cadets. The main components of military training include joint staff duties, leadership studies, land warfare, maritime warfare, air warfare, physical training, drill, weapon training, field craft, map reading, service writing and other methods of instructions which are crucial for the profession of arms.

Furthermore an integral aim of military training is to inculcate discipline amongst the officer cadets. Diverse programmes are conducted to produce highly disciplined officers with high standards of integrity and loyalty.

#### THE PRE-CLINICAL SCIENCES

The student will study the pre clinical science subjects from the 1<sup>st</sup> to 3<sup>rd</sup> semesters. Pre Clinical Sciences include 3 subject areas, namely Anatomy, Physiology and Biochemistry. The curriculum is designed to introduce and facilitate the teaching and learning of the basic structure and functioning of the human being.

The main assessment in the pre clinical sciences program is the 2<sup>nd</sup> MBBS examination, held at the end of the 3<sup>rd</sup> semester assessing all 3 subjects. To pass each of the subject examinations, the student should score a minimum of 40% in theory papers and obtain a minimum all-round aggregate of 50% for each subject. A candidate obtaining 70% or more in a subject in the first attempt will be awarded a distinction pass in that subject.

Details of assessments are given under each subject. However it must be noted that the 2<sup>nd</sup> MBBS exam is a **barrier examination**. A student must pass this examination to proceed to the para-clinical sciences and clinical training. A student is given only four (4) attempts to pass this examination. Failure to pass this examination within four (4) attempts would lead to de- registration.

#### ANATOMY

#### Duration of the course: 3 semesters

Human anatomy is a branch of medical science dealing with the structure of the human body. This is taught through lectures and by dissection of the cadavers. The term "anatomy" derives from the ancient Greek term meaning "to dissect". Human anatomy is considered as one of the basic essential sciences of medicine.

The discipline of anatomy is divided into macroscopic and microscopic anatomy in a broad sense. Macroscopic anatomy, or gross anatomy, is the examination of the human body parts using unaided eyesight. Gross anatomy also includes the branch of superficial or surface anatomy. On the other hand microscopic anatomy or histology involves the use of optical instruments to study the tissues of various structures and cells of the human body. Human anatomy also encompasses the areas of developmental anatomy, human genetics, neuroanatomy etc.



#### Intended Learning Outcomes:

On completion of this course, the student will

- Gain a sound knowledge of the normal disposition of the structure of the human body, commonly encountered variations in gross structure, functional and applied anatomy of the various organs as an essential prerequisite for solving clinical problems, they will encounter in their future career as physicians.
- 2. Be able to identify the microscopic structures of various cells, tissues and organs in the human body and correlate them with their functions as another important prerequisite to understanding their altered state in various disease processes.
- 3. Gain an understanding of the critical stages of normal development, the fundamentals of human genetics and the effects of common teratogens and environmental hazards that cause genetic disorders.

Subject Area	Teaching/Learning Method	Semester
Gross anatomy	Dissections – 260 hours	1-3
	Lectures – 40 hours	
	Tutorials – 84 hours	
<b>Clinical anatomy</b>	Lectures - 20 hours	1-3
Histology	Lectures – 28 hours	1-3
	Practical – 31 hours	
Neuroanatomy	Lectures – 24 hours	3
	Practical– 12 hours	
Genetics	Lectures - 20 hours	1,3
Embryology	Lectures – 34 hours	1-3

#### **The Academic Programme**

#### Assessments

Two continuous assessment examinations will be held at the end of the 1<sup>st</sup> and 2<sup>nd</sup> semesters. A separate examination will be held in the 3<sup>rd</sup> semester for Neuroanatomy. At the end of the 3<sup>rd</sup> semester the 2<sup>nd</sup> MBBS examination will be held. Supplementary examinations will be conducted in accordance with KDU examinations bylaws.



## Continuous Assessment 1 and 2 (end of 1<sup>st</sup>and 2<sup>nd</sup>semesters)

Method of Assessment	No of questions	Marks allocated to 2nd MBBS	Total marks allocated to 2nd MBBS
MCQ	30	4	(4x2) 8
Spot			
Gross anatomy	20		
Histology	5	5	(5x2) 10

## Continuous Assessment 3 (Neuroanatomy 3<sup>rd</sup> semester)

Method of Assessment	No of questions	Marks allocated to 2 <sup>nd</sup> MBBS
MCQ	10	2

## 2<sup>nd</sup> MBBS Examination

Method of Assessment	No of questions	Marks allocated to 2 <sup>nd</sup> MBBS	Total marks allocated to 2 <sup>nd</sup> MBBS
MCQ	60	20	
SEQ	5	20	
Gross Anatomy	40	20	
spot			
Histology spot	10	10	
Viva		10	
Total contribution to 2 <sup>nd</sup> MBBS examination			80
Continuous Assessment contribution			20
Total marks			100

## 2<sup>nd</sup> MBBS Supplementary Examination

Method of Assessment	No of questions	Marks allocated to 2 <sup>nd</sup> MBBS	Total marks allocated to 2 <sup>nd</sup> MBBS
MCQ	60	25	
SEQ	5	25	
Gross Anatomy spot	40	30	
Histology spot	10	10	
Viva		10	
Total marks			100

#### **Recommended textbooks**

- Cunningham's Manual of Practical Anatomy (i-iii) Romanes GJ (Latest edition)
- Clinical Anatomy Ellis H (Latest edition)
- Clinical Neuroanatomy for Medical Students Snell RS (Latest edition)
- Wheater's Functional Histology Young B, Lowe J, Stevens A, Heath J. & Deakin P (Latest edition)
- Langman's Medical Embryology Sadler TW (Latest edition)

#### **Supplementary Reading:**

- Lasts Human Anatomy: Regional and Applied Chummy S Sinnatamby (Latest edition)
- An Introduction to Medical Genetics Roberts JAF (Latest edition)
- Grants atlas Ann MR Agur and Arthur F Dally (Latest edition)
- McMinns Clinical Atlas of Human Anatomy Peter H Abrahams (Latest edition)

#### **BIOCHEMISTRY**

#### Duration of the course: 3 semesters

Biochemistry is the study of the chemical basis of life, in other words the chemistry of the living organism. A living organism is really a collection of a multitude of nonliving molecules such as carbohydrates, lipids, proteins etc. and ions such as calcium, magnesium, zinc etc. Within the so called "body" of the organism, these non living molecules and ions interact with one another in a very organized and orderly manner to convert this "body" into what we call a "living organism". The study of these interactions is Biochemistry. In other words biochemistry is the understanding of the chemical processes associated with "living" at the molecular level.

A study of these interactions under "normal" circumstances helps the student to understand "healthy" life. However, occasionally there are defects in these interactions brought about either due to genetic (hereditary) reasons or effects of environmental factors such as harmful chemicals or radiation. Such defects lead to disease. Some of them can be cured while others are terminal, leading to death. Knowledge of these defects enables the student to understand the reason behind diseases. It also helps scientists to think of ways of correcting these defects.

This course is designed to cover the aspects of biochemistry relevant to medicine. A good knowledge of biochemistry enables a student to understand normal healthy life and disease at molecular level.

#### **Intended Learning Outcomes**

On completion of this course the student will

- 1. Have a basic overall knowledge of the important biomolecules found in the human body and their importance for health.
- 2. Know the basic metabolic pathways and their regulation to explain their role in life and how errors in them lead to disease.
- Know the biochemical principles behind common tests used in diagnostics and be able to explain the abnormalities seen in laboratory reports in biochemical terms.
- 4. Have a basic knowledge of the principles of human nutrition, nutritional requirements and common human nutritional deficiency diseases.

- 5. Know the basic principles for planning a suitable healthy diet for normal, obese and diabetic persons.
- 6. Have a basic knowledge of the applications of molecular techniques in disease diagnosis and therapeutics.

#### The Academic Programme

Subject area	Teaching/learning method	semester
cell structure and	Lectures – 2 hours	1
function	Tutorials – 1 hours	1
pH and buffers	Lectures – 2 hours Tutorials – 1 hour Practical classes – 3 hours	1
Carbohydrates	Lectures – 5 hours Tutorials – 1 hour Practical classes – 3 hours	1
Proteins	Lectures – 5 hours Tutorials – 2 hours Practical classes – 3 hours	1
Lipids	Lectures – 4 hours Tutorials – 1 hour Practical classes – 3 hours	1
Nucleic acids	Lectures – 4 hours Tutorials – 1 hour Practical classes – 3 hours	1
Information transfer	Lectures – 3 hours Tutorials – 1 hour	1
Haemoglobin	Lectures – 5 hours Tutorials – 1 hour Practical classes – 3 hours	1
Enzymes	Lectures – 3 hours Tutorials – 1 hour Practical classes – 3 hours	1
Plasma proteins	Lectures – 4 hours Tutorials – 1 hour Practical classes – 3 hours	1
Carbohydrate metabolism	Lectures – 7 hours Tutorials – 2 hours Practical classes – 3 hours	2
Protein Metabolism	Lectures – 4 hours Tutorials – 1 hour Practical classes – 3 hours	2

Subject area	Teaching/learning method semester	
Lipid metabolism	Lectures – 7 hours Tutorials – 2 hours Practical classes – 3 hours	2
Bilirubin metabolism	Lectures – 3 hours Tutorials – 1 hour Practical classes – 3 hours	2
Nucleic Acid metabolism	Lectures – 4 hours Tutorials – 1 hour	2
Integration of metabolism	Lectures – 2 hours Practical classes – 6 hours	2
Diabetes mellitus	Lectures – 3 hours Tutorials – 1 hour	2
Liver metabolism	Lectures – 3 hours Tutorials – 1 hour	2
Inborn errors of metabolism	Lectures – 3 hours Tutorials – 1 hour	2
Molecular techniques in medicine	Lectures – 5 hours Tutorials – 1 hour Practical classes – 3 hours	2
Foods and diets	Lectures – 4 hours Tutorials – 1 hour Practical classes – 3 hours	3
Principles of Nutrition	Lectures – 7 hours Tutorials – 1 hour Practical classes – 3 hours	3
Vitamins	Lectures – 5 hours Tutorials – 2 hours Practical classes – 3 hours	3
Micronutrients	Lectures – 3 hours Tutorials – 1 hour	3
Hormone action	Lectures – 4 hours Tutorials – 1 hour	3
Clinical Enzymology	Lectures – 3 hours Tutorials – 1 hour Practical classes – 3 hours	3



#### Assessments

Two continuous assessments will be held at the end of each semester. At the end of the  $3^{rd}$  semester the  $2^{nd}$  MBBS examination will be held.

Method of Assessment	No of questions	Marks allocated to 2 <sup>nd</sup> MBBS	Total marks allocated to 2 <sup>nd</sup> MBBS
MCQ	20	4	(4x2) 8
SEQ	2	4	(4x2) 8
Spots	5	2	(2x2) 4
Total			20

## Continuous Assessments 1 & 2 (end of 1<sup>st</sup> and 2<sup>nd</sup> semester)

#### 2<sup>nd</sup> MBBS Examination

Method of Assessment	No of questions	Marks allocated to 2 <sup>nd</sup> MBBS	Total marks allocated to 2 <sup>nd</sup> MBBS
MCQ	40	25	
SEQ	6	25	
Spots	20	20	
Viva		10	
Contribution to 2 <sup>nd</sup> MBBS			80
<b>Continuous Assessment contribution</b>			20
Total marks			100

#### 2<sup>nd</sup>MBBS Supplementary Examination

Method of Assessment	No of questions	Marks allocated to 2 <sup>nd</sup> MBBS	Total marks allocated to 2 <sup>nd</sup> MBBS
MCQ	40	35	
SEQ	6	35	
Spots	20	20	
Viva		10	
	Total marks		100

#### **Recommended text books:**

- Lippincott's Illustrated Reviews Biochemistry Harvey RA (ed)
  6<sup>th</sup> edition, 2013,
  Lippincott Williams & Wilkins, Philadelphia.
- Harper's Illustrated Biochemistry Murray R, Rodwell V, Bender D, Botham KM, Weil AP, Kennelly PJ 29<sup>th</sup> edition, 2012 McGraw – Hill Medical, New York.

#### Supplementary Reading:

- Nutrition through the lifecycle Wickramanyake TW
- Textbook of Biochemistry with Clinical Correlations, Devlin TM 7<sup>th</sup> edition, 2010 John Wiley & Sons, New York
- Harper's Illustrated Biochemistry Murray R, Rodwell V, Bender D, Botham KM, Weil AP, Kennelly PJ 29<sup>th</sup> edition, 2012 McGraw – Hill Medical, New York.

### PHYSIOLOGY



The subject of human physiology - is, the study of the function of the human body. It integrates the functions of cells, tissues, organs, and organ systems into one whole human body. It explains how the human being adapts to the changes in the internal and external environment. Thus, Physiology as a discipline, links science, medicine, and health.

At the end of the human physiology course the students will be critical thinkers, able to draw independent rational conclusions regarding the normal functions of the human body. It creates the foundation to understand deranged functions of the human body in the further study of medicine.

#### **Intended Learning Outcomes**

#### **General Objectives**

At the end of the course in Physiology the student should be able to

- 1. Acquire the knowledge related to the normal function of the human body.
- 2. Describe the pathophysiological basis of disordered functions of the human body.
- 3. To acquire the necessary practical skills relevant to human physiology at the preclinical level.
- 4. Critically analyse the physiological concepts in health and their derangements in disease.

#### Specific objectives

 Acquire the knowledge related to the normal and disordered functions of the mammalian coll

mammalian cell, blood and immune system, cardiovascular system, respiratory system, gastrointestinal system, urinary system, endocrine system, reproductive system nervous system
2. Acquire the practical skills relevant to human physiology at the pre-clinical level as listed below

- obtain a capillary blood sample and draw a blood film
- perform blood grouping and direct testing
- perform a venepuncture
- obtaining and interpreting a normal electrocardiogram
- obtaining a relevant history and physical examination of the cardiovascular system including examination of arterial and venous pulses, measuring blood pressure
- perform autonomic function tests
- obtaining a relevant history and physical examination of the respiratory system
- conduct and interpret lung function tests
- perform Cardio pulmonary resuscitation and determine cardio respiratory changes in isotonic and isometric exercise
- insert a nasogastric tube in a model
- obtain a relevant history and physical examination of the abdomen
- perform digital examination of the rectum in a model
- examine the normal and abnormal constituents of urine
- analysis of seminal fluid
- obtain a relevant history and physical examination of sensory nervous system, motor nervous system, and special senses

# The Academic Programme

Subject Area	Teaching/Learning Method	Semester
Body fluids , Homeostasis , Cell Communication	Lectures – 7 hours Tutorials/ SGD – 4 hours	1
Excitable tissues ,Autonomic Nervous System	Lectures – 8 hours Tutorials/ SGD – 5 hours	1
Blood & Immunity	Lectures – 17 hours Tutorials/ SGD – 8 hours 04 Practical classes –3 hours	1
Cardiovascular Physiology	Lectures – 22 hours 06 SGD – 2 hours 07 Practical classes – 3 hours	1
Respiratory Physiology	Lectures – 18 hours 06 SGD – 2 hours 05 Practical classes – 3 hours	1
Gastrointestinal Physiology	Lectures – 10 hours 03 SGD – 2 hours 02 Practical classes – 3 hours	2

Subject Area	Teaching/Learning Method	Semester
Renal Physiology	Lectures – 12 hours 06 SGD – 2 hours 02 Practical classes – 3 hours	2
Endocrine Physiology	Lectures – 12 hours 06 SGD – 2 hours 01 Practical class – 3 hours	2
Reproductive Physiology	Lectures – 13 hours 04 SGD – 2 hours 02 Practical classes – 3 hour	2
Neurophysiology	Lectures – 22 hours 06 SGD – 2 hours 05 Practical classes – 3 hour	3

Two continuous assessments will be held at the end of the  $1^{st}$  and  $2^{nd}$  semesters. At the end of the  $3^{rd}$  semester the  $2^{nd}$  MBBS examination will be held.

# Continuous Assessment 1 & 2 (end of 1<sup>st</sup> and 2<sup>nd</sup> semesters)

Method of Assessment	No of questions	Marks allocated to 2 <sup>nd</sup> MBBS	Total marks allocated to 2 <sup>nd</sup> MBBS
MCQs + BRQs	30	6	(2x6) 12
SEQs	3	6	(2x6) 12
OSPE	10	3	(2x3) 6
	Total		30



# 2<sup>nd</sup> MBBS Examination

Method of Assessment	No of questions	Marks allocated to 2 <sup>nd</sup> MBBS	Total marks allocated to 2 <sup>nd</sup> MBBS
MCQs	40	25	
BRQs	10	25	
SEQs	5	25	
OSPE	25	10	
Viva		10	
Contribution to 2 <sup>nd</sup> MBBS examination			70
Continuous Assessment contribution			30
Total marks			100

# 2<sup>nd</sup> MBBS Supplementary Examination

Method of Assessment	No of questions	Marks allocated to 2 <sup>nd</sup> MBBS	Total marks allocated to 2 <sup>nd</sup> MBBS
MCQs	40	25	
BRQs	10	35	
SEQs	5	35	
OSPE	25	20	
Viva		10	
Total marks			100

#### **Recommended textbooks:**

- Ganong's Review of Medical Physiology, Barrett KE, Barman SM, Boitano S, Heddwen BL 24<sup>th</sup> edition, 2012, McGraw-Hill. New York.
- Textbook of Medical Physiology, Hall JE 12<sup>th</sup> edition, 2011, Elsevier Science Health science division. Philadelphia.
- Hutchinson's Clinical Methods, Glynn M, Drake W (eds) 23<sup>rd</sup> edition, 2012, Saunders Ltd, Philadelphia.

# THE PARA-CLINICAL SCIENCES

The Department of Para-clinical Sciences is one of the three departments of the Faculty of Medicine. The students who successfully complete the Second MBBS examination will study the Para-clinical Sciences subjects from the 4<sup>th</sup> to 7<sup>th</sup> semesters. The subjects of Microbiology and Parasitology are taught in semesters 4 and 5, the subjects Pharmacology, Pathology, Public Health and Family Medicine taught from semesters 4 to 7 and Forensic Medicine from Semesters 5 to 7. The department conducts two examinations, the third MBBS Part I and third MBBS Part II examinations at the end of semesters 5 and 7 respectively. Microbiology and Parasitology will be assessed at the end of the 5<sup>th</sup> semester.

To pass each of the subject examinations, the student should score a minimum of 45% in the theory component and obtain a minimum aggregate of 50% for the whole subject. A candidate obtaining 70% or more in a subject in the first attempt will be awarded a distinction pass in that subject.

# MICROBIOLOGY

# Duration of Course: 2 semesters

Microbiology is the study of microorganisms (bacteria, fungi and viruses) and the infectious diseases caused by them. During this course, the students will learn about infectious diseases including organisms, transmission of infection, diagnosis, antimicrobial treatment and prevention. The learning of Microbiology should go hand in hand with clinical work in the hospital wards. The students should be able to relate the knowledge learnt in the classroom to cases of infectious diseases that are seen and discussed in the wards.

Students will have a total of 2 - 3 hours of contact time per week with the staff. These are distributed among the various teaching learning activities such as lectures, tutorials, and laboratory practical training and demonstrations.

In the 4<sup>th</sup> semester the students will learn in general microbiology the structure and function of bacteria, virulence factors and host parasite relationship in health and disease. In immunology, about the immunity to infections and abnormal immune responses. In bacteriology students will learn about common bacteria that cause infections, how they are transmitted, clinical manifestations, how they are diagnosed and treated.



In the 5<sup>th</sup> semester, students will learn of viral and fungal infections, infections of systems (eg. Respiratory, urinary tract infections etc) and how they are diagnosed and treated.

# **Intended Learning Outcomes**

At the end of the course in Medical Microbiology the student should be able to:

- Describe the pathogenic microorganisms that are commonly encountered (bacteria, viruses and fungi) and their habitats, routes of transmission, pathogenesis of infections and clinical signs and symptoms of the infections.
- 2. Select appropriate antimicrobial agents that can be used in treatment and in prophylaxis of infectious diseases.
- 3. Describe briefly the microbiological diagnosis of infectious diseases including appropriate laboratory tests.
- 4. Advise on collection and transport of specimens for microbiological investigations.
- 5. Explain measures that can be taken for the prevention and control of infectious diseases including immunisation.
- 6. Select the antiseptics, disinfectants and sterilising agents appropriate for use in patient care and in the laboratory.
- 7. Explain the importance of infection control in hospitals.

The Academic Programme

Subject Area	Teaching/Learning Method	Semester
General Microbiology	Lectures – 3 hours Tutorials – 1 hour Practical classes – 2 hours	4
Disinfection and Sterilization	Lectures – 2 hours Tutorials – 1 hours Practical Classes – 1 hour	4
Immunology	Lectures – 6 hours Tutorials – 1 hours	4
Bacteriology	Lectures – 17 hours Tutorials – 3 hours Practical Classes – 5 hours	4
Antibiotics	Lectures – 2 hours Tutorials – 1 hours	4
Virology	Lectures – 14 hours Tutorials – 3 hours Practical Classes – 2 hours	5
Mycology	Lectures – 2 hours Tutorials – 1 hours Practical Classes – 2 hours	5
Systemic Infections	Lectures – 14 hours Tutorials – 4 hours Practical Classes – 8 hours	5

Assessments will constitute of 2 continuous assessments in each semester which will carry a total of 20% marks to the  $3^{rd}$  MBBS part 1 examination which will be conducted at the end of the  $5^{th}$  semester.

#### **Continuous Assessment 1**

Method of Assessment	Number of questions	Marks allocated	Total
MCQ 15 + BRQ 5	20	5	
Structured Essay Questions (SEQ)	2	5	
Practical (Gram stain)		5	
			15

# **Continuous Assessment 2**

Method of Assessment	Number of questions	Marks allocated	Total
MCQ 15 + BRQ 5	20	5	
			5

# 3<sup>rd</sup> MBBS Part 1 Examination

Method of Assessment	Number of questions	Marks allocated	Total
MCQ 15 + BRQ 5	20	20	
Structured Essay Questions (SEQ)	4	30	
OSPE (3 min each)	20	20	
Viva (8 min)		10	
			80
CA1 + CA2			20
			100



# 3<sup>rd</sup> MBBS Part 1 Supplementary Examination

Method of Assessment	Number of questions	Marks allocated	Total Marks
MCQ 15 + BRQ 5	20	30	
Structured Essay Questions (SEQ)	4	40	
OSPE (3 min each)	20	20	
Viva (8 min)		10	
			100

# **Recommended text books**

- Medical Microbiology by David Greenwood, Richard C.B.Slack & John F. Peutherer. 18<sup>th</sup> Edition. Churchill Livingstone
- Mim's Medical Microbiology by Richard Goering, Hazel Dockrell, Mark Zuckerman, Derek Wakelin, Ivan Roitt, Cedreic Mims. 4<sup>th</sup> Edition, Mosby Elsevier
- 3. Cellular and Molecular Immunology by Abbas AK, Lichtman AH.8<sup>th</sup> Edition, Saunders Publishing

# PARASITOLOGY

#### Duration of the course: 2 semesters

The Parasitology course primarily studies about human parasites and the diseases caused by them. The main objective of the course is to develop basic knowledge and skills to identify, diagnose, manage, prevent and control parasitic diseases found in Sri Lanka. During the course students will learn about the parasites as disease causing agents, their prevalence and geographical distribution, basic morphology, life cycle, modes of transmission, vectors, pathology and clinical symptoms of the diseases, collection of specimens and diagnosis of the parasitic diseases, basic management steps of the patients, anti-parasitic drugs that can be used effectively in treatment, prevention and control of the parasitic diseases. Further students will learn about arthropod vectors that are capable of transmitting parasitic diseases to humans and parasitic zoonoses. In addition to the parasitic diseases, during the course students will learn about venomous snakes in Sri Lanka, their identification and management of snakebites.

#### Intended Learning Outcomes

At the end of the programme of study, the medical student would be able to

1. (a) Acquire knowledge and develop skills to diagnose and treat the parasitic diseases commonly found in Sri Lanka.

(b) Educate the general public regarding the preventive measures of the above diseases.

- 2. Be aware of other medically important parasitic diseases in the world and possibility of these occurring in Sri Lanka.
- 3. To have some understanding of the economic loss in a country which could be brought about by widespread parasitic disease.
- 4. Acquire knowledge about parasitic infections in the immunocompromised patient.
- 5. Acquire knowledge about medically important arthropods with special reference to disease in Sri Lanka caused or transmitted by these arthropods.

6. (a) Be skilled in identification of poisonous snakes found in Sri Lanka and the clinical manifestations resulting from bites by them, and the management of such patients.

(b) Be able to recognize common non poisonous snakes found in Sri Lanka specially the ones which mimic the poisonous snakes.

# The Academic Programme

Subject Area	Teaching/Learning Method	Semester
Intestinal and tissue nematodes	Lectures – 20 hours Tutorials/ SGD – 3 hours Practical classes – 9 hours	4
Intestinal protozoans	Lectures – 5 hours Tutorials/ SGD – 1 hour Practical classes – 3 hours	4
Blood and tissue protozoans	Lectures – 13 hours Tutorials/ SGD – 4 hours Practical classes – 6 hours	4& 5
Cestodes and Trematodes	Lectures – 7 hours Tutorials/ SGD – 2 hours Practical classes- 2 hours	5
Arthropod vectors/ Entomology	Lectures – 8 hours Tutorials – 1 hour Practical classes – 3 hours	5
Parasitic Zoonoses	Lectures – 2 hours Tutorials – 1 hour	5
Snakes of Sri Lanka	Lectures – 3 hours Tutorials – 1 hour Practical classes – 2 hours	5

Two continuous assessments will be held in each semester. At the end of the  $5^{th}$  semester the  $3^{rd}$  MBBS part 1 examination will be held.

# **Continuous Assessment 1**

Method of Assessment	No of questions	Marks allocated to 3 <sup>rd</sup> MBBS	Total marks allocated to 3 <sup>rd</sup> MBBS
MCQ & BRQ	(15 +5) 20	5	
SEQ	2	5	
Practical	1	5	
	Total		15

# **Continuous Assessment 2**

Method of Assessment	No of questions	Marks allocated to 3 <sup>rd</sup> MBBS	Total marks allocated to 3 <sup>rd</sup> MBBS
MCQ & BRQ	(15 +5) 20	5	
Practical	1	5	
Total			10

# 3<sup>rd</sup> MBBS Part 1 Examination

Method of Assessment	No of questions	Marks allocated to 3 <sup>rd</sup> MBBS	Total marks allocated to 3 <sup>rd</sup> MBBS
MCQ & BRQ	(15+5) 20	20	
SEQs	4	40	
OSPE	15	10	
Viva	8 minutes	5	
Contribution to 3 <sup>rd</sup> MBBS			75
<b>Continuous Assessment contribution</b>			25
Total marks			100



# 3<sup>rd</sup> MBBS Part 1 Supplementary Examination

Method of Assessment	No of questions	Marks allocated to 3 <sup>rd</sup> MBBS	Total marks allocated to 3 <sup>rd</sup> MBBS
MCQ &BRQ	(15+5) 20	30	
SEQ	4	40	
OSPE	15	20	
Viva	8 minutes	10	
	Total marks		100

#### Recommended textbooks:

- Manson's Tropical Diseases
  Cook GC, Alimuddin IZ
  22<sup>nd</sup> edition, 2009
  Saunders Elsevier, Philadelphia.
- Medical Parasitology 4<sup>th</sup> Edition DR Arora, BrijBala Arora CBS Publishers & Distributors
- Parasites of Man 1<sup>st</sup> edition Edirisinghe SJ Sarvodhaya Vishva Lekha
- Website of the Centre for Disease Control and Prevention <u>www.cdc.gov</u>

# **Supplementary Reading**

- WHO publications: Technical Report Series
  - Lymphatic Filariasis
  - o Parasitic zoonoses
  - o Intestinal Protozoans & Helminthic infections
  - o Management of acute malaria
  - o Control of lymphatic filariasis
  - Hookworm infection and anaemia
  - Drugs used in Parasitic Diseases

- Worms and Human Disease Muller R 2<sup>nd</sup> edition, 2002 CABI publishers, Oxon.
- Basic Clinical Parasitology Neva FA, Brown HW
   6<sup>th</sup> edition, 1996 Appleton & Lange, New York.
- Atlas of Medical Helminthology and Protozoology Jeffrey HC, Crozier H 4<sup>th</sup> edition, 2001 Churchill Livingstone, London.
- Entomology for Students of Medicine Gordon RM, Lavoipierre MMJ 1962
   Blackwell Scientific Publications, Oxford.
- Lecture notes on Medical Entomology Service MW 1986, Blackwell Science, Oxford.



# FORENSIC MEDICINE AND TOXICOLOGY

#### Duration of Course: 3 Semesters

Forensic medicine is one of the oldest and independent streams of medical practice. The terms Forensic medicine, Legal medicine, Medical Jurisprudence, are of almost similar meaning, and interchangeably used to introduce different angles of the discipline. The main function of forensic medicine is to fulfill medical needs of the legal system in the country by filling the gap between medicine and the law. However, one should understand that forensic medicine is based on research and scientific advancements whereas, law is a social art which reflects and controls accepted norms of the social order specific to particular socio-political system at a given time. The subject areas of forensic medicine consist of clinical forensic medicine, forensic pathology, forensic science, forensic anthropology, law and ethics etc.

This course aims at providing students with the knowledge to undertake medico-legal responsibilities in the practice of medicine and also includes criminology and its related medico-legal problems. The knowledge of the law in relation to medical practice, medical negligence and a course on medical ethics are also included.

#### **Intended Learning Outcomes**

At the end of the course, the students shall be able to:

- 1. Identify the basic concepts of medico-legal practice pertaining to health and defense services of the Sri Lanka.
- Make observations and interpret findings at post mortem examinations and clinical forensic investigations covering vast spectrum of cases of medico-legal interest including mechanical trauma, intoxications, occupational hazards, sexual crimes and natural diseases.
- 3. Complete relevant medico-legal reports including post mortem report, medico legal examination form, medico-legal report etc. and submit them to law enforcement authorities.
- 4. Observe and practice the principles of medical ethics in the practice of the medical profession.
- 5. Display the personal attributes of compassion, honesty, and integrity in relationships with patients-victims, police, judiciary, colleagues, families, communities and the medical profession.

- 6. Exhibit a capacity for self-evaluation, moral reflection and ethical reasoning to form the basis for a self-directed, lifelong engagement in the profession.

# The Academic Programme

Subject Area	<b>Teaching/Learning Method</b>	Semester
Legal and ethical aspects of medical practice.	Lectures – 12 hours Tutorials – 2 hours	5
Introduction to forensic medicine and mechanical injuries / injury patterns	Lectures – 14 hours Tutorials – 2 hours Demonstrations – 3 hours	5
Toxicology [Agrochemicals, plant poisons, heavy metals, snake bites, narcotics]	Lectures – 14 hours Tutorials – 1 hour Demonstrations – 1 hour	5/6
Deaths due to asphyxia, mechanical trauma and natural causes, and its medico-legal importance	Lectures – 20 hours Tutorials – 2 hours Demonstrations – 2 hour	6
Sexual offences, child abuse, RTA, maternal deaths and infanticide	Lectures – 18 hours Tutorials – 2 hour Demonstrations– 4 hours	7
Clinical training	2 weeks	6/7



# Continuous Assessments 1 &2 (Semesters 5 and 6), clinical forensic medicine evaluation (Semester 7)

Method of Assessment	No of questions	Marks allocated to 3 <sup>rd</sup> MBBS
MCQ & BRQ	(16 : 4) 20	(5 x 2) 10
Completion of me clinical cases [ML	edico legal reports of EF and MLR]	10

# 3<sup>rd</sup> MBBS Part 2 Examination

Method of Assessment	No of questions	Marks allocated to 3 <sup>rd</sup> MBBS	Total marks allocated to 3 <sup>rd</sup> MBBS
MCQ & BRQ	(32+8) 40	30	
SEQs	4	30	
OSPE		10	
Viva		10	
Contribution to 3 <sup>rd</sup> MBBS			80
Continuous Assessment and medicolegal report/ clinical contribution			20
Total marks			100

# **3rd MBBS Part 2 Supplementary Examination**

Method of Assessment	No of questions	Marks allocated to 3rd MBBS	Total marks allocated to 3rd MBBS
MCQ & SBR	(32+8) 40	30	
SEQs	4	40	
OSPE	10	20	
Viva		10	
Total marks			100

#### **Recommended textbooks:**

- Simpson's Forensic Medicine Payne-James J, Jones R, Karch S, Manlove J 13th edition, 2011 Hodder Arnold Publishers, London.
- Essentials of Forensic Medicine and Toxicology Reddy KS Narayan
   2015, Sugunadevi Publishers, India
- Clinical Forensic Medicine MacLay WD (ed) 2nd edition, 1996, Cambridge University Press, Cambridge.

## **Supplementary Reading**

- Knights Forensic Pathology Pekka S, Knight B 3<sup>rd</sup> Edition, 2013 Arnold, London
- Lecture Notes in Forensic Medicine (Volume I iv) De Alwis LBL
- Management of Poisoning, Fernando R. 1998 National Poisons Information Centre, Colombo.
- Revision Guide in Forensic Medicine PR Ruwanpura 2015, KDU

# PATHOLOGY



# Duration of the course: 4 semesters

Pathology is the scientific study of disease. It is a field that bridges clinical practice with the basic sciences. Pathology encompasses a wide subject area and is therefore sub categorized into the disciplines of histopathology, hematology and chemical pathology.

Histopathology is the study of the macroscopic and microscopic changes in diseased tissue. Hematology deals with the study of the components of blood, their functions and related disorders. Chemical pathology deals with biochemical changes in blood and body fluids (electrolytes, enzymes and proteins etc.) and its association with disease.

During the 4<sup>th</sup> semester, students will start histopathology with general and tumour pathology. General pathology is concerned with the basic reactions of cells and tissues to abnormal stimuli that underlie all diseases. Tumour pathology will introduce the student to the study of tumour characteristics, its clinical manifestations and investigations. They will also get a brief overview of carcinogenesis.

During the 5<sup>th</sup> semester students will start and complete chemical pathology and start systemic pathology with the respiratory and cardiovascular systems. The 6<sup>th</sup> semester will comprise all the lectures scheduled for hematology and a continuation of the lectures on systemic pathology.

During the 7<sup>th</sup> semester students will complete their lectures on the remaining organ systems.

#### Intended Learning Outcomes

#### Histopathology

The student should be able to:

- 1) Demonstrate a disease related vocabulary.
- 2) Describe the different cellular responses to injury and stress.
- Describe the morphological changes in tissues associated with disease processes.
- 4) Explain the relationship between altered morphology and abnormal function.
- 5) Describe the characteristics of benign and malignant neoplasms.
- 6) Explain the basic steps in carcinogenesis.

- 7) List the types of specimen sent to the histopathology laboratory.
- 8) Describe the procedure involved in sending different specimens to the histopathology laboratory.
- 9) Explain the clinical significance of cytopathology and histopathology tests used in the diagnosis and management of systemic disorders.

# **Chemical Pathology**

The student should be able to:

- 1) Explain the pathological basis of biochemical alterations observed in plasma and body fluids in common systemic disorders.
- 2) Select appropriate biochemical investigations to confirm the diagnosis of diseases and monitor management where applicable.
- Describe the principles of test requisition, patient preparation, sample collection and transport requirements related to common general and specialized biochemical investigations
- 4) Interpret the results of biochemical tests, in the context of the overall clinical picture of the patient.

# Haematology

The student should be able to

- 1) Describe the mechanisms of common disease processes involving the blood cells (red cells, white cells, platelets) and the coagulation system.
- 2) Describe the less common haematological disorders.
- 3) Describe the principles of test requisition, patient preparation, sample collection and transport requirements for haematological investigations.
- 4) Describe the common diagnostic tests done in the haematology laboratory.
- 5) Interpret the results of haematological tests, in the context of the overall clinical picture of the patient.
- 6) Explain the principles of blood transfusion.
- 7) Discuss the different blood components used in transfusion practice.
- 8) Explain the principals of managing transfusion reactions.
- 9) Counsel
  - a. patients with life threatening haematological disorders
  - b. patients with hereditary haematological disorders
  - c. potential blood donors



Subject Area	Teaching/Learning Method	Semester
General Pathology	Lectures – 20 hours Tutorials/ SGD – 4 hours Practicals – 5 hours	4
Tumour Pathology	Lectures – 10 hours Tutorials/ SGD – 2 hour Practicals – 2 hours	4
Chemical Pathology	Lectures – 10 hours Tutorials/ SGD – 1 hour Practicals- 5 hours	5
Respiratory Pathology	Lectures – 8 hours Tutorials – 1 hour Practicals – 2 hours	5
Cardiovascular Pathology	Lectures – 8 hours Tutorials – 1 hour Practicals – 2 hours	5
Hematology	Lectures – 15 hours Tutorials – 1 hour Practicals–5 hours	6
Gastrointestinal Pathology	Lectures – 8 hours Tutorials – 1 hour Practicals – 2 hour	6
Hepatobiliary Pathology	Lectures – 6 hours Tutorials – 1 hour Practicals –1 hour	6
Pathology of the Reticulo- endothelial System	Lectures – 2 hours	6
Bone Pathology	Lectures – 2 hours	7
Breast Pathology	Lectures – 2 hours Tutorials – 1 hour Practicals – 1 hours	7
Thyroid Pathology	Lectures – 2 hours Tutorials – 1 hour Practicals – 1 hour	7
Pathology of the Female Genital Tract	Lectures – 4 hours Tutorials – 1 hour Practicals – 1 hour	7

Subject Area	Teaching/Learning Method	Semester
Pathology of the Male Genital Tract	Lectures – 1 hour Practicals – 1 hour	7
Renal Pathology	Lectures – 6 hours Tutorials – 1 hour Practicals – 1 hours	7
Pathology of the Central Nervous System	Lectures – 4 hours Tutorials – 1 hour Practicals – 1 hour	7
Clinical Pathology	Histopathology - 1 week Chemical Pathology – 1 week Haematology – 1 week Blood Bank – 1 week	Appointments will be scheduled within the 6 <sup>th</sup> and 7th semester.

Three continuous assessments will be held at the end of semester 4,5 and 6. At the end of the  $7^{th}$  semester the  $3^{rd}$  MBBS part 2 Examination will be held.

# Continuous Assessments 1, 2 and 3

Method of Assessment	No of questions	Marks allocated to 3 <sup>rd</sup> MBBS	Total marks allocated to 3 <sup>rd</sup> MBBS
MCQ + BRQ	(15+5) 20	5	
Total			(3X5) 15

# 3<sup>rd</sup> MBBS Part 2 Examination

Method of Assessment	No of questions	Marks allocated to 3 <sup>rd</sup> MBBS	Total marks allocated to 3 <sup>rd</sup> MBBS
MCQ & BRQ	(32+8) 40	20	
SEQs	4	40	
OSPE	15	15	
Viva		10	
Contribution to 3 <sup>rd</sup> MBBS			85
<b>Continuous Assessment contribution</b>			15
Total marks			100



# 3<sup>rd</sup> MBBS Part 2 Supplementary Examination

Method of Assessment	No of questions	Marks allocated to 3 <sup>rd</sup> MBBS	Total marks allocated to 3 <sup>rd</sup> MBBS
MCQ & SBR	(32+8) 40	30	
SEQ	4	40	
OSPE	15	20	
Viva		10	
	Total marks		100

# Recommended textbooks:

- Basic Pathology Cotron R, Kumar V, Robbins SL 9<sup>th</sup> edition, 2012 Saunders, Philadelphia.
- Essential Hematology Hoffbrand AV, Pettit JE & Moss PAH 6<sup>th</sup> edition, 2011 Blackwell Publishing, Oxford.
- Clinical Chemistry Marshall WJ, Bangert SK 9<sup>th</sup> edition, 2004 Mosby, Missouri.

# Supplementary Reading:

- General and Systemic Pathology J.C.E Underwood, Simon Cross 5<sup>th</sup> Edition Churchill Livingston.
- Pathology Illustrated Robin Reed, Fiona Roberts, Elaine MacDuff 7<sup>th</sup> Edition, 2011 Elsevier.

- Hematology for the medical student Schmaier AH, Petruzzelli LM 3<sup>rd</sup> edition, 2003 Lippincott Williams & Wilkins, Philadelpia
- Muir's Textbook of Pathology C Simon Herrington 15<sup>th</sup> edition, 2014 CRC Press.



# CLINICAL PHARMACOLOGY AND THERAPEUTICS

#### Duration of course: 4 semesters

Pharmacology comes from the Greek word pharmacon (drug) and logia (study) and provides the scientific basis of drug action at the cellular, biochemical and molecular level. Therapeutics links the combined knowledge of disease and how medicines (drugs) affect it. Doctors of all specialties prescribe medicines on a daily basis and this could be one of the most useful but also one of the most dangerous activities of a doctor.

Clinical pharmacology and therapeutics is an important part of the MBBS curriculum because understanding the principles of clinical pharmacology and therapeutics is important for safe, effective and rational prescribing.

The aim of the discipline of clinical pharmacology and therapeutics is to provide the core knowledge to link the interaction of medicines at the cellular, biochemical and physiological level to a range of beneficial and adverse effects seen in therapeutic use and to the skills to be fulfilled in the prescribing process.

#### Intended learning Outcomes:

By the end of the course the student will

- 1. Have a sound understanding of the basic principles of clinical pharmacology.
- 2. Be able to link their knowledge of pharmacokinetics and pharmacodynamics to safe and effective prescribing both in the normal and special situations.
- 3. Have the knowledge to understand Essential therapeutic problems in the context of Sri Lanka.
- 4. Have the basic knowledge to recognize and explain adverse drug reactions, drug drug, and food drug interactions.
- 5. Understand the importance of the essential medicines list (EML), its specific uses and have the skill to select medicines for the EML.
- 6. Be aware of the processes and ethical issues involved in pharmaceutical research.
- 7. Be able to describe and explain the chemistry, pharmacokinetics, pharmacodynamics, clinical uses, side effects, cautions and contraindications of commonly used medicines in the EML.
- 8. Have the knowledge and skills in:



- a) defining patient's problems (diagnosis);
- b) defining effective and safe treatments (drug and non-drug treatments);
- c) selecting the right medicine, at the right dose, by the right route, at the right time, for the right duration for the right person at the lowest cost to the person and the community
- d) writing a clear prescription;
- e) giving patients adequate information and counseling;
- f) planning and evaluating treatment responses.

# The Academic programme

Subject Area	Teaching/Learning Method	Semester
General Pharmacology	Lectures – 27 hours	4
	Tutorials/ SGD – 12 hours	
	Fixed Learning Module – 4 hours	
Drugs affecting the Autonomic	Lectures – 3 hours	4
Nervous System	Tutorials/ SGD – 2 hours	
Drugs affecting the	Lectures – 10 hours	4
Cardiovascular and Renal systems	Tutorials/ SGD – 3 hours	
Drugs used in treatment of	Lectures – 3 hours	5
Respiratory Disorders	Tutorials/ SGD – 2 hours Skills sessions – 2 hours	
Antimicrobial agents	Lectures – 12 hours	5
-	Tutorials/ SGD – 4 hours	
Drugs used in the treatment of	Lectures – 7 hours	5
Endocrine disease	Tutorials – 5 hours	
	Skills sessions – 2 hours	
Drugs affecting gastrointestinal	Lectures – 5 hours	5
function	Tutorials – 2 hours	
Drugs affecting haematopoeisis	Lectures – 5 hours	5
and coagulation	Tutorials – 2 hour	
Drugs affecting the reproductive	Lectures – 4 hours	6
system	Tutorials – 2 hours	
Drugs affecting the central	Lectures – 12 hours	6
nervous system	Tutorials – 6 hours	
Drugs used in dermatology	Lectures – 2 hours	6
Drugs used in the treatment of	Lectures – 2 hours	6
disorders of the eye, ear, nose	Tutorials/ SGD – 2 hours	
and throat		
Therapeutics	Lectures – 37 hours	7
	Tutorials – 8 hours	

Three continuous assessments will be held at the end of semesters 4,5 and 6. At the end of the  $7^{th}$  semester the  $3^{rd}$  MBBS part 2 Examination will be held.

# **Continuous Assessment 1**

Method of Assessment	No of questions	Marks allocated to 3 <sup>rd</sup> MBBS	Total marks allocated to 3 <sup>rd</sup> MBBS
MCQ & SBR	(15 +5) 20	5	
SEQs	2	5	
Total			10

# Continuous Assessment 2 & 3

Method of Assessment	No of questions	Marks allocated to 3 <sup>rd</sup> MBBS	Total marks allocated to 3 <sup>rd</sup> MBBS
MCQ & SBR	(15 +5) 20	5	
Total			(5x2) 10

# 3<sup>rd</sup> MBBS Part 2 Examination

Method of Assessment	No of questions	Marks allocated to 3 <sup>rd</sup> MBBS	Total marks allocated to 3 <sup>rd</sup> MBBS
MCQ & SBR	(20+20) 40	30	
SEQs	4	30	
OSPE	5	10	
Viva ( based on workbook)		10	
Contribution to 3 <sup>rd</sup> MBBS			80
Continuous Assessment contribution		20	
Total marks		100	

# 3<sup>rd</sup> MBBS Part 2 Supplementary Examination

Method of Assessment	No of questions	Marks allocated to 3 <sup>rd</sup> MBBS	Total marks allocated to 3 <sup>rd</sup> MBBS
MCQ & SBR	(20+20) 40	40	
SEQs	4	40	
OSPE	5	10	
Viva		10	
	Total marks		100

# **Recommended textbooks:**

- Rang and Dale's Pharmacology Rang HP, Dale MM, Ritter JM, Flower RJ & Henderson G 7<sup>th</sup> edition, 2012 Elsevier Churchill Livingstone, London.
- Clinical Pharmacology Bennett PN, Brown MJ, Sharma P 11<sup>th</sup> edition, 2012 Elsevier Churchill Livingstone, London.

#### **Recommended reading for clinical attachments**

- British National Formulary. BMJ group and pharmaceutical Press. Latest ed.
- Australian Prescriber

# Supplementary reading

- Goodman and Gilman's the Pharmacological basis of Therapeutics Katzung BG, Trevor J 12<sup>th</sup> Edition, 2011 McGraw Hill, New York
- Sri Lankan Prescriber



# **PUBLIC HEALTH AND FAMILY MEDICINE**

#### Duration of the course: 4 semesters

The subjects of Public Health and Family Medicine are taught to the students in their third and fourth years. Public Health teaches the student the science and art of preventing disease, prolonging life and promoting health through the organized efforts and informed choices of individuals, communities, society and public and private organizations. Family Medicine teaches students how to apply the concepts and principles of Family Medicine in the management of patients at the level of primary care.

The subject of Public Health, also known as community medicine consists of epidemiology, biostatistics, primary health care, health education and behavior change communication, research methodology, healthcare delivery systems, demography, communicable and non-communicable disease epidemiology, maternal and child health, environmental and occupational health and sanitation, food hygiene, health promotion, behavioural sciences, medical sociology, medical anthropology, healthcare management, human nutrition, disaster management and health economics. The students do a clinical appointment or clerkship, a community attachment, a family attachment and a research project.

The emphasis on the community attachment is health promotion, community diagnosis and community mobilization. The emphasis on the family attachment is behaviour change initiatives mainly with regard to currently prevalent non-communicable diseases. The students are attached to the Medical Officer of Health (MOH) areas of Dehiwala – Mount Lavinia and Ratmalana for the community attachment and the family attachment. The MOH areas are considered as the field training areas of the KDU.

The student research project enables the students to engage in systematic and ethical research under the guidance of the academic staff members of the Faculty. Students conduct their research in the field training area, in hospitals, at the KDU and at any other settings. During the 'clinical' attachment or the clerkship, the student learns about the health system and the supportive sectors, structures and services in Sri Lanka by visiting these places.

Family Medicine or primary care medicine is the discipline that integrates biomedical, behavioural and social sciences to provide curative and preventive care while addressing physical, psychological and social problems



irrespective of age, sex or type of illness. Family Medicine also includes coordination of care and continuity of care. These principles of family medicine/ primary care medicine that distinguishes it from other medical specialities are known to result in improved health outcomes. Classroom teaching as well as visits to private family practices in the community (Family Practice/ GP attachment) and other primary care settings in the state sector, will enable students to learn how to deliver compassionate, person centred and family oriented care to individuals and families and the organization of primary medical care services to the community.

# Intended learning Outcomes of the Public Health Programme

At the end of the course the student should be able to:

- 1. Acquire knowledge, skills and attitudes to assess health status of communities and families and plan and implement appropriate promotive, preventive, curative, and rehabilitative measures within the social, religious, cultural and economic milieu in the community.
- 2. Communicate effectively with the community and health care team for health promotion and disease prevention in order to improve health and prevent disease.
- 3. Acquire knowledge, skills and attitudes to provide promotive, preventive, curative and rehabilitative care to fulfill the health needs of the individual, family and community with responsibility.
- 4. Apply the principles and concepts of epidemiology and statistics and carry out research, describe health issues, assess health status of the community and determine the effects of health interventions in the community.
- 5. Plan, conduct and report research using a scientific and systematic approach to develop skills of critical thinking, logical reasoning and appraisal of medical evidence.
- 6. Demonstrate qualities of a healthcare professional who applies ethical principles in public health practice, in conducting research and in one's personal life.
- 7. Develop commitment to teach health professionals, educate the family and community to promote health and prevent disease.
- 8. Acquire knowledge of the health care delivery system in Sri Lanka, public health control programmes and the relevant legal framework.
- 9. Develop appropriate attitudes towards personal and professional development through reflective practice and life-long learning.



# Intended Learning Outcomes of the Family Medicine Programme

At the end of the programme of study, the student should be able to:

- 1. Describe the doctor-patient relationship and acquire communication skills to elicit biomedical and psychosocial issues to understand the patient's illness experience.
- 2. Use the patient-centred clinical method to take a focused history, carry out a relevant clinical examination, use selective investigations and institute a cost effective management plan after negotiating with the patient to ensure compliance.
- 3. Acquire problem solving skills to sort out minor self limiting illnesses from potentially serious diseases.
- 4. Understand the psychological, social, behavioural and cultural factors that influence a patient's illness behavior and presentation for care.
- 5. Have knowledge and understanding of family dynamics, the individual and family life cycle and factors that have an impact on the family in health and disease.
- 6. Provide comprehensive curative and preventive care for common illnesses, non- communicable diseases, psychosocial problems and emergencies in the office, home or hospital.
- 7. Coordinate a patient's health care through appropriate referral to specialists and other health resources in the community.
- 8. Maintain medical records and provide continuity of care.
- 9. Have knowledge and skills to care for the elderly and to provide end of life care and bereavement care.
- 10. Have knowledge of ethical and legal issues in family practice.

The <i>i</i>	Academic	Programme
--------------	----------	-----------

Subject Area	<b>Teaching/Learning Method</b>	Semester
Epidemiology	Lectures – 19 hours Tutorials/ SGD – 8 hours	4,5
Biostatistics	Lectures – 14 hours Tutorials/ SGD – 3 hours	4,5
Healthcare delivery systems	Lectures – 8 hours Tutorials/ SGD – 2 hours	4,5
Demography	Lectures – 6 hours Tutorials/ SGD – 2 hours	5
Communicable and non communicable disease epidemiology, Public Health Control Programmes of the Ministry of Health	Lectures – 40 hours Tutorials/ SGD – 6 hours	5

Subject Area	<b>Teaching/Learning Method</b>	Semester
Maternal and child health	Lectures – 12 hours Tutorials – 4 hours	6
Environmental and occupational health, Sanitation	Lectures – 12 hours Tutorials – 3 hours	6
Health education, Health promotion and Behaviour Change Communication	Lectures – 12 hours Tutorials – 4 hours	5,6
Healthcare management	Lectures – 6 hours Tutorials/ SGD – 2 hours	7
Public Health Nutrition	Lectures – 8 hours Tutorials/ SGD – 2 hours	7
Clinical appointment	80 hours (4 weeks)	6
Family attachment	45 hours	6,7
Community attachment	45 hours	6,7
Research Project	45 hours	6,7
Family medicine	Lectures– 15 hours SGD – 10 hours	6, 7
Clinical appointment: Family Practice/ GP attachment	40 hours (2 weeks)	6, 7

Three continuous assessments will be held at the end of semesters 4, 5 and 6. At the end of the  $7^{th}$  semester, the  $3^{rd}$  MBBS Part II examination will be held.

# Continuous Assessments 1, 2 and 3

Method of Assessment	No of questions	Marks allocated to 3 <sup>rd</sup> MBBS	Total marks allocated to 3 <sup>rd</sup> MBBS
SEQ	2	5	
Total			(3X5) 15



# 3<sup>rd</sup> MBBS Part 2 Examination

Method of Assessment	No of questions	Marks allocated to 3 <sup>rd</sup> MBBS	Total marks allocated to 3 <sup>rd</sup> MBBS
MCQ & SBR	(32+8) 40	15	
SEQ	5	25	
Main Viva		10	
Research Project Report Viva		3 7	
OSCE/OSPE		10	
Community attachment Report Viva		2.5 5	
Family attachment Report Viva		2.5 5	
Contribution to 3 <sup>rd</sup> MBBS		85	
<b>Continuous Assessment contribution</b>		15	
Tota	l marks		100

# 3<sup>rd</sup> MBBS Part 2 Supplementary Examination

Method of Assessment	No of questions	Marks allocated to 3 <sup>rd</sup> MBBS	Total marks allocated to 3 <sup>rd</sup> MBBS
MCQ & SBR	(32+8) 40	30	
SEQ	5	40	
OSPE		20	
Main Viva		10	
	Total marks		100

# **Recommended textbooks:**

In Public Health:

- Basic Epidemiology. Beaglehole R, Bonita R. & Kjellström T 2<sup>nd</sup> edition, 2006, World Health Organization.
- Park's Textbook of Preventive and Social Medicine. Park K 21<sup>st</sup> edition, 2011, Banarsidas Bhanot Publishers, Jabalpur.



- An Introduction to Medical Statistics. Bland M 3<sup>rd</sup> edition, 2000, Oxford University Press, Oxford
- Ageing population in Sri Lanka: Issues and future prospects. Siddhisena KAP. UNFPA and Population Association of Sri Lanka.
- Annual Health Bulletins, Ministry of Health, Colombo.
- Weekly Epidemiological Reports and Quarterly Epidemiological Bulletins, Epidemiology Unit, Colombo.
- Other booklets, circulars, leaflets etc of the units of Ministries of Health, Social Services, Environment, Labour etc, World Health Organisation, Sri Lanka Medical Association, UNFPA, UNICEF etc and their websites

In Family Medicine:

- General Practice. Murtagh J, Third Edition, 2003, McGraw Hill Companies, Australia
- Lecture Notes in Family Medicine. Nandani de Silva, 2nd Edition, 2006, Sarvodaya Vishwa Lekha, Sri Lanka. Reprinted 2012.
- Essentials of Family Practice. Antoinette Perera, John Murtagh, 2007, Sarvodaya Vishwa Lekha.
- A textbook of Family Medicine. McWhinney IR. 1989, Oxford University Press.
- Essentials of Family Medicine. Sloane PD, Slatt LM, Ebell MH, Jacques LB.4<sup>th</sup> Edition, 2002, Lippincott Williams and Wilkins, Baltimore, USA.

# THE CLINICAL SCIENCES

The student will study the clinical science subjects from 6<sup>th</sup> to 10<sup>th</sup> semesters. Clinical sciences include five main subjects including Clinical Medicine, Obstetrics and Gynaecology, Paediatrics, Psychiatry and Surgery. These subjects are the cornerstones of medicine for a practising physician. The teaching-learning activities of these subjects include lectures, tutorials and clinical training.

The main assessment in the clinical sciences programme is the final MBBS examination, held at the end of the 10<sup>th</sup> semester assessing all 5 subjects. Meanwhile, end professorial assessments, mock exams, tutorials will be conducted at the end of each topic. To pass the Final MBBS examination, in each of the subjects, the student should score a minimum of 45% in theory papers and 50% in clinicals. A candidate obtaining 70% or more in a subject in the first attempt will be awarded a distinction pass in that subject.

# MEDICINE

# Duration of Course: 7 Semesters

The subject of clinical medicine aims to impart knowledge on recognition of diseases and disorders of internal medicine. The student will be taught the subject and skills required in the identification of physical signs and symptoms, the indications for basic and specific investigations in order to formulate a differential diagnosis and the ability to make a general and pharmacological management plan for treatment. The student will also develop the ability to explain medical conditions, their treatment and prognosis as well as the skills in establishing a good rapport with patients, their relatives and other medical colleagues.

#### **Intended Learning Outcomes**

On completion of the series of lectures, tutorials, question based learning and clinical training the student will be able to

- 1. Recognise diseases/ disorders of internal medicine.
- 2. Identify physical signs and symptoms of the conditions.
- 3. Relate with knowledge of possible underlying causes.
- 4. Determine indications for basic and relevant specific investigations.
- 5. Interpret basic and specific investigations results relevant to different diseases/conditions.
- 6. Outline general and pharmacological management plans for the condition.
- 7. Explain the outcome and prognosis of the condition.



- 8. Develop good rapport, trust and ethical relationships with patients and families.
- 9. Communicate relevant information and explanations effectively with the patients, families, colleagues and other professionals.
- 10. Adopt the medical ethics applied to professional practise in all areas of internal medicine.

#### The Academic Programme

Subject Area	Teaching/Learning Method	Semester
Cardiovascular System	Lectures – 15 hours Tutorials/ SGD/ PBL – 4 hours	6,7
Respiratory System	Lectures – 10 hours Tutorials/ SGD/ PBL – 3 hours	6,7
Central Nervous System	Lectures – 11 hours Tutorials/ SGD – 3 hours	7,8
Nephrology	Lectures – 8 hours Tutorials/ SGD/ PBL – 2 hours	8
Gastroenterology/ Liver Pancreas	Lectures – 10 hours Tutorials/ SGD/ PBL – 3 hours	8
Endocrine and Metabolic Disorders	Lectures – 14 hours Tutorials/ SGD/ PBL – 4 hours	8
Haematology	Lectures – 10 hours Tutorials/ SGD/ PBL – 2 hours	8
Infections	Lectures – 9 hours Tutorials/ SGD/ PBL – 2 hours	9
Rheumatology	Lectures – 5 hours Tutorials/ SGD/ PBL – 2 hours	9
Dermatology	Lectures – 6 hours	9
Geriatrics	Lectures – 6 hours	9
Medical Ethics	Lectures – 4 hours	9
Special Topics	Lectures – 5 hours	9
Nuclear Medicine	Lectures – 3 hours	9
Naval Medicine	Lectures – 3 hours	9
Aviation Medicine	Lectures – 3 hours	9

N.B. 4 tutorials will be held on the final 6 topics.

There will be 10 tutorials and 30 PBLs on various topics in the  $10^{th}$  Semester.

# **Clinical appointments**

Speciality	Duration
General Medicine (1 <sup>st</sup> )	8 weeks
General Medicine (2 <sup>nd</sup> )	8 weeks
Cardiology	2 weeks
Rheumatology	2 weeks
Neurology	2 weeks
Nephrology	2 weeks
Sexually Transmitted Diseases	2 weeks
Dermatology	2 weeks
Pulmonology	2 weeks
Blood Bank	2 weeks
Oncology	2 weeks
Radiology	2 weeks
Professorial Appointment	8 weeks

During the clinical appointments in semesters 9 and 10, 15 ward classes will be held per semester.

#### Assessments

One continuous assessment will be held at the end of the professorial appointment. At the end of the 10<sup>th</sup> semester the final MBBS examination will be held.

#### **Continuous Assessment**

Method of Assessment	Marks allocated to Final MBBS	Total marks allocated to Final MBBS
OSCE	10	
Viva	10	
Total		20

# **Final MBBS Examination**

Method of Assessment No of questions	Marks allocated to Final MBBS	Total marks allocated to Final MBBS
Paper 1 – MCQs	20	
Paper 2 – SEQs	20	
Long case – 1 case	20	
Short cases – 4 cases	20	
Contribution to final MBBS examination		80
<b>Continuous Assessment contribution</b>		20
Total marks	5	100


### **Final MBBS Supplementary Examination**

Method of Assessment No of questions	Marks allocated to Final MBBS	Total marks allocated to Final MBBS
Paper 1 – MCQs	20	
Paper 2 – SEQs	30	
Long case	25	
Short case – 4 cases	25	
Total marks		100

### **Recommended Textbooks:**

- Kumar and Clark's Clinical Medicine, Kumar P, Clark M
   8<sup>th</sup> edition, 2012
   Saunders Elsevier, Philadelphia.
- Davidson's Principles and Practice of Medicine, Colledge NR, Walker BR, Ralston SH (eds) 21<sup>st</sup> edition, 2010 Churchill Livingstone, London.
- Oxford Hand Book of Clinical Medicine Longmore M, Wilkinson I (eds) 8<sup>th</sup> edition, 2010 Oxford University Press, Oxford.
- Hutchinson's Clinical Methods, Glynn M, Drake W (eds) 23<sup>rd</sup> edition, 2012 Saunders Ltd, Philadelphia.
- Macleod's Clinical Examination Douglas G, Nicol F, Robertson C 12<sup>th</sup> edition, 2013 Churchill Livingstone, London.

### SURGERY



### Duration of Course: 7 Semesters

During this course, the student will be imparted the necessary knowledge and skills to evaluate simple surgical problems and manage them. In order to do so the student is taught history taking in an orderly manner, eliciting the physical signs and interpreting them. Further knowledge will develop the ability to formulate a differential diagnosis. Students are expected to learn the common procedures performed in a surgical ward and be able to perform them during their internship and thereafter. The students will also be taught the method of identifying major surgical problems: critical illnesses and emergencies in the field of surgery that require senior review and intervention. During the clinical appointments the student is expected to acquire knowledge, perform pre operative preparation and to manage the post operative period of a variety of surgical problems. In addition they are expected to acquire experience in the doctor- patient relationship, dealing with relatives of patients, working with other categories of staff in the hospital environment, ethics and documentation. The aim of the course is to enable the student to work in a surgical ward as a house officer after passing the final MBBS examination and as a competent medical officer thereafter. This is the foundation of surgery upon which students who choose to proceed with postgraduate training in surgery will build on.

### Intended Learning Outcomes

On completion of the series of lectures, tutorials, laboratory skills and clinical training the student is expected to be able to

- 1. Obtain a history and elicit physical signs in a surgical patient.
- 2. Formulate a differential diagnosis and arrive at a working diagnosis.
- 3. Choose the basic investigations to be done to confirm the diagnosis and their interpretation.
- 4. Choose the special investigations required and request them in consultation with seniors.
- 5. Formulate and carry out an initial treatment plan.
- 6. Perform the initial management of surgical emergencies including trauma with the help of seniors.
- 7. Communicate with relatives and patients whilst maintaining professionalism and ethics.
- 8. Develop healthy relationships with colleagues and hospital staff.



Subject Area	Teaching /Learning Method	Semester
Preoperative care	Lectures – 8	6
	Tutorials/SGDs/Skills/PBL -4	
<b>Basic Surgical techniques</b>	Lectures – 3	6
	Tutorials/SGDs/Skills /PBL-2	
Medico-legal Aspects	Lectures – 1	6
	Tutorials/SGDs/Skills -4	
Vascular Surgery	Lectures –5	6
	Tutorials/SGDs/Skills -2	
Thorax	Lectures –1	6
	Tutorials/SGDs/Skills -2	
Head and neck	Lectures –3	6
	Tutorials/SGDs/Skills -1	
GIT	Lectures –9	7
	Tutorials/SGDs/Skills -8	
Hepatobiliary system and	Lectures – 4	7
pancreas	Tutorials/SGDs/Skills -2	
Abdominal	Lectures –3	7
wall/Abdomen	Tutorials/SGDs/Skills -1	
Musculoskeletal	Lectures –6	7
disorders	Tutorials/SGDs/Skills -1	
Endocrine Surgery	Lectures – 4	7
	Tutorials/SGDs/Skills -2	
Management of	Lectures –11	8
trauma/Critical care	Tutorials/SGDs/Skills -10	
Chemical, Radiological	Lectures –5	8
<b>Biological and Nuclear</b>	Tutorials/SGDs/Skills -2	
Warfare		
Principles of oncology	Lectures –6	8
	Tutorials/SGDs/Skills -6	
Urology	Lectures –8	9
	Tutorials/SGDs/Skills -8	
Paediatric Surgery	Lectures –7	9
Eye	Lectures –2	9
ENT	Lectures –3	9
(Otorhinolaryngology)		
Radiology and current	Lectures –3	9
concepts		
Skills / Laboratory session	Hours 12	1 & 10

### **Clinical appointments**

	Speciality	Duration
1	General Surgery (1 <sup>st</sup> )	8 weeks
2	General Surgery (2 <sup>nd</sup> )	8 weeks
3	Orthopaedic Surgery /	4 weeks
4	Otorhinolaryngology(ENT)	2 weeks
5	Urology	2 weeks
6	Ophthalmology	2 weeks
7	Trauma	2 weeks
8	Vascular	2 weeks
9	Anaesthesiology and Critical Care	1 weeks
10	Oncosurgery	2 weeks
11	Vascular surgery	1 week
	Total number of weeks	34 weeks

Professorial clinical appointment		
Surgery 8 weeks		

During the clinical appointments in semester 9 and 10, ward classes will be held. **Assessments** 

One continuous assessment will be held at the end of the professorial appointment. At the end of the  $10^{th}$  semester the final MBBS examination will be held.

### **Continuous Assessments**

Method of Assessment	Marks allocated for final MBBS	Total Marks allocated for final MBBS
OSCE	10	
Viva	10	
Total		20

### **Final MBBS Examination**

Method of Assessment No of questions	Marks allocated to final MBBS	Total Marks allocated to final MBBS
Paper 1 – MCQs	20	
Paper 2 – SEQs	20	
Long case – 1case	20	
Short cases	20	
Total		80
Continuous assessments		20
Total marks		100



### **Final MBBS supplementary Examination**

Method of Assessment No of questions	Marks allocated to final MBBS	Total Marks allocated to final MBBS
Paper 1 – MCQs	20	
Paper 2 – SEQs	30	
Long case – 1case	25	
Short cases	25	
Total marks		100

### **Recommended textbooks:**

- Bailey & Love's Short Practice of Surgery Williams N, Bulstrode C, O'Connell PR (eds) 26<sup>th</sup> edition, 2013 Arnold Publications, London.(Hodder Headline Group)
- Lecture Notes: General Surgery Ellis H, Calne R, Watson C 12<sup>th</sup> edition, 2011 Wiley-Blackwell, Oxford.
- Browse's Introduction to the Symptoms and Signs of Surgical Disease. Black J, Browse NL, Burnand KG, Thomas WEG 4<sup>th</sup> edition, 2005 Hodder Arnold Publications, London.

### **Supplementary Reading**

- Clinical Surgery made easy 1<sup>st</sup> Edition 2008 TFM Publishing Ltd
- Hamilton Bailey's Physical Signs. Demonstrations of physical signs in clinical surgery
  Lumley JSP (ed)
  18<sup>th</sup> edition, 1997
  Butterworth Heinemann, Oxford.

### PAEDIATRICS



### Duration of Course: 7 Semesters

Paediatrics is the branch of medicine that deals with the care of infants, children, and adolescents. The age limit ranges from birth up to 18 years of age. However, from country to country due to practical considerations the upper limit may vary from 12 years to 18 years. In the USA pediatrics extends till the age of 21 years of age.

A medical practitioner who specializes in paediatrics is known as a paediatrician. The word *paediatrics* means "healer of children". It is derived from the two Greek words *"pais"* meaning child and *"iatros*" meaning healer.

A child is a part of a family and a larger community. Hence, a paediatrician needs to work with members of families and communities in caring for children. Therefore, Pediatricians work both in hospitals as well as in the primary health care settings in communities.

Paediatrics encompasses all issues relating to child health. Hence, growth, nutrition, development and immunization all fall within the gambit of paediatrics, apart from the usual childhood diseases. The assessment of nutritional status and monitoring of growth and development are integral to paediatrics. The detection and management of abnormal growth and delayed development is an essential component of paediatric practice. Childhood immunization is another area, which is closely linked to child health and overall well-being.

Children are not miniature adults and paediatrics differs vastly from adult medicine. These differences are seen right across the pediatric practice. For example, although history taking is a very important skill in paediatrics as well as in all other branches of medicine, the pediatric patient may not be able to give a comprehensive history. Hence, the role of parent or guardian becomes vital. Also the format and technique of physical examination as well as the differential diagnoses reached, differ considerably between the different age groups within paediatrics. In the management of illnesses, the pediatric patient should be seen as a part of a family and community rather than an isolated entity. The circumstances or the family and the community should be considered if a successful outcome is to be expected.

This course aims to impart the knowledge and skills required for the medical student to work in a paediatric ward as an intern house officer and later on as a primary health care provider for children and families..

### **Intended Learning Outcomes**

### **General Objectives**

At the end of the course the graduate should be able to

- 1. Diagnose and treat common childhood diseases.
- 2. Identify and refer conditions needing specialized management.
- 3. Manage a paediatric emergency in a primary care setting.
- 4. Advice individuals, families and community on maintaining a child in good health.
- 5. Function as a house officer in a paediatric unit in a Base/General/Teaching hospital in Sri Lanka.
- 6. Understand the scientific basis of paediatrics in order to proceed to further specialization in the subject if he/she so desires.

### Specific objectives of clinical training

At the end of the clinical training the student should be able to

- 1. Take a complete and relevant paediatric history.
- 2. Do a complete and relevant physical examination of a neonate, infant, preschool and a school child.
- 3. Assess growth using appropriate growth charts.
- 4. Do a basic developmental screening.
- 5. At the end of history and physical examination the student should be able to
  - a. give a probable diagnosis and differential diagnosis.
  - b. give reasons for arriving at the diagnosis.
  - c. compile a list of problems that the child has.
  - d. suggest investigations needed to confirm the diagnosis.
  - e. interpret the investigation results.
  - f. draw up a plan of management.
  - g. write a prescription appropriate for the child.
  - h. explain to the parents in simple language, the problem that the child has and what needs to be done.
  - i. summarize the patients problems adequately to a group.
  - j. write clear concise and relevant progress notes for the patient.
  - k. write a diagnosis card (discharge summary) for the patient.

The Academic Programme

Subject Area	Teaching/Learning Method	Semester
Introduction to Paediatrics	Lecture 2 hours	6
Care of the child 1 to 5 years	Lecture 6 hours	6
The new born	Lectures 20 hours Tutorials 4 hours	7
	Slide show 2 hours	
Growth and development	Lectures 12 hours	7
	Tutorials- 2 hours	
	Slide show 2 hours	
Nutrition	Lectures 16 hours	7
	Tutorials – 4 hours	
Immunization	Lectures 2 hours	7
Childhood infections	Lectures 10 hours Tutorials 2 hours	7
Cardiovascular diseases	Lectures 10 hours Tutorials 2 hours	8
Respiratory diseases	Lectures 10 hours Tutorials 4 hours	8
Gastrointestinal disease	Lectures 6 hours Tutorials 2 hours	8
Genitourinary diseases	Lectures 10 hours Tutorials 2 hours	8
Central Nervous system diseases	Lectures 8 hours Tutorials 2 hours	8
Paediatric Haematology	Lectures 8 hours Tutorials 2 hours	8
Paediatric Endocrine disorders	Lectures 10 hours Tutorials 2 hours	8
Paediatric oncology and immunology	Lectures 8 hours Tutorials 2 hours	9
Orthopaedic problems in children	Lectures 4 hours Slide show 2 hours	9
Child psychiatry	Lectures 4 hours Tutorials 2 hours	9
Miscellaneous topics	Lectures 10 hours	9

### Description of the course

Paediatrics will be taught from semester 3. Teaching activities will include 3 clinical appointments and theoretical teaching.

### **Theoretical Teaching**

Theoretical teaching will be in the form of lectures, tutorials and small group discussions.

NB: 30 Tutorials will be held on selected topics during semesters 6-10.

### Integrated Ward Class

08 Integrated Ward Classes will be done during the professorial appointment.

### **Clinical Appointments**

The 1<sup>st</sup> and the 2<sup>nd</sup> clinical appointments will be during the 3<sup>rd</sup> to 5<sup>th</sup> semesters. These will be of 4 weeks duration. These appointments will be carried out in teaching / base hospital paediatric wards under the guidance of a consultant paediatrician.

Clinical appointments		
Speciality	Duration	
Paediatrics (1 <sup>st</sup> )	4 weeks	
Paediatrics (2 <sup>nd</sup> )	4 weeks	
Professorial Appointment	8 weeks	

### 110103301

### Assessments

One continuous assessment will be held at the end of the professorial appointment. At the end of the 10<sup>th</sup> semester the final MBBS examination will be held.

### **End Professorial Assessments**

Method of Assessment No of questions	Marks allocated to each component	Total marks allocated to Final MBBS
Clinical	5	
MCQs	5	
OSCE	5	
Social Paediatric Viva	5	
Total		20



### **Final MBBS Examination**

Method of Assessment	Marks allocated to each component	Total marks allocated to Final MBBS
Paper 1 – MCQ/BRQ (SBR)	20	
Paper 2 – SEQ	20	
Long case – 1 case	20	
Short case – 02 cases	20	
Contribution from summative examination		80
<b>Continuous Assessment contribution</b>		20
Total marks		100

### Final MBBS Supplementary Examination

Method of Assessment No of questions	Marks allocated to each component	Total marks allocated to Final MBBS
Paper 1 – MCQ	25	
Paper 2 – SEQ	25	
Long case- 1 case	25	
Short case – 02 cases	25	
Total marks		100

#### **Recommended textbooks:**

- The Illustrated Textbook of Paediatrics Lissauer T, Clayden G 4<sup>th</sup> edition, 2011 Mosby Elsevier, Missouri
- Essential Paediatrics Hull D, Johnston DI Latest edition, Churchill Livingstone, London.
- Hospital Paediatrics, Milner AD, Hull D Latest edition, Churchill Livingstone, London.
- Ghai Essential Paediatrics
   Vinod K Paul, Araum D Bagga 8<sup>th</sup> edition
- Text Book of Paediatrics
   Fofar and Arneil
   Latest edition

### Supplementary reading

• Nelson's Textbook of Paediatrics Latest edition



### **OBSTETRICS AND GYNAECOLOGY**

### Duration of Course: 7 semesters

The subject of obstetrics and gynecology is a surgical and medical specialty that focuses mainly on the female reproductive system and the care of women. However when appropriate other systems such as the cardiovascular and endocrine systems are studied and discussed.

Obstetrics focuses on physiological and abnormal events related to pre-pregnancy, pregnancy, childbirth and the puerperium. Gynecology is geared towards general healthcare of females from adolescent to menopause, with a special focus on physiological and pathological conditions in the female reproductive organs.

### Intended Leaning outcomes

On completion of the course the students should acquire the required knowledge, skills and attitudes to function under supervision and mentorship as an intern house officer and later as a medical officer in obstetrics and gynaecology at main hospitals, primary health care institutions and private sector to provide the best care with a humane approach.

As a medical officer he/she should also acquire the skill to seek advice and to refer to appropriate institutions or specialists at the earliest when it is not possible to provide what is best for the patient and the family.

It is desirable for the students to acquire the correct mind set to continue in further education to keep abreast with the constantly evolving advances in obstetrics & gynaecology.

To achieve above the following key learning objectives are formulated and implemented during the course.

- 1. Counsel and manage all aspects of normal pregnancy, labour, delivery and puerperium without any further resident training.
- 2. Counsel and manage common gynaecological problems without further resident training.
- 3. Provide the initial management of common obstetric & gynaecological emergencies without further resident training.
- 4. Recognize common abnormalities of pregnancy, labour, delivery and puerperium and to understand the principles of management of such abnormalities.
- 5. Describe principles of early diagnosis of gynaecological malignancies and other important gynaecological problems.



- 6. Perform duties of an intern house officer in obstetrics & gynaecology under supervision following graduation.
- 7. Provide basic care at primary and secondary level to pregnant women during antenatal, labour and puerperium.
- 8. Diagnose and manage gynaecological problems as a medical officer in the state sector or as a family practitioner.
- 9. Counsel and promote prevention and methods available for screening of obstetric and gynaecological problems.
- 10. Show continued desire to broaden knowledge by further self study and research.
- 11. Value the importance of Continued Professional Development.
- 12. Acquire and demonstrative communication skills and attributes of professionalism.
- 13. Function as an effective member in a health team.
- 14. Establish a foundation to further specialize in obstetrics & gynaecology if desired to do so.



The Academic Programme

Subject Area	Teaching/Learning Method	Semester
Introduction, History taking and	Lectures –3 hours	6
examination	Tutorial/skills – 2 hours	
Good clinical practice, evidence based medicine and the WHO reference library	Lectures – 1 hour	6
Obstetrics and Gynaecology in the community	Lectures – 1 hour	6
Physiological changes in pregnancy	Lectures – 1 hour	6
Antenatal care	Lectures – 6 hours Tutorial – 4 hours	6,7
Labour and complications of labour	Lectures – 6 hours Tutorials/ Skills – 12 hours	6,7
Post natal care	Lectures – 1 hour	6,7
Pre-eclampsia/ eclampsia	Lectures – 1 hour Tutorial – 2 hours	7,8
Medical complications of pregnancy	Lectures – 4 hours Tutorials – 2 hours	7,8
Caesarean section and post operative care	Lectures – 1 hour	7,8
Causes and management of death in utero	Lectures – 1 hour	8,9
Multiple pregnancy, abnormal lie and presentation	Lectures – 2 hours Tutorials/skills – 2 hours	8,9
Viral infections and sexually transmitted disease	Lectures – 1 hour	8,9
Drugs in pregnancy and lactation	Lectures – 1 hour	8,9
Blood group incompatibility	Lectures – 1 hour	8,9
Human genetics and genetic disorders	Lectures – 1 hour	8,9
Code of conduct for medical officers, ethics, reproductive health and sexual rights	Lectures – 1 hour	8,9
Complications of early pregnancy	Lectures – 1 hour	8,9
Disorders of genetic and acquired abnormalities of HPOE axis.	Lectures – 1 hour	8,9
Gynaecological disorders	Lectures – 17 hours Tutorials/ skills – 14 hours	9,10
Revision ad Exam technique	Lecture – 1 hour	9,10



NB. In addition to the above there will be 10 problem based learning classes on selected topics.

The syllabus of the training programme consists of 21 modules. Under each module the content areas, objectives, outcomes and teaching methods are described in detail. These will be made available to the students on commencement of this course.

### Methods of training

The training will include lectures, tutorials, seminars, problem based learning, reflective learning, self study and clinical training. The summaries of key teaching activities are indicated in the tables below.

### Summary of clinical teaching activities

During the clinical appointments there shall be face to face teaching facilitated by the teachers and self learning activities in the wards, clinics, diagnostic units, labour ward and operating theatres. During the clinical appointments the portfolio/logbook should be maintained.

APPOINTMENT	DURATION	SEMESTER
<b>Obstetrics &amp; Gynaecology (1<sup>st</sup>)</b>	4 weeks	7
<b>Obstetrics &amp; Gynaecology (2<sup>nd</sup>)</b>	4 weeks	8
Professorial O & G	8 weeks	9 and 10
TOTAL	16 weeks	

### Assessments

There shall be two forms of assessments; Continuous (formative) and final MBBS (summative)

The continuous assessment will be held at the end of the professorial appointment. At the end of the  $10^{th}$  semester the final MBBS examination will be held.



### **Continuous Assessment (formative)**

Method of Assessment	Marks allocated to Final MBBS	Total marks allocated to Final MBBS
OSCE	10	
Viva	10	
Total		20

### Final MBBS Examination (summative)

Method of Assessment	Marks allocated to Final MBBS	Total marks allocated to Final MBBS
Paper 1 - MCQ	20	
(20 true/false and 30 SBA questions)		
Paper 2 – SEQ (6 questions)	20	
Long case – 2 cases (one case each for Obstetrics and Gynaecology)	40	
Contribution to final MBBS examination		80
Continuous Assessment contribution		20
Total marks		100

### **Final MBBS Supplementary Examination**

Method of Assessment No of questions	Marks allocated to 2 <sup>nd</sup> MBBS	Total marks allocated to 2 <sup>nd</sup> MBBS
Paper 1 - MCQ (20 true/false and 30 SBA questions)	20	
Paper 2 - SEQ (5 questions)	30	
Long case – 2 cases (one case each for Obstetrics and Gynaecology)	50	
Total marks		100



### **Recommended textbooks**

- Obstetrics Illustrated Authors: Kevin P. Hanretty Edition: 7<sup>th</sup> Year of publication: 2009
- Gynaecology Illustrated Authors: Catrina Bain, Kevin Burton, Jay McGavigan Edition: 6<sup>th</sup> Year of publication: 2010
- Text Book of Obstetrics Author: D.C.Dutta Edition: 5<sup>th</sup> Year of publication: 2009
- Text Book of Gynaecology Author: D.C.Dutta Edition: 5<sup>th</sup> Year of publication: 2009
- Obstetrics by Ten Teachers Authors: Philip Baker, Louise Kenny Edition: 19<sup>th</sup> Year of publication: 2011
- Gynaecology by Ten Teachers Authors: Ash Monga, Stephen Dobbs Edition: 19<sup>th</sup> Year of publication: 2011



### **Supplementary Reading**

- Oxford Handbook of Obstetrics and Gynaecology Authors: Sally Collins, Sabaratnam Arulkumaran, Kevin Hayes Edition: 2<sup>nd</sup> Year of publication: 2011
- Clinical Obstetrics by Ten Teachers Authors: Philip Baker, Louise Kenny Edition: 19<sup>th</sup> Year of publication: 2011
- Clinical Obstetrics and Gynaecology Authors: J.Drife, B.Magowan Edition: 2<sup>nd</sup> Year of publication: 2009
- WHO Reproductive Health Library www.who.int/rhl

## **PSYCHIATRY**



Psychiatry is a branch of medical science concerned with mental and behavioural disorders. It is one of the five major clinical disciplines examined in the final MBBS examination.

During this course, a student will be imparted the necessary knowledge, skills and attitudes to recognize and evaluate common psychiatric and behavioural problems and manage them.

Students will also learn to identify problems which require referral to specialized treatment. The aim of the course is to enable a student to be able to identify and do the basic management till referred to specialized care for behavioural problems seen in general hospital settings as a competent house officer and a general medical officer thereafter. This will be the foundation of Psychiatry upon which students who choose to proceed with postgraduate training in psychiatry will build on.

#### **Intended Learning Outcomes**

#### General Objectives

At the end of the course the student should be able to,

- 1. Organize clinical data from psychiatric interview and mental status examination to hypothesize reasonable psychiatric diagnoses and psychosocial circumstances or stressors.
- 2. Demonstrate knowledge about common psychiatric presentations.
- 3. Recognize potential risks and psychiatric emergencies among general medical patients.
- 4. Demonstrate knowledge about commonly available psychiatric medication.
- 5. Identify and refer conditions needing specialist management.
- 6. Understand the parameters of ethical clinical practice.
- Demonstrate knowledge about medical and medico-legal interventions (psychiatric referrals, involuntary commitment, judgments of medical incompetence).
- 8. Demonstrate ability in psycho-education.
- 9. Be familiar with psychiatric services available in Sri Lanka.
- 10. Understand the scientific basis of psychiatry in order to proceed to further specialization if the student desires.



### Specific Objectives of Clinical Training

At the end of the clinical training the student should be able to,

- 1. Demonstrate the ability to conduct a psychiatric interview and perform a mental state examination.
- 2. Give a probable diagnosis and differential diagnosis giving reasons for justification.
- 3. Recognize the clinical characteristics of the following mental disorders: major depression, bipolar disorder, schizophrenia, schizoaffective disorder, panic disorder, generalized anxiety disorder, PTSD, obsessivecompulsive disorder, personality disorders, substance use disorders, cognitive disorders, organic psychiatric conditions, psychiatric conditions related to general medical disorders, disorders in puerperium, acute stress and adjustment disorders, somatoform disorders, attention-deficit/hyperactivity disorder (ADHD) and other common childhood conditions.
- 4. The student will demonstrate the ability to provide coherent, thoughtful presentations of psychiatric patients in both oral and written forms.
- 5. The student will recognize indications for treatments of patients with mental disorders.
- 6. Be familiar with laboratory and other types of testing (e.g., psychological tests).
- 7. The student will demonstrate the ability to work in a multidisciplinary team.
- 8. The student will demonstrate the capacity to respond appropriately to constructive feedback given by instructors.



The Academic Programme

Subject Area	Teaching/Learning Method	Semester
Introduction to psychiatry	Lectures – 1 hour	4
History taking and assessment of mental state	Lectures – 3 hours	4, 8
Psychopathology	Lectures – 2 hours	8-10
Classification of psychiatric disorders	Lectures – 2 hours	8-10
Delirium	Lectures – 2 hours	8-10
Dementia	Lectures – 1 hour	8-10
Alcohol and psychoactive substance disorders	Lectures – 4 hours	8-10
Schizophrenia and other psychotic disorders	Lectures – 4 hours	8-10
Affective disorders	Lectures – 4 hours	8-10
Generalized anxiety disorder and Panic disorder	Lectures – 2 hours	8-10
Phobic disorder	Lectures – 2 hours	8-10
Obsessive compulsive disorder	Lectures – 2 hours	8-10
Stress related illnesses	Lectures – 2 hours	8-10
Defence Mechanisms	Lectures – 2 hours	8-10
Deliberate self-harm	Lectures – 2 hours	8-10
Dissociative disorders	Lectures – 2 hours	8-10
Somatization disorders	Lectures – 2 hours	8-10
Sleep, eating and sexual disorders	Lectures – 4 hours	8-10
Pregnancy and postpartum disorders	Lectures – 2 hours	8-10
Personality Disorders	Lectures – 2 hours	8-10
Child psychiatry	Lectures – 10 hours	8-10
Intellectual disability	Lectures – 2 hours	8-10
Forensic psychiatry	Lectures – 2 hours	8-10
Community psychiatry	Lectures – 2 hours	8-10
Medically unexplained physical symptoms	Lectures – 2 hours	8-10
Emergencies in psychiatry	Lectures – 2 hours	8-10
Military Psychiatry	Lectures – 4 hours	8-10
Psychopharmacology and other treatments in psychiatry	Lectures – 2 hours	8-10
Psychological treatments	Lectures – 4 hours	8-10



NB: 30 Tutorials/PBL/Seminars will be held on selected topics during semesters 8-10.

### **Clinical appointments**

Speciality	Duration
Psychiatry (1 <sup>st</sup> )	4 weeks
One week at Military Hospital	
Professorial Appointment	8 weeks

During the clinical appointments in semesters 9 and 10, 15 ward classes will be held per Semester.

### Assessments

One continuous assessment will be held at the end of the professorial appointment. Continuous assessment in psychiatry will constitute a viva based on the case book. At the end of the 10<sup>th</sup> semester, the final MBBS examination will be held.

### **Continuous Assessment**

Method of Assessment	Marks allocated	Total marks allocated to Final MBBS
Case book based viva	10	10

### Final MBBS Examination

Method of assessment	Marks allocated to Final MBBS	Total marks allocated to Final MBBS
Paper 1 – MCQ/BRQ (50)	25	
Paper 2 – SEQ	25	
Long case- 01 case	25	
OSCE/Short Case- 04 cases	15	
Contribution from summative examination		90
Continuous assessment contribution		10
Total marks		100



### **Final MBBS Supplementary Examination**

Method of Assessment	Marks allocated to Final MBBS	Total marks allocated to Final MBBS
Paper 1 – MCQ	25	
Paper 2 – SEQ	30	
Long case	30	
OSCE /Short	15	
Cases		
Tota	Marks	100

### **Recommended Textbooks:**

- Textbook of Psychiatry Puri BK, Treasaden IH 3<sup>rd</sup> edition, 2011 Churchill Linvingstone, London.
- Handbook of Clinical Psychiatry, a Practical Guide, de Silva V, Hanwella R 2012 Kumaran Book House, Chennai.
- Psychiatry: An Oxford Core Text Gelder M, Mayou R, Geddes J 3<sup>rd</sup> edition, 2005 Oxford Medical Publications, Oxford.



# **EXAMINATION BY -LAWS**

### 5. By-Laws and Regulations

5.1 These By-laws may be cited as the Bachelor of Medicine and Bachelor of Surgery (MBBS)

5.2 Subject to these By-laws a student may be admitted to the Degree of Bachelor of Medicine and Bachelor of Surgery if he/she,

- a. has been duly admitted as an internal student of the university and
- b. has been registered as a student of the University for a period not less than 5 years, and
- c. has completed to the satisfaction of the Vice-Chancellor, the courses of study as prescribed by these By-laws, Rules and Regulations made there under, and
- d. has passed the Second MBBS Examination, and
- e. has obtained a minimum "C" grade for Military Studies" by military medical students, and
- f. has passed stipulated English language tests, and
- g. has passed the Third MBBS Examination, and
- h. has passed the Final MBBS Examination, and
- i. has paid such fees or other dues as may be prescribed by the University, and
- j. has completed compulsory three months training by military medical students, and
- k. has fulfilled any other conditions or requirements as may be prescribed by the University.

5.3 The courses of study and syllabi for the examinations leading to the Degree of Bachelor of Medicine and Bachelor of Surgery and the number of papers, oral examinations and other forms of evaluation in each subject, examination criteria and schemes of award of honors shall be prescribed by the regulations made by the Senate or equivalent.

5.4 For the Degree of Bachelor of Medicine and Bachelor of Surgery there shall be three examinations referred to in these By-laws and the Regulations there under as the Second MBBS Examination, Third MBBS Examination and the Final MBBS Examination respectively.

5.5 The students should follow a compulsory English programme in first three semesters and should obtain a pass.



5.6 The military medical students will have to undergo a compulsory three months military training programme after completing the Final MBBS.

5.7 The duration of the course is 10 semesters, but a credit based and a GPA system is not followed.

5.8 KDU general by-laws in examination offences and other regulations pertaining to relegation will be applicable to all medical students.

### 6. Second MBBS Examination

6.1 The Second MBBS Examination consists of examinations in Anatomy, Biochemistry and Physiology. A candidate for the examination shall have followed to the satisfaction of the Vice-Chancellor the prescribed course of study in each of these three subjects and have 80% attendance or more at tutorials and practicals in each subject.

6.2 The course shall be of 3 semester's duration and the  $2^{nd}$  MBBS Examination will be held at the end of the  $3^{rd}$  semester and a supplementary examination held not less than 6 weeks after the publication of the results of the previous examination.

6.3 The examination immediately following the completion of the course shall be deemed to be the first due or scheduled attempt.

6.4 A candidate shall be deemed to have sat the first scheduled examination, irrespective of whether it has been actually attempted or not, unless a valid excuse has been submitted and accepted by the Senate or equivalent. This attempt shall be considered the candidate's first attempt at the examination.

6.5 If the excuse has been accepted, the examination immediately following on the expiry of the period of postponement recommended by the Faculty Board of the Faculty of Medicine, Dean/Faculty of Defence Studies and approved by the Vice Chancellor shall be the candidate's first attempt.

6.6 In the absence of an accepted excuse, failure to sit any due or scheduled examination will be considered as an unsuccessful attempt at the examination.

6.7 A student shall not be a candidate for this examination if a period of three years or more has elapsed since his/her registration as a medical undergraduate. Provided that a period of 3 years has lapsed, a student may be a candidate with a special consent of the Senate or the equivalent given on the recommendation of the Faculty of Medicine.



6.8 A candidate shall be deemed to have passed the Second MBBS Examination if he/ she have, at one and the same examination, satisfied the Board of Examiners in each of the three subjects, Anatomy, Biochemistry and Physiology. Provided that a candidate may be referred in one or two of the three subjects at the Second MBBS Examination, and shall be deemed to have passed the examination when he/she has passed the referred subject or subjects.

6.9 Military medical students' order of merit will be based on the inclusion of the military marks as well. Their military seniority in respective services will be decided on the total merit (Cumulative Result; ref. 10.12 b) that they obtain at the Second MBBS Examination.

6.10 A candidate who has been unsuccessful in one or all three subjects at the  $1^{st}$  two attempts will be relegated to the immediate junior intake.

6.11 A student who has been unsuccessful in all three subjects in the first three scheduled attempts shall not be permitted to sit again for the examination. Such students will be discontinued from the MBBS course and may be allowed to follow a different stream in KDU, with the approval of the BOM.

### 6.12

- a) A candidate who has passed one to two subjects in the first 3 scheduled attempts may be permitted a fourth attempt at the examination. Should he/she be unable to complete the examination at the fourth attempt, he/she shall not be permitted to sit again for the examination, and will be discontinued from the course.
- b) Such military medical students who become unsuccessful at a fourth attempt will be discontinued from the medical course and will be allowed to follow a different stream in KDU with the approval of the BOM or equivalent.



### 7. Third MBBS Examination

7.1A student shall not be competent to enter the course for the Third MBBS Examination unless and until he/she has passed the Second MBBS Examination.

7.2 A candidate for the Third MBBS Examination shall have

- (i) passed the Second MBBS Examination
- (ii) thereafter completed the prescribed courses of study in each of the subjects specified for the Third MBBS Examination to the satisfaction of the Vice-Chancellor.
- (iii) 80% attendance or more at tutorials and practicals in each subject taught in the department of Paraclinical sciences.
- 7.3 The Third MBBS Examination shall be divided into two parts, as follows: Part I Microbiology and Parasitology
  - Part II Public Health & Family Medicine, Forensic Medicine, Pathology and Pharmacology

7.4 The course for Part I Examination shall be of two semesters' duration from the 4th to the end of 5th semester. The Part I Examination will be held at the end of the 5th semester and the supplementary examination held not less than 6 weeks after the publication of the results of the previous examination.

7.5 The course for Part II Examination shall be of 4 semesters' duration from the 4th to the 7th semester. The examination will be held at the end of the 7th semester and a supplementary examination held not less than 6 weeks after the publication of the results of the previous examination.

7.6 The examination immediately following the completion of the course for each part of the Third MBBS Examination shall be deemed to be the first due or scheduled attempt.

7.7 A candidate shall be deemed to have sat the first scheduled examination, irrespective of whether it has been actually attempted or not unless a valid excuse has been submitted and accepted by the Senate or the equivalent. This attempt shall be considered as the candidate's first attempt at the examination.

7.8 If the excuse has been accepted, the examination immediately following on the expiry of the period of postponement recommended by the Faculty Board of the Faculty of Medicine, Dean/Faculty of Defence Studies and approved by the Vice Chancellor shall be the candidate's first attempt.



7.9 In the absence of an accepted excuse, failure to sit any due or scheduled examination will be considered as an unsuccessful attempt at the examination.

7.10 A candidate shall be deemed to have passed each Part of the Third MBBS Examination if he/she has, at one and the same examination, satisfied the Board of Examiners in each subject of that part, provided that a candidate may be referred in one or more of the subjects in that Part, and shall be deemed to have passed that part of the examination when he/she has passed the referred subject or subjects.

7.11 A candidate shall be deemed to have passed the Third MBBS Examination when he/she has passed each part of the examination taken at one and the same time or at more than one attempt.

### 8. Final MBBS Examination

8.1 The course for the Final MBBS Examination shall be of 7 semesters' duration, from the  $4^{th}$  to the  $10^{th}$  semester, and a student shall not be competent to enter the course unless and until he/she has passed the Second MBBS Examination.

8.2 The Final MBBS Examination shall consist of an examination in Medicine, Surgery, Psychiatry, Obstetrics & Gynaecology and Paediatrics.

8.3 A candidate for the Final MBBS Examination shall have

- (i) been registered as a medical student for a period not less than 5 years, and
- (ii) completed 4 academic semesters after passing the Second MBBS Examination, and
- (iii) has obtained a minimum "C" grade in Military Studies by military medical students, and
- (iv) has passed stipulated English language tests, and
- (v) passed the Third MBBS Examination, and
- (vi) completed the prescribed course of study in each of the subjects, Medicine, Surgery, Obstetrics & Gynaecology, Paediatrics, Psychiatry to the satisfaction of the Vice Chancellor.
- (vii) 80% attendance or more at tutorials and ward classes in each subject.

8.4 The Final MBBS Examination immediately following the completion of the above qualifications shall be deemed to be the first due or scheduled attempt.



8.5 A candidate shall be deemed to have sat the first scheduled examination irrespective of whether it has been actually attempted or not, unless a valid excuse has been submitted and accepted by the Senate or the equivalent. This attempt shall be considered as the candidate's first attempt at the whole Final MBBS Examination.

8.6 If an excuse has been accepted, the Final Examination immediately following the expiry of the period of postponement recommended by the Faculty Board of the Faculty of Medicine, Dean/Faculty of Defence Studies and approved by the Vice Chancellor shall be the candidate's first attempt.

8.7 In the absence of an accepted excuse, failure to sit any due or scheduled examination will be considered as an unsuccessful attempt at the examination.

8.8 A candidate shall be deemed to have passed the Final MBBS Examination if he/she has, at one and the same examination, satisfied the Board of examiners in each of the subjects prescribed, provided he/she has passed the Second and Third MBBS Examinations. A candidate can be referred in one or more subjects at the Final MBBS Examination.

8.9 A candidate passing any one subject at the Final MBBS Examination shall pass at least one other subject within the next 3 scheduled attempts. Failing this, he/she will have to re-sit the whole examination.

8.10 A candidate who has passed any two subjects shall pass at least one other subject during the next 3 scheduled attempts. Failing this, he/she will have to re-sit the whole examination.

8.11 A candidate who has passed any 3 subjects shall pass one other subject in the next 3 scheduled attempts. Failing this, he/she will have to re-sit the whole examination.

8.12 A candidate who has passed any 4 subjects shall pass the fifth subject in the next 3 scheduled attempts. Failing this, he/she will have to re- sit the whole examination.

8.13 A student may be granted permission to postpone a scheduled attempt on the basis of a valid excuse submitted to and accepted by the Senate or the equivalent. Each period of exemption granted will be considered by the Senate or the equivalent on the basis of individual merit.

8.14 A student shall complete his/her Final MBBS Examination either within 5 years or 10 scheduled attempts after the first scheduled attempt, all periods



of exemptions granted by the Senate or the equivalent being excluded when computing this five year period, or within 10 years after registration as a student of the Faculty of Medicine, whichever is less.

### 9. Award of Honours and Distinctions

9.1 (a) A candidate who has been successful at the Second MBBS Examination may be awarded First Class Honours or Second Class Honours (Upper Division) or Second Class Honours (Lower Division) or a pass, as the case may be.

(b) A candidate shall not be eligible for honours unless he/she has taken the examination on the earliest occasion on which he/she is qualified to do so, provided that it shall be within the authority of the Senate or equivalent to declare, for some specified reason, that he/she is eligible for honours at a subsequent occasion.

(c) A candidate shall not be eligible for honours unless he/she has passed the examination at his/her first scheduled attempt.

9.2 (a) A candidate who has been successful at the Third MBBS Examination as a whole may be awarded First Class Honours or Second Class Honours (Upper Division) or Second Class Honours (Lower division) or a pass, as the case may be.

(b) A candidate shall not be eligible for honours unless he/she has taken each part of the examination on the earliest occasion on which he/she is qualified to do so, provided that it shall be within the authority of the Senate or the equivalent to declare, for some specified reason, that he/she is eligible for honours at a subsequent occasion.

(c) A candidate shall not be eligible for honours unless he/she has passed each part of the examination at the first scheduled attempt.

9.3 (a) A candidate who has been successful at the Final MBBS Examination may be awarded First Class Honours or Second Class Honours (Upper Division) or Second Class Honours (Lower Division) or a pass, as the case may be.

(b) A candidate shall not be eligible for honours unless he/ she has taken each part of the examination on the earliest occasion on which he / she is qualified to do so, provided that it shall be within the authority of the Senate or the equivalent to declare, for some specified reason, that he / she is eligible for honours at a subsequent occasion.



(c) A candidate shall not be eligible for honours unless he/she has passed each part of the examination at the first scheduled attempt.

- 9.4 In any examination, a candidate may be awarded a mark of Distinction in any subject in which he / she shows special merit, provided that he/ she is sitting that examination for the first time, and that he/ she passes the whole examination or in the case of the Third MBBS Examination, the part of the examination, at one and the same examination.
- 9.5 Any question regarding the interpretation of the By- laws shall be referred to the Senate or equivalent whose decision thereon shall be final.

### **10.** Criteria for Deciding Pass, Classes and Distinctions

10.1 A candidate who obtains 40% marks in theory with an overall average of 50% marks in a subject shall be deemed to have passed in those subjects in Pre and Para Clinical Sciences.

10.2 A candidate who obtains 45% marks in theory, 50% in clinicals with an overall average of 50% marks in final year subjects shall be deemed to have passed in those subjects.

10.3 A candidate who obtains an overall average of 70% marks in a subject shall be deemed to have obtained a distinction in that subject provided that he / she is sitting that examination for the first time and that he/ she passes the whole examination or in the case of the Third MBBS Examination, the part of the examination, at one and the same examination.

10.4 A candidate who has passed in at least one subject but has obtained a minimum of 25% marks in the other subject/s shall be considered to be referred in the latter subject/s.

10.5 A candidate who has obtained less than 25% in any one subject or more shall be considered to be failed in the whole examination.

10.6 A candidate who passes an examination at the first scheduled attempt and obtained an overall average mark of 70% or above at that examination shall be eligible for First Class (Honours).

10.7 A candidate who passes an examination at the first scheduled attempt and obtained an overall average mark of 65% to 69% at that examination shall be eligible for Second Class Upper Division (Honours).



10.8 A candidate who passes an examination at the first scheduled attempt and obtained an overall average mark of 60% to 64% at that examination shall be eligible for Second Class Lower Division (Honours).

10.9 A student who is unable to take the examination at the first scheduled attempt due to he/ she being repeated in a clinical appointment on account of unsatisfactory work, may be allowed to sit the supplementary examination following the first scheduled attempt, and will be eligible for honours on the results of that examination.

10.10 A candidate who has passed the Final MBBS Examination at the first scheduled attempted and obtained an average 64% marks at the Final MBBS Examination shall be eligible for Second Class Upper Division (Honours) provided he/ she

- (a) has obtained Second Class Upper or First Class Honours in either of the Second and Third MBBS Examinations, and
- (b) has a cumulative average mark of 65% or above at the second, Third and Final MBBS Examinations.

10.11 A candidate who has passed the Final MBBS Examination at the first scheduled attempt and obtained an average of 58% or 59% marks at the Final MBBS Examination shall be eligible for Second class Lower Division (Honours) provided he/she

a) has obtained Honours in both Second and Third MBBS Examinations, and

b) has a cumulative average mark of 60% or above at the Second, Third and Final MBBS Examinations.

- 10.12 At the Second MBBS examination an Academic Result and a Cumulative Result will be awarded as detailed below.
  - (a) An Academic Result will be calculated for the marks obtained for subjects taught in the Second MBBS course.
  - (b) The Cumulative Result for military medical students will be calculated considering 75% of the academic and 25% military marks. This will be awarded at the end of the 4<sup>th</sup> Semester. The extra percentages given for excellence in sports and other extra curricular activities will be included into the academic 75%. This extra percentage will be added to the continuous assessment component of the Second MBBS marks (ref. 10.15).



- (c) The Cumulative Result for foreign medical students will be calculated by including extra percentages for excellence in sports and other extracurricular activities (ref. 10.15). This extra percentage will be added to the continuous assessment component of the Second MBBS marks.
- 10.13 At the Third MBBS Examination an Academic Result and a Cumulative Result will be awarded as detailed below.
  - (a) The Academic Result will be calculated for the marks obtained for subjects taught in the 3<sup>rd</sup> MBBS course.
  - (b) The Cumulative Result will be calculated including extra percentages for excellence in sports and other extracurricular activities (ref. 10.15) added to the continuous assessment component of the Third MBBS marks.
- 10.14 At the Final MBBS Examination an Academic Result and a Cumulative Result will be awarded as detailed below.
  - (a) The Academic Result will be calculated for the marks obtained for the five subjects taught in the final MBBS course.
  - (b) The Cumulative Result for military medical students will be calculated considering 75% of the academic and 25% military marks. The extra percentages given for excellence in sports and other extracurricular activities will be included into the academic 75%. This extra percentage will be added to the continuous assessment component of the Final MBBS marks (ref. 10.15).
  - (c) The Cumulative Result for foreign medical students will be calculated by including extra percentages for excellence in sports and other extracurricular activities (ref. 10.15). This extra percentage will be added to the continuous assessment component of the Final MBBS marks.
- 10.15 When a student excels in sports and other extracurricular activities, the same percentages of marks as recommended in KDU By-laws (Section 8.20), will be added to the continuous assessment component of the respective main examinations (Second MBBS, Third MBBS and Final MBBS) by the BOE after considering recommendations of the Dean, FDS/Faculty Board as shown below.

\*

- a) 20% Participation at the International level
- b) 15% Participation at the National level
- c) 08% KDU Colours

N.B. The above Examinations By-Laws are valid at the time of printing this Handbook. However they are subject to revision in the future following Senate approval.

### List of abbreviations

- MCQs multiple choice questions
- BRQs best response questions
- SEQs short structured essay questions
- OSPE objective structured practical examination
- OSCE objective structured clinical examination
- BOE Board of Examination
- BOM Board of Management (Council in other universities)



# **RULES FOR STUDENTS**

### **GENERAL RULES**

Some general rules applicable to students of the FOM are given below. A more comprehensive list of rules issued by the Faculty of Defense Studies is given separately.

Any change of address must be immediately brought to the notice of the Dean.

Students are not permitted to leave their registered address during term time without prior permission from the Dean.

No student is permitted to be absent from work for more than 7 days without informing the Dean.

Students doing clinical appointments are expected to work in the wards during public holidays unless they have obtained prior leave from the Consultant to whom they are attached.

### IN CASE OF ILLNESS

a. Illness during term time

If the student is taken ill during term time he/she should inform the University Medical Officer as early as possible. If the student is unable to do so, he/she should inform the Dean in writing by registered post as early as possible AND submit within SEVEN days of falling ill, a valid medical certificate issued by one of the persons listed under (c) below.

- b. Illness at examination time (including continuous assessment) If a student is taken ill just before or during any part of an Examination he/she should inform the UMO as early as possible. If the student in unable to do so for a valid reason, he/she should inform the Dean in writing by registered post as early as possible AND submit a valid medical certificate from one of the persons listed under (c) below, within SEVEN days of falling ill.
- c. Persons entitled to issue valid medical certificates for the above purposes
  - (1) Medical officer Military Hospital or SLAF/SLN Hospital.
  - (2) A consultant of any government hospital.
  - (3) A District Medical Officer (DMO) in a government hospital.



- d. PLEASE NOTE that medical certificates from medical officers other than those listed will NOT be accepted.
- e. A medical certificate is not valid unless it has been submitted within ONE WEEK of the illness.

Students are expected at all times to dress neatly and behave with decorum. Gathering together and talking in loud tones whether in hospital, clinic or in the vicinity of the officers, library or lecture halls is banned. Smoking is prohibited in the premises of the University and the Teaching Hospitals.

No student or student body shall collect monies for any purpose without written permission from the Dean.

Only official functions approved by the Vice Chancellor may be organized and held within the FOM.

### CODE OF CONDUCT FOR CLINICAL STUDENTS OF THE FOM, KDU

### 1. Clinical Groups and appointments

No student shall change the clinical group or the clinical appointment allocated to him/her without prior permission of the Clinical Coordinator.

### 2. Attendance and punctuality

Attendance at clinical work is compulsory. The student should obtain prior leave from the clinical teacher concerned before he/she absents himself from clinical work. The student should spend the full amount of time scheduled on the timetable in the wards. The consultant will specify the days when the student may be given leave from work.

- **3.** The student's dress should be clean. Males should wear trousers with shirt and covered shoes. Wearing overcoats is compulsory. Hair should be combed neatly.
- **4.** In the corridors and public areas of the hospital, the students should not talk loudly and should not block corridors.
- 5. On entering the wards the students should identify themselves to the ward staff and obtain permission to see patients. Do not obstruct the working of ward staff.


- **6.** The students should not smoke or chew betel in the hospital premises and should never be under the influence of alcohol.
- 7. The students should obtain consent of the patient/ guardian before examining a patient. Do not disturb the patient if he/she is asleep, having a meal or if he/she is uncomfortable. In the examination of a patient of the opposite sex it is desirable to have a member of the same sex as the patient as a chaperone. Expose only that part which is to be examined and have adequate screens around the patient for privacy. Do not examine the patient during visiting hours if the patient is having or expecting visitors.

# 8. Conduct with patients

- a. The student should introduce himself/herself to the patient and address the patient suitably with respect. The student should be courteous and considerate to the patient.
- b. No student should give any patient treatment, medicine, money, tobacco, drug, alcohol or any article of food without the authority of the ward staff.
- c. The student should maintain strict professional confidentiality with regard to information obtained from the patient.
- d. The student should not discuss the patient's condition and prognosis in the presence of the patient.
- e. The student should educate the patient about the management and prevention of the disease. The student should develop competence in giving such information.
- f. The relationship of the students with patients' visitors should be at a professional level.

# 9. Hospital records

The student should not remove hospital records, radiographs, ultrasound reports, echocardiograms, CT scans, MRI scans, ECG or laboratory reports of patients. Strict confidentiality should be maintained with regards to information obtained from the records.

#### **10. Hospital equipment**

Students should use hospital equipment like sphygmanometers, glassware, thermometers, gloves etc. with utmost care. Accidental breakages of such equipment should be brought to the immediate notice of the ward staff.



### 11. Out of bounds period

When clinical examinations are in progress the hospital is made out of bounds for the medical students. During such periods students are expected to keep away from the wards and the doctors quarters. However, if a student wishes to visit a close relative in the ward, he/she shall visit the ward during visiting hours after obtaining prior permission from the consultant in charge and the Dean.

### 12. Communicable diseases

Students who are suffering from communicable diseases should not visit the wards. If in doubt they should consult the University Medical Officer or a person appointed by the FOM to act in that capacity. In addition they should inform their clinical teacher.

### 13. Consulting specialists and other medical staff

The student should always obtain prior permission and make an appointment when he/she, a relative or a friend of the student wishes to consult a specialist or any other doctor in the hospital.

### 14. Treatment and advice by students

The student should refrain from prescribing and treating patients until they are qualified. No surgical procedure should be done by students.

# ATTENDANCE, EXAMINATIONS

#### Attendance at classes

An attendance of 95% is required for signing the student appointment books. If a medical certificate is submitted it has to conform to the regulations under General Rules for students. Clinical appointments must be completed before applying to sit for the final MBBS examination.

#### **Hospital and Clinical work**

For clinical training, students are grouped into batches. Students are expected to follow the schedules drawn up for this purpose by the Dean's office / clinical coordinator. Any unauthorized changes of appointments may result in the cancellation of the appointments with the possible consequences of postponement of the final examination.

Clinical appointments, which are changed without written permission from the Dean, will not be recognized for the course.



Students are reminded that they have to conform to the rules of medical institutions that they are attached to. Students should also be mindful of the human rights of patients and be aware that students have no inherent right to interrogate or examine patients.

## Eligibility to sit examinations

No student will be eligible to sit an examination of the FOM if he/she has not obtained the signature of the relevant teachers for satisfactory attendance at tutorials, practical classes, ward classes, demonstrations and clinical attachments. The signature should be obtained on the last day of the respective clinical classes.

Students who have defaulted in respect of University dues, even though they may have satisfies stipulated academic requirement will not be permitted to sit any examination.