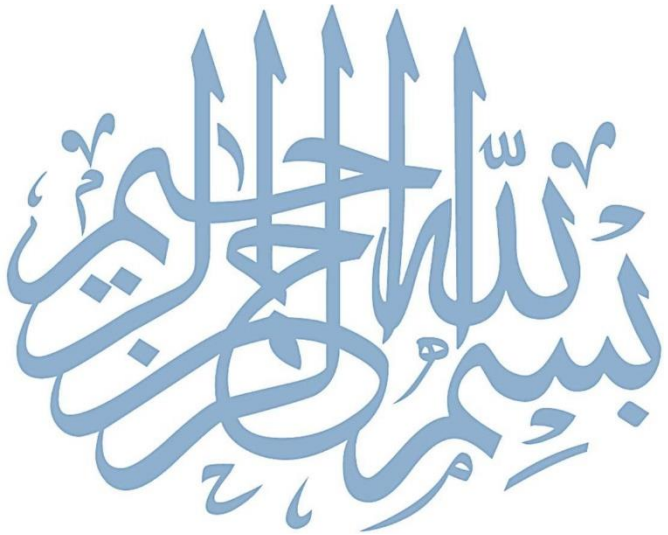
MODULAR INTEGRATED CURRICULUM 2K23

Version 2.0

YEAR-2


بسم الله الرحمن الرحيم

Principal's Message

Dear Students and Faculty,

It is with great pride and enthusiasm that we embark on this transformative journey together at our newly established medical college. This is a moment of new beginnings, brimming with possibilities, and an opportunity to shape a future grounded in academic excellence, innovation, and compassionate care.

To our students, you are stepping into a world where knowledge meets responsibility. Medicine is more than a profession; it is a calling to serve humanity with integrity and empathy. We are committed to nurturing not just your intellect but also your values, so you may emerge as competent and compassionate healthcare professionals. As you navigate this rigorous yet rewarding journey, remember that perseverance, curiosity, and a spirit of service will be your guiding stars.

To our esteemed faculty, your dedication and expertise form the cornerstone of this institution. Together, let us inspire our students, foster a culture of inquiry, and build a learning environment that emphasizes collaboration, critical thinking, and lifelong learning. You have the unique opportunity to shape the minds and hearts of future leaders in healthcare, and I am confident that your unwavering commitment will pave the way for their success.

Our first block of study marks the foundation of an academic experience that integrates the principles of holistic education with cutting-edge medical training. It is designed to challenge, motivate, and inspire both students and faculty. Let this guide serve as a roadmap, helping us achieve our shared goals while upholding the highest standards of education and care.

The journey ahead will undoubtedly present challenges, but it is in overcoming these that we find growth. Let us work together to create a legacy of excellence that will guide generations to come. With determination, collaboration, and a shared vision, I have no doubt that we will achieve greatness together.

Welcome to the start of an extraordinary chapter.

Warm regards,

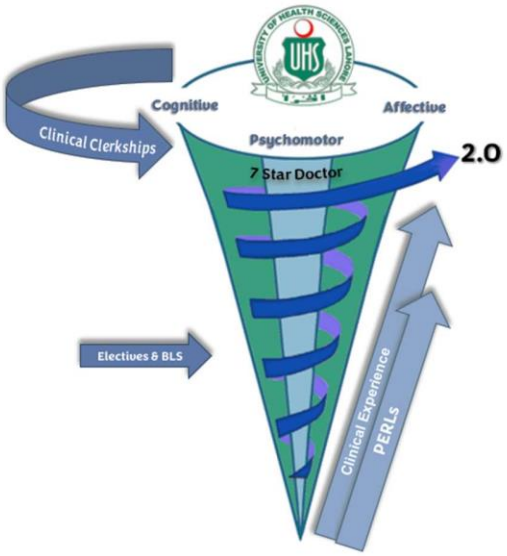
Sh. Khawar

Prof. Shireen Khawar
Vice Principal

CURRICULUM 2K23

version 2.0

BLOCK-5



MODULE NO. 08:

ENDOCRINOLOGY & REPRODUCTION-I

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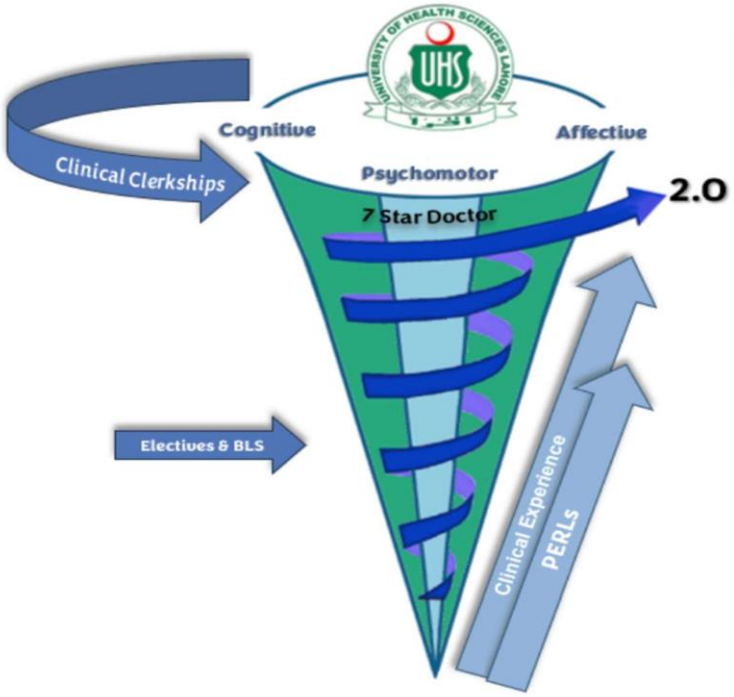


MODULE RATIONALE

Endocrinal system is a unique system consists of glands which control body systems through its secretions known as hormones. These chemical compounds known as hormones play an integral role in maintaining cell activity and organ functions through biochemical signals. Human reproduction is controlled by hormones released by gonads.

Changes in hormonal levels can affect human fertility.

In this module the anatomy and physiology of the endocrine organs, functional biochemistry of the hormones secreted will be taught in integrated fashion with reference to common disease occurring in Pakistani community.

MODULE OUTCOMES

- Explain Development, structure, hormones and regulation of pituitary gland, thyroid gland, parathyroid gland, endocrine pancreas, adrenal glands, testes and ovaries.
- Describe the etiology, pathophysiology, relevant clinical features and common investigations of disorders of these glands.
- Apply levels of prevention for common endocrinal public health issues in Pakistan.
- Elaborate events in normal pregnancy and principles of genetics.

THEMES

- Introduction to Endocrinology, Mechanism of action, Second messenger, measurements
- Pituitary gland
- Thyroid Gland & Parathyroid Gland
- Adrenal glands
- Pancreatic Hormones
- Reproduction & Genetics

CLINICAL RELEVANCE

- Diabetes
- Hypothyroidism & Hyperthyroidism
- Cushing Syndrome & Addison’s disease
- Dysfunctional Uterine Bleeding
- Infertility

IMPLEMENTATION TORs
• The time calculation for completion of modules and blocks is based on 35 hours per week. Total hours of teaching, learning and formative/summative internal assessment to be completed in a year are 1200. • The hours mentioned within each module are the mandatory minimum required. The rest of the hours are left to the discretion of the institution that can be used in teaching, learning and assessment as per decision of the institutional academic council. • The content and the intended learning outcomes written are mandatory, to be taught, at the level required, as the end year assessment will be based on these. • However, the level of cognition can be kept at a higher level by the institution. • The Table of Specifications provided will be used for the three papers of the Second professional examination. The same table of specifications should be used for the respective three block exams for internal assessment.

SYLLABUS OF ENDOCRINOLOGY & REPRODUCTION-I MODULE

NORMAL STRUCTURE			
THEORY			
CODE	**GROSS ANATOMY**	**TOTAL HOURS = 35**	
	SPECIFIC LEARNING OUTCOMES	**DISCIPLINE**	**TOPIC**
EnR-A-001	Describe the location, anatomy blood supply and functions of pituitary gland	Anatomy	Diencephalon (Endocrinology)
EnR-A-002	Describe the Thyroid, Parathyroid with their type, Relations, blood supply, and nerve supply.	Anatomy	Thyroid & Parathyroid gland
	Explain the anatomical basis for surgical removal of the glands of neck with special emphasis on the complications that can be encountered	Anatomy	
	Identify the Thyroid with their type, relations, blood supply, and nerve supply.	Anatomy	
EnR-A-003	Describe the structure, fascia, coverings, blood and nerve supply of testis	Anatomy	Testis
EnR-A-004	Describe the gross anatomical features and neuro-vasculature of epididymis and vas deferens, Seminal vesicles, Bulbourethral gland	Anatomy	Accessory Male organs
EnR-A-005	Describe the morphological features and neurovascular supply of prostate. Describe, Draw & Label Lobes of prostate gland Correlate the clinical manifestations of prostate with lobes and/or zones of prostate		Prostate
EnR-A-006	Describe the anatomical basis and manifestations of the following conditions: 1) Hydrocele of spermatic cord and/or testes 2) Hematocele of testes 3) Torsion of the spermatic cord 4) Varicocele Vestigial remnants of embryonic genital duct	Anatomy	Testis clinical conditions
	Describe the anatomical basis of vasectomy, &	Anatomy	

	metastasis of cancer of testis and scrotum		
EnR-A-007	Describe shape, relations blood supply & nerve supply of suprarenal gland	Anatomy	Supra-Renal Gland
	Explain the anatomical causes of Adrenal Abnormalities	Anatomy	
EnR-A-008	Define Bony Pelvis (Girdle) and describe the structures forming it.	Anatomy	Pelvic Girdle
	Describe the bones and salient anatomical features of Bony pelvis (girdle)	Anatomy	
EnR-A-009	Describe the type, articulations and mechanics of movements {axes and planes} of the following joints: 1) Sacro-Iliac 2) Pubic Symphysis 3) Lumbosacral 4) Sacrococcygeal	Anatomy	Sacroiliac-Joint
EnR-A-010	List the contents of True and False Pelvis	Anatomy	Bony Pelvis (Girdle)
	Tabulate the differences between male and female pelvis	Anatomy	
	Describe different types of pelvises	Anatomy	
	Describes different diameters of pelvis and their application in obstetric practice	Anatomy (Obs & Gynae)	
EnR-A-011	Describe the anatomical basis of pelvic fractures and their consequences	Anatomy	Pelvic Girdle
	Describe the topographical anatomy of pelvic walls and its components	Anatomy	
	Describe the mechanics of changes occurring in pelvic ligaments and joint mobility in late pregnancy	Anatomy (Obs & Gynae)	
EnR-A-012	Describe the topographical anatomy of pelvic floor.	Anatomy	Pelvic floor
	Describe origin, insertion, nerve supply and actions of muscle forming pelvic floor	Anatomy	
EnR-A-013	Tabulate the attachments, innervations and actions of muscles forming the pelvic walls and floor	Anatomy	Pelvic Muscles

EnR-A-014	Describes injury to pelvic floor during child birth and its complications	Anatomy (Obs & Gynae)	Pelvic Girdle
EnR-A-015	Describe the peritoneal reflections in the male and female pelvis	Anatomy	Peritoneum peritoneal cavity of pelvis
EnR-A-016	Describe the gross anatomical features of Sacrum	Anatomy	Sacrum
EnR-A-017	Describe the gross anatomical features of pelvic fascia	Anatomy	Pelvic Fascia
EnR-A-018	Describe the boundaries of pelvic outlet and inlet	Anatomy	Pelvic Outlet and inlet
	Enumerate the structures passing through the pelvic inlet and pelvic outlet	Anatomy	
EnR-A-019	Tabulate the differences in peritoneal reflections in male and female pelvis	Anatomy	Peritoneal Reflection in Pelvis
EnR-A-020	Describe the origin, course, branches and distribution of common iliac artery	Anatomy	Pelvic Vessels
	Describe the origin, course, branches and distribution of external and internal iliac arteries	Anatomy	
	Describe the origin, course, tributaries and area of drainage of pelvic veins	Anatomy	
EnR-A-021	Describe the location, afferents and efferent of pelvic lymph nodes	Anatomy	Pelvic Lymph Nodes
EnR-A-022	Tabulate the origin, course, distribution and anastomosis of arteries of the pelvis	Anatomy	Pelvic Vessels & Pelvic nerves
	Describe the origin, root value, course, relations, branches and distribution of Pelvic nerves	Anatomy	
	Describe the anatomical basis and clinical picture for ligation of internal iliac artery and collateral circulation in pelvis	Anatomy	
	Describe the clinical picture and anatomical basis for the injury to pelvic nerves	Anatomy	
	Give anatomical justification for pelvic nerve blocks	Anatomy	
EnR-A-023	Describe the morphological features of urethra (male and female)	Anatomy	Pelvis

	Tabulate the parts of the male urethra with their location and salient features	Anatomy	
	Describe the clinical picture and anatomical justification for Ureteric Caliculi, Cystocele, Suprapubic Cystotomy, Rupture of Bladder	Anatomy	
	Describe the clinical picture and anatomical justification for Hypertrophy of Prostate	Anatomy	
	Describe the gross anatomical features of Ovaries and Fallopian Tubes with their relations, blood supply, nerve supply and lymphatic drainage Describe related clinical conditions: 1) Positions of ovaries 2) Cysts of ovaries 3) Ectopic pregnancy 4) Tubal ligation 5) Salpingitis	Anatomy	
	Describe the gross anatomical features, parts, peritoneal ligaments, blood supply, nerve supply & lymphatic & clinical aspects of Uterus and Vagina Describe related clinical conditions 1. Prolapse of uterus 2. Vaginal trauma 3. culdocentesis	Anatomy	
	Describe, identify, justify and demonstrate the supports of uterus	Anatomy	
EnR-A-024	Describe the gross anatomical features of Boundaries & divisions of perineum	Anatomy	Perineum
	Draw and label the boundaries of perineum	Anatomy	
	List the contents of perineum	Anatomy	
	Tabulate the differences between the Male and female	Anatomy	

	perineum		
	Describe the attachments of the perineal membrane and list its relations	Anatomy	
	Discuss the formation of Superficial and Deep Perineal Pouches	Anatomy	
	List the contents of Superficial and Deep Perineal Spaces	Anatomy	
	Tabulate the attachments, actions and nerve supply of muscles of perineum	Anatomy	
	Describe the topographical anatomy and neuro-vasculature of Penis	Anatomy	
	Tabulate the muscles forming the perineal body with their attachments and nerve supply	Anatomy	
EnR-A-025	Describe the clinical presentation and anatomical justification for: 1) Hypospadias 2) Phimosis 3) Circumcision 4) Erectile Dysfunction 5) Internal Hernias 6) Suprapubic Cystotomy 7) Rupture Of Bladder 8) Rectal Examination 9) Disposition Of Uterus	Anatomy	Pelvis
CODE	**EMBRYOLOGY & POST-NATAL DEVELOPMENT**	**TOTAL HOURS = 14**	
	SPECIFIC LEARNING OUTCOMES	**DISCIPLINE**	**TOPIC**
EnR-A-026	Describe the contributing factors, histogenesis and sequence of events of the development of Thyroid gland	Anatomy	Development of Thyroid gland
	Explain the embryological basis of the Thyroglossal Cyst	Anatomy	
	Draw a concept map highlighting the development of thyroid gland	Anatomy	

EnR-A-027	Describe the development of para-thyroid glands	Anatomy	Development Of Parathyroid glands
	Draw a concept map highlighting the development of para-thyroid gland	Anatomy	
EnR-A-028	Anatomically justify the clinical presentation of: 1. Ectopic Parathyroid 2. Aberrant Thyroid	Anatomy	Development of Thyroid, Parathyroid
EnR-A-029	Describe the development of pituitary gland Describe the embryological basis for the congenital anomalies of pituitary development	Anatomy	Development of Pituitary Gland
EnR-A-030	Describe the contributing factors, histogenesis and the development of adrenal gland	Anatomy	Development Of Adrenal Gland
	Draw a concept map for the development of adrenal gland	Anatomy	
	Describe the embryological basis for the congenital anomalies of adrenal development	Anatomy	
EnR-A-031	Identify the stages in the development of the adrenal gland	Anatomy	Adrenal Gland
EnR-A-032	Describe the indifferent gonads	Anatomy	Development of Reproductive system
	List and describe the Factors influencing the differentiation of gonads		
	Evaluate the role of the factors influencing Sex determination and differentiation		
	Describe the Development and descent of testis	Anatomy	
EnR-A-033	Describe the embryological basis and locations of undescended testes	Anatomy	Testis
EnR-A-034	Draw a concept map highlighting the development of testis	Anatomy	Development of Reproductive system
	Explain the Development and descent of ovaries	Anatomy	
	Draw a concept map highlighting the development of ovaries	Anatomy	
	Describe the anatomical basis for indifferent gonads, Klinefelter, turner syndromes & androgen insufficiency	Anatomy	

	Describe the Formation of Genital Ducts In different stage (paramesonephric and mesonephric ducts)	Anatomy	
	Describe the development of female genital ducts and glands, Development of uterus & Vagina. Describe related clinical anomalies: 1) Uterus Arcuatus 2) Uterus septus 3) Uterus Bicornis Bicollis 4) Uterus Bicornis Unicollis 5) Uterus Unicornis 6) Atresia of vagina 7) Double vagina 8) Imperforate hymen	Anatomy	
	Describe the development of male genital ducts and glands	Anatomy	
	Discuss the Development of male external genitalia	Anatomy	
	Describe the Development of female external genitalia	Anatomy	
	Explain the anatomical basis for the Associated congenital anomalies of male and female external genitalia (Hyposidiasis, Epispidiasis)	Anatomy	
	Describe the development of inguinal canal and descent of testis and embryological basis for Cryptorchidism, Ectopic Testis, Congenital Inguinal Hernia, Hydrocele	Anatomy	
	Klinefelter, turner syndromes & androgen insufficiency Describe the embryological basis for the coverings of testis	Anatomy	
CODE	**MICROSCOPIC STRUCTURE (HISTOLOGY & PATHOLOGY)**	**TOTAL HOURS = 14**	
	SPECIFIC LEARNING OUTCOMES	**DISCIPLINE**	**TOPIC**
EnR-A-035	Describe the histological basis and manifestation of Gastric Carcinoid Tumors	Anatomy/ Pathology	Stomach
	Classify the principal Enteroendocrine Cells on the basis of type, location, hormone produced and Actions	Anatomy	

EnR-A-036	Describe microscopic structure of Pituitary gland.	Anatomy	Pituitary Gland
	Classify pituitary gland on the basis of cell type, hormone produced and functions	Anatomy	
	Explain the histological basis and manifestation of Pituitary Adenomas	Anatomy	
EnR-A-037	Describe the light microscopic structure of Adrenal Gland	Anatomy	Adrenal Gland
	Explain the histological basis and manifestation of Addison disease	Anatomy	
EnR-A-038	Describe the light microscopic structure of endocrine pancreas	Anatomy	Pancreas
	Classify the pancreatic islets on the basis of cell type, hormone produced and functions	Anatomy	
	Explain the histological basis and manifestation of Diabetes Mellitus	Anatomy	
	Explain the components and functions of neuroendocrine system	Anatomy	
EnR-A-039	Describe the light microscopic structure of Thyroid Gland	Anatomy	Thyroid Gland
	Describe the light microscopic structure of Parathyroid Gland	Anatomy	
	Describe the light microscopic structure of Pineal gland	Anatomy	
EnR-A-040	Describe the light and ultramicroscopic structure of Testes, structure & function of Sertoli cells. Describe Blood testes Barrier	Anatomy	Testes
	Describe the histological basis and manifestation of Orchitis, Cryptorchidism	Anatomy Pathology	
EnR-A-041	Describe the light microscopic structure of Epididymis	Anatomy	Epididymis
EnR-A-042	Describe the light microscopic structure of vas deferens	Anatomy	Vas deferens
EnR-A-043	Describe the light microscopic structure of seminal vesicle	Anatomy	Seminal Vesicle

EnR-A-044	Describe the light microscopic structure of Prostate Gland	Anatomy	Prostate gland
	Describe the lobes of prostate and correlate with the pathologies of prostate	Anatomy pathology	
EnR-A-045	Describe the light microscopic structure of ovaries	Anatomy	Ovaries
	Describe the light microscopic structure of ovarian follicles in different stages of menstrual cycle.	Anatomy	
	Describe the histological basis and manifestation of Polycystic Ovary Syndrome	Anatomy Pathology	
EnR-A-046	Discuss the light microscopic structure of uterus	Anatomy	Uterus
	Describe the light microscopic structure of different stages of Menstrual cycle	Anatomy	
	Describe the histological basis and manifestation of Endometriosis	Anatomy Gynae & Obs.	
EnR-A-047	Describe the light microscopic structure of Fallopian Tube.	Anatomy	Fallopian Tube
EnR-A-048	Describe the light microscopic structure of Cervix	Anatomy	Cervix
	Describe the histological basis and manifestation of Cervical Carcinoma	Anatomy Pathology	
EnR-A-049	Describe the light microscopic structure of Vagina	Anatomy	Vagina
EnR-A-050	Describe light microscopic structure of mammary gland (inactive, during pregnancy, after lactation) Discuss histological basis of Breast cancer	Anatomy pathology	Mammary Gland

PRACTICAL

CODE	HISTOLOGY	TOTAL HOURS = 11	
	SPECIFIC LEARNING OBJECTIVES	**DISCIPLINE**	**TOPIC**
EnR-A-051	Identify draw & Label the Pituitary gland under light microscope	Anatomy	Pituitary gland

EnR-A-052	Identify draw & label the Thyroid & Parathyroid glands under light microscope	Anatomy	Thyroid & Parathyroid
EnR-A-053	Identify draw & Label the Adrenal gland under light microscope	Anatomy	Adrenal Gland
EnR-A-054	Identify draw & Label Testes, Epididymis & Vas deferens under the light Microscope	Anatomy	Testes Epididymis Vas Deferens
EnR-A-055	Identify draw & label the seminal vesicle & prostate gland under light Microscope	Anatomy	Seminal Vesicle Prostate Gland
EnR-A-056	Identify, draw and label the ovaries under light microscope	Anatomy	Ovaries
EnR-A-057	Identify, draw and label the slide of different phases of uterus under light microscope	Anatomy	Uterus
EnR-A-058	Identify, draw and label the fallopian tube under light microscope	Anatomy	Fallopian Tube
EnR-A-059	Identify, draw and label the cervix under light microscope	Anatomy	Cervix
EnR-A-060	Identify, draw and label the vagina under light microscope	Anatomy	Vagina
EnR-A-061	Identify, draw and label the mammary gland (different stages) under light microscope	Anatomy	Mammary gland
NORMAL FUNCTION			
THEORY			
CODE	**MEDICAL PHYSIOLOGY**	**TOTAL HOURS = 59**	
	SPECIFIC LEARNING OBJECTIVES	**DISCIPLINE**	**TOPIC**
EnR-P-001	Define different chemical messengers. Enlist endocrine organs and hormones of the body. Enlist the hormones on the basis of chemical nature. Discuss the feedback control of hormone secretion. Explain the up and down regulation of receptors. Enlist the location of hormone receptors.	Biochemistry	Introduction to Endocrinology

	Explain the mechanism of intracellular signaling after hormone receptor activation. Name the hormones that use enzyme-linked hormone receptors signaling. Explain the mechanism of enzyme linked receptors. Enlist second messenger mechanisms for mediating intracellular hormonal functions. Define second messenger system. Explain the adenylyl cyclase– cAMP Second Messenger System. Enumerate the hormones that use the adenylyl cyclase– cAMP Second Messenger System. Explain The cell membrane phospholipid second messenger System. Enumerate the hormones that use cell membrane phospholipid second messenger system. Explain the mechanism of calcium Calmodulin system.		
EnR-P-001	Name the hormones/ factors of hypothalamus. Name the hormones of anterior pituitary. Name the hormones of posterior pituitary. Describe the functional relationship between hypothalamus, anterior and posterior pituitary gland. Explain the significance of hypothalamic- hypophysial portal circulation. Explain the hypothalamic pituitary tract. Explain the mechanism of action of growth hormone. Explain the actions of Growth hormone on Carbohydrate. Discuss the actions of Growth hormone on protein metabolism. Describe the actions of Growth hormone on fat metabolism.	Physiology	Hypothalamus / Pituitary Gland

	Explain the effect of growth hormone on skeletal growth and age. Explain the significance of somatomedins in mediating the actions of growth hormone. Describe the regulation of Growth Hormone. Describe the causes and features and treatment of panhypopituitarism in adults and childhood. Define Sheehan's syndrome. Enlist the types of dwarfism according to cause. Explain the pathophysiology and features of gigantism and acromegaly. Explain the mechanism of action of antidiuretic hormone. Discuss the actions of antidiuretic hormone. Regulation of antidiuretic hormone production. Elaborate the mechanism of action of oxytocin. Discuss the actions of oxytocin.		
EnR-P-002	Discuss the transport of thyroid hormone Discuss the mechanism of action of thyroid hormone Explain the actions of thyroid hormone on carbohydrate metabolism Discuss the actions of thyroid hormone on protein metabolism Explain the actions of thyroid hormones on fat metabolism Explain the non-metabolic functions of thyroid hormone Explain the regulation of thyroid hormone Enumerate antithyroid substances and explain their mechanism of action Enumerate the causes of hyperthyroidism	Physiology	Thyroid gland
	Explain the features, pathophysiology and treatment of thyrotoxicosis/ grave's disease Explain the thyroid function test to investigate hypo and		

	hyperthyroidism Enlist the causes of hypothyroidism Explain the pathophysiology of Hashimoto hypothyroidism Discuss the features and pathophysiology and treatment of myxedema Explain the pathophysiology and features of endemic colloid goiter Discuss the pathophysiology and features of nontoxic colloid goiter Enlist the causes of cretinism Discuss the features and pathophysiology of cretinism		
EnR-P-003	Name the hormones of adrenal cortex. Explain the physiological anatomy of adrenal cortex. Explain the cellular mechanism of Aldosterone action. Explain the effects of mineralocorticoid hormone. Discuss the regulation of aldosterone secretion. Discuss the metabolic and non-metabolic functions of cortisol Explain the interconversion of active cortisol and inactive cortisone by the 2, 11 beta hydroxysteroid dehydrogenase isoform. Explain the mechanism for regulation of glucocorticoid secretion by hypothalamus and pituitary Name adrenal androgens and enlist the functions of adrenal androgens. Discuss the causes, features, pathophysiology and treatment of hypoadrenalism (Addison's disease). Enlist the causes of hyperadrenalism. Explain the features, pathophysiology and treatment of Cushing's syndrome. Differentiate between Cushing's syndrome and Cushing's disease	Physiology & Pathology	Adreno cortical hormones

	Explain the clinical importance of dexamethasone suppression test to diagnose Cushing's syndrome. Discuss the features, pathophysiology and treatment of Conn's syndrome. Enlist the cause, features and pathophysiology of congenital adrenal hyperplasia/ Androgenital syndrome.		
EnR-P-004	Enumerate the types of pancreatic cells with their hormones. Explain the mechanism of action of insulin. Discuss the synthesis and mechanism of release of insulin. Explain the effects of insulin on carbohydrate, protein and lipid metabolism. Enlist the actions of insulin on liver, adipose tissue and skeletal muscle. Enlist the factors and conditions that increase or decrease insulin secretion.	Physiology	Pancreatic hormones
	Explain the role of insulin (and other hormones) in "switching" between carbohydrate and lipid metabolism. Discuss the effects of glucagon on carbohydrate and lipid metabolism. Explain the factors that regulate the secretion of glucagon. Explain the 24-hour regulation of glucose. Discuss the importance of blood glucose regulation. Explain the actions of somatostatin.		
EnR-P-005	Enlist the types of diabetes mellitus Explain the causes of Type I and type II diabetes mellitus Discuss the features and pathophysiology of diabetes mellitus Explain the role of insulin resistance, obesity and metabolic syndrome in developing type II diabetes	Physiology	Abnormalities of Glucose regulation

	mellitus Explain how to diagnose the diabetes mellitus Explain the treatment of type I and type II diabetes mellitus Explain the features, cause of insulinoma		
EnR-P-006	Discuss the physiological anatomy of parathyroid gland Explain the rapid and slow mechanism of resorption of bone by parathyroid hormone Discuss the actions of parathyroid Explain the control of parathyroid secretion by calcium ion concentration	Physiology	Parathyroid hormones
EnR-P-007	Discuss the effects of Vitamin D Discuss the effects of calcitonin on calcium Discuss the regulation of calcium (the first & second line of defense) Explain the causes and features of hypoparathyroidism Explain the causes and the features of primary and secondary hyperparathyroidism Enumerate the causes and features of osteoporosis	Physiology	Regulation of calcium in body
EnR-P-008	Enlist the functions of adrenal medullary hormones and explain pheochromocytoma	Physiology	Adreno medullary hormones
EnR-P-009	Describe the hormonal factors that affect spermatogenesis Explain the maturation and storage of sperm in epididymis Discuss the structure and physiology of a mature sperm Describe the composition of semen Discuss the functions of prostate & seminal vesicles in the formation of semen Explain the phenomenon of capacitation and its significance Describe the acrosome Reaction and its significance Discuss the role of pineal gland in reproduction	Physiology	Spermatogenesis Capacitation & Acrosome reaction
EnR-P-010	Discuss the site of secretion of testosterone	Physiology	Testosterone

	Name the active form of testosterone Explain the production of estrogen in males Describe the basic intracellular mechanism of action of testosterone		
	Explain the functions of testosterone in intrauterine life and after birth Discuss the regulation of male sexual functions by hormones from the hypothalamus and anterior pituitary gland		
EnR-P-011	Enumerate and explain the phases of ovarian cycle along with the hormonal changes Explain the postulated mechanism of ovulation Explain the formation and involution of Corpus luteum Endometrial cycle Explain the structural and hormonal changes of endometrial cycle Explain the regulation of female monthly cycle Discuss the role of progesterone on female sexual organs	Physiology	Menstrual cycle
EnR-P-012	Enumerate the ovarian hormones Discuss the synthesis of estrogen and progesterone Describe the interaction of follicular theca and granulosa cells for production of estrogens with the help of a diagram Explain the functions of the estrogens on different organs Discuss the role of progesterone on female sexual organs	Physiology	Female sexual hormones
EnR-P-013	Explain the physiological basis of puberty, menarche Define menopause Explain the cause of menopause Discuss the physiological changes in the function of the body at the time of menopause	Physiology	Puberty, menarche & menopause
EnR-P-014	Explain the non-hormonal functions of placenta	Physiology	Normal Pregnancy

	Explain the hormonal factors in pregnancy/ hormones of placenta Explain the changes in non- placental hormones during pregnancy Response of the mother's body to pregnancy Explain the mechanical and hormonal factors that increase uterine contractility during parturition		
EnR-P-015	Explain the physiology of lactation Discuss the actions of prolactin Justify the suppression of ejection of milk during pregnancy Discuss the physiological basis of suppression of the female ovarian cycles in nursing mothers for many months after delivery	Physiology	Lactation
CODE	**MEDICAL BIOCHEMISTRY**	**TOTAL HOURS = 35**	
	SPECIFIC LEARNING OBJECTIVES	**DISCIPLINE**	**TOPIC**
EnR-B-001	Define different chemical messengers. Enlist endocrine organs and hormones of the body. Enlist the hormones on the basis of chemical nature. Discuss the feedback control of hormone secretion. Explain the up and down regulation of receptors. Enlist the location of hormone receptors. Explain the mechanism of intracellular signaling after hormone receptor activation. Name the hormones that use enzyme-linked hormone receptors signaling. Explain the mechanism of enzyme linked receptors. Explain the mechanism of hormones that receptors present in cytoplasm and nucleus (act on genetic machinery). Enlist second messenger mechanisms for mediating intracellular hormonal functions.	Biochemistry	Introduction to Endocrinology

	Define second messenger system. Explain the adenylyl cyclase– cAMP Second Messenger System. Enumerate the hormones that use the adenylyl cyclase– cAMP Second Messenger System. Explain The cell membrane phospholipid second messenger System. Enumerate the hormones that use cell membrane phospholipid second messenger system. Explain the mechanism of calcium Calmodulin system.		
EnR-B-002	Describe the features of Signal transduction Describe different types of receptors	Biochemistry	Signal Transduction
EnR-B-003	Discuss the classification of hormones	Biochemistry	Classification of hormones
EnR-B-004	Describe different types of second messengers Differentiate the G protein and non-G protein mediated pathways of signal transduction Discuss the hormones which act through: Cyclic AMP (Adenosine monophosphate) Discuss the hormones which act through: Cyclic GMP (guanosine monophosphate) Discuss the hormones which act through calcium phosphoinositol Describe the Receptor tyrosine kinase pathway of signal transduction Explain the Serine threonine kinase pathway of signal transduction Discuss the Nuclear Receptor mediated pathway of signal transduction Describe the Receptor coupled to Jak Stat pathway of signal transduction	Biochemistry	Second messengers
	Explain the control and negative feedback mechanism of hormone regulation	Biochemistry	

	Discuss the biosynthesis, secretion, mechanism of action and metabolic functions of Insulin, glucagon, epinephrine, cortisol, thyroid and growth hormone with special reference to carbohydrate, protein and lipid metabolism	Biochemistry	
	Interpret disorders of hormones on the basis of sign, symptoms and given data	Biochemistry	
EnR-B-005	Explain the synthesis, secretion, transport and clearance of steroid and protein hormones.	Biochemistry	Synthesis of Hormones
EnR-B-006	Enlist the steps in the synthesis of adrenocortical hormone. Explain the synthesis and secretion of ACTH (Adrenocorticotropic hormone) in association with melanocyte-stimulating hormone, lipotropin, and endorphin.	Biochemistry	Synthesis of ACTH & adrenocortical
EnR-B-007	Explain the structure, biosynthesis, secretion, transport, regulation, catabolism, mechanism of action and biochemical role of testosterone, progesterone and estrogen	Biochemistry	Synthesis of testosterone, progesterone and estrogen
EnR-B-008	Discuss the role of steroid hormones in oral contraception, Infertility	Biochemistry	Steroid in infertility
EnR-B-009	Define the following terms: chromosome, allele (dominant and recessive), gene, locus, heterozygote, homozygote, hemizygous, autosome, genotype, phenotype, haploid and diploid number of chromosomes, aneuploidy, proband, proposita, pedigree, propositus, penetrance, codominance and polygenic	Biochemistry	Nomenclature of genetics
EnR-B-010	Discuss the structures of genes, how they are organized and regulated.	Biochemistry	Genes
EnR-B-011	Describe Mendelian Law of Segregation and Law of Independent Assortment.	Biochemistry	Mendelian laws
EnR-B-012	Describe the patterns of inheritance characteristic of autosomal dominant, autosomal recessive, X- linked	Biochemistry	Patterns of inheritance

	dominant, X-linked recessive and mitochondrial traits.		
EnR-B-013	Interpret genetic symbols as they appear in pedigrees.	Biochemistry	Pedigrees
EnR-B-014	Analyze pedigree to determine the mode of inheritance of following traits: 1) X-linked recessive (Duchenne Muscular dystrophy) 2) X-linked dominant (Rickets) 3) Autosomal recessive (Xeroderma Pigmentosum) 4) Autosomal dominant (Huntington's Disease)) Mitochondrial disorder (Mitochondrial diabetes)	Biochemistry	Mode of inheritance
EnR-B-015	Discuss different structural and numerical chromosomal abnormalities.	Biochemistry	Chromosomal abnormalities
EnR-B-016	Interpret the normal human karyotype in terms of number and structure of chromosomes.	Biochemistry	Karyotypes
EnR-B-017	Describe the effect of the following chromosomal mutations on a segment of DNA: point mutation, frameshift mutation, deletion, insertion, inversion, Robertsonian Translocation and mosaicism.	Biochemistry	Mutations
EnR-B-018	Discuss the concept of central dogma from gene to protein (replication, transcription and translation)	Biochemistry	Central dogma (Overview)
EnR-B-019	Discuss the gene expression especially Lac operon and Tryptophan operon	Biochemistry	Gene Expression
EnR-B-020	Discuss the regulation of eukaryotic gene expression with special emphasis on iron metabolism and RNA interference	Biochemistry	Gene Expression
EnR-B-021	Discuss the following Recombinant DNA techniques with reference to their principles, procedures and application: 1) PCR (Polymerase Chain Reaction) 2) RFLP (Restriction Fragment Length Polymorphism) 3) Cloning 4) Human Genome Project 5) Blotting Techniques 6) DNA (Deoxyribose Nucleic Acid) sequencing	Biochemistry	Techniques

PRACTICAL

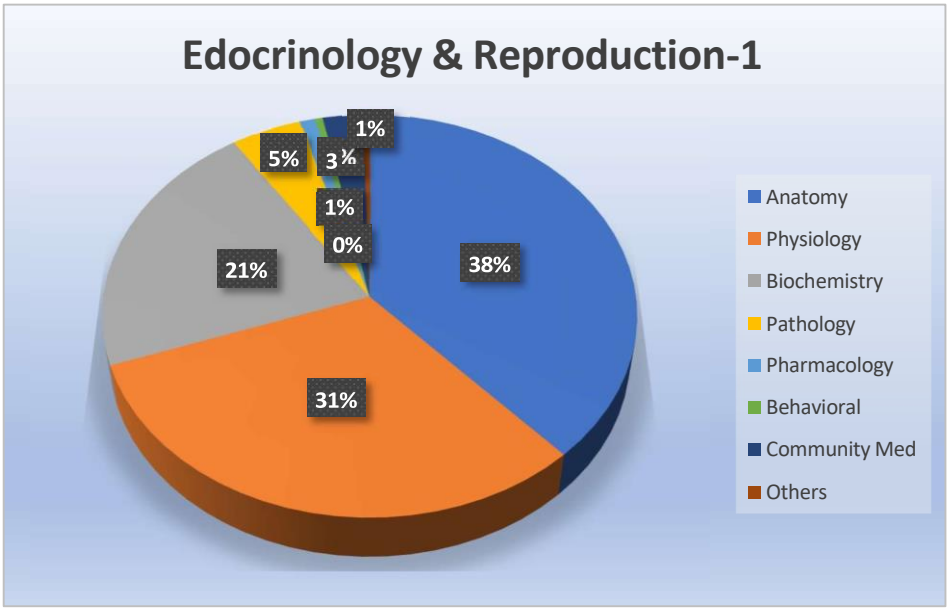
CODE	BIOCHEMISTRY	TOTAL HOURS = 06+02=08	
	SPECIFIC LEARNING OBJECTIVES	DISCIPLINE	TOPIC
EnR-B-022	Perform DNA extraction	Biochemistry	DNA
EnR-B-023	Perform Electrophoresis	Biochemistry	Electrophoresis
EnR-B-0234	Perform PCR	Biochemistry	PCR
EnR-B-025	Demonstrate ELISA (enzyme-linked immunoassay) to measure concentration of hormones	Biochemistry	ELISA
EnR-P-016	Perform Pregnancy test	Physiology	Pregnancy test

PATHOPHYSIOLOGY AND PHARMACOTHERAPEUTICS			
CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 02	
		DISCIPLINE	TOPIC
EnR-Ph-001	Explain the mechanism of action of thyroxine Explain Clinical uses and potential adverse effects with use of Thyroxine	Pharmacology	Anti thyroid substance & MOA, uses, effects
CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 09	
		DISCIPLINE	TOPIC
EnR-Pa-001	Enumerate clinical manifestations along with hormone levels of anterior pituitary Classification of pituitary adenomas	Pathology	Pathology of Anterior Pituitary Gland
EnR-Pa-002	Enumerate and describe posterior pituitary syndromes (inappropriate ADH (Anti Diuretic Hormone) secretion, diabetes insipidus)	Pathology	Pathology of Posterior Pituitary Gland
EnR-Pa-003	Enumerate causes of hypo and hyperthyroidism along with levels of thyroid hormones	Pathology	Pathology of Thyroid Gland
EnR-Pa-004	Enumerate causes of hypercalcemia, hyper and hypoparathyroidism	Pathology	Pathology of Parathyroid Gland

EnR-Pa-005	Give etiological Classification of DM (Diabetes Mellitus) Differentiating features of DM-I and DM-II on the basis of pathogenesis, clinical features, diagnosis and complications	Pathology	Pathology of Endocrine Pancreas Gland
EnR-Pa-006	Enumerate causes of Cushing syndrome with lab investigations Causes and clinical features of adrenocortical insufficiency (Addison disease)	Pathology	Pathology of Adrenal Gland
EnR-Pa-007	Enumerate causes of lower genital tract infections and PIDs along with lab investigations Enumerate causes of infertility in females along with hormonal investigations Causes of dysfunctional uterine bleeding with histopathological features Pathophysiology and lab diagnosis of eclampsia and preeclampsia Causes of placental implantations (ectopic pregnancy)	Pathology	Female Reproductive Pathology
EnR-Pa-008	Enumerate causes of inflammation of male genital tract Causes of male infertility with semen analysis Describe pathological features of testicular torsion	Pathology	Male Reproductive Pathology
DISEASE PREVENTION AND IMPACT			
CODE	**SPECIFIC LEARNING OBJECTIVES**	**TOTAL HOURS = 05**	
		DISCIPLINE	**TOPIC**
EnR-CM-001	Define Diabetes Mellitus according to WHO (World Health Organization) criteria Classify types of Diabetes Mellitus	Community Medicine and Public Health	Diabetes

	Describe epidemiological risk factors for Diabetes Epidemiological distribution & statistics of DM Screening of community for Diabetes Apply levels of prevention for control of Diabetes.		
EnR-CM-002	Classify types of genetic disorders common in community. Describe health promotional measures to control genetic diseases. Describe screening programs for community to prevent genetic disorders. Apply levels of preventive and social measures for control of genetic abnormalities.	Community Medicine	Genetics
EnR-CM-003	Define women health and life cycle approach for health-related events. Highlight statistics related to human reproductive health issues. Enumerate health related problems across a woman's reproductive lifetime. Explain the components of reproductive health.	Community Medicine	Reproductive health

CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 1	
		DISCIPLINE	TOPIC
EnR-BhS-001	Discuss common sexual dysfunctions and their prevalence, with emphasis on culture bound syndromes. Identify the various biological, psychological, and relational factors that can contribute to sexual difficulties. Discuss barriers to seek help. Discuss the importance of person centered and nonjudgmental approach when discussing sexual health concerns. Explain the ethical obligations of healthcare professionals in respecting patient confidentiality and informed consent when addressing sexual health issues.	Behavioral Sciences	Sexual difficulties and Medical Practices
AGING			
CODE	**THEORY**	**TOTAL HOURS = 01**	
	SPECIFIC LEARNING OBJECTIVES	**DISCIPLINE**	**TOPIC**
EnR-Ag-001	Enlist the changes that occur in female body after menopause.	Gynae/ OBS	Menopause



Module Weeks	Recommended Minimum Hours
07	194

QUEENS MEDICAL COLLEGE, KASUR

Timetable 2nd Year MBBS (Session-2024-25) Endocrinology & Reproduction

Week 1

	8:00- 9:15	9:15 - 10:00	10:00- 10:45	10:45- 11:15	11:15- 12:00	12:00-12:45	12:45-1:45	1:45 – 3:00
Monday	Anatomy Dissection **EnR-A-001** Pituitary Gland: Location, anatomy, Blood Supply and functions		Embryology LGIS **EnR-A-029** Development of Pituitary Gland	**B**	Physiology LGIS **EnR-A-001** Introduction to endocrinology	Biochemistry LGIS **EnR-B-001** Introduction: Endocrine, Hormones, Chemical messengers, feedback control and regulation	**Practical** **Batch A: Ana EnR-A-051+ 52 Pituitary**, thyroid + parathyroid **Batch B: Physiology EnR- P-016:** Pregnancy Test **Batch C: Biochem**: **EnR-022:** DNA	Clinical Skill Foundation **CSF- EnR Examination of Thyroid Gland** - Demonstration + Peer Assessment
Tuesday	Anatomy Dissection **EnR-A-002** Thyroid, Parathyroid: Location, anatomy, Blood Supply and functions	Behavioural Sciences LGIS **EnR-BhS-001** Sexual Dysfunction, prevalence + culture- Bound syndromes	PERL Workshop **PERLs2-15** Goal Setting and action planning with milestones	**R**	Physiology LGIS **EnR-A-001** Hypothalamus- Pituitary gland	Biochemistry LGIS **EnR-B-001** Introduction: Enxyme linked receptors and signaling .MOA of hormones.	**Practical** **Batch C: Ana EnR-A-051+ 52** Pituitary, thyroid + parathyroid **Batch A: Physiology EnR-P-016:** Pregnancy Test **Batch B: Biochem**: **EnR-022:** DNA	**SGIS** **Batch A: Anat EnR-A-029** Pituitary development **Batch B: Physiology EnR-P- 007** HP Axis **Biochemistry Batch C: EnR-B-001** Chemical Messengers
Wednesday	Anatomy Dissection **EnR-A-003+004** Testis, Male accessory organs: Location, anatomy, Blood Supply and functions	Pathology LGIS **EnR-Pa-001** Pathology of Anterior Pituitary Gland	Embryology LGIS **EnR-A-026+028** Development of Thyroid Gland+ clinical	**E**	Physiology LGIS **EnR-A-001** Panhypopituitarism + Sheehan + dwarfism etc	Biochemistry LGIS **EnR-B-001** 2nd Messenger system, enlist, define, explain cAMP system	**Practical** **Batch B: Ana EnR-A- 051+ 52** Pituitary, thyroid + parathyroid **Batch C Physiology EnR-P-016:** Pregnancy Test **Batch A: Biochem**:**EnR- 022:** DNA	**SGIS** **Batch C: Anat EnR-A-029** Pituitary development **Batch A: Physiology EnR- P-001** HP Axis **Batch B: Biochemistry**: **EnR-B-001** Chemical Messengers
Thursday	Anatomy Dissection **EnR-A-005** Prostate Gland: Location, anatomy, Blood Supply and functions	Histology LGIS **EnR-A-036** Pituitary Gland + Pituitary adenomas	Physiology LGIS **EnR-A-001** Growth Hormone and effect on growth	**A**	Physiology LGIS **EnR-A-002** Thyroid Hormone- metabolic- nonmetabolic functions	Biochemistry LGIS **EnR-B-001** Cell Membrane Phospholipid system, Calcium Calmodulin System	Pathology LGIS **EnR-Pa-003** Pathology of Thyroid Gland	**SGIS** **Batch B: Anat EnR-A-029** Pituitary development **Batch C: Physiology EnR- P-001** HPO Axis **Batch A: BiochemistryEnR- B-001** Chemical Messengers
	8:00- 9:00	**9:00-9:40**	**9:40- 10:20**	**10:20-10:30**	**10:30-11:10**	**11:10-11:50**	**11:50-12:30**	**12:30-1:30** / **1:30-3:00**

QUEENS MEDICAL COLLEGE, KASUR

Timetable 2nd Year MBBS (Session-2024-25) Endocrinology & Reproduction

Friday	Anatomy Dissection **EnR-A-005+006** Testis: Clinical Conditions+ anatomical basis of vasectomy	Histology LGIS **EnR-A-039** Thyroid Gland + Parathyroid Gland + pineal gland	**K**	Physiology LGIS **EnR-A-002** Thyroid Hormone – Hyper and Hypo states/Diseases	Biochemistry LGIS **EnR-B-001** Signal Transduction, types of receptors	Pharmacology LGIS **EnR-Ph-001** Thyroxine – MOA, uses + Adverse effects	**Jumma Prayer**	**Self-Directed Learning**

Week 2

	8:00- 9:15	9:15 - 10:00	10:00- 10:45	10:45-11:15	11:15-12:00	12:00-12:45	12:45-1:45	1:45 – 3:00	
Monday	Anatomy Dissection **EnR-A-007** Suprarenal Gland: Location, anatomy, Blood Supply and functions+ Clinical		Embryology LGIS **EnR-A-030+-031** Development of Adrenal Glands + Stages	**B**	Physiology LGIS **EnR-A-002** Thyroid Hormone- Clinical Diseases	Biochemistry LGIS **EnR-B-003** Hormones Classification	**Practical Batch A + B first 1/2: Ana EnR-A-053** Adrenal **Batch C + B second 1/2: Biochem**: **EnR-023:** Electrophoresis	Clinical Skill Foundation **CSF- EnR Examination of Acromegaly** - Demonstration + Peer Assessment	
Tuesday	Anatomy Dissection **EnR-A-008+009** Pelvic Girdle: Structure and bones + Sacroiliac Joints	Behavioural Sciences LGIS **EnR-BhS-001** Factors contributing to sexual difficulties	PERL Workshop **PERLs2-14** Literature Review Matrix	**R E**	Physiology LGIS **EnR-A-002** Adrenocortical Hormones-effects + regulations	Biochemistry LGIS **EnR-B-004** Types of second messenger- G protein vs Non G protien	**Practical Batch C + B second 1/2 Ana EnR-A-053** Adrenal **Batch A + B first 1/2:Biochem**: **EnR-023:** Electrophoresis	**SGIS Batch A + B first 1/2: Physiology Enr-002** Thryroid-Clincial **Batch C + B second 1/2: Biochem EnR-B- 003** Hormone Classification	
Wednesday	**Independence Day**								
Thursday	Anatomy Dissection **EnR-A-010+ 011** Pelvic Girdle: Types, Gender differences, fractures, mechanics	Histology LGIS **EnR-A-037** Adrenal Glands	Physiology LGIS **EnR-A-003** Adrenocortical Hormone- Glucocorticoid secretion Addison's Disease	**A**	Pathology LGIS **EnR-Pa-006** Pathology of Adrenal Gland	Biochemistry LGIS **EnR-B-004** c-AMP + G AMP Pathways in Second messengers	Physiology LGIS **EnR-A-001** Anti-Diuretic Hormone + Oxytocin	**Practical Batch C + B second 1/2 Physiology Enr-002** Thryroid-Clincial **Batch A + B first Biochem EnR-B- 003** Hormone Classification	
Friday	**8:00- 9:00**	**9:00-9:40**	**9:40- 10:20**	**10:20-10:30**	**10:30-11:10**	**11:10-11:50**	**11:50-12:30**	**12:30-1:30**	**1:30-3:00**
	Anatomy Dissection **R-A-018+019** Pelvic inlet and outlet,+ Sacrum	LGIS Medicine **EnR-A-003** Adrenocortical Hormone- Cushing's syndrome **+** Conn's Syndrome	Histology LGIS **EnR-A-038** Pancreas Physiology	**K**	Physiology LGIS **EnR-A-004** Pancreatic Hormones	Biochemistry LGIS **EnR-B-004** Pathways in Second messengers	Pathology LGIS **EnR-Pa-005** Pathology of Endocrine Pancreas	**Jumma Prayer**	**Self-Directed Learning**

Week 3

	8:00- 9:15	9:15 - 10:00	10:00- 10:45	10:45- 11:15	11:15- 12:00	12:00-12:45	12:45-1:45	1:45 – 3:00
Monday	**Anatomy Test**		Embryology LGIS **EnR-A-026** Development of Parathyroid Gland	**B**	Physiology LGIS **EnR-A-004** Pancreatic Hormones - effects on metabolism	Biochemistry LGIS **EnR-B-004** Hormone Regulation + details	**Practical Batch A: Ana EnR-A- 054+55** male organs **Batch B: Physiology EnR:** Revisions **Batch C: Biochem**: **EnR-024:** PCR	Clinical Skill Foundation **CSF- EnR Blood Sugar Management** -- Demonstration + Peer Assessment
Tuesday	Anatomy Dissection **EnR-A-012 + 013** Pelvic Floor: Topographical anatomy, Muscles, Blood Supply and functions+ Clinical	Behavioural Sciences LGIS **EnR-BhS-001** Sexual Health concerns- Patient centered and Non-judgmental approach	PERL Workshop **PERLs2-12** Respect and Diversity – Special needs children	**R**	Physiology LGIS **EnR-A-004** Glucagon and effects	Biochemistry LGIS **EnR-B-004** Hormone Regulation + details	**Practical Batch C: Ana EnR-A- 054+55** male organs **Batch A: Physiology EnR:** Revisions **Batch B: Biochem**: **EnR- 024:** PCR	**SGIS Batch A: Anat EnR-A-0 32** Gonad Differentiation **Batch B: Physiology EnR-P-004** Pancreatic Hor. **Batch C: Biochemistry**: **EnR-B-04** Hormone Regulation
Wednesday	Anatomy Dissection/Obgyn EnR-A-014 Pelvic Floor: Childbirth and its complications	Histology LGIS **EnR-A-040** Testes	Embryology LGIS **EnR-A-032** Development of a reproductive system	**E**	Physiology LGIS **EnR-A-004** Glucagon and effects	Biochemistry LGIS **EnR-B-005** Synthesis of Hormones	**Practical Batch B: Ana EnR-A- 054+55** male organs **Batch C Physiology EnR:** Revisions **Batch A: Biochem**: **EnR- 024:** PCR	**SGIS Batch C: Anat EnR-A-0 32** Gonad Differentiation **Batch A: Physiology EnR-P-004** Pancreatic Hor **Batch B: Biochemistry**: **EnR-B-04** Hormone Regulation
Thursday	Anatomy Dissection **EnR-A-015+017+019** Peroneal reflections + Sacrum	Physiology LGIS **EnR-A-005** Glucose Regulation+ somatostatin	Histology LGIS **EnR-A-043 +044** Seminal Vesicles + Prostate Gland	**A**	Physiology LGIS **EnR-A-005** Diabetes Mellitus	Biochemistry LGIS **EnR-B-006** ACTH + Adrenocortical	**Com. Medicine LGIS EnR-CM=001** Diabetes Mellitus	**SGIS Batch B: Anat EnR-A-0 32** Gonad Differentiation **Batch C: Physiology EnR-P- 004** Pancreatic Hor **Batch A: Biochemistry**: **EnR-B-04** Hormone Regulation
	8:00- 9:00	**9:00-9:40**	**9:40- 10:20**	**10:20- 10:30**	**10:30- 11:10**	**11:10-11:50**	**11:50-12:30**	**12:30- 1:30** **1:30-3:00**

Friday	Anatomy Dissection **EnR-A-015+017+019** Peroneal reflections + Sacrum	Physiology LGIS **EnR-A-006** Parathyroid Hormones	Histology LGIS **EnR-A-041+042** Epididymis + vas Deferens Histology LGIS	**K**	Physiology LGIS **EnR-A-007** Regulation of Calcium in Body	Biochemistry LGIS **EnR-B-007** Synthesis of Testosterone, progesterone + estrogen	Pathology LGIS **EnR-Pa-004** Pathology of Parathyroid Gland	**Jumma Prayer**	**Self-Directed Learning**

Week 4

	8:00- 9:15	9:15 - 10:00	10:00-10:45	10:45-11:15	11:15-12:00	12:00-12:45	12:45-1:45	1:45 – 3:00
Monday	**Physiology Test**		Embryology LGIS **EnR-A-033+034** Descent of testis + undescended testis+ concept map	**B**	Physiology LGIS **EnR-A-008** Adrenomedullary Hormones	Biochemistry LGIS **EnR-B-008** Steroid in Infertility	**Practical Batch A: Ana EnR-A-056+57+58** Ovary + uterus + fallopian tube **Batch B: Physiology EnR:** Revisions **Batch C: Biochem**: **EnR-024:** ELISA	Clinical Skill Foundation **CSF- EnR Suturing** - Demonstration + Peer Assessment
Tuesday	Anatomy Dissection **EnR-A-020 + 021** Pelvic Vessels Lymph Nodes	Behavioural Sciences LGIS **EnR-BhS-001** Ethical obligations of HCP for respecting confidentiality and informed consent	PERL Workshop **PERLs2-13** Informed Consent	**R**	Physiology LGIS **EnR-A-009** Spermatogenesis	Biochemistry LGIS **EnR-B-009** Nomenclature of genetics	**Practical Batch C: Ana EnR-A- 056+57+58** Ovary + uterus + fallopian tube **Batch A: Physiology EnR:** Revisions **Batch B: Biochem**: **EnR-024:** ELISA	**SGIS Batch A: Ana EnR-A-034** Clinical anomalies-G.Duct **Batch B: Physiology EnR- P-007** Parathyroid H **Batch C: Biochemistry**: **EnR-B-007** Steroid Synthesis
Wednesday	Anatomy Dissection **EnR-A-022** Pelvic Vessels Lymph Nodes + Nerve blocks	Histology LGIS **EnR-A-045 + 47** Ovaries + Fallopian tube	Embryology LGIS **EnR-A-034** Formation of Genetic ducts + development of uterus + vagina	**E**	Physiology LGIS **EnR-A-009** Capacitation + Acrosome reaction	Biochemistry LGIS **EnR-B-010** Genes	**Practical Batch B: Ana EnR-A- 056+57+58** Ovary + uterus + fallopian tube **Batch C: Physiology EnR:** Revisions **Batch A: Biochem**: **EnR-024:** ELISA	**SGIS Batch C: Ana EnR-A-034** Clinical anomalies-G.Duct **Batch A: Physiology EnR- P-007** Parathyroid H **Batch B: Biochemistry**: **EnR-B-007** Steroid Synthesis
Thursday	Anatomy Dissection **EnR-A-023** Male + Female Urethra	Histology LGIS **EnR-A-046 + 48** Uterus + Cervix	Physiology LGIS **EnR-A-010** Testosterone - production and functions	**A**	Physiology LGIS **EnR-A-011** Menstrual Cycle+ regulation	Biochemistry LGIS **EnR-B-011+ 012** Mendelian laws + pattern of inheritance	**Com. Medicine LGIS EnR-CM=002** Genetics	**SGIS Batch B: Ana EnR-A-034** Clinical anomalies-G.Duct **Batch C: Physiology EnR- P-007** Parathyroid H **Batch A: Biochemistry EnR-B-007** Steroid Synthesis
	8:00- 9:00	**9:00-9:40**	**9:40- 10:20**	**10:20-10:30**	**10:30-11:10**	**11:10-11:50**	**11:50-12:30**	**12:30-1:30** / **1:30-3:00**

Friday	Anatomy Dissection **EnR-A-023** Clinical: Bladder + Prostate	Histology LGIS **EnR-A-049 + 050** Vagina	**K**	Physiology LGIS **EnR-A-012** Female Sexual Hormones + effect	Biochemistry LGIS **EnR-B-013+ 014** Pedigrees, Mode of inheritance	Pathology LGIS **EnR-Pa-007** Female Reproductive Pathology	**Jumma Prayer**	**Self-Directed Learning**

Week 5

	8:00- 9:15	9:15 - 10:00	10:00- 10:45	10:45- 11:15	11:15- 12:00	12:00-12:45	12:45-1:45	1:45 – 3:00	
Monday	**Biochemistry Test**		Pathology LGIS **EnR-Pa-008** Male Reproductiv e pathology	**B**	Physiology LGIS **EnR-A-013** Puberty, Menarche + Menopause	Biochemistry LGIS **EnR-B-015+ 016** Chromosomal abnormalities + Karyotypes	**Practical Batch A: Ana EnR-A-056+57+58** Ovary + uterus + fallopian tube **Batch B: Physio EnR-P-016:** Pregnancy Test **Batch C: Biochem**: **EnR:** Revision	Clinical Skill Foundation **CSF- EnR TEST and Logbook Signing** **-** Demonstration + Peer Assessment	
Tuesday	Anatomy Dissectio n **EnR-A-023** Ovaries, fallopian tubes with neurovascular supply + Clinical	Ageing- ObGYN LGIS **R-Ag-001** Changes in female body after menopause	Embryolog y LGIS **EnR-A-034** Formation of Genetic ducts + development of uterus + vagina	**R**	Physiology LGIS **EnR-A-014** Placental hormones + Hormones in pregnancy	Biochemistry LGIS **EnR-B-017** Mutations	**Practical Batch C: Ana EnR-A-056+57+58** Ovary + uterus + fallopian tube **Batch A: Physio EnR-P- 016:** Pregnancy Test **Batch B: Biochem**: **EnR:** Revision	**SGIS Batch A: Ana EnR-A-034** OvariesDevelop. **Batch B: Physiology EnR- A-013** Puberty, Menarche + Menopause **Batch C: Biochemistry**: **EnR-B- 013+014** Inhertiance	
Tuesda y	Anatomy Dissectio n **EnR-A-023** Uterus, Vagina with neurovascular supply + Clinical	Pathology LGIS **EnR-Pa-002** Posterior Pituitary Gland	Embryology LGIS **EnR-A-034** Formation of Genetic ducts + development of uterus + vagina	**E**	Physiology LGIS **EnR-A-014** Parturition	Biochemistry LGIS **EnR-B-018** Central Dogma- overview	**Practical Batch B: Ana EnR-A-056+57+58** Ovary + uterus + fallopian tube **Batch C: Physio EnR-P- 016:** Pregnancy Test **Batch A: Biochem**: **EnR:** Revision	**SGIS Batch C: Ana EnR-A-034** Ovaries Developm. **Batch A: Physiology EnR- A-013** Puberty, Menarch +Menopause**Batch B: Biochemistry**: **EnR-B- 013+014** Inhertiance	
Wednes day	**ANATOMY STAGE**			**A**	Physiology LGIS **EnR-A-015** Lactation and action of prolactin	Biochemistry LGIS **EnR-B-019+ 020** Gene Expression	**Com. Medicine LGIS EnR-CM=002** Women's Health + Life cycle + statistics of issues	**SGIS Batch B: Ana EnR-A-034 Ana EnR-A-034** Ovaries Development**Batch C: Physiology EnR-A-013**Puberty, Menarche + Menopause**Batch A: Biochemistry EnR-B-013+014** Inhertiance	
Thursd	**8:00- 9:00**	**9:00-9:40**	**9:40- 10:20**	**10:20- 10:30**	**10:30- 11:10**	**11:10-11:50**	**11:50-12:30**	**12:30- 1:30**	**1:30-3:00**

ay	**Anatomy Stage Feedback**	Histology LGIS **EnR-A-049 + 050** Revision	**K**	Physiology LGIS **R-P-020** Renal Regulation of Calcium + Phosphate	Biochemistry LGIS **R-B- 021** Techniques	Biochemistry SGIS Whole Class Revision Slot	**Jumma Prayer**	**Self-Directed Learning**

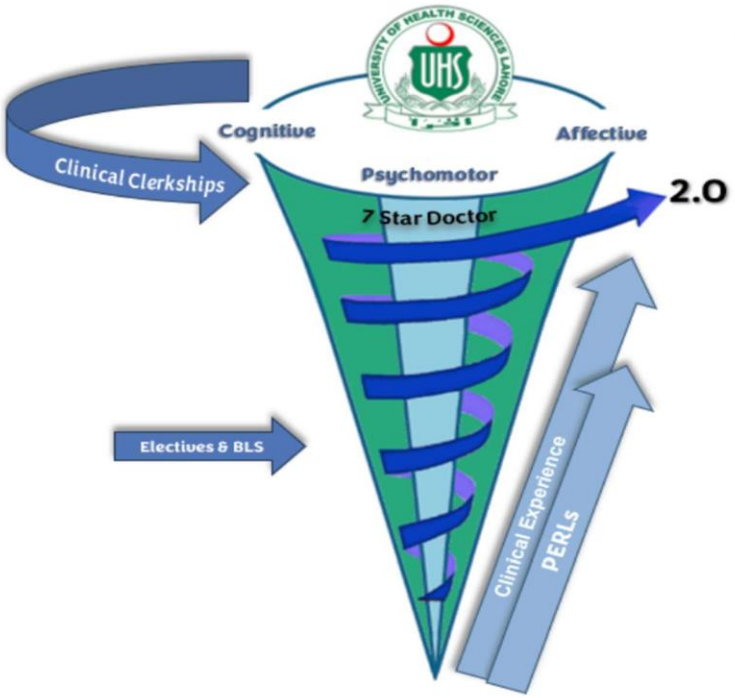
QUEENS MEDICAL COLLGE, KASUR

Date Sheet 2nd Year MBBS (Session-2024-25) Endocrinology and Reproduction Module Exam

Monday	Theory Paper **9:00 am - 12:00 pm** **Anatomy** 45 MCQs and 9 SEQs= 90 marks Internal Assessment = 10 marks	
Tuesday	Theory Paper **9:00 am - 12:00 pm** **Physiology** 45 MCQs and 9 SEQs= 90 marks Internal Assessment = 10 marks	
Wednesday	Biochemistry **9:00 am - 12:00 pm** Theory Paper **Biochemistry** 45 MCQs and 9 SEQs= 90 marks Internal Assessment = 10 marks	
Thursday	Module Head and Neck & Special Senses Regular Classes	
Friday	Module Head and Neck & Special Senses Regular Classes	
Monday	Theory Paper **8:00 am - 10:00 am** 40 MCQs + 2 stations = 50 marks Pharmacology, Pathology, Community Medicine, Behavioural Sciences, PERL, CSF	10 am to 3 pm Module Head and Neck & Special Senses Regular Classes

MODULE NO. 09:
HEAD & NECK, SPECIAL SENSES

MODULAR INTEGTARTED CURRICULUM 2K23 version 2.0



MODULE RATIONALE

The second year MBBS students will have a detailed understanding of the anatomy, physiology, and clinical aspects of the Head and Neck, Special Senses. This knowledge is critical for the diagnosis and treatment of a wide range of diseases associated with these senses.

This module covers the important structures and functions of the Head & Neck, eye, ear, tongue, nose, as well as the pathologies and treatments associated with them. This includes common conditions such as cataracts, glaucoma, aging changes, hearing loss, tinnitus, otitis media, olfactory disorders.

Additionally, the special senses module includes training in relevant clinical examination skills, such as ophthalmoscopy, otoscopy, rhinoscopy, and vestibular testing. These skills are essential for identifying and diagnosing special senses conditions, and for monitoring the effectiveness of treatments.

An understanding of these structures is important for the general practice of medicine as they play a critical role in the overall health and well-being of patients. For example, vision and hearing loss can lead to a decline in cognitive function and social isolation, while smell and taste disorders can affect appetite and nutrition.

MODULE OUTCOMES

- Integrate the anatomical and pathophysiological aspects of the Head & Neck, eye, ear, nose, tongue, vestibular system and the neural pathways, receptors involved in their function with the clinical aspects.
- Develop the ability to identify and diagnose common pathologies such as cataracts, glaucoma, age-related degeneration, hearing loss, impacted wax, otitis media and olfactory disorders.
- Demonstrate the clinical examination (simulation) skills necessary for the assessment of special senses, such as ophthalmoscopy, otoscopy, rhinoscopy, and vestibular testing.
- Differentiate the differential diagnosis and options available for special senses conditions, including medical, surgical, and rehabilitative approaches.
- Illustrate awareness of the impact on overall health and well-being, the importance of preventing and early detection of related disorders.
- Develop the ability to communicate effectively with patients and their families, including explaining diagnosis and treatment options, and providing emotional support.
- Practice the attitude to work in a multidisciplinary team, collaborating with other healthcare

professionals to provide comprehensive care for patients.

Equip themselves with the ability to appreciate the significance of lifelong learning and professional development to keep up with latest advances in the clinical field.

THEMES

- Vision
- Hearing
- Taste
- Olfaction
- Head & Neck

CLINICAL RELEVANCE

- Glaucoma
- Cataract
- Night Blindness
- Conjunctivitis
- Impacted Wax
- Otitis Media
- Otomycosis
- Glue Ear
- Rhinitis

IMPLEMENTATION TORs
• The time calculation for completion of modules and blocks is based on 35 hours per week. Total hours of teaching, learning and formative/summative internal assessment to be completed in a year are 1200. • The hours mentioned within each module are the mandatory minimum required. The rest of the hours are left to the discretion of the institution that can be used in teaching, learning and assessment as per decision of the institutional academic council. • The content and the intended learning outcomes written are mandatory, to be taught, at the level required, as the end year assessment will be based on these. • However, the level of cognition can be kept at a higher level by the institution. • The Table of Specifications provided will be used for the three papers of the Second professional examination. The same table of specifications should be used for the respective three block exams for internal assessment.

SYLLABUS OF HEAD & NECK, SPECIAL SENSES MODULE

NORMAL STRUCTURE			
THEORY			
CODE	**GROSS ANATOMY**	**TOTAL HOURS = 56**	
	SPECIFIC LEARNING OUTCOMES	**DISCIPLINE**	**TOPIC**
HNSS-A-001	Define the boundaries and openings of orbital cavity. List orbital contents and structures traversing these openings.	Human Anatomy	Vision
	In a tabulated manner list the extraocular and intraocular muscles of eyeball giving their nerve supply and actions		
	List and define the movements of eyeball with special reference to orbital and visual axis		
	Describe the functional modalities, course, distribution, branches of oculomotor, trochlear and abducent nerve. Describe the location, roots and distribution of ciliary ganglion.		
	Describe the course and distribution of optic nerve in reference to visual pathway. Give the effects of its lesions.		
	Give the clinical correlates of nerves supplying the eyeball and its muscles. Give anatomical justification for Horner's syndrome.		
	Describe the course and branches of ophthalmic artery mentioning its origin and termination.		
	Describe the structure of eyelids, conjunctiva and tarsal glands with their neurovascular supply		
	List the parts of Lacrimal apparatus giving their location and anatomical features. Describe the nerve supply of lacrimal gland.	Human Anatomy	
	Describe the location, roots and distribution of	Human	

	pterygopalatine ganglia.	Anatomy	
	Give the anatomical structure of eyeball emphasizing on its three coats and their neurovascular supply	Human Anatomy	
HNSS-A-002	Describe the boundaries of nasal cavity: nasal septum, lateral wall of nose, roof and floor. Give their anatomical features and neurovascular supply.	Human Anatomy	Olfaction
	Describe the anatomical features and neurovascular supply of external nose	Human Anatomy	
	List the paranasal sinuses giving their locations, openings, neurovascular supply and clinical significance.	Human Anatomy	
	Describe the course and distribution of olfactory nerve in reference to olfactory pathway. Give the effects of its lesions.	Human Anatomy	
	Describe the anatomical features and neurovascular supply of external ear	Human Anatomy	
HNSS-A-003	Describe the boundaries, contents, neurovascular supply and communications of middle ear cavity.	Human Anatomy	Hearing
	Describe the parts, anatomical features and neurovascular supply of internal ear.	Human Anatomy	
	Describe the course and distribution of vestibulocochlear neve mentioning the effects of its lesion. Describe auditory pathway.	Human Anatomy	
HNSS-A-004	Describe the anatomical features of tongue with emphasis on its mucosa, attachments, musculature, vascular supply and lymphatic drainage.	Human Anatomy	Taste
	Describe the nerve supply of tongue (general sensory, special sensory and motor) with reference to their lesions and embryological basis.	Human Anatomy	

	List taste buds mentioning their structure, location and nerve supply. Describe the taste pathway.	Human Anatomy	
	Discuss lesions of motor and sensory nerves supplying the tongue. Discuss the anatomical correlates of lingual carcinoma in reference to lymphatic drainage of tongue.	Human Anatomy	
HNSS-A-005	Describe the features of Norma Frontalis, Norma Verticalis, Norma Parietalis, Norma occipitalis and Norma Basalis	Human Anatomy	Skull
	Describe the features of Norma lateralis: temporal, infratemporal & pterygopalatine fossae giving their boundaries, contents and communications.	Human Anatomy	
	Discuss the sutures and fontanelles of skull, their age changes and clinical significance.	Human Anatomy	
HNSS-A-006	List the layers of scalp and describe the anatomical features with neurovascular supply and lymphatic drainage of scalp.	Human Anatomy	Scalp
	Give anatomical justification of spread of scalp infections, profuse bleeding in superficial scalp lacerations, gaping of scalp wounds and black eye.	Human Anatomy	
HNSS-A-007	Enlist in tabulated manner the muscles of facial expression and mastication, giving their nerve supply and actions. Define modiolus.	Human Anatomy	Muscles of facial expressions
HNSS-A-008	Describe the functional modalities, course, branches, and distribution of cranial nerves innervating the face (sensory and motor): trigeminal and facial nerves	Human Anatomy	Neurovascular supply of face
	Describe the vascular supply and lymphatic drainage of face.	Human Anatomy	
	Draw a diagram to illustrate cutaneous innervation of face.	Human Anatomy	

	Discuss anastomoses of facial artery with contralateral vessels and branches of internal carotid artery with their clinical significance.	Human Anatomy	
HNSS-A-009	Describe the danger area of face with it its clinical significance. Define the routes of spread of infection from face and scalp to intracranially.	Human Anatomy	Danger area
HNSS-A-010	Describe the bony features and muscle attachment of mandible.	Human Anatomy	Mandible.
	Classify temporomandibular joint mentioning its ligaments, relations, nerve supply and movements (with their mechanics and muscles producing them).	Human Anatomy	
HNSS-A-011	Describe anatomical features, relations and neurovascular supply of parotid gland and its duct, mentioning the structures entering and exiting the gland	Human Anatomy	Parotid gland
	Discuss the clinical correlates of parotid gland: parotiditis, Mumps, Frey's syndrome, parotid duct stones and parotid tumor surgery with its complications	Human Anatomy	
HNSS-A-012	Describe the parts and boundaries of oral cavity and give its relation to the Waldeyers' ring.	Human Anatomy	Waldeyers' ring
HNSS-A-013	Describe the anatomical features of hard and soft palate with their neurovascular supply.	Human Anatomy	Hard and soft
HNSS-A-014	Describe anatomical features, relations and neurovascular supply of submandibular and sublingual glands with their ducts.	Human Anatomy	Submandibular Sublingual glands
HNSS-A-015	Describe the location, roots and distribution of otic and submandibular ganglia.	Human Anatomy	Otic and Submandibular ganglia.
HNSS-A-016	Describe the anatomical features of Hyoid bone and give attachments on the bone.	Human Anatomy	Hyoid bone
HNSS-A-017	Enumerate the types of cervical vertebrae and list the differences between them.	Human Anatomy	cervical vertebrae

	Describe the anatomical features and attachments on cervical vertebrae.		
	Classify the joints of cervical vertebrae mentioning their ligaments, movements with muscle producing them and neurovascular supply.	Human Anatomy	
HNSS-A-018	List the prevertebral muscles of cervical region. Describe their attachments, actions and innervation.	Human Anatomy	Prevertebral muscles
HNSS-A-019	Enumerate parts of deep cervical fascia with their respective extents, attachments, relations and contents.	Human Anatomy	Deep cervical fascia
HNSS-A-020	Describe the facial spaces in head and neck mentioning their communications and their relation to spread of infection.	Human Anatomy	Facial spaces
HNSS-A-021	Describe the attachments, actions and nerve supply of infrahyoid and suprahyoid muscles of neck.	Human Anatomy	Infrahyoid and suprahyoid muscles
HNSS-A-022	Describe the location, formation and distribution of ansa cervicalis.	Human Anatomy	Ansa cervicalis.
HNSS-A-023	Describe the attachments, actions and nerve supply of sternocleidomastoid and trapezius.	Human Anatomy	Sternocleidomastoid and trapezius
HNSS-A-024	Describe the boundaries and contents of suboccipital, anterior and posterior triangles of neck.	Human Anatomy	Triangles of neck
HNSS-A-025	Describe the cervical part of trachea and esophagus with their neurovascular supply.	Human Anatomy	Trachea and esophagus
HNSS-A-026	Describe the location, anatomical features and vascular supply of thyroid and parathyroid glands. List the variations in location of parathyroid glands.	Human Anatomy	Thyroid, Parathyroid glands
HNSS-A-027	Describe the carotid arteries mentioning their origin, course, branches, distribution and termination.	Human Anatomy	Carotid arteries
HNSS-A-	Describe carotid body and carotid sinus and give	Human	Carotid body

028	their clinical significance.	Anatomy	
HNSS-A-029	Give the venous drainage of Head and Neck region. Describe the formation, tributaries and area of drainage of vessels constituting jugular venous system.	Human Anatomy	Head & Neck venous supply
HNSS-A-030	Name the superficial and deep cervical lymph nodes and give their location and drainage areas	Human Anatomy	Lymphatics
HNSS-A-031	Describe the location, formation, branches, distribution and lesions of cervical plexus	Human Anatomy	Cervical plexus
HNSS-A-032	Name the parts of pharynx giving their extent, anatomical features, structure and neurovascular supply.	Human Anatomy	Pharynx
	Name the pharyngeal constrictor muscles defining their attachments, innervation and structure traversing the gaps between adjacent muscles.	Human Anatomy	
HNSS-A-033	Name the parts of larynx giving their extent, anatomical features, musculoskeletal framework and neurovascular supply.	Human Anatomy	Larynx
HNSS-A-034	Discuss the location, anatomical features, relations and vascular supply of tonsils: nasopharyngeal, palatine and lingual.	Human Anatomy	Tonsils
CODE	**EMBRYOLOGY & POST-NATAL DEVELOPMENT**	**TOTAL HOURS = 15**	
	SPECIFIC LEARNING OUTCOMES	**DISCIPLINE**	**TOPIC**
HNSS-A-035	List the components of pharyngeal apparatus. Describe the development of pharyngeal arches, grooves, pouches and membrane and give derivatives and fate of each of them.	Embryology	Pharyngeal apparatus pharyngeal arches
HNSS-A-036	Describe the development and histogenesis of auditory tube, tympanic cavity, tonsils, thymus and parathyroid	Embryology	auditory tube, tympanic cavity, tonsils, thymus and parathyroid
HNSS-A-	Discuss the embryological basis of congenital	Embryology	Congenital

037	anomalies related to the development of pharyngeal arches, pharyngeal clefts and pharyngeal pouches: cervical sinus/fistula/cyst, 1st arch syndrome, DiGeorge syndrome, congenital malformations of thymus and parathyroid glands		anomalies
HNSS-A-038	Describe the development of tongue and thyroid gland.	Embryology	Tongue and Thyroid gland.
	List and provide embryological basis of congenital anomalies of tongue and thyroid gland.	Embryology	
HNSS-A-039	Describe the development of face and nasolacrimal duct and their respective congenital anomalies.	Embryology	Face and nasolacrimal duct
HNSS-A-040	Describe the development of nasal cavity and paranasal sinuses. Give the associated congenital anomalies.	Embryology	Nose
HNSS-A-041	Describe the development of lip and palate and their associated congenital malformations.	Embryology	Lips and palate
	Explain the types and embryologic basis of cleft lip and cleft palate.	Embryology	
HNSS-A-042	Describe the development of optic vesicle and retina.	Embryology	Eye & ear
	Describe the development of cornea, sclera, choroid, iris, ciliary body and lens and relate it to their respective congenital anomalies.	Embryology	
	Describe the development of internal ear and give the embryological basis of associated congenital anomalies.	Embryology	
CODE	**MICROSCOPIC ANATOMY (HISTOLOGY & PATHOLOGY)**	**TOTAL HOURS = 08**	
	SPECIFIC LEARNING OBJECTIVES	**DISCIPLINE**	**TOPIC**
HNSS-A-043	Describe the light and electron microscopic structure of tongue mentioning the histological structure of lingual papillae and taste buds.	Histology	Tongue

HNSS-A-044	Describe the histological structure of parotid, submandibular and sublingual glands.	Histology	Glands
	Compare and contrast the histological structures of parotid, submandibular and sublingual glands.	Histology	
HNSS-A-045	Differentiate between serous and mucous acini. Describe the structure and location of serous demilunes. Describe the serous and mucous acini and give histological differences between the two.	Histology	Head & Neck
HNSS-A-046	Describe the histological structure of thyroid gland and parathyroid gland.	Histology	Thyroid, Parathyroid glands
HNSS-A-047	Describe the histological structure of layers of eyeball, eyelid and retina.	Histology	Eye
	Describe the light and electron microscopic structure of cornea.	Histology	
HNSS-A-048	Describe the histological and ultramicroscopic structure of internal ear with special reference to Organ of Corti.	Histology	Ear

PRACTICAL

CODE	HISTOLOGY	TOTAL HOURS = 09	
	SPECIFIC LEARNING OBJECTIVES	**DISCIPLINE**	**TOPIC**
HNSS-A-049	Identify, draw and label diagrams to show histological structure of tongue, lingual papillae and taste buds.	Histology	tongue
HNSS-A-050	Identify, draw and label a diagram to show histological structure of parotid, submandibular and sublingual glands.	Histology	Glands
HNSS-A-051	Draw and label diagrams to show histological structure of serous demilunes, serous and mucous acini.	Histology	Head & Neck

HNSS-A-052	Draw and label a diagram to show histological structure of thyroid and parathyroid gland.	Histology	Thyroid, Parathyroid
HNSS-A-053	Draw and label diagrams to show histological structure of eyelid and cornea.	Histology	Eye
	Draw and label a diagram to show histological structure of retina. List its histological layers and their respective components	Histology	
HNSS-A-054	Draw and label a diagram to show histological structure of internal ear.	Histology	Ear
NORMAL FUNCTION			
THEORY			
CODE	**MEDICAL PHYSIOLOGY**	**TOTAL HOURS = 30**	
	SPECIFIC LEARNING OBJECTIVES	**DISCIPLINE**	**TOPIC**
HNSS-P-001	Define and describe the visual acuity	Physiology	Visual Acquity
	Define Emmetropia	Physiology	
	Enlist the errors of refraction	Physiology	
	Explain the cause, features, physiological basis, and correction of Hyperopia	Physiology	
	Explain the cause, features, physiological basis, and correction of myopia	Physiology	
	Explain the cause, features, physiological basis, and correction of astigmatism	Physiology	
	Describe the pathophysiology and treatment of cataract	Integrate with Ophthalmology	
HNSS-P-002	Interpret common treatment modalities for Refractive errors	Physiology	Refractive Errors
HNSS-P-003	Describe the mechanism of formation and outflow of aqueous humor	Physiology	Fluid systems of the Eye
	Describe normal value of intraocular pressure and its regulation	Physiology	

	Describe the method for measuring the intraocular pressure	Integrate with Ophthalmology	
	Describe the causes and features and pathophysiology of glaucoma	Physiology	
HNSS-P-004	Discuss the clinical features of Open Angle and Angle Closure Glaucoma	Physiology	Glaucoma
HNSS-P-005	Describe the physiological anatomy and function of structural elements of retina	Physiology	Retina
	Enlist different layers of retina	Physiology	
	Explain the significance of melanin pigment in retina	Physiology	
	Describe macula and foveal region of retina and their significance	Physiology	
	Describe the structure of rods and cones	Physiology	
	Comment on the location of optic disc and its significance	Physiology	
	Describe the cause, features, and treatment of retinal detachment	Physiology	
	Enlist the current investigations for Retinal Diseases	Integrate with Ophthalmology	
HNSS-P-006	Describe the rhodopsin-retinal visual cycle	Physiology	Photochemistry of vision
	Describe the mechanism of excitation of rods/ rods receptor potential	Physiology	
	Describe the causes and treatment of night blindness	Physiology	
HNSS-P-007	Define and describe different mechanisms of light adaptation	Physiology	Adaptation
	Define and describe different mechanisms of dark adaptation	Physiology	
	Enumerate the diseases leading to Night Blindness and retinal detachment	Integrate with Ophthalmology	
HNSS-P-	Explain the tri color mechanism of color	Physiology	Color vision

008	determination		
	Define term protanopes, deuteranopes, tritanopes	Physiology	
	Enlist the types of color blindness and their causes	Physiology	
	Enlist clinical features of Color vision deficiencies	Integrate with Ophthalmology	
HNSS-P-009	Trace the visual pathway	Physiology	Visual Pathways
	Enlist and describe the abnormalities of visual pathway & visual field		
	Explain the effect of removal of primary visual cortex		
HNSS-P-010	Define the physiological blind spot and describe its location	Physiology	Field of vision
	Define scotoma/ pathological blind spot and enlist causes	Physiology	
HNSS-P-011	Illustrate the abnormalities of field of vision	Integrate with Ophthalmology	Visual fields
HNSS-P-012	Describe the muscular and neural control of eye movements	Physiology	Eye movements
HNSS-P-013	Define and enlist the types of Strabismus	Integrate with Ophthalmology	Strabismus
HNSS-P-014	Explain the mechanism of accommodation	Physiology	Accommodation
	Enlist the components of near response in accommodation	Physiology	
	Describe the neural pathway for accommodation reflex	Physiology	
	Describe the regulation of accommodation	Physiology	
	Enlist the clinical features of Presbyopia	Integrate with Ophthalmology	
HNSS-P-015	Trace the neural pathway for pupillary light reflex	Physiology	Pupillary light reflex
	Explain the pupillary light reflexes or reactions in CNS diseases	Physiology	
	Describe the cause and features of Horner syndrome	Physiology	
	Illustrate the differential diagnosis of Anisocoria	Integrate with	

		Ophthalmology	
HNSS-P-016	Describe the physiological anatomy of outer and middle ear	Physiology	Sense of hearing
	Enlist the functions of middle ear	Physiology	
	Discuss clinical features and treatment of impacted wax	Integrate Otorhinolaryngology	
	Define causes and clinical features of Otomycosis	Integrate Otorhinolaryngology	
	Describe the mechanism of impedance matching and its significance	Physiology	
	Describe the mechanism of attenuation reflex and its significance	Physiology	
HNSS-P-017	Describe the physiological anatomy of inner ear	Physiology	Inner Ear/ Cochlea
	Describe the mechanism of transmission of sound waves in cochlea	Physiology	
HNSS-P-018	Describe the physiological anatomy and function of organ of Corti	Physiology	Organ of Corti
	Describe the mechanism of generation of endo-cochlear potential and its significance	Physiology	
HNSS-P-019	Write down the normal range of frequency for hearing	Physiology	Determination of sound frequency
	Describe the role of place principle in determination of sound frequency	Physiology	
	Describe the role of volleys principle in determination of sound frequency	Physiology	
HNSS-P-020	Trace the normal auditory nervous pathway	Physiology	Auditory pathway
	Describe the types of deafness	Physiology	
	Discuss the clinical features and investigations of Congenital and Acquired hearing loss	Integrate with Otorhinolaryngology	
HNSS-P-021	Enlist the primary taste sensations	Physiology	Sense of Taste
	Define and explain the term taste blindness	Physiology	

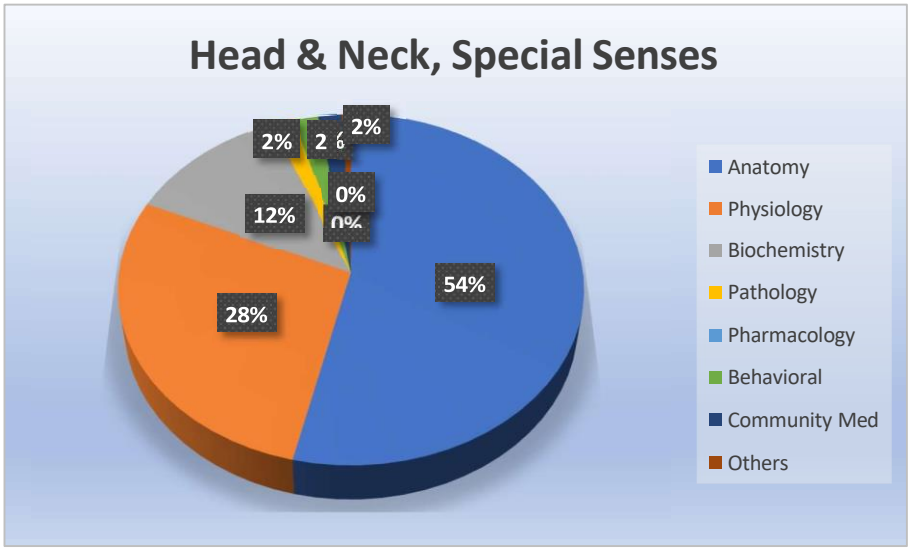
	Describe the physiological anatomy and location of taste buds	Physiology	
HNSS-P-022	Describe the mechanism of stimulation of taste buds/ receptor potential	Physiology	Excitation of Taste buds
	Trace the pathway of taste sensation	Physiology	
HNSS-P-023	Define and explain the terms: Ageusia, Hypergeusia, Hypogeusia and dysgeusia	Physiology	Abnormalities of Taste sensations
	Describe the senile changes in taste buds		
HNSS-P-024	Explain the terms: Taste preference and taste aversion	Physiology	Taste preference and aversion
HNSS-P-025	Enlist the primary sensations of smell	Physiology	Sense of smell
	Describe the physiological anatomy and location of olfactory membrane	Physiology	
HNSS-P-026	Enlist the causes and clinical features of Rhinitis	Integrate with Otorhinolaryngology	Rhinitis
	Differentiate between viral and allergic Rhinitis	Integrate with Otorhinolaryngology	
CODE	**MEDICAL BIOCHEMISTRY**	**TOTAL HOURS = 7**	
	SPECIFIC LEARNING OBJECTIVES	**DISCIPLINE**	**TOPIC**
HNSS-B-001	Discuss the metabolism of mono and disaccharides	Biochemistry	Metabolism of mono and disaccharides
	Interpret Hereditary fructose intolerance, fructosuria, galactosemia and lactose intolerance, in relevance to the clinical findings	Biochemistry	
	Explain the Polyol pathway and effect of hyperglycemia on sorbitol pathway	Biochemistry	
	Discuss the sources, metabolically active forms, biochemical role and clinical correlation of Vit-A with vision	Biochemistry	
HNSS-B-002	Discuss biochemical basis and clinical aspects of Riboflavin	Biochemistry	Vitamins

HNSS-B-003	Discuss the sources, absorption, regulation, biomedical functions and clinical aspect of Zn, Fl	Biochemistry	Eye
PRACTICAL			
CODE	**SPECIFIC LEARNING OBJECTIVES**	**TOTAL HOURS = 16+05=21**	
		DISCIPLINE	**TOPIC**
HNSS-P-027	Examine the Second, Third, Fourth & Sixth Cranial Nerves	Physiology	Cranial Nerves
HNSS-P-028	Examination of Light Reflex		Light reflex
HNSS-P-029	Determine the Visual Acuity for Far and Near vision		vision
HNSS-P-030	Perform Ophthalmoscopy		ophthalmoscopy
HNSS-P-031	Examine Field of Vision and interpretation of visual field plotted	Physiology	Visual field
HNSS-P-032	Examine Color Vision		Color vision
HNSS-P-033	Perform Tuning fork test and audiometry, interpret the report		Ear
HNSS-B-004	Perform estimation of uric acid level in blood	Biochemistry	Uric acid level in blood
HNSS-B-005	Perform HbA1C by chromatographic method		HbA1C
HNSS-B-006	Detect abnormal constituents in urine by chemical methods		Abnormal constituents in urine
PATHOPHYSIOLOGY AND PHARMACOTHERAPEUTICS			
CODE	**SPECIFIC LEARNING OBJECTIVES**	**TOTAL HOURS = 09**	
		DISCIPLINE	**TOPIC**
HNSS-Pa-001	Enlist the common causative agents of Eye, Ear infections	Pathology (Microbiology)	Eye/Ear infections
	Discuss the pathogenesis and clinical features of common pathogens	Pathology (Microbiology)	

HNSS-B-004	Correlate proto-oncogene and oncogene concept with relevance of tumors	Biochemistry	Oncogenes
HNSS-B-005	Discuss tumor markers and their significance		Tumor markers
HNSS-B-006	Discuss the concept of xenobiotics		Genetics
	Explain and interpret pedigree of multifactorial mitochondrial disorder i.e. Libers hereditary optic neuropathy		

DISEASE PREVENTION AND IMPACT			
CODE	**SPECIFIC LEARNING OBJECTIVES**	**TOTAL HOURS = 07**	
		DISCIPLINE	**TOPIC**
HNSS-B-007	Explain the role of antioxidants (selenium (Se), Vit-E & C, Glutathione) in preventing oxidative stress	Biochemistry	Anti-oxidants
HNSS-CM-001	Identify factors leading to noise pollution	Community Medicine/ Otorhinolaryngology	Hearing loss
HNSS-CM-002	Describe the common causes of blindness in community	Community Medicine	Blindness
	Describe risk factors and preventive strategies for blindness at community level	Behavioral Sciences	
HNSS-BhS-001	At end of module the students will learn the psychosocial aspects of pain which will help in understanding the complex and multidimensional nature of pain.		Pain

AGING			
CODE	**SPECIFIC LEARNING OBJECTIVES**	**TOTAL HOURS = 03**	
		DISCIPLINE	**TOPIC**
HNSS-Ag-001	Identify the role of oxidative radicals and the process of lipid peroxidation that leads to aging	Biochemistry	Lipid oxidation
HNSS-Ag-002	Familiarize with the age-related hearing loss	Otorhinolaryngology	Deafness
HNSS-Ag-003	Discuss the age changes of mandible	Anatomy	Head & Neck



Module Weeks	Recommended Minimum Hours
05	164

QUEENS MEDICAL COLLEGE, KASUR
Timetable 2nd Year MBBS (Session-2024-25)
Head & Neck, Special Senses Module

Week 1

Monday	**Module 8: Endocrinology & Reproductive Module** **9:00 am - 12:00 pm** **Anatomy** Theory Paper 45 MCQs and 9 SEQs= 90 marks Internal Assessment = 10 marks							
Tuesday	**Module 8: Endocrinology & Reproductive Module** **9:00 am - 12:00 pm** **Physiology** Theory Paper 45 MCQs and 9 SEQs= 90 marks Internal Assessment = 10 marks							
Wednesday	**Module 8: Endocrinology & Reproductive Module** **9:00 am - 12:00 pm** **Biochemistry** Theory Paper 45 MCQs and 9 SEQs= 90 marks Internal Assessment = 10 marks							
Thursday	**8:00- 9:15**	**9:15 - 10:00**	**10:00- 10:45**	**10:45-11:15**	**11:15-12:00**	**12:00-12:45**	**12:45-1:45**	**1:45 – 3:00**
	Module 8: Endocrinology & Reproductive Module Theory Paper **8:00 am - 10:00 am** 40 MCQs + 2 stations = 50 marks Pharmacology, Pathology, Community Medicine, Behavioural Sciences, PERL, CSF		**PakStudies/ Islamiat** **LGIS**	B R E	Physiology LGIS **HNSS-P-001** Visual Acuity	Biochemistry LGIS **HNSS-B-001** Metabolism Mono- Di-Saccharides-Overview	**Com. Medicine** **LGIS** **HNSS-CM=001** Factors leading to Noise Pollution	Anatomy Dissection **HNSS-A-005 + 006** Skull + Scalp
Friday	**8:00- 9:00**	**9:00-9:40**	**9:40- 10:20**	**10:20-10:30**	**10:30-11:10**	**11:10-11:50**	**11:50-12:30**	**12:30- 3:00**
	Anatomy Dissection **HNSS-A-001 +-A-005 + 006** Optic Nerve, Visual Pathway, Ophthalmic Artery, Eyelid, conjunctiva, tarsal Glands + Skull + Scalp		PERL Workshop **PERLs2-11** dialogue between a senior doctor and a patient	A K	Physiology LGIS **HNSS-P-001** Visual Acuity	Biochemistry LGIS **HNSS-B-001** Metabolism Mono- Di-Saccharides	Physiology LGIS **HNSS-P-001** Refractive Errors	**Jumma Prayers + Self-Directed Learning**

Week 2:

	8:00- 9:15	9:15 - 10:00	10:00- 10:45	10:45- 11:15	11:15- 12:00	12:00-12:45	12:45-1:45	1:45 – 3:00
Monday	Gross Anatomy-SGD HNSS-A-001-a Orbital Cavity & Contents, Structures passing through openings Dr. Awais (Batch-A) Dr. Mahrukh (Batch-B) Dr. Naffay (Batch-C)	Histology-LGIS HNSS-A-047	Embryology-LGIS HNSS-A-035 & 37 Pharyngeal Apparatus + Arches +Congenital Anomalies	B R	Physiology/Ophthalmology LGIS HNSS-P-003+004 Fluid Systems of Eye+ Glaucoma	Biochemistry LGIS HNSS-B-001 Metabolism Mono-Disaccharides-Interpretation	Practical Batch A: Histology HNSS -A-053-b Retina (Dr. Mehwish) Batch B: Physiology HSSN- P-027 Cranial Nerves Batch C: Biochemistry: HSSN-B-04 Uric Acid Level	SGIS/Practical Batch A: Revision of Whole Skull (Dr. Mahrukh) Batch B: PhysioHSSN-P-029 Practical: Visual Acuity Batch C: Biochemistry: HSSN- B-001 Mono-Di-Saccharides: Interpretation
Tuesday	12th Rabiulawal Holiday							
Wednesday	Gross Anatomy-Audiovisual Demonstration HNSS-A-001-b & C Extra & Intra ocular Muscles with eye movements 3rd, 4th & 6th CN and Ciliary ganglion	Behavioural Sciences LGIS HNSS-BhS-001 Psychosocial Aspects of pain	PERL Workshop PERLs2-09 Anonymous report on a cheating incident in class during last year	E	Physiology/Ophthalmology LGIS HNSS-P-005 Retina	Biochemistry LGIS HNSS-B-001 Metabolism Mono-Di-Saccharides: Polyol pathway	Practical Batch B: Histology HNSS -A-053-b Retina (Dr. Mehwish) Batch C Physiology HSSN-P-027 Cranial Nerves Batch A Biochemistry: HSSN-B-04 Uric Acid Level	SGIS/Practical Batch C: Revision of Whole Skull (Dr. Mahrukh) Batch A: PhysioHSSN-P-029 Practical: Visual Acuity Batch B: Biochemistry: B-001 Mono-Di-Saccharides: Interpretation
Thursday	Gross Anatomy-Audiovisual Demonstration HNSS-A-001-d & g Optic Nerve, Visual Pathway & Clinicals and Eyeball	Gross Anatomy-Audiovisual Demonstration HNSS-A-001-e & f Ophthalmic artery, Eyelid, Conjunctiva, Tarsal gland, Lacrimal apparatus and Pterygopalatine ganglion	Histology-LGIS HNSS-A-043 & 044 Tongue & Glands	A	Physiology LGIS HNSS-P-006 Vision Photochemistry	PERL Workshop PERLs2-10 Co- and extracurricular activities	Practical Batch C: Histology HNSS -A-053-b Retina (Dr. Mehwish) Batch A: Physiology HSSN-P-027 Cranial Nerves Batch B: Biochem Biochemistry: HSSN-B-04 Uric Acid Level	SGIS/Practical Batch A: Revision of Whole Skull (Dr. Mahrukh) Batch C: PhysioHSSN-P-029 Practical: Visual Acuity Batch A: Biochemistry: B-001 Mono-Di-Saccharides: Interpretation
Friday	8:00- 9:00	9:00-9:40	9:40- 10:20	10:20-10:30	10:30-11:10	11:10-11:50	11:50-12:30	12:30-1:30 / 1:30-3:00
	Gross Anatomy-Audiovisual Demonstration HNSS-A-002-a, b & c Nasal cavity, External Nose and Paranasal sinuses	Gross Anatomy-Audiovisual Demonstration HNSS-A-002-d Olfactory Nerve and Pathway	Histology-LGIS HNSS-A-045 Serious & Mucous Acini	K	Physiology/Ophthalmology LGIS HNSS-P-007 Adaptation	Biochemistry LGIS HNSS-B-002 Vitamin: Riboflavin	Pathology LGIS HNSS-Pa-004 Common Causative Agents of Eye, Ear	Jumma Prayer / Self-Directed Learning

Week 3:

	8:00- 9:15	9:15 - 10:00	10:00- 10:45	10:45- 11:15	11:15- 12:00	12:00-12:45	12:45-1:45	1:45 – 3:00
Monday	Gross Anatomy- Audiovisual Demonstration HNSS-A-003- a&b External, Middle and Internal Ear	Gross Anatomy- Audiovisual Demonstration HNSS-A-003-c 8th CN and auditory Pathway	Embryology-LGIS HNSS-A-042 Eye and clinicals	Break	Physiology LGIS HNSS-P-009+010+011 Visual Pathways + Field of Vision	Biochemistry LGIS HNSS-B-002 Eye: Zinc	Practical Batch A: HNSS-A051 Acini Batch B: Physio HSSN- P-030 Ophthalmoscopy Batch C Biochemistry: HSSN-B-005 HBA1C	Clinical Skill Foundation CSF- HSSN Examination of Nose -- Demonstration + Peer Assessment
Tuesday	Gross Anatomy- Audiovisual Demonstration HNSS-A-007-a Muscles of Facial Expression with clinicals	Gross Anatomy- Audiovisual Demonstration HNSS-A-007-b Muscles of Mastication with clinicals	Embryology-LGIS HNSS-A-042 Ear and Clinicals		Physiology LGIS HNSS-P-009+010+011 Visual Pathways + Field of Vision	Biochemistry LGIS HNSS-B-002 Eye: Zinc	Practical Batch C: HNSS-A051 Acini P-030 Ophthalmoscopy Batch B: Biochem HSSN- B-005 HBA1C	SGIS/Practical Batch A: HNSS-A052 Thyroid+ Parathyroid Histology Practical Batch B: Physiology HSSN-P-028 Practical: Light Reflex Batch C: Biochemistry: B-002 Riboflavin
Wednesday	Anatomy Dissection HNSS-A-003 Hearing: External, Middle and Internal ear Vestibulocochlear Nerve, Auditory Pathway		Histology LGIS HNSS-A-045 Serous + Mucinous acini		Physiology LGIS HNSS-P-009+010+011 Visual Pathways	Biochemistry LGIS HNSS-B-002 Eye: Fl	Practical Batch B: HNSS-A051 Acini Batch C Physio HSSN- P-030 Ophthalmoscopy	SGIS/Practical Batch B: HNSS-A052 Thyroid+ Parathyroid Histology Practical Batch C: Physio HSSN-P-028 Practical: Light Reflex
Thursday	Anatomy HNSS-A-003 Hearing: External, Middle and internal ear Vestibulocochear Neve, Auditory Pathway		Histology LGIS HNSS-A-044 Histology of submandibular+ Subingual Glands		Physiology/Ophthalmology LGIS HNSS-P-012+013+014 Eye	Biochemistry LGIS HNSS-B-002 Eye: Fl	Anatomy Dissection HNSS-A-016+017+021 Hyoid Bone+ Cervical muscles+ infra and sura Hypod Muscles	SGIS/Practical Batch B:HNSS-A052 Thyroid+ Parathyroid Histology Practical Batch C: Physio HSSN-P-028 Practical: Light Reflex Batch A: Biochemistry: : B-002 Riboflavin
Friday	8:00- 9:40		9:40- 10:20	10:20- 10:30	10:30-11:10	11:10-11:50	11:50-12:30	12:30- 1:30
	Anatomy Dissection HNSS -A-013-014+015 palate Submanibular/ Sublingual glands+ Gaglia				Histology LGIS HNSS-A-044 Histology of Submandibular + Sublingual		Biochemist **HNSS-B-005** Tumour markers + Significance	HNSS-B-005 Tumour markers + Significance

Week-4

	8:00- 9:15	9:15 - 10:00	10:00- 10:45	10:45- 11:15	11:15- 12:00	12:00-12:45	12:45-1:45	1:45 – 3:00	
Monday	Anatomy Dissection HNSS-A-004 Taste: Tongue with neurovascular supply Taste buds Taste pathway		Embryology LGIS HNSS-A-039 Face and Nasolacrimal Duct	B	Physiology LGIS HNSS-P-017+018 Inner Ear/Cochlea+ Organ of Corti	Biochemistry LGIS HNSS-B-005 Tumour markers + Significance	Practical Batch A: HNSS-A051 Acini Batch B: Physio HSSN-P-030 Ophthalmoscopy Batch C Biochemistry: HSSN-B-005 HBA1C	Clinical Skill Foundation CSF- HSSN Examination of Neck Lymph nodes -- Demonstration + Peer Assessment	
Tuesday	Anatomy Dissection HNSS-A-007+ 008+ 009 Muscles of Facial Expressions + Neurovascular Supply of face + Danger Area	Behavioural Sciences LGIS EnR-BhS-001 Sexual Health concerns- Patient centered and Non-judgmental approach	Embryology LGIS HNSS-A-038 Tongue and Thyroid gland	R	Physiology/Ophthalmology LGIS HNSS-P-012+013+014 Eye Movements+Strabismus+Accomodation	Biochemistry LGIS HNSS-B-005 Tumour markers + Significance	Practical Batch C: HNSS-A051 Acini Batch A Physio HSSN-P-030 Ophthalmoscopy Batch B: Biochem HSSN- B-005 HBA1C	SGIS/Practical Batch A: HNSS-A052 Thyroid+ Parathyroid Histology Practical Batch B: Physiology HSSN- P-028 Practical: Light Reflex Batch C: Biochemistry: B-002 Riboflavin	
Wednesday	Anatomy Dissection HNSS-A-010+011+012 Mandible+ Parotid gland+ Waldeyer's' Ring	Histology LGIS HNSS-A-047 Histology of Eye	Histology LGIS HNSS-A-044 Histology of Submandibular + Sublingual Glands	E	Physiology LGIS HNSS-P-015 Pupillary Light Reflex	Biochemistry LGIS HNSS-B-004 Oncogenes- relevance to tumours	Practical Batch B: HNSS-A051 Acini Batch C Physio HSSN-P-030 Ophthalmoscopy Batch A: Biochem: HSSN-B-005 HBA1C	SGIS/Practical Batch C: HNSS-A052 Thyroid+ Parathyroid Histology Practical Batch A: Physiology HSSN- P-028 Practical: Light Reflex Batch B: Biochemistry: : B-002 Riboflavin	
Thursday	Anatomy Dissection HNSS-A-010+011+012 Mandible+ Parotid gland+ Waldeyer's' Ring		Histology LGIS HNSS-A-048 Histology of Ear	A	Physiology LGIS HNSS-P-016 Sense of Hearing	Biochemistry LGIS HNSS-B-005 Tumour markers + Significance	Com. Medicine LGIS HNSS-CM=002 Blindness at Community Level +Risk factors + Preventive Strategies	SGIS/Practical Batch B: HNSS-A052 Thyroid+ Parathyroid Histology Practical Batch C: Physio HSSN-P-028 Practical: Light Reflex Batch A: Biochemistry: : B-002 Riboflavin	
Friday	8:00- 9:00	9:00-9:40	9:40- 10:20	10:20- 10:30	10:30-11:10	11:10-11:50	11:50-12:30	12:30- 1:30	1:30-3:00
	Anatomy Dissection HNSS-A-013+014+015 Palate Submandibular/Sublingual glands+ Ganglia		Histology LGIS HNSS-A-044 Histology of Submandibular + Sublingual Glands	K	Physiology LGIS HNSS-P-017+018 Inner Ear/Cochlea+ Organ of Corti	Biochemistry LGIS HNSS-B-005 Tumour markers + Significance	Anatomy Dissection HNSS-A-016+017+021 Hyoid Bone+ Cervical Vertebrae-joints + muscles+ infra and sura Hypod Muscles	Jumma Prayer	Self-Directed Learning

Week-5

	8:00- 9:15	9:15 - 10:00	10:00- 10:45	10:45- 11:15	11:15- 12:00	12:00-12:45	12:45-1:45	1:45 – 3:00	
Mond ay	Physiology Test		Embryology LGIS EnR-A-041 Lips and Palate	B	Physiology LGIS HNSS-P-019+020 Sound Frequency+ Auditory Pathway	Biochemistry LGIS HNSS-B-007 Antioxidants	Practical Batch A: HNSS-A053 Eye Histology Batch B: Physio HSSN-P-031+32 Visual Field + Colour Vision Batch C: Biochem: HSSN-B-006 Abnormal Urine	Clinical Skill Foundation CSF-BLOCK 5 Revision - Demonstration + Peer Assessment	
Tuesd ay	Anatomy Dissection HNSS-A-018+-019+020 +022 Prevertebral muscles, Deep cervical fascia, Facial spaces, Ansa Cervicalis	Aging/ENT LGIS HNSS-Ag-002 Age Related Hearing Loss	Embryology LGIS EnR-A-040 + 042 Nose + Eye Development	R	Physiology LGIS HNSS-P-021+022 Sense of Taste +Excitation of taste buds	Ageing/Biochemist ry LGIS HNSS-Ag-001 Lipid Peroxidation leading to aging + Role of Oxidative radicals	Practical Batch C: HNSS-A053 Eye Histology Batch A: Physio HSSN-P-031+32 Visual Field + Colour Vision Batch B: Biochem: HSSN-B-006 Abnormal Urine	SGIS/Practical Batch A: HNSS-A053 Ear Histology Practical Batch B: Physio HSSN-P-033 Tuning Fork test + audiometry - Practical Batch C: Biochemistry: : B-007 Antioxidants	
Wedn esday	Biochemistry Test	Anatomy Dissection HNSS-A-023+024+025 Sternocleidomastoid, Trapezius+Triangles of neck Trachea + Esophagus		E	Physiology LGIS HNSS-P-023+024 Abnormalities Of taste sensation	Histology LGIS HNSS-A-044 Histology of Parotid Gland	Practical Batch B HNSS-A053 Eye Histology Batch C: Physio HSSN-P-031+32 Visual Field + Colour Vision Batch A: Biochem: HSSN-B-006 Abnormal Urine	SGIS/Practical Batch C: HNSS-A053 Ear Histology Practical Batch A: Physio HSSN-P-033 Tuning Fork test + audiometry - Practical Batch B: Biochemistry: Biochemistry: : B-007 Antioxidants	
Thurs day	Anatomy Dissection HNSS-A-026+027+028 Thyroid, Parathyroid gland+ Carotid arteries+ Carotid Body	Histology LGIS HNSS-A-046 Histology of Thyroid, Parathyroid Gland	PakStudies/ Islamiat LGIS	A	Physiology LGIS HNSS-P-025 Sense of Smell	Pathology LGIS HNSS-Pa-004 Common Pathogens: Pathogenesis + Clinical Feature	Anatomy Dissection HNSS-A- 029,030,031,032,033,034 Head & Neck Vascular Supply + Lymphatics+ Cervical Plexus+ Pharynx+ Larynx+ Tonsils	SGIS/Practical Batch B: HNSS-A053 Ear Histology Practical Batch C: Physio HSSN-P- 033 Tuning Fork test + audiometry - Practical Batch A: Biochemistry :: B-007 Antioxidants	
Friday	8:00- 9:00	9:00-9:40	9:40- 10:20	10:20- 10:30	10:30-11:10	11:10-11:50	11:50-12:30	12:30- 1:30	1:30-3:00
	Anatomy STAGE Head and Neck HNSS-A-001-034			K	Physiology/ENT LGIS HNSS-P-026 Rhinitis	Aging/Anatomy LGIS HNSS-Ag-003 Age Changes in Mandible	Pathology LGIS HNSS-Pa-004 Common Pathogens: Pathogenesis + Clinical Feature	Jumma Prayer	Self-Directed Learning

BLOCK 5 – DATE SHEET
2nd Year MBBS- Session 2022-23

Monday	**Preparatory Leave**		
Tuesday	**Preparatory Leave**		
Wednesday	**Block 5** **Written Examination** 9 am – 12 pm		
Thursday	**OSPE** **8 am to 10 am** **Batch A: Anatomy** OSVE- BLOCK 5 **Batch B: Physiology** OSVE- BLOCK 5 **Batch C: Biochemistry** OSVE- BLOCK 5	**OSVE** **10 am to 12 pm** **Batch C: Anatomy** OSVE- BLOCK 5 **Batch A: Physiology** OSVE- BLOCK 5 **Batch B: Biochemistry** OSVE- BLOCK 5	**OSVE** **12 pm to 2 pm** **Batch B: Anatomy** OSVE- BLOCK 5 **Batch C: Physiology** OSVE- BLOCK 5 **Batch A: Biochemistry** OSVE- BLOCK 5
Friday	**OSPE (Combined)** **9 am to 12 pm** **Venue** **Batch A: Anatomy Laboratory Batch B: Physiology Laboratory** **Batch C: Biochemistry Laboratory**		

BLOCK 5 – DATE SHEET

2nd Year MBBS- Session	
Monday	**Preparatory Leave**
Tuesday	**Block 5 Written Examination** **9 am – 12 pm** **Lecture Theatre 2**
Wednesday 23rd	**OSPE/OSCE/OSVE** **Batch A** **Lecture Theatre 2**
Thursday	**OSPE/OSCE/OSVE** **Batch B** **Lecture Theatre 2**
Friday	**OSPE/OSCE/OSVE** **Batch C** **Lecture Theatre 2**

QUEENS MEDICAL COLLEGE, KASUR

BLOCK 5 – UHS TABLE OF SPECIFICATIONS

MBBS 2nd Professional

Block-5

Theme	Subject	Written Exam			Oral/Practical/Clinical Exam			
		MCQ (1 mark)	SEQ (5 mark each)	Marks	OSPE (8 marks each observed)	OSCE (8 marks each observed)	OSVE (16 marks each observed)	Marks
Normal Structure	Anatomy applied/clinical	30	04	50	04	-	01	48
Normal Function	Physiology applied/clinical	18	02	28	02	-	01	32
	Biochemistry applied/clinical	11	01	16	01	-	01	24
Disease Burden & Prevention	Community Medicine & Public Health	08	-	08	-	-	-	-
	Behavioral Sciences	04	-	04	-	-	-	-
Pathophysiology & pharmacotherapeutics	Pathology	12	-	12	-	-	-	-
	Pharmacology	02	-	02	-	-	-	-
CFRC	CF-2-2	-	-	-	-	01	-	08
PERLs	PERLs-2-2	-	-	-	-	01	-	08
Total		**85**	**7x5=35**	**120**	**07 stations x 08 = 56**	**02 stations x 08 = 16**	**03 stations x 16=48**	**120**

BLOCK-05

- These skills are at the 'Knows how' level of the miller's pyramid, meaning thereby that students need not perform them themselves but may develop a perception regarding them by observing performance/working on simulated patients/facilitation with videos.

ENDOCRINOLOGY & REPRODUCTION-1 MODULE		
Objectives	**Skill**	**Miller's Pyramid Level Reflected**
Examination of the thyroid gland	Thyroid examination	Shows
Examination for Acromegaly	Examination for acromegaly	Shows
Measurement of blood glucose levels	Blood sugar measurement	Shows
Suturing	Suturing	*Knows how

Place a **"✓"** in case box if step/task is performed satisfactorily, an **"X"** if it is not performed satisfactorily, or **N/O** if not observed.

Satisfactory: Performs the step or task according to the standard procedure or guidelines

Unsatisfactory: Unable to perform the step or task according to the standard procedure or guidelines

Date Observed: _____

CHECKLIST FOR THYROID EXAMINATION **(Some of the following steps/tasks should be performed simultaneously.)**	**CASES** **(Minimum 3 Entries)**		
STEP/TASK			
GETTING READY:			
1. Wash your hands and don PPE if appropriate			
2. Introduce yourself to the patient including your name and role			
3. Gain consent to proceed with the examination			
4. Ask the patient to sit on a chair for the assessment			
5. Adequately expose the patient's neck and upper sternum			
6. Ask if the patient has any pain before proceeding			
SKILL/ACTIVITY PERFORMED SATISFACTORILY			
THE PROCEDURE:			
7. Inspect the patient whilst at rest, looking for clinical signs suggestive of underlying pathology			
8. Inspect the patient's face for clinical signs suggestive of thyroid pathology (dry skin, excessive sweating, eyebrow loss)			
9. Inspect the patient's eyes for evidence of lid retraction, inflammation and exophthalmos			
10. Assess for eye movement abnormalities			
11. Assess for lid lag			
12. Inspect the midline of the neck for evidence of thyroid enlargement, lumps or scars			

13. Ask the patient to protrude their tongue and repeat inspection			
14. Palpate the patient's thyroid gland assessing size, symmetry and consistency. Also note any masses present in the thyroid tissue.			
15. Ask the patient to protrude their tongue whilst you palpate			
16. Palpate local lymph nodes to assess for lymphadenopathy			
17. Inspect for tracheal deviation			
18. Percuss downwards from the sternal notch for evidence of retrosternal dullness			
19. Auscultate each lobe of the thyroid for a bruit			
20. Thank the patient			
SKILL/ACTIVITY PERFORMED SATISFACTORILY			
Signatures of Supervisor			

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Unsatisfactory: Unable to perform the step or task according to the standard procedure or guidelines

Date Observed: _____

CHECKLIST FOR ACROMEGALY **(Some of the following steps/tasks should be performed simultaneously.)**	**CASES** **(Minimum 3 Entries)**		
STEP/TASK			
THE PROCEDURE:			
1. Wash your hands and gain consent from the patient			
2. Ask the patient if he/she has any pain in any region			
3. Perform a brief general inspection of the patient, looking for clinical signs suggestive of acromegaly such as: a. Facial features: coarse features, such as prominent supraorbital ridges and prognathism, may be indicative of acromegaly.			
4. Hands and feet: may be enlarged.			
5. Skin: may display thickening in the hands and face and excess sweating or oiliness in acromegaly.			
6. Posture: patients with acromegaly can present with signs of osteoarthritis, especially in the weight-bearing joints (knees and hips).			
7. Hair growth: hirsutism in women and hypertrichosis may occur.			
8. Skin tags: acromegaly can cause an increase in the number of skin tags.			

9. Gait: acromegaly can cause a rolling gait or varus deformity. 10. Clothes: clothes or jewellery may appear tight if significant weight gain has occurred.			
11. Hands: Inspect for: a. Enlargement: grossly increased size of the hands may be assessed by comparing your hands to the patient are, accounting for natural size differences. b. Wasting: thenar wasting can indicate untreated carpal tunnel syndrome. c. Scars: carpal tunnel release scar may indicate previous median nerve compression. d. Skin changes: skin thickening and excess sweating can occur in acromegaly. e. Finger pricks: finger prick marks on the tips of the fingers may indicate diabetes, which is linked to acromegaly f. Palpation g. Assess for thickening of the patient's skin by pinching the skin overlaying the third metacarpophalangeal joint. This can be compared with your own hand's skin to detect any differences.			
12. Axillae: Whilst supporting the patient's arm, inspect each axilla for the following: a. Acanthosis nigricans: darkening (hyperpigmentation) and thickening (hyperkeratosis) of the axillary skin which can be benign (most commonly in dark-skinned individuals) or associated with insulin resistance (e.g., type 2 diabetes mellitus) as a complication of acromegaly. b. Hypertrichosis: increased hair growth can occur as a result of the effects of growth hormone.			
13. Palpate for thyroid gland			
14. Look for raised JVP			
15. Face: a. General features: b. Inspect the general appearance face for coarse features associated with acromegaly: c. Frontal bossing: a prominent or protruding brow can occur with excess GH. d. Large nose, ears, and lower lip: aspects of soft-tissue overgrowth. e. Prognathism: overgrowth of the jaw can lead to a			

mandibular protrusion			
16. Mouth: Inspect the inside of the mouth for the following: a. Macroglossia: tongue enlargement may cause the tongue to appear large for the mouth or even cause visible partial airway obstruction in extreme cases. b. Wide spaced teeth: growth of the soft palate may cause interdental separation of the lower jaw. c. Prognathism: overgrowth of the jaw may only be discernible on closer inspection.			
SKILL/ACTIVITY PERFORMED SATISFACTORILY			
Signatures of Supervisor			

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Unsatisfactory: Unable to perform the step or task according to the standard procedure or guidelines

Date Observed: _____

CHECKLIST FOR EXAMINATION OF BLOOD GLUCOSE LEVELS **(Some of the following steps/tasks should be performed simultaneously.)**	**CASES** **(Minimum 3 Entries)**		
STEP/TASK			
THE PROCEDURE:			
1. Explain the procedure to the patient and get a verbal consent to proceed.			
2. Gather the relevant equipment and place in a clean tray: i. Non-sterile gloves ii. Blood glucose reader (a.k.a. glucometer): calibrate using calibration fluid if required. iii. Spring-loaded lancet: to obtain the blood sample. iv. Testing strips: make sure the expiry date is valid. v. Gauze vi. Tape			
3. Ensure the patient's finger is cleaned prior to measuring capillary blood glucose: i. It's important that the skin over the site being tested has been cleaned, as substances on the skin can affect the accuracy of capillary blood glucose results (e.g. substances containing sugar). ii. Ask the patient to wash their own hands or alternatively you can clean the site with an alcohol swab (70% isopropyl). iii. Make sure the skin over the testing site has dried completely before performing capillary blood glucose measurement.			
4. Turn on the capillary blood glucose monitor and ensure it is calibrated.			

5. Load a test strip into the glucose monitor.			
6. Don a pair of non-sterile gloves.			
7. Pick up the lancet and carefully remove the protective cap.			
8. Prick the side of the patient's finger with the lancet and gently squeeze the finger from proximal to distal to produce a droplet of blood. Some guides advise cleaning away the first drop of blood, however, there is no evidence that this significantly impacts the reliability of blood glucose results.			
9. Gently touch the tip of the test strip against the droplet of blood to allow it to be absorbed into the strip.			
10. Apply gauze or cotton wool to the puncture site to stop the bleeding and ask the patient to maintain pressure over the site			
11. Safely dispose of the lancet into a sharps bin.			
12. Dispose of the test strip and the cotton wool/gauze into a clinical waste bin. If the patient's finger is still bleeding, keep the cotton wool or gauze in place and secure with some tape.			
POST PROCEDURE: 1. 'Wash your hands, thank the patient'			
SKILL/ACTIVITY PERFORMED SATISFACTORILY			
Signatures of Supervisor			

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Satisfactory: Performs the step or task according to the standard procedure or guidelines

Unsatisfactory: Unable to perform the step or task according to the standard procedure or guidelines

Date Observed: _____

CHECKLIST FOR SIMPLE INTERRUPTED SUTURE (Some of the following steps/tasks should be performed simultaneously.)	**CASES (Minimum 2 Entries)**		
STEP/TASK			
EQUIPMENT: Collect a procedure trolley, and clean the top surface using an alcohol surface disinfectant wipe. Next obtain a plastic tray, and clean it in a similar manner. You will then need to collect a number of items. For cleaning: i. A pair of non-sterile gloves. ii. Five 10mL sachets of 0.9% sodium chloride (saline) solution. iii. Gauze. For anaesthesia:			
i. A pair of sterile gloves. ii. Alcohol wipe (2% chlorhexidine in 70% alcohol). iii. 20mL 1% lidocaine solution (with or without adrenaline. iv. Drawing up needle (≤18 gauge). v. Subcutaneous needle (25-27 gauge) and syringe (20mL). vi. Sharps bin. For suturing: i. Suture pack (containing needle holder, scissors, toothed forceps, non-toothed forceps). ii. A pair of sterile gloves. iii. Suture material. iv. Sterile drape. v. Sharps bin.			
SKILL/ACTIVITY PERFORMED SATISFACTORILY			
THE PROCEDURE: i. Explain the procedure to the patient and take consent			

Inspection: ii. Assess the size and depth of the wound as well as the state of its border. Inspect for any pus inside which may suggest infection. Ensure that there are no foreign bodies present, such as glass. Finally, check the surrounding skin for any bruising or erythema which may suggest a cellulitis infection.			
Cleaning iii. To clean the wound, take the gauze and soak it in saline solution. Carefully wipe the area starting from the centre of the wound and continuing outwards.			
Anaesthesia iv. Before injecting the anaesthetic, confirm with the patient that they have had no previous reactions to local anaesthetic. Once this has been confirmed, clean the surrounding area using an alcohol wipe. Whilst waiting for the skin to dry, draw up the lidocaine solution into the syringe. a) Once ready to inject, switch the needle on the syringe and don some sterile gloves. Using proper technique, inject 2mL of lidocaine solution subcutaneously into the surrounding skin. After doing so, manoeuvre the needle and continue to inject small amounts of anaesthetic such that all of the surrounding skin is anaesthetised. For medium to large wounds, you will need to withdraw the needle and reinject at another area.			
v. Wash and dry both your hands and the distal third of your forearms and then put the sterile gloves on using correct sterile technique. Allow the anaesthesia at least 5 minutes to work.			
vi. Carefully position the part of the body with the wound and apply the sterile drape over it. At this point, explain to the patient that it is very important for them to keep still and not touch anything on the sterile field to avoid contamination.			
a) Using the toothed forceps, pinch the sides of the wound to test for numbness, and ask the patient whether they can feel any pain. Be sure to warn the patient before you do this. The patient may be able to feel a sense of pressure but should not feel any pain.			
vii. Use the forceps to position the needle in the needle holder so that the needle holder is two-thirds of the way up from the tip of the needle.			
viii. Hold the needle holder in your dominant hand and the toothed forceps in the other. Starting from the middle of the wound, use the forceps to pull the skin up on the wound side closest to your dominant hand. Insert the needle into the skin on the same side at a 90° angle, at least 5mm from the wound edge.			
ix. Push the needle through the skin, supinating your forearm to			

	follow the curvature of the needle as you do so. Remove the needle from the needle holder and pull the needle through that side of the wound using the forceps. a) Position the needle back into the needle holder and insert it into the dermis of the other side of the wound, around 5mm below the skin surface. Again, supinate your wrist such that the needle emerges to the skin surface. Pull the needle through such that only 15cm of thread remains on the other side.			
x. xi. xii. xiii.	To secure the suture in place, you will need to tie a surgical knot. This is achieved by tying three smaller "throw" knots. 1st throw: Hold the needle holder directly above and parallel to the wound. Wrap the longer end of the thread around the needle holder twice in a clockwise direction and then use the tip of the needle holder to grasp the shorter end of the thread and pull in opposite directions, tying the first throw. 2nd throw: Once again wrap the longer end of the thread around the needle holder, however this time, do so only once and in an anticlockwise direction. Then, as before, use the tip of the needle holder to grasp the shorter end of the thread. Pull the suture material through, tying another throw. 3rd throw: Tie this throw in a clockwise direction in a similar manner to the 1st. However, only wrap the thread once around the needle holder.			
xiv. xv.	Once you have completed the three throws, you should have a strong surgical knot. Try to position the knot on one side of the wound. Next, cut both ends of the suture such that there is 5mm of thread on either side. This is so that it is easy to identify the suture. Insert more sutures as required about 5-10mm apart. Once you are finished, dispose of the needle in the sharps bin.			
xvi.	Press lightly on the sides of the wound to stop any bleeding. Once satisfied, remove the drape and your gloves. Arrange for the wound to be dressed using a non-adherent dressing.			
SKILL/ACTIVITY PERFORMED SATISFACTORILY				
Signatures of Supervisor				

HEAD AND NECK, SPECIAL SENSES MODULE		
Objectives	**Skill**	**Miller's Pyramid Level Reflected**
Examination of the nose	Nasal examination	Shows
Examination of neck lumps	Neck lump examination	Shows

- These skills are at the 'Knows how' level of the miller's pyramid, meaning thereby that students need not perform them themselves but may develop a perception regarding them by observing performance/working on simulated patients/facilitation with videos.

Place a **"✓"** in case box if step/task is performed satisfactorily, an **"X"** if it is not performed satisfactorily, or **N/O** if not observed.

Satisfactory: Performs the step or task according to the standard procedure or guidelines

Unsatisfactory: Unable to perform the step or task according to the standard procedure or guidelines

Date Observed: _____

CHECKLIST FOR EXAMINATION OF THE NOSE **(Some of the following steps/tasks should be performed simultaneously.)**	**CASES** **(Minimum 3 Entries)**		
STEP/TASK			
THE PROCEDURE: 1. Explain the procedure to the patient and get a verbal consent to proceed.			
Inspection: 2. Inspect the external surface of the nose from the front, side and behind the patient to identify any abnormalities.			
3. Skin changes: I. Inspect for skin lesions: i. Basal cell carcinoma: pearly lesions with telangiectasia and rolled edges. ii. Squamous cell carcinoma: scaly lesions, sometimes with associated ulceration and hyperpigmentation. iii. Keratoacanthoma: raised lesions with a core of scaly keratin.			
II. Deformity i. Inspect for any deviation in the nasal bones or cartilage suggestive of a fracture. This is best performed by standing behind the patient with their head tilted slightly backwards.			
III. Palpation: i. Warn the patient that you will be applying some pressure to their nose and ask them to let you know if they experience any pain.			

4. Palpate the nasal bones assessing: i. Alignment ii. Tenderness iii. Irregularity (suggestive of fracture)			
5. Palpate the nasal cartilage assessing: i. Alignment ii. Tenderness			
6. Palpate the infraorbital ridges and assess eye movement if there is a history of trauma to screen for an orbital blowout fracture**.**			
*An orbital blowout fracture is a fracture of the orbital floor or medial wall resulting from blunt trauma to the eye socket (e.g., tennis ball). Typical findings on clinical examination include infraorbital tenderness, epistaxis and restricted eye movement (usually on vertical gaze).			
7. The correct method for using a nasal speculum is slightly counter-intuitive, however, it does allow the best visualization of the nasal mucosa: i. Insert your index finger into the bend of the speculum and support it above with the thumb. ii. The middle and ring fingers are used to manipulate the prongs of the speculum. iii. You will be aiming to look at the gap between these two fingers. iv. Press the prongs of the speculum together to allow them to be placed within the nostril and then reduce your grip on the speculum to widen the prongs until an optimal view of the nasal cavity is achieved.			
a) Nasal vestibule: inspect for inflammation, ulceration or oedema affecting the nasal mucosa. b) Nasal septum: note any polyps, deviation, perforation, haematoma, superficial vessels or areas of cautery. c) Inferior turbinates: note any asymmetry, inflammation or polyps.			
8. Place a cold shiny surface, such as a metal tongue depressor under the nose.			
9. Observe for misting of the metal surface as the patient			

breathes and compare the misting pattern of the two nostrils.			
SKILL/ACTIVITY PERFORMED SATISFACTORILY			
Signatures of Supervisor			

Place a **"✓"** in case box if step/task is performed satisfactorily, an **"X"** if it is not performed satisfactorily, or **N/O** if not observed.

Satisfactory: Performs the step or task according to the standard procedure or guidelines

Unsatisfactory: Unable to perform the step or task according to the standard procedure or guidelines

Date Observed: _____

CHECKLIST FOR EXAMINATION OF NECK LUMPS **(Some of the following steps/tasks should be performed simultaneously.)**	**CASES** **(minimum 2 entries)**		
STEP/TASK			
THE PROCEDURE:			
1. Explain the procedure to the patient and get a verbal consent to proceed.			
2. Inspect the patient, looking for clinical signs suggestive of underlying pathology: i. Scars: may indicate previous neck surgery (e.g. thyroidectomy, lymph node biopsy/excision, radiotherapy related scarring). ii. Cachexia: ongoing muscle loss that is not entirely reversed with nutritional supplementation. Cachexia is commonly associated with underlying malignancy. iii. Hoarse voice: caused by compression of the larynx due to thyroid gland enlargement (e.g. thyroid malignancy). iv. Dyspnoea or stridor: may indicate compression of the upper respiratory tract by a neck mass. v. Behaviour: anxiety and hyperactivity are associated with hyperthyroidism (due to sympathetic overactivity). Hypothyroidism is more likely to be associated with low mood. vi. Clothing: may be inappropriate for the current temperature. Patients with hyperthyroidism suffer from heat intolerance whilst patients with hypothyroidism experience cold intolerance. vii. Exophthalmos: bulging of the eye anteriorly out of the orbit associated with Graves' disease.			
3. Ask the patient to point out the neck lump's location if relevant. i. Inspect the neck lump from the front and side**,** noting			

its location (e.g. anterior triangle, posterior triangle, midline).

4. If a midline mass is identified during the initial inspection, perform some further assessments to try and further narrow the differential diagnosis.

Swallowing

Ask the patient to swallow some water and observe the movement of the mass:

i. Thyroid gland masses (e.g. a goitre) and thyroglossal cysts typically move upwards with swallowing.
ii. Lymph nodes will typically move very little with swallowing.
iii. An invasive thyroid malignancy may not move with swallowing if tethered to surrounding tissue.

Tongue protrusion

Ask the patient to protrude their tongue:

i. Thyroglossal cysts will move upwards noticeably during tongue protrusion.
ii. Thyroid gland masses and lymph nodes will not move during tongue protrusion.

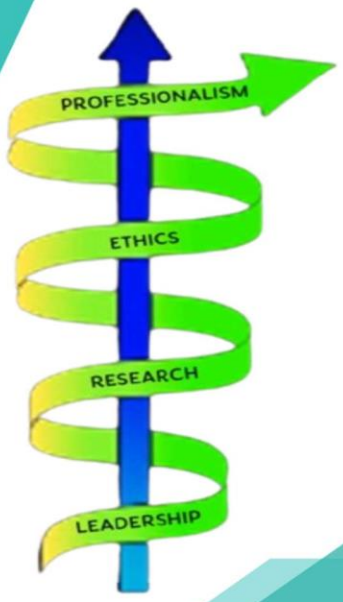
Further Assessment

i. If you identify a midline neck lump or systemic signs indicative of thyroid disease, ask the examiner if a full thyroid status examination should be performed.

5. Palpate the neck lump assessing the following:

i. Site: assess the lump's location in relation to other anatomical structures (e.g. anterior triangle, posterior triangle, midline).
ii. Size: assess the size of the lump.
iii. Shape: assess the lump's borders to determine if they feel regular or irregular.
iv. Consistency: determine if the lump feels soft (e.g. cyst), hard (e.g. malignancy) or rubbery (e.g. lymph node).
v. Mobility: assess if the lump feels mobile or is tethered to other local structures. Asking the patient to turn their head as you palpate, the mass can reveal if it is tethered to the underlying muscle (e.g. malignant tumour).
vi. Fluctuance: hold the lump by its sides and then apply pressure to the centre of the mass with another finger. If the mass is fluid-filled (e.g. cyst) then you should feel the sides

bulging outwards. vii. Temperature: increased warmth may suggest an inflammatory or infective cause (e.g. infected epidermoid cyst). viii. Overlying skin changes: note any overlying skin changes such as erythema (e.g. inflammatory/infective aetiology) or a punctum (a pore in the epidermis indicative of an underlying epidermoid cyst). ix. Pulsatility: suggests vascular origin (e.g. carotid body tumour, aneurysm). x. Tenderness: may indicate infective and/or inflammatory aetiology (e.g. ruptured epidermoid cyst, infected cyst). Other characteristics of the lump may include: i. Transillumination: apply a light source to the lump, if it is illuminated it suggests the lump is fluid-filled (e.g. cystic hygroma). ii. Vascular bruit: auscultate the lump to listen for a bruit suggestive of vascular aetiology (e.g. carotid artery aneurysm).			
6. Assess cervical lymph nodes and thyroid gland as explained in previous checklists			
7. Assess the submandibular gland if a swelling is found in that area. Each submandibular gland can be palpated inferior and posterior to the body of the mandible. Move inwards from the inferior border of the mandible near its angle with the patient's head tilted forward. To assess the gland thoroughly, you should perform bimanual palpation with one gloved finger palpating the floor of the mouth whilst the other palpates externally underneath the mandible**.** ❖ Submandibular gland swellings are usually singular, whereas lymphadenopathy typically involves multiple nodes). Salivary duct calculi are relatively common and may be felt as a firm mass within the gland.			
SKILL/ACTIVITY PERFORMED SATISFACTORILY			
Signatures of Supervisor			



MODULAR INTEGRATED CURRICULUM 2K23

Version 2.0

PERLs

PROFESSIONALISM, ETHICS RESEARCH, LEADERSHIP SKILLS

BLOCK-5

Code	Domain	Attribute	Specific Learning Outcome	Topic	Portfolio Entry
PERLs-2-09	Professionalism	Responsible & Accountable	Write an anonymous report on a cheating incident in class during last year	Anonymity Misconduct	Report
PERLs-2-10			Actively demonstrate engagement in co-curricular and extracurricular activities	Advantages of co-curricular and extra-curricular activities in development of personality and social skills	Participating or organizing certificate in any of the activities
PERLs-2-11		Communicator	Write a dialogue between a senior doctor and a patient	Structure of a dialogue Formatting of a dialogue Role of a dialogue in creative writing	Dialogue
PERLs-2-12		Caring & Empathic	Demonstrate respect of diversity in children with disabilities	Special needs of children with disabilities Laws and regulations for supporting persons with disabilities The government facilities for children with disabilities Daily routine of the deaf and dumb children	Visit to an institution of deaf and dumb children and reflecting on the experience in terms of interacting with them
PERLs-2-13	Ethics	Ethical Practitioner	Obtain Informed Consent from a stable patient	Informed consent Designing an informed consent form	Teacher marked proforma of informed consent for taking blood pressure, temperature or pulse rate from a stable patient
PERLs-2-14	Research	Evidence Based	Develop the summary table of all the studies	Research designs Study types	Summary table of at least seven

		Researcher	identified after literature review on the topic	Hierarchy of evidence Critical appraisal	articles relevant to the problem
PERLs-2-15	Leadership	Self-Directed Learner	Set and track learning and improvement goals	Goal setting and Action planning in areas of research and biomedical ethics	Written Goals and action plan with milestones

Department of Medical Education & International Linkages

University of Health Sciences
Lahore

Innovating & Strategizing Healthcare Academia