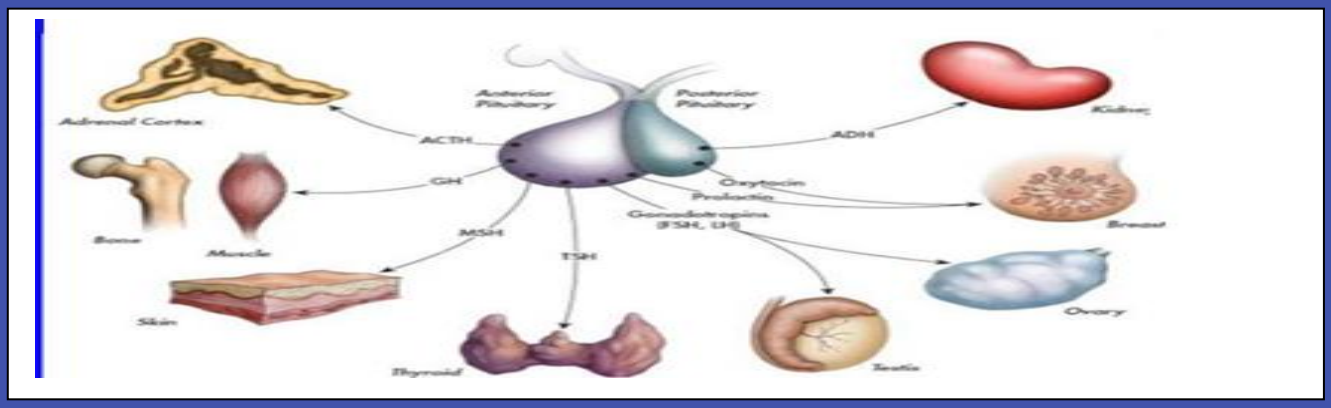
SWAT MEDICAL COLLEGE
SWAT

DEPARTMENT OF MEDICAL EDUCATION

ENDOCRINOLOGY-I



2 ND YEAR MBBS

BLOCK: F

CLASS OF 2ND YEAR MBBS

DURATION: 3WEEKS 4 DAYS

FROM: 12TH AUGUST TO 9TH SEPTEMBER

STUDENT NAME _____

Contents

1 Acaedemic Calendar

Tentative Annual Calendar MBBS – 2023-24
Swat Medical College, Swat

Activity/ Events	Week	Date	1st Year	2nd Year	3rd Year	4th Year	5th Year
Orientation Week	1	12th to 16th Feb	Foundation-I (6 weeks) 22nd March, Module Exam	Neurosciences-IA (6 weeks) 22nd March, Module Exam	Foundation II (5 weeks) 22nd March, Module Exam	Neurosciences – II (6 weeks) 25th and 26th March Block J Exam	*Previous 5th Year Preparatory leaves and annual exam*
Regular Classes	2	19th to 23rd Feb					
Regular Classes	3	26th Feb to 1st March					
Regular Classes	4	4th to 8th March					
Regular Classes	5	11th to 15th March					Foundation-III (2 weeks) 22nd March Module Exam
Regular Classes	6	18th to 22nd March			Infection & Inflammation (6 weeks) 6th May to 7th May Block G exam		
Regular Classes	7	25th to 29th March	Blood & Immunology (5 weeks) 6th & 7th May Block A exam	Neurosciences-IB (5 weeks) 13th & 14th May Block D		GIT and Hepatobiliary – II (9 weeks) 10th and 11th June Block K Exam	Blood & Immunology-III (2 weeks) 5th April Module Exam
Regular Classes	8	1st to 5th April					
Spring Break/Eid ul Fitr	9	8th to 12th April					MSK-III (2 weeks) 06th & 07th May Block N exam
Sports Week	10	15th to 19th April					
Regular Classes	11	22nd to 26th April					
Regular Classes	12	29th to 3rd May					
Regular Classes	13	6th to 10th May	MSK-I (8 weeks) 1st & 2nd July Block-B Exam	GIT, Hepatobiliary & Metabolism- (8 weeks) 1st & 2nd July	Multisystem (5 weeks) Module Exam 31st May		Cardiorespiratory-III (5 weeks) 3rd & 4th June Block O Exam
Regular Classes	14	13th to 17th May					
Regular Classes	15	20th to 24th May					
Regular Classes	16	27th May to 31st May					Renal- III Module (2 weeks) 14th June Module Exam
Regular Classes	17	3rd to 7th June			Blood & immunology (3 weeks) 1st & 2nd July module exam	Renal – II Module (4 weeks) 1st and 2nd July Module Exam	
Regular Classes	18	10th to 14th June					Endocrine & Reproduction-III (3 weeks) 29th & 30th July Block P Exam
Eid-ul-Adha Holidays	19	17th to 21th June					
Regular Classes	20	24th to 28th June					
Summer Vacations	21-23	3rd to 21st July					
Regular Classes	24	22nd to 26th July	CVS-I (5 weeks) 23rd August Module Exam	Renal (3 weeks) 12th to 13th August Block E	MSK-II (5 weeks) 2nd Sep 3rd Sep Block H exam	Endocrine and Reproduction – II (8 weeks) 16th and 17th September Block-L exam	Neurosciences – III (3 weeks) 16th August Module Exam
Regular Classes	25	29th July to 2nd Aug					
Regular Classes	26	5th to 9th Aug		Endocrine-I (4 weeks) 6th Sep			GIT & Hepatobiliary (2 weeks) 6th Sep Module Exam
Regular Classes	27	12th to 16th Aug					
Regular Classes	28	19th 23rd Aug					
Regular Classes	29	26th to 30th Aug	Respiratory-I (4 weeks) 23rd -24th SEP Block-C Exam		CVS-II (3 weeks) 20th September Module exam		Multisystem-II (4 weeks) 7th -8th Oct Block Q exam
Regular Classes	30	2nd to 6th Sep		Reproduction-I (4 weeks) 30th Sep 1st Oct			
Regular Classes	31	9th to 13th Sep			RES-II (4 weeks) 21st and 22nd October Block L exam	EYE and ENT (6 weeks) 14th to 18th Oct Block M1 & M2 Exam	
Regular Classes	32	16th to 20th Sep					
Regular Classes/ Preparatory Leaves	33	23rd to 27th Sep	PREPARATORY LEAVES	PREPARATORY LEAVES	PREPARATORY LEAVES	PREPARATORY LEAVES	PREPARATORY LEAVES
Regular Classes/ Preparatory Leaves	34	30th Sep to 4th Oct					
Regular Classes/ Preparatory Leaves	35	7th to 11th Oct					
Regular Classes/ Preparatory Leaves	36	14th to 18th Oct					
Regular Classes/ Preparatory Leaves	37	21st to 25th Oct					
Regular Classes/ Preparatory Leaves	38	28th Oct to 1st Nov					
Regular Classes/ Preparatory Leaves	39	4th to 8th Nov					
Regular Classes/ Preparatory Leaves	40	11th to 15th Nov	Annual Exam as per KMU schedule.	Annual Exam as per KMU	Annual Exam as per KMU schedule.	------	
Regular Classes/ Preparatory Leaves	41	18th to 22nd Nov					
Regular Classes/ Preparatory Leaves	42	25th to 29th Nov					
Regular Classes/ Preparatory Leaves	42	2nd to 6th Dec					
Regular Classes/ Preparatory Leaves	43	9th to 13th Dec					
Regular Classes/ Preparatory Leaves	44	16th to 20th Dec					
Regular Classes/ Preparatory Leaves	45	23rd to 27th Dec	Winter vacation	Winter vacation	Winter vacation	Annual Exam as per KMU schedule.	
Regular Classes/ Preparatory Leaves	46-49	November 2024					
Regular Classes/ Preparatory Leaves	50-53	December 2024					
Regular Classes/ Preparatory Leaves	54-57	January 2025					
Start of new academic session 2025-26			February 2025	February 2025	February 2025	February 2025	March 2025

Note: The given dates are tentative and may be subject to change as needed/demanded. The KMU will share the annual exam schedule at the end of the current session.

Dear Student

The Department of Medical Education (DME) has successfully conducted faculty training for the curation of study guides. In accordance with the guidelines set by Khyber Medical University, Peshawar, this study guide has been meticulously developed by the respective block coordinator. For any queries or concerns, kindly refer to the "Query and Troubleshooting" section for contact information.

Please be advised that the timetables provided in the study guides are tentative, and the final versions will always be accessible on the official website, notice boards, and social media platforms.

It is crucial to acknowledge that this guide is subject to continuous improvement, aligning with updates to module learning objectives and blueprints by KMU Peshawar. It is noteworthy that the learning objectives and blueprints outlined in this guide represent an enhanced and revised version of those originally provided by KMU.

For more information on modules and examination blueprints, please visit https://kmu.edu.pk/examination/guidelines.

Your login link of official website: https://mis.swatmedicalcollege.edu.pk/login/student_login

2 List Of Abbrevation

Anat-SGD	Small Group Discussion in Anatomy	**Med-L**	Medicine Lecture
Bio-L	Biochemistry Lecture	**OSPE**	Objectively Structured Practical Examination
Bio-P	Biochemistry Practical	**Paeds-L**	Pediatrics Lecture
Bio-SGD	Small Group Discussion in Biochemistry	**Patho-L**	Pathology Lecture
C.Med-L	Community Medicine Lecture	**Phar-L**	Pharmacology Lecture
DSL	Directed Self Learning	**Phy-L**	Physiology Lecture
FDT	Film/Demonstration/Tutorial	**Phy-P**	Physiology Practical
F.Med-L	Forensic Medicine Lecture	**Phy-SGD**	Small Group Discussion in Physiology
G.Anat-L	Gross Anatomy Lecture	**SDL**	Self-Directed learning
Histo-P	Histology Practical	**SAQs**	Short Answer Questions
LGF	Large Group Format	**SLRC**	Students Learning Resource Center
MCQs	Multiple Choice Questions	**SEQs**	Short Essay Questions
Med.Edu-L	Medical Education Lecture	**SGDs**	Small Group Discussions
PRIME	**P**rofessionalism and communication skills, **R**esearch, **I**dentity formation, **M**anagement and leadership, **E**thics		

3 Module Committee:

s.no	Name	Department	Role	
1.	Prof. Dr. Aziz Ahmad		Principal/Dean	
2.	Dr. M Junaid Khan	DME	Director	
3.	Prof. Dr Rashid Ahmad	Physiology	MPC-I	Professor
4.	Dr. Obaid Ur Rehman	Bio-chemistry	A	Associate Professor
5.	Prof. Dr Muhammad Khan	Anatomy	B	Professor
6.	Dr Fiza Iqbal	Physiology	C	Professor
7.	Dr Amanullah	Physiology	D	Assistant Professor
8.	Dr Humaira Ali	Anatomy	E	Associate Professor
9.	**Dr Sara Maryium**	**Bio-chemistry**	**F**	**Block coordinator Associate Professor**

4 Recommended List Of Icons

Introduction To Case

For Objectives

Critical Questions

Assessment

Resource Material

5 Mission/ Vision of the College

5.1 Mission Statement of the Institution:

To impart quality medical education through evidence based teaching incorporating professionalism, patient safety, research, critical thinking, ethics and leadership.

5.2 Vision Statement of the Institution:

To be a center of excellence in medical education, patient care and research globally.

6 Overview of the Module/ Preface

A very warm welcome to medical students in the Endocrinology Module study guide where the overarching goal is to facilitate effective teaching & efficient learning by assisting in the management of student learning, providing a focus for learning-related student' actiivties and providing information on the topic of study.Throughout the Endocrinology Module emphasis is placed on integrating theoretical knowledge with practical applications, ensuring a comprehensive educational experience. The core themes of the module including "Tall stature", "Neck swelling with bulging eyes / tetany", "Increased thirst and urination "and "Moon face" are meticulously designed to foster a deep understanding of the key concepts relevant to the themes. Students will gain hands-on experience through evidence based teaching in diverse settings such as the hospital and community providing a well rounded education.

The study guides serves as a crucial reference for assessment and evaluation. It outlines the components that will be assessed such as knowledge, skills and attitude and the corresponding assessment tools, which may include written examinations encompassing Multiple Choice Questions & Short Essay Questions that evaluates students' theoretical knowledge and performance assessments by Objective Structured Practical Examination "OSPE" & Objective Structured Clinical Examination "OSCE" that assess practical skills and clinical competence. This transparency enables students to align their efforts with the evaluation criteria, promoting a sense of accountability and preparation for success in their academic persuits. As future medical professionals, graduates can look forward to diverse carrier pathways, from clinical practice to research, with opportunities in the homeland and abroad.In essence, the study guide acts as an indispensable tool for students, offering clarity on module contents, instructional methodologies, faculty guidance and assessment criteria. By actively engaging with the information provided, students can navigate their academic journey with confidence and purpose, maximizing their learning experience in the field of medicine

7 Introduction/ Organization of Module

7.1 Introduction:

Introduction to Endocrinology Module 10

The EndocrinologyModule-10 has 3-weeks and 4-days activities, consisting of gross and microscopic features as well as development of different endocrine glands. It also includes introduction to Endocrinology, Physiological functions, mechanism of action of hormones and abnormalities of different Endocrine glands.
Clinical, PRIME and behavioral sciences are also included in this module.

7.2 Rational:

The function of the endocrine system is to coordinate and integrate cellular activity within the whole body by regulating cellular and organ function throughout life and maintaining homeostasis. Homeostasis, or the maintenance of a constant internal environment, is critical to ensuring appropriate cellular function. In this module the anatomy and physiology of the endocrine organs, functional biochemistry of the hormones secreted alongwith normal physiological changes are taught in integrated fashion with reference to common disease occurring in our community.

7.3 Organization of the Study guide:

The contents of the module will be taught in LGF Lectures,DSLs, Skill lab and SGF-Practicals, SGDs, SDL.

List of Themes

TOTAL 3-WEEKS 3-DAYS

Themes	Duration
Tall stature	**1 week**
Neck swelling with bulging eyes / tetany	**1 week**
Increased thirst and urination	**1 week**
Moon face	**3 day**

BLOCK FRAMEWORK: 2nd YEAR MBBS

Block D			Block E			Block F					
									PRE	P	PRO
Module 6	**Module 7**		**Module 8**	**Module 9**		**Module 10**	**Module 11**				

Neurosciences IA 7 weeks	**Neurosciences IB 6 weeks**	**BLOCK D EXAM**	**GIT & Hepatobiliary 9 weeks**	**Renal 3 weeks**	**BLOCK E EXAM**	**Endocrinology 3 weeks**	**Reproduction 3 weeks**	**BLOCK F EXAM**	**PROFESSIONAL EXAM**	**REPARATION**	**FESSIONAL EXAM**

7.4 Teaching Strategies:

The following learning methods are used to promote better understanding:

- Lectures/ Large Group Interactive Sessions (LGIS)
- Small Group Discussions (SGDs)
- Self- Directed Learning (SDL)
- Directed-Self Learning (DSL)
- Problem Based Learning (PBL)
- Practical Session
- Skill Lab
- Hospital/ Clinic Visits

7.5 Assessment strategies

The theory examination will comprise of Multiple Choice Questions (MCQs) & Short Essay Questions (SEQs) or Short Answer Questions (SAQs) whereas the practical examination will comprise of Objective Structured Practical Examination (OSPE).

7.6 Feedback mechanism and summary

At the end of each module a “Module Evaluation Form” will be provided to the students whether in hard copies or online and the students will give their opinion regarding the “Course Contents”, “Learnng Resources”, “Teaching Methods”, “Engegement& Motivation” and “Assessment Methods”.

8 Table Of Specification

Subject	No. of Hours Allocated in Time table					Percent Distribution	Assessment	
	Large Group Format		Small Group Format		Total		MCQs	OSPE
	Lectures	DSLs	Practicals	SGDs				
Gross Anatomy	03	02	06	03	**22**	27.5%	01	04
Histology	04						05	
Embryology	04						02	
Physiology	16	02	06	00	**24**	30%	34	01
Biochemistry	10	02	06	00	**18**	22.5%	20	04
PRIME	00	00	00	00	**00**	00%	03	00
Pharmacology	02	00	00	00	**02**	2.5%	02	00
Pathology	00	00	00	00	**00**	00%	00	00
Community Medicine	01	00	00	00	**01**	1.25%	01	00
Forensic Medicine	00	00	00	00	**00**	00%	00	00
Neurosurgery	01	00	00	00	**01**	1.25%	00	00
General Medicine	06	00	00	00	**06**	7.5%	04	00
Pediatrics	01	00	00	00	**01**	1.25%	00	00
SDL	--	--	--	--	**05**	6.25%	00	00
Total	**48**	**06**	**18**	**03**	**80**	**100%**	**72**	**09**

9 Learning Objectives

9.1 General Learning Outcomes

By the end of this module the students would be able to;

KNOWLEDGE

1. Relate normal structure and function of endocrine glands with the maintenance of growth, metabolism, homeostasis and stress response
2. Relate the clinical presentation & principles of treatment of endocrine disorders with the underlying structural and functional derangements.
3. Relate the laboratory investigations provided with the normal and abnormal structure and function of endocrine glands
4. Relate the metabolism of glucose and its control with hormonal interactions and pharmacological interventions.

SKILLS

5. Determine the concentration of glucose in give samples of blood and urine
6. Identify the microscopic features of Pituitary, Thyroid, Parathyroid, Endocrine Pancreas and adrenal glands on slides.

ATTITUDE

7. Act as a useful team member
8. Recognize the socioeconomic impact of the emerging epidemic of DM in the world and in Pakistan
9. Demonstrate willingness towards taking responsibility.
10. Demonstrate ability to give & receive feedback respect for peers and yourself.
11. Be polite and use socially acceptable language during academic and social interactions with colleagues and teachers.

9.2 Specific Learning Outcomes

THEME–I: (Tall Stature)

This is one-week activity and comprises of development and histological features of Pituitary glandas well as functions of Pituitary hormones.Overview of Endocrinology and general mechanism of actions of hormones are also included. Hypothalamic Control of Pituitary Secretion is also part of this theme.Abnormalities of the Pituitary gland with Growth hormones disorders are also discussed.

The contents of this theme will be taught in LGF-lectures, DSL, skill lab and SGF-Practicals, SGD, SDL.

SNO	Topics	Learning Outcomes	Hours	MIT
Gross anatomy				
1	Pituitary gland	Describe gross features of pituitary gland	1	LGF/SGD
Embryology				
1	Pituitary gland	Describe the development of Anterior and posterior pituitary gland	1	LGF/SGD
Histology				
1	Pituitary gland	Enlist the histological differences between anterior and posterior pituitary glands	1	LGF/SGD
Physiology				
1	Overview of Endocrinology-I	Describe the Chemical Messengers in the body Describe:Classification, Mechanisms of Synthesis, Secretion, Transport and Clearance of hormones	1	LGF/SGD
2	Overview of Endocrinology-II	Explain mechanisms of action of hormones including second messenger mechanisms for mediating intracellular hormonal functions	1	LGF/SGD
3	Anterior Pituitary Gland/ Hormones	Describe Physiological Anatomy. Hypothalamic Control of Pituitary Secretion	1	LGF/SGD
4	Growth Hormone	Effect on growth and metabolism Describe structure, mechanism of action and regulation Physiological effects of Insulin-Like Growth Factors	1	LGF/SGD

5	Posterior Pituitary Gland /hormones	Describe formation and physiological functions of: 1. Oxytocin and 2. ADH	1	LGF/SGD
Biochemistry				
1	Hormones Introduction	Define hormones and differentiate between the terms- endocrine, paracrine &autocrine Classify hormones on various basis	1	LGF/SGD
		Discuss the mechanisms of action of hormones	1	LGF/SGD
		Define 2nd messengers and their roles	1	LGF/SGD
2.	Anterior Pituitary hormones	Enumerate the hormones of anterior pituitary gland Describe the chemistry, secretion, mechanism of action, regulation and metabolic effects of Growth hormone with its related clinical disorders	1	LGF/SGD
3	Posterior Pituitary hormones	Enumerate the hormones of the posterior pituitary gland	1	LGF/SGD
		Describe the chemistry, secretion, mechanism of action, regulation and metabolic effects of the hormones of the posterior pituitary gland with its related clinical disorders		
Medicine				
1	Growth Hormone	Describe the Pathophysiology, Clinical features and Investigations of patient with Acromegaly and Gigantism	1	LGF/SGD
2	ADH/ Vasopressin	Describe the etiology, clinical features and investigations of a patient with Diabetes Insipidus	1	LGF/SGD
Neurosurgery				
1.	Pituitary gland	Explain the types, clinical features,	1	LGF/SGD

		CT and MRI findings and management of pituitary tumors		
Paediatrics				
1.	Growth Hormone	Describe the fundamentals of growth charts in paediatric practices	1	LGF/SGD

Theme-2 (Neck swelling with bulging eyes and Tetany)

Introduction:

This is a 1-week activity and consists of development and histological features of Thyroid and Parathyroid glands.
Physiological functions of Thyroid and Parathyroid hormones with their disorders are included. Mechanism of actions of these hormones and anti-thyroid drugs are also part of this theme.
The contents of this theme will be taught in LGF-lectures,DSL, skill lab and SGF-Practicals, SGDs, SDL.

SNO	Topics	Learning Outcomes	hours	MIT
Gross anatomy				
1	Thyroid gland	Describe the gross structure, lobes, relations, bold supply, venous drainage, nerve supply and lymphatic drainage of thyroid gland	1	LGF/SGD
Embryology				
1	Thyroid gland	Describe the developmental events and anomalies of thyroid gland	1	LGF/SGD
2	Parathyroid gland	Describe the developmental events of parathyroid gland and its anomalies	1	LGF/SGD
Histology				
1.	Thyroid gland	Describe the microscopic structure of thyroid gland	1	LGF/SGD
Physiology				
1	Thyroid hormones -I	Describe formation, Secretion and transport of thyroid hormones Explain mechanism of action of thyroid hormones Explain the actions of thyroid hormones on cellular metabolism	1	LGF/SGD
2	Thyroid hormones -II	Describe Physiological effects of Thyroid Hormone on Growth, metabolism and body systems Describe Regulation of Thyroid Hormone Secretion	1	LGF/SGD
3	Parathyroid hormone (PTH)	Explain Mechanism of action PTH Describe Effect of Parathyroid Hormone on Calcium and Phosphate	1	LGF/SGD

		concentrations		
4	VIT D and Calcitonin Hormones	Explain Role of Vitamin D in Calcium and Phosphorus metabolism Explain physiological functions of calcitonin	1	LGF/SGD
Biochemistry				
1	Thyroid gland	Enumerate the hormones secreted from thyroid gland Describe the chemistry, biosynthesis, secretion, mechanism of action, regulation and metabolic effects of thyroid hormone and calcitonin with its related clinical disorders	1	LGF/SGD
2	Parathyroid gland	Enumerate the hormones secreted from parathyroid gland Describe the chemistry, biosynthesis, secretion, mechanism of action, regulation and metabolic effects of parathyroid hormone with its related clinical disorders	1	LGF/SGD
MEDICINE				
1.	Thyroid Gland	Explain the clinical features of hyperthyroidism Explain the clinical features of hypothyroidism	1	LGF/SGD
Pharmacology				
1.	Thyroid Gland	Describe the types and mechanism of action of Anti-thyroid drugs	1	LGF/SGD

Theme-3 (Increased thirst and urination)

Introduction:

This theme has one-week activity, comprising of histological feature of Pancreas.Physiological functions and mechanism of action of Insulin and Glucagon hormones are included. Physiological effects of Diabetes Mellitus with complications and treatment are also included.
The contents of this theme consist ofLGF-lectures, DSL and SGF-Practicals, SGDs, SDL.

SNO	Topics	Learning Outcomes	hours	MIT
Histology				
1.	Thyroid gland	Describe the microscopic structure of thyroid gland	1	LGF/SGD
Physiology				
1	Insulin hormone–I	Explain Mechanism of action of insulin Describe the Control of Insulin secretio	1	LGF/SGD

2	Insulin hormone–II	Describe the Physiologicaleffects of insulin on carbohydrates, proteins and Fats metabolism	1	LGF/SGD
3	Insulin hormone – III	Describe Effects of hyperglycemia /hypoglycemia on body functions	1	LGF/SGD
4	Glucagon hormone	Describe the Physiologicaleffects/ regulation of glucagon Describe the physiological actions of Somatostatins	1	LGF/SGD
Biochemistry				
1	Pancreas	Enumerate the hormones secreted by pancreas Describe the chemistry, biosynthesis, secretion, mechanism of action, regulation and metabolic effects of Insulin & Glucagon with its related clinical disorders	1	LGF/SGD
Pharmacology				
1.	Antidiabetic drugs	Explain the mechanism of action of oral antidiabetic drugs Explain the mechanism of action and complications of Insulin therapy	1	LGF/SGD
Medicine				
1	Insulin	Explain the short-term and long-term complications of Diabetes Mellitus Describe the pathophysiology, clinical features and treatment of Diabetes Mellitus	1	LGF/SGD
CommunityMedicine				
1.	Insulin	Describe the epidemiology, risk factors and prevention of Diabetes Mellitus	1	LGF/SGD

Theme-4 (Moon face)

Introduction:

This is 3-days activity, comprising of gross, histological pictures as well as development of Adrenal gland. Hormones of both Adrenal Cortex and Adrenal Medulla are included, including functions, mechanism of actions and their abnormalities.

The contents of this theme will be taught in LGF-lectures, DSL and SGF-Practicals, SGD, SDL.

SNO	Topics	Learning Outcomes	hours	MIT
Gross anatomy				
1	Adrenal gland	Describe the gross anatomy and relations of adrenal glands on both sides	1	LGF/SGD

Embryology				
1	Adrenal gland	Describe the development of adrenal gland	1	LGF/SGD
Histology				
1	Adrenal gland	Describe the microscopic picture of adrenal gland and differentiate between the various histological zones of adrenal gland	1	LGF/SGD
Physiology				
1	Mineralocorticoids	DescribeTypes, Mechanisms and regulation of Mineralocorticoids Describe the physiological Effects of Aldosterone (Renal, Circulatory and others)	1	LGF/SGD
2	Glucocorticoids	Describe Types and Mechanisms of Glucocorticoids actions Describe Effects of Cortisol on Carbohydrate, Proteins and Fat Metabolism Describe role of Cortisol in Stress, Inflammation and Allergy	1	LGF/SGD
3	Adrenocorticotropic Hormone (ACTH)	Describe Secretion,Mechanism of action&effects of ACTH onAdrenocortical Gland	1	LGF/SGD
Biochemistry				
1	Adrenal cortical hormones	Enumerate the hormones secreted from adrenal cortex Describe biosynthesis, secretion, mechanism of action, regulation and metabolic effects of Adrenal cortical hormones with its related clinical disorders	1	LGF/SGD

2	Adrenal medullary hormones	Enumerate the hormones secreted from adrenal medulla Describe biosynthesis, secretion, mechanism of action, regulation and metabolic effects of Adrenal medullary hormones with its related clinical disorders Describe the etiology, clinical features and investigations of a patient with Diabetes Insipidus Describe the structure and functions of Melanocyte-Stimulating Hormone, Lipotropin, and Endorphins	1	LGF/SGD
Medicine				
1.	Glucocorticoids (Cortisol) -I	Describe the clinical features and complications of Cushing`s syndrome	1	LGF/SGD
2.	Glucocorticoids (Cortisol) -II	Describe the clinical features and complications of Addison`s disease	1	LGF/SGD

Practical work

Subject	Topic		Learning objectives
Biochemistry	Urinary glucose	80	Detect glucose in urine
	Blood glucose		Detect glucose in blood
	Glucose tolerance test	82	Perform and interpret Glucose tolerance test
Histology	Pituitary glands	83	Identify the structure of pituitary gland under microscope
	Thyroid gland	84	Identify the structure of thyroid gland under microscope
	Adrenal gland	85	Identify the structure of adrenal gland under microscope

MIT:mode of information transfer. E.g. lecture, SGD, DSL, Practical, skill lab etcetc

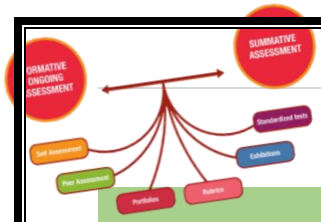
10 Learning Opportunities and Resources

a. Instruction (if any)

- Try to be regular in class as teacher is the best guide & facilitator.
- Make your studies a primary goal.
- Study your textbooks covering the learning objectives relevant to the topic of study, read reference books when needed and do use other learning resources such as videos, text relevant to the topic on website and research articles.

b. Books:

S.No	Subject	Learning Resources/ Recommended Books
1.	Gross Anatomy	Clinical Anatomy by Regions by Richard S. Snell (Latest Edition)
		Gray's Anatomy for Students (Latest Edition)
		K.L. Moore, Clinically Oriented Anatomy (Latest Edition)
		Netter`s "Atlas of Human Anatomy (Latest Edition)
		Last`s Anatomy (Latest Edition)
2.	Histology	Textbook of Histology by Junqueira (Latest Edition)
		diFiore's ATLAS of Histology with Functional Correlations (Latest Edition)
		Atlas of Human Histology by Wheaters. (Latest Edition)
		Textbook of Histology by LaiqHussain (Latest Edition)
3.	Embryology	Langman's Medical Embryology (Latest Edition)
		The Developing Human "by Keith L Moore" (Latest Edition)
4.	Physiology	Textbook of Medical Physiology by Guyton and Hall (Latest Edition)
		Ganong`s "Review of Medical Physiology" (Latest Edition)
5.	Biochemistry	Harper's Illustrated Biochemistry (Latest Edition)
		Lippincott's Illustrated Review: Biochemistry (Latest Edition)
6.	Pharmacology	Katzung`s Basic and Clinical Pharmacology (Latest Edition)
7.	Pathology	Robbin's Basic Pathology (Latest Edition)
8.	Community Medicine	Essential Community Medicine (Latest Edition) K Park Textbook of Preventive and Social Medicine (Latest Edition)
9.	General Medicine	Davidson`s Principles and Practice of Medicine (Latest Edition)
10.	Radiology	David Sutton's Textbook of Radiology and Imaging (Latest Edition)
11.	Neurosurgery	Greenberg's Textbook of Neurosurgery
		Rangacharya's Principles of Neurosurgery



11 Examination and Methods of Assessment:

a. Instruction:

- Students must arrive the examination venue at least 15 minutes before the scheduled start time.Latecomers 15 minutes after the start of exam, will not be allowed to enter the examination hall after the start time, and if permitted, they will not receive extra time.
- Students without College ID Card and white Lab Coat will not be allowed to sit in exam.
- In case of an emergency such as a medical emergency, students should inform the examination supervisor.
- Students are required to submit prohibited items such ass mobile phones, smartwatches, electronic devices, books, notes, or any unauthorized materials before entering the examination hall.
- Students must maintain complete silence within the examination hall. They should refrain from communicating with fellow students and strictly follow invigilator instructions.
- Students must mark their attendance properly.
- No student will be allowed to leave the examination hall before half the time is over and paper should be properly handed to the examiner.
- Violation of these guidelines may lead to disqualification from the examination.

b. The Distribution of Internal Assessment:

The distribution of Internal Assessment Score for 2nd Year MBBS will be as follows:

- Total Marks for 2ndYear MBBS= 700 & Internal Assessment Marks=70 (10%)
- 50 % of the Internal Assessment Marks may be given to Block Exams
- 50 % of the Internal Assessment marks may be given to Class Test/ End of Module Exam, Assignments and Presentations.
- Biochemistry department is responsible to maintain the attendance record for BLOCK – D in coordination with all the concerned departments.
- Anatomy department is responsible to maintain the attendance record for BLOCK – E in coordination with all the concerned departments.
- Physiology department is responsible to maintain the attendance record for BLOCK – F in coordination with all the concerned departments.

Distribution of --- Marks for Block Papers for second Year MBBS will be as under:

Block	Block D	Block E	Block F	Total
Marks				

Distribution of Marks for Block OSPE will be as under:

Block	Block D	Block E	Block F	Total
Marks				

Distribution of --- marks for Class Test/ End of Module Exam & Assignments for 2nd Year MBBS will be as under:

Subject (Theory)	Block D	Block E	Block F	Total
Class Test/ End of Module Exam				
Assignments				
Total				

Distribution of 15 marks for Presentations, Attitude/ Behavior for 2nd Year MBBS will be as under:

Subject (OSPE)	Block D	Block E	Block F	Total
Presentations				
Attitude/ Behavior				
Total				

c. University Examination:

- To appear in any university examination, more than 75% attendance in all disciplines is mandatory for the students.
- The Paper A will be comprised of 120 MCQs. The distribution of 90% Marks for Paper --- Written Exam will be as under:

Blue Print for Block F Assessment

Subject	Endocrinology	Reproduction	Total MCQs
Gross Anatomy	1	12	13
Histology	5	6	11
Embryology	2	7	9
Physiology	34	14	48
Biochemistry	20	6	26
PRIME	3	--	3
Pathology	--	--	--
Pharmacology	2	--	2
Forensic Medicine	--	1	1
Community Medicine	1	2	3
General Medicine	4	--	4
EYE	--	--	--
ENT	--	--	--
Surgery	--	--	--
Total	**72**	**48**	**120**

Block F OSPE Blueprint

Subject	Endocrine module	Viva stations	Reproduction module	Viva stations	Total OSPE stations
Gross Anatomy	0	1	2	1	10
Histology	3		3		
Embryology	0		0		
Physiology	0	1	1	1	3
Biochemistry	3	1	0	1	5
Total	**6**	**3**	**6**	**3**	**12 + 6 (viva) =18**

12.Tentative Timetables

SWAT MEDICAL COLLEGE
DEPARTMENT OF MEDICAL EDUCATION
TIME TABLE FOR REPRODUCTION MODULE(2nd Year MBBS) SESSION 2024-25
WEEK-1

Monday	**G. Anat – L1** Pituitary gland **Dr. Junaid Raman**	**Histo – L1** Pituitary gland **Prof Dr. Muhammad Khan**	**Phy – L1** Introduction to Endocrinology **Dr.Alam Zeb Khan**	**PRACTICALS/SGDs** Batch A: (SLRC/Library) Batch B: Histo**Dr. Sabiha Junaid** Batch C: Bio**Mr.Khalilullah**			**Anat-DSL** Pituitary gland **Dr.Sabiha Junaid**
Tuesday	**Anat-DSL** Assignment **Dr.Sabiha Junaid**	**Phy – L2** Pituitary Gland (Physiological anatomy & its control) **Prof Dr. Rashid Ahmad**	**Bio – L1** Hormones Introduction **Dr. Sara Maryum**	**PRACTICALS /SGDs** Batch A: **Mr. Khalilullah** Batch B: (SLRC/Library) Batch C: Histo **Dr.Sabiha Junaid**			**Bio – L2** Anterior Pituitary Hormones **Dr. Salman Ibrahim**
Wednesday	**Phy – L3** Physiological functions of Posterior Pituitary Hormones **Prof Dr. Rashid Ahmad**	**Phy – L4** Physiological functions of Growth hormone **Dr.Amanullah**	**Phy-DSL** Mechanism of action of Hormones **Dr. Uzair**	**PRACTICALS/SGDs** Batch A: Histo **Dr. Sabiha Junaid** Batch B: Bio**Mr. Khalilullah** Batch C: (SLRC/Library)			**Bio-DSL** Anterior Pituitary Hormones **Dr. Salman Ibrahim**
Thursday	**SDL** (SLRC/Library)	**Phy – L5** Mechanism of action of Hormones **Prof Dr. Taj Mohammad Khan**	**Paeds** Growth Charts **Dr. Ibrahim**	**Bio – L3** Posterior Pituitary Hormones **Dr. Obaid Ur Rahaman**	**Emb – L1** Pituitary gland **Dr. Humaira Ali**		**Bio – L4** Thyroid gland **Mr. Khalilullah**
Friday	**G. Anat – L 2** Thyroid gland **Dr. Junaid Raman**	**G. Anat – L 3** Adrenal Gland **Dr. Junaid Raman**	**Emb – L2** Thyroid gland **Dr. Humaira Ali**	**Phy – L6** Introduction to Thyroid Hormone **Dr. Amanullah**	**G. Med – L1** Acromegaly **Prof Dr. Aziz Ahmad**		**SDL** (SLRC/Library)

SWAT MEDICAL COLLEGE
DEPARTMENT OF MEDICAL EDUCATION
TIME TABLE REPRODUCTION MODULE(2nd Year MBBS) SESSION 2024-25
(WEEK-2)

Days	8:00 to 9:00 am	09:00 to 10:00 am	10:00 am to 11:00 am	11:00am to 1:00 pm			1:30 to 2:30 pm
Monday	**Phy – L7** Physiological functions &regulation of thyroid hormone **Prof Dr. Rashid Ahmad**	**Histo - L2** Pancreas / Parathyroid gland **Prof Dr. Muhammad Khan**	**Phy – L8** Physiological functions and Control of the Parathyroid hormone **Dr.Alam Zeb Khan**	**PRACTICALS/SGDs** Batch A: Phy **Dr.Uzair** Batch B: Histo**Dr. Sabiha Junaid** Batch C: Bio **Dr. Nouman Khan/Khalilullah**		**PRAYERS BREAK**	**Anat-DSL** Thyroid Gland **Dr.Sabiha Junaid**
Tuesday	**Bio – L5** Parathyroid gland **Prof Dr. Gulshan Abbas**	**G. Med – L2** Thyroid Disorders **Prof. Dr. Aziz Ahamad**	**Phy – L9** Physiological role of VIT D and Calcitonin in Calcium metabolism **Dr. Amanullah**	**PRACTICALS /SGDs** Batch A: Bio **Dr. Nouman Khan /Khalilullah** Batch B: Phy **Dr. Uzair** Batch C: Histo **Dr.Sabiha Junaid**			**Phy-DSL Dr. Waqar Ali Shah**
Wednesday	**Neurosurgery – L1** Tumors of pituitary gland **Dr. Zaheer Uddin**	**Pharma – L1** Antithyroid drugs **Dr. Zeeshan Saif**	**Phy – L10** Mechanism of action of Insulin & its control **Prof Dr. Taj Mohammad Khan**	**PRACTICALS/SGDs** Batch A: Histo **Dr. Sabiha Junaid** Batch B: Bio **Dr. Nouman Khan/Khalilullah** Batch C: Phy **Dr. Uzair**			**Bio – L6** Pancreas **Dr. Salman Ibrahim**
Thursday	**C. Med – L1** Diabetes mellitus **Dr. Rafiullah**	**Emb – L3** Adrenal Gland **Dr. Humaira Ali**	**Phy – L12** Physiological Effects of insulin on carbohydrates, protein, and Fats / Physiology of Glucagon **Prof Dr. Taj Mohammad Khan / Dr. Amanullah**	**Bio – L7** Adrenal Medullary Hormones **Dr. Najmuddin**	**Bio-DSL** Adrenal Medullary Hormones **Dr. Najmuddin**		**Research Methodology – L1** Data Collection Procedures **Dr. Bilal Iqbal**
Friday	**Research Methodology – L2** Data Collection Procedures **Dr. Bilal Iqbal**	**Histo – L3** Adrenal Gland **Prof Dr. Muhammad Khan**	**Phy-DSL** Insulin / Glucagon **Dr. Furqan UlHaq**	**G. Med – L3** Diabetes mellitus **Prof. Dr. Aziz Ahamad**	**Pharma – L2** Antidiabetic Drugs **Dr. Zeeshan Saif**		**SDL** (SLRC/Library)

SWAT MEDICAL COLLEGE
DEPARTMENT OF MEDICAL EDUCATION
TIME TABLE FOR REPRODUCTION MODULE(2nd Year MBBS) SESSION 2024-25
WEEK-3

Days	8:00 to 9:00 am	09:00 to 10:00 am	10:00 am to 11:00 am	11:00am to 1:00 pm		1:30 to 2:30 pm
Monday	**Block E Paper**					
Tuesday	**Block E OSPE**					
Wednesday	**Anat – DSL** Adrenal Gland **Dr.SanyaHadi**	**Phy – L14** Physiological effects of Diabetes mellitus **Prof Dr. Taj Mohammad Khan**	**Phy – L15** Physiological Functions of Adrenocorticotropic Hormone ACTH **Dr. Amanullah**	**Practical's / SGDs** Batch A: Phy **Dr.Waqar Ali Shah** Batch B: Histo**PDr.Sabiha Junaid** Batch C: Bio **Dr.Nouman Khan**	**PRAYERS BREAK**	**Bio – L8** Adrenal Cortical Hormones **Dr. Sara Maryum**
Thursday	**Phy – L16** Physiological Functions of Aldosterone **Prof Dr. Rashid Ahmad**	**Phy – L17** Physiological Functions of Glucocorticoids **Dr.Alam Zeb Khan**	**Bio – DSL** Insulin **Dr. Salman Ibrahim**	**Practical's / SGDs** Batch A: Bio **Dr.Nouman Khan** Batch B: Phy **Dr. Waqar Ali Shah** Batch C: Histo **PDr.Sabiha Junaid**		**Phy – DSL Dr. Furqan UlHaq**
Friday	**SDL** (SLRC/Library)	**G. Med – L4** Cushing`s syndrome **Prof Dr. Aziz Ahmad**	**G. Med – L5** Addison`s disease **Prof Dr. Aziz Ahmad**	**Practical's / SGDs** Batch A: Histo**PDr.Sabiha Junaid** Batch B: Bio **Dr.Nouman Khan** Batch C: Phy **Dr.Waqar Ali Shah**		**SDL** (SLRC/Library)

SWAT MEDICAL COLLEGE
DEPARTMENT OF MEDICAL EDUCATION
TIME TABLE FOR REPRODUCTION MODULE(2nd Year MBBS) SESSION 2024-25

WEEK-4

Days	8:00am to 10:00 am	10:00 am to 11:00 am	11:00am to 12:00 pm	12:00pm to 1:00 pm		1:30pm to 2:30 pm
Monday	**PRACTICALS:** Batch A: Phy**Dr.** Batch B: Histo**Dr.** Batch C: Bio **Dr.**	**Bio-L6** **Dr.**	**Bio-L7** **Dr.**	**PRIME-L3** **Dr.**		**Anat-DSL** **Dr.**
Tuesday	**PRACTICALS:** Batch A: Bio **Dr.** Batch B: Phy**Dr.** Batch C: Histo**Dr.**	**Bio-L8** **Dr.**	**SDL** (SLRC/Library)	**Bio-L9** **Dr.**	**PRAYERS BREAK**	**Physio-DSL** **Dr.**
Wednesday	**PRACTICALS:** Batch A: Histo**Dr.** Batch B: Bio **Dr.** Batch C: Phy**Dr.**	**Patho-L1** **Prof. Dr.**	**Bio-L10** 7 **Dr.**	**Patho-L2** **Prof. Dr.**		**Bio-DSL** **Dr.**
Thursday	**SGDs:** Batch A: Phy**Dr.** Batch B: Histo**Dr.** Batch C: Bio **Dr.**	**C.Med-L1** **Dr.**	**Pharma-L1** **Dr.**	**IT Skills-L2** MS Excel **Engr.**		**PRIME-L4** **Dr.**
Friday	**SGDs:** Batch A: Bio **Dr.** Batch B: Phy**Dr.** Batch C: Histo**Dr.**	**Islamiyat-L2** **Mr.**	**11:00am to 1:00 pm** **SGDs:** Batch A: Histo**Dr.** Batch B: Bio **Dr.** Batch C: Phy**Dr.**			**SDL** (SLRC/Library)

SWAT MEDICAL COLLEGE
DEPARTMENT OF MEDICAL EDUCATION
TIME TABLE FOR REPRODUCTION MODULE(2nd Year MBBS) SESSION 2024-25

WEEK-5

Days	8:00am to 10:00 am	10:00 am to 11:00 pm	11:00am to 12:00 pm	12:00am to 1:00 pm		1:30pm to 2:30 pm
Monday	SELF STUDYSDL (SLRC/Library)					
Tuesday	Block F Written Test					
Wednesday	HOLIDAY					
Thursday	Block F OSPE (Batch A & C)					
Friday	Block F OSPE (Batch B & D)					

13.For inquiry and troubleshooting

Please contact : Dr Sara Mariyum Associate Prof. Biochemistry(contact no: 0334-5475729)

Email address:drsaraamjad45@gmail.com

14.**Module Evaluation Form**

This is an example of feedback form and real-time feedback will be obtained through an electronic link and/or your LMS.

MBBS Year: _____ Block: _____ Module: _____

Date: _____

1. (Unsatisfactory) 2 (Fair) 3 (Satisfactory)4 (Good) 5 (Excellent)

Category: Course Contents

No.	Question	1	2	3	4	5
1	To what extent did the course contents align with the stated learning objectives of the module?					
2	How clear and comprehensive were the course materials provided in this module?					
3	Were the core topics adequately covered, ensuring a well-rounded understanding of the subject?					
4	How current and up-to-date were the course contents in reflecting recent advancements?					
5	Did the module incorporate real-world applications and case studies effectively?					
	Category: Learning Resources					
6	Were the learning resources (e.g., textbooks, online materials, laboratory facilities) readily available and easily accessible?					
7	How helpful were additional learning resources such as supplementary readings or multimedia content?					
8	Did the module offer adequate support for research and independent study?					
9	Were digital resources and online platforms effectively utilized to enhance the learning experience?					
10	Were there sufficient opportunities for hands-on practice and practical application of knowledge?					
	Category: Teaching Methods					
11	How well did instructors engage with students and create a supportive learning environment?					
12	Were diverse teaching methods (e.g., lectures, group discussions, simulations) effectively employed?					
13	How responsive were instructors to questions, concerns, and feedback from students?					

14	To what extent did instructors provide timely and constructive feedback on assignments and assessments?					
15	Were opportunities for collaborative learning and peer-to-peer interactions encouraged and facilitated?					
No.	**Category: Engagement and Motivation**					
16	To what extent did the module use real-world examples and practical applications to engage students?					
17	How well were active learning techniques (e.g., problem-solving, case studies) integrated into the curriculum?					
18	Did the module provide opportunities for students to pursue their individual interests within the subject matter?					
19	Were assessments designed to challenge and motivate students to excel in their studies?					
Category: Inclusivity and Diversity						
20	How well did the module accommodate different learning styles and preferences among students?					
21	Were efforts made to include diverse perspectives, cultures, and backgrounds in the curriculum?					
22	How effectively were accommodations provided for students with varying levels of prior knowledge?					
	Category: Overall					
No.	**Question**	**1 (Very Poor)**	**2 (Poor)**	**3 (Fair)**	**4 (Good)**	**5 (Excellent)**
23	How would you rate the overall quality of this module?					

15. Students Diary/Notes

S.NO	DATE	TASK	PENDING/COMPLETED	COMMENTS

PROGESS:__________________ ACHIEVMENT: ________________