



Modular Integrated Curriculum 2K23 MBBS Year-02

BLOCK-5





بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



BLOCK-5
STUDY GUIDE (2026)
2nd YEAR MBBS

ISLAM MEDICAL COLLEGE
SIALKOT–PAKISTAN

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BLOCK-5 LEAD DETAILS

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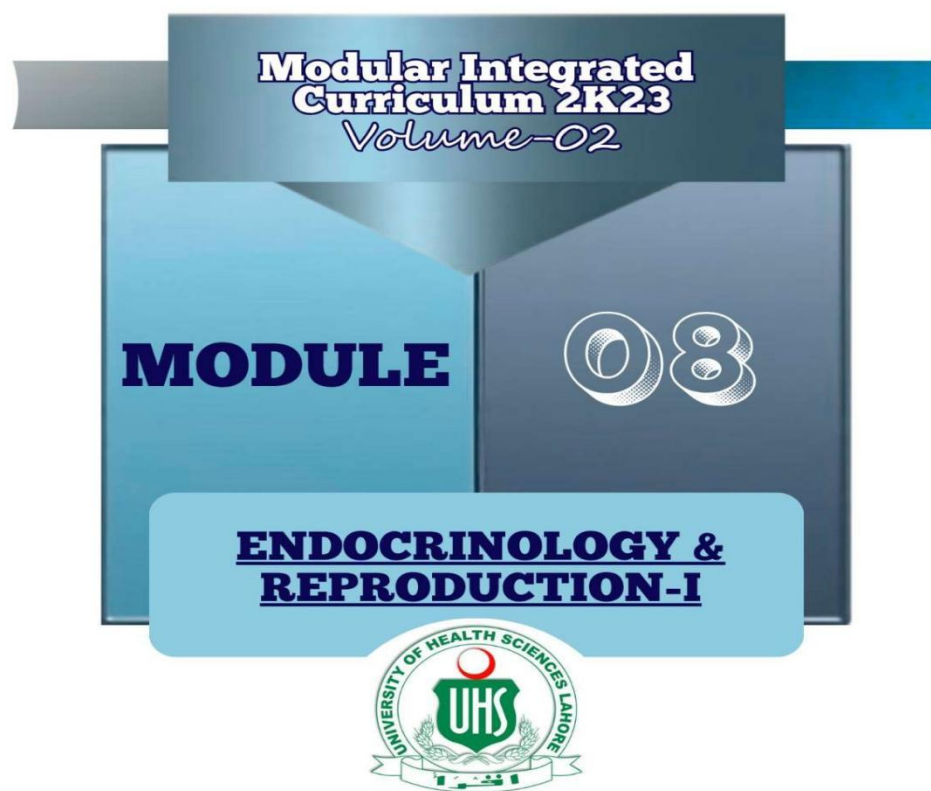
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MODULE RATIONALE

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.

The University of Health Sciences Vision

UHS is a leading University aiming to keep its graduates apt with the ever-emerging global health challenges, evolving educational methodologies and emerging technological advancements to maintain its distinguishable position as a Medical University. (<https://www.uhs.edu.pk/vision-mission.php>)

Islam Medical College Vision and Mission

VISION

“To be a globally recognized center of excellence, where Islam Medical College empowers competent and ethical healthcare professionals through holistic education, innovative teaching, and groundbreaking research.”

MISSION

“Islam Medical College is dedicated to comprehensive medical education that instills values of integrity, empathy, and professionalism. We empower our students with knowledge, skills, and a patient-centered attitude for lifelong learning”.

Curricular Outcomes (PLOs)

The PLOs are articulated in view of the desirable competencies of our graduates. Following are the PLOs of MBBS Program desired to highlight the attributes amongst our graduates after their graduation

PLO-1 Demonstrate the ability to independently manage non-critical clinical problems (Knowledge, Skill)

PLO-2 Exhibit proficiency in life-saving procedures and the ability to assist in the management of critically ill patients. (Skill)

PLO-3 Adhere to ethical principles and display attributes such as honesty, integrity, and confidentiality. (Attitude)

PLO-4 Conduct research that contributes to the advancement of medical knowledge and brings relevance to healthcare practices (Knowledge, Skill)

PLO-5 Act as an efficient community health promotor by advocating for health promotion and disease prevention. (Skill)

PLO-6 Exhibit comprehensive scientific knowledge in all professional activities. (Knowledge)

PLO-7 Demonstrate clear and efficient written and verbal communication skills to effectively communicate with patients, colleagues and other healthcare professionals. (Skills, Attitude)

PLO-8 Embrace a lifelong learning mind set to maintain expertise, keep up with advancements in medical practices and improve professional development. (Knowledge, Skill)

MODULE OUTCOMES

- Explain Development, structure, hormones and regulation of pituitary gland, thyroid gland, parathyroid gland, endocrine pancreas, adrenal glands, testes and ovaries. **PLO-1, PLO-2, PLO-6**
- Describe the etiology, pathophysiology, relevant clinical features and common investigations of disorders of these glands. **PLO-5, PLO-7**
- Apply levels of prevention for common endocrinal public health issues in Pakistan. **PLO-4, PLO8**
- Elaborate events in normal pregnancy and principles of genetics. **PLO-5, PLO-7**

THEMES

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

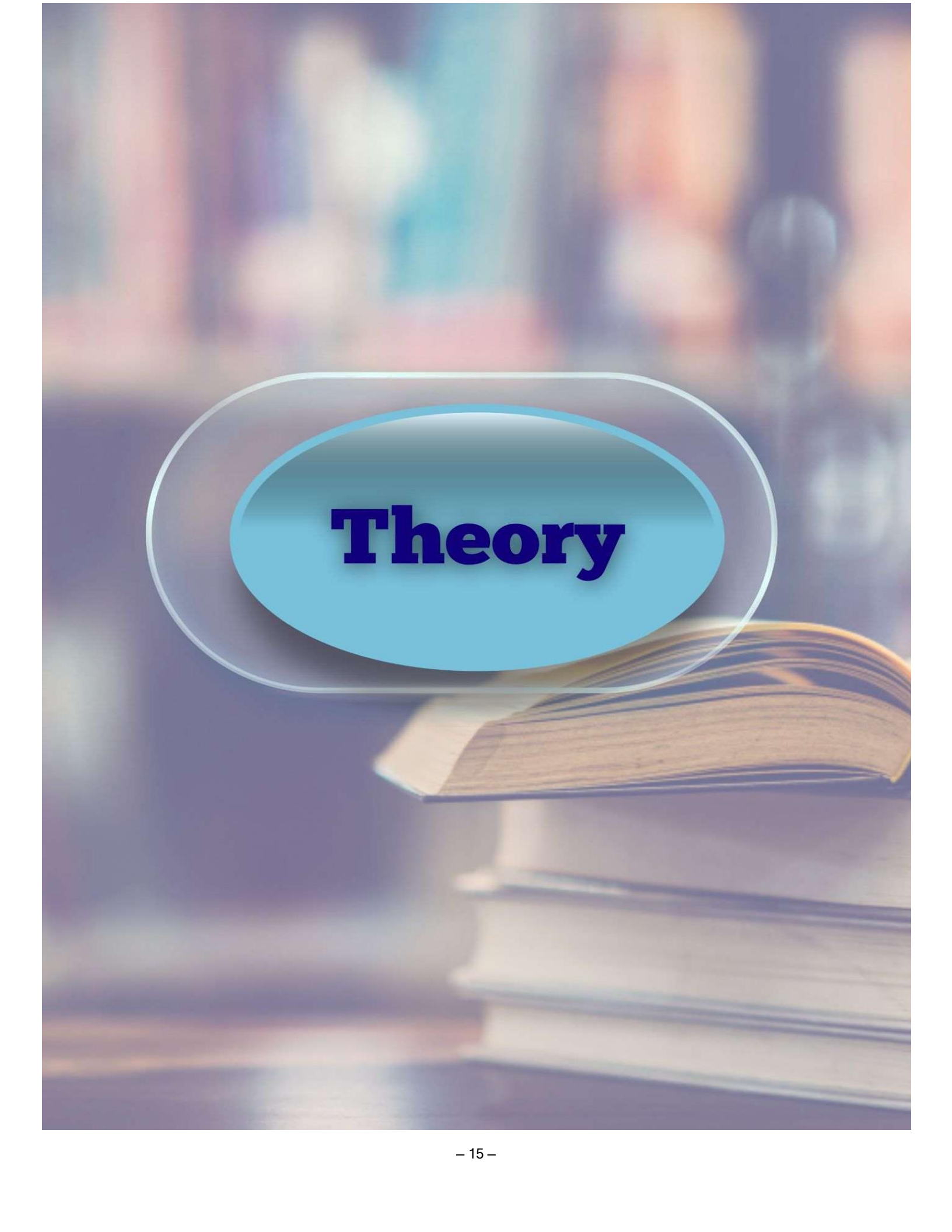
CLINICAL RELEVANCE

- 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.





Theory

NORMAL STRUCTURE

GROSS ANATOMY

CODE	SPECIFIC LEARNING OUTCOMES	TOTAL HOURS = 35			
		DISCIPLINE	TOPIC	Teaching/ learning method	Assessment Tools
EnR-A-001	Describe the location, anatomy blood supply and functions of pituitary gland	Anatomy	Diencephalon (Endocrinology)	LGIS/SGD	MCQS/ VIVA
EnR-A-002	Describe the Thyroid, Parathyroid with their type, Relations, blood supply, and nerve supply.	Anatomy	Thyroid & Parathyroid gland	LGIS/SGD	MCQS / VIVA
	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	LGIS/SGD	
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	LGIS/SGD	

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	LGIS / SGD	
	Describe the anatomical basis of vasectomy,& metastasis of cancer of testis and scrotum	Anatomy			
EnR-A-007	Describe shape, relations blood supply & nerve supply of suprarenal gland	Anatomy	Supra-Renal Gland	LGIS/ SGD	
	Explain the anatomical causes of Adrenal Abnormalities	Anatomy			
EnR-A-008	Define Bony Pelvis (Girdle) and describe the structures forming it.	Anatomy	Pelvic Girdle	LGIS/ SGD	
	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	LGIS/ SGD	
EnR-A-010	List the contents of True and False Pelvis	Anatomy	Bony Pelvis (Girdle)	LGIS/ SGD	
	Tabulate the differences between male and female pelvis	Anatomy			
	Describe different types of pelvises	Anatomy			
	Describes different diameters of pelvis and their	Anatomy (Obs & Gynae)			

	application in obstetric practice				
EnR-A-011	Describe the anatomical basis of pelvic fractures and their consequences	Anatomy	Pelvic Girdle	LGIS/ SGD	
	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	LGIS/ SGD	
	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	LGIS/ SGD	
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		
	Describe the origin, course, branches and distribution of common iliac artery	Anatomy		LGIS/ SGD	

EnR-A-020	Describe the origin, course, branches and distribution of external and internal iliac arteries	Anatomy	Pelvic Vessels		
	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		LGIS/SGD	
	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	LGIS/SGD	
	Tabulate the parts of the male urethra with their location and salient features	Anatomy			
	Describe the clinical picture and anatomical justification for Ureteric Calculi, Cystocele, Suprapubic Cystotomy, Rupture of Bladder	Anatomy			
	Describe the clinical picture and anatomical justification for	Anatomy			

	Hypertrophy of Prostate				
	Describe the gross anatomical features of Ovaries and Fallopian Tubes with their relations, blood supply, nerve supply and lymphatic drainage	Anatomy			
	Describe related clinical conditions: 1) Positions of ovaries 2) Cysts of ovaries 3) Ectopic pregnancy 4) Tubal ligation 5) Salpingitis				
	Describe the gross anatomical features, parts, peritoneal ligaments, blood supply, nerve supply & lymphatic & clinical aspects of Uterus and Vagina	Anatomy			
	Describe related clinical conditions 1. Prolapse of uterus 2. Vaginal trauma 3. culdocentesis				
	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	LGIS/SGD	
	Draw and label the boundaries of perineum	Anatomy			
	List the contents of perineum	Anatomy			
	Tabulate the differences between the Male and female perineum	Anatomy			
	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	Anatomy			
	Tabulate the muscles forming the perineal body with their attachments and nerve supply	Anatomy			
EnR-A-025	Describe the clinical presentation of 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	LGIS/ SGD	
EnR-A-026	Describe the extent, structure, vascular supply, lymphatic drainage of Breast (Mammary Glands)	Integrate with Medicine	Mammary Gland		
	Demonstrate palpation of breast and define its relation to the Fibrous septa in Carcinoma of Breast	Integrate with Surgery			
	Explain the anatomical basis of position adopted for breast examination and mammography.	Integrate with Radiology			

EMBRYOLOGY & POST-NATAL DEVELOPMENT

COD E	SPECIFIC LEARNING OUTCOMES	TOTAL HOURS = 14			
		DISCIPLINE	TOPIC		
EnR-A-027	Describe the development of Thyroid gland	Anatomy	Development of Thyroid gland	LGIS/SGD	
	Explain the embryological basis of the Thyroglossal Cyst				
EnR-A-028	Describe the development of para-thyroid glands		Development Of Parathyroid glands		
EnR-A-029	Anatomically justify the clinical presentation of: 1. Ectopic Parathyroid 2. Aberrant Thyroid	Anatomy	Development of Thyroid, Parathyroid		
EnR-A-030	Describe the development of pituitary gland Describe the embryological basis for the congenital anomalies of pituitary development	Anatomy	Development of Pituitary Gland	LGIS/SGD	
EnR-A-031	Describe the contributing factors, histogenesis and the development of adrenal gland	Anatomy	Development Of Adrenal Gland		
	Describe the embryological basis for the congenital anomalies of adrenal development	Anatomy			
EnR-A-032	Identify the stages in the development of the adrenal gland	Anatomy	Adrenal Gland		
EnR-A-033	Describe the indifferent gonads	Anatomy	Development of Reproductive system		
	List and describe the Factors influencing the differentiation of gonads			LGIS/SGD	
	Evaluate the role of the factors influencing Sex determination and differentiation				
	Describe the Development and descent of testis	Anatomy			

EnR-A-034	Describe the embryological basis and locations of undescended testes	Anatomy	Testis		
EnR-A-035	Explain the Development and descent of ovaries	Anatomy	Development of Reproductive system		
	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			
	Development of Mammary gland. Describe related clinical anomalies.				
	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 Bicornis 4) Uterus Bicornis Unicollis	Anatomy			

	5) Uterus Unicornis 6) Atresia of vagina 7) Double vagina 8) Imperforate hymen				
	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	Anatomy			

	external genitalia (Hyposidiasis, Epispidiasis)				
	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			
MICROSCOPIC STRUCTURE (HISTOLOGY & PATHOLOGY)					
CODE	SPECIFIC LEARNING OUTCOMES	TOTAL HOURS = 14			
		DISCIPLINE	TOPIC		
EnR-A-036	Describe the histological basis and manifestation of Gastric Carcinoid Tumors	Anatomy/ Pathology	Stomach	LGIS/ SGD	
	Classify the principal Enteroendocrine Cells on the basis of type, location, hormone produced and Actions	Anatomy			
EnR-A-037	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-038	Describe the light microscopic structure of Adrenal Gland	Anatomy	Adrenal Gland		
	Explain the histological basis and manifestation of Addison disease	Anatomy			
	Describe the light microscopic structure of endocrine pancreas	Anatomy			

EnR-A-039	Classify the pancreatic islets on the basis of cell type, hormone produced and functions	Anatomy	Pancreas		
	Explain the histological basis and manifestation of Diabetes Mellitus	Anatomy			
	Explain the components and functions of neuroendocrine system	Anatomy			
EnR-A-040	Describe the light microscopic structure of Thyroid Gland	Anatomy	Thyroid Gland		
	Describe the light microscopic structure of Parathyroid Gland	Anatomy		LGIS/SGD	
	Describe the light microscopic structure of Pineal gland	Anatomy			
EnR-A-041	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-042	Describe the light microscopic structure of Epididymis	Anatomy	Epididymis		
EnR-A-043	Describe the light microscopic structure of vas deferens	Anatomy	Vas deferens		
EnR-A-044	Describe the light microscopic structure of seminal vesicle	Anatomy	Seminal Vesicle		
EnR-A-045	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-046	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	Anatomy Pathology			

	Syndrome				
	Discuss the light microscopic structure of uterus	Anatomy	Uterus		
EnR-A-047	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-048	Describe the light microscopic structure of Fallopian Tube.	Anatomy	Fallopian Tube	LGIS/SGD	
EnR-A-049	Describe the light microscopic structure of Cervix	Anatomy	Cervix		
	Describe the histological basis and manifestation of Cervical Carcinoma	Anatomy Pathology			
EnR-A-050	Describe the light microscopic structure of Vagina	Anatomy	Vagina		
EnR-A-051	Describe light microscopic structure of mammary gland (inactive, during pregnancy, after lactation) Discuss histological basis of Breast cancer	Anatomy pathology	Mammary Gland		
NORMAL FUNCTION					
MEDICAL PHYSIOLOGY					
CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 60			
		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. 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.	Physiology	Introduction to Endocrinology	LGIS/SGD	
	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-002	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- hypophyseal 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. 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.	Physiology	Hypothalamus / Pituitary Gland	LGIS/SGD	
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	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-003	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	LGIS/SGD	

	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 signs and symptoms of hypothyroid patient. 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				
	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 dehydrogenase isoform. Explain the mechanism for regulation of glucocorticoid secretion by hypothalamus and pituitary			LGIS/ SGD	

EnR-P-004	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 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.	Physiology & Pathology	Adreno cortical hormones		
EnR-P-005	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.	Physiology	Pancreatic hormones	LGIS/SGD	
	Enlist the actions of insulin on liver, adipose tissue and skeletal muscle. Enlist the factors and conditions that increase or decrease insulin secretion.				

	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-006	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 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	Physiology	Abnormalities of Glucose regulation	LGIS/SGD	
EnR-P-007	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	LGIS/SGD	

EnR-P-008	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	Physiology	Regulation of calcium in body		
	Explain the causes and the features of primary and secondary hyperparathyroidism Enumerate the causes and features of osteoporosis				
EnR-P-009	Enlist the functions of adrenal medullary hormones and explain pheochromocytoma	Physiology	Adreno medullary hormones	LGIS/SGD	
EnR-P-010	Describe the hormonal factors Explain the maturation and storage 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-	Discuss the site of secretion of testosterone Name the active form of testosterone Explain the production of estrogen in males Describe the basic intracellular mechanism of action of	Physiology	Testosterone	LGIS/SGD	

011	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-012	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 endometrial cycle	Physiology	Menstrual cycle		
	Explain the regulation of female monthly cycle Discuss the role of progesterone on female sexual organs				
EnR-P-013	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	LGIS/SGD	

EnR-P-014	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-015	Explain the non-hormonal functions of placenta 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	Physiology	Normal Pregnancy		
EnR-P-016	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		
EnR-P-017	Describe the circulatory & respiratory changes at birth	Physiology	Neonatal Physiology		
MEDICAL BIOCHEMISTRY					
CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 32			
		DISCIPLINE	TOPIC		

EnR-B-001	Describe the features of Signal transduction Describe different types of receptors	Biochemistry	Signal Transduction	LGIS/SGD	
EnR-B-002	Discuss the classification of hormones	Biochemistry	Classification of hormones		
EnR-B-003	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	Biochemistry			

	carbohydrate, protein and lipid metabolism				
	Interpret disorders of hormones on the basis of sign, symptoms and given data	Biochemistry			
EnR-B-004	Explain the synthesis, secretion, transport and clearance of steroid and protein hormones.	Biochemistry	Synthesis of Hormones		
EnR-B-005	Enlist the steps in the synthesis of adrenocortical hormone. Explain the synthesis and secretion of ACTH	Biochemistry	Synthesis of ACTH & adrenocortical		
	(Adrenocorticotrophic hormone) in association with melanocyte-stimulating hormone, lipotropin, and endorphin.			LGIS/ SGD	
EnR-B-006	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-007	Discuss the role of steroid hormones in oral contraception, Infertility	Biochemistry	Steroid in infertility		
EnR-B-008	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-009	Discuss the structures of genes, how they are organized and regulated.	Biochemistry	Genes		
EnR-B-010	Describe Mendelian Law of Segregation and Law of Independent Assortment.	Biochemistry	Mendelian laws		
EnR-B-011	Describe the patterns of inheritance characteristic of autosomal dominant, autosomal recessive, X-linked dominant, X-linked recessive and mitochondrial traits.	Biochemistry	Patterns of inheritance	LGIS/SGD	
EnR-B-012	Interpret genetic symbols as they appear in pedigrees.	Biochemistry	Pedigrees		
EnR-B-013	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-014	Discuss different structural and numerical chromosomal abnormalities.	Biochemistry	Chromosomal abnormalities		
EnR-B-015	Interpret the normal human karyotype in terms of number and structure of chromosomes.	Biochemistry	Karyotypes		
EnR-B-016	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	LGIS/SGD	

EnR-B-017	Discuss the concept of central dogma from gene to protein	Biochemistry	Central dogma		
EnR-B-018	Describe in detail all the steps in prokaryotic DNA replication with emphasis on: Different proteins required, Primers, DNA polymerase; their different components and functions, Initiation, elongation and termination of replication, Topoisomerases	Biochemistry	Prokaryotic DNA replication		
EnR-B-019	Describe in detail all the steps in Eukaryotic DNA replication with emphasis on differences between Pro- and Eukaryotes	Biochemistry	Eukaryotic DNA replication		
EnR-B-020	Discuss telomeres and Telomerase and their clinical significance		Telomeres and Telomerase		
EnR-B-021	Describe DNA repair, mutation and cancers		DNA Repair		
	Interpret Xeroderma pigmentosa on basis of sign /symptoms and data				
EnR-B-022	Explain the transcription in prokaryotes focusing on the following key points; RNA polymerase, its components and functions, Initiation, elongation and termination of transcription.		Transcription in prokaryotes	LGIS/SGD	
EnR-B-023	Illustrate the transcription in eukaryotes focusing on the differences between pro- and eukaryotic replication		Transcription in Eukaryotes		
EnR-B-024	Discuss post transcriptional modifications		post transcriptional modifications		
EnR-B-025	Describe the role of Wobble hypothesis in codon recognition by tRNA		Wobble hypothesis		

EnR-B-026	Interpret the translation focusing on the following key points: Initiation, elongation and termination	Biochemistry	Translation		
EnR-B-027	Describe Post-translational modification of proteins				
	Illustrate RNA dependent synthesis of RNA and DNA	Biochemistry	Post-translational modification		
EnR-B-028	Discuss the gene expression especially Lac operon and Tryptophan operon		Gene Expression	LGIS/ SGD	
	Discuss the regulation of eukaryotic gene expression with special emphasis on iron metabolism and RNA interference	Biochemistry			
EnR-B-029	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		

PATHOPHYSIOLOGY AND PHARMACOTHERAPEUTICS

CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 02			
		DISCIPLINE	TOPIC		
EnR-Ph-001	Classify drugs that mimic or inhibit hypothalamic and pituitary hormones. Explain their mechanism of action. Enumerate their clinical uses and potential adverse effects.	Pharmacolo	Hypothalamic and Pituitary hormones	LGIS	

EnR-Ph-002	Classify drugs that mimic or inhibit gonadal hormones and explain their mechanism of action. Enumerate their clinical uses and potential adverse effects.	gy	Gonadal Hormones		
PATHOLOGY					
CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 12			
		DISCIPLINE	TOPIC		
EnR-Pa-001	Enumerate clinical manifestations along with hormone levels of anterior pituitary	Pathology	Pathology of Anterior Pituitary Gland	LGIS	
	Classification of pituitary adenomas				
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	Define thyroiditis Describe salient morphological features of clinically significant subtypes of thyroiditis: i. Hashimoto Thyroiditis ii. Granulomatous Thyroiditis	Pathology	Thyroiditis	LGIS	
EnR-Pa-004	Describe the pathogenesis & salient morphological features of Grave's Disease Describe the pathogenesis & salient morphological features of Diffuse and Multinodular goiter	Pathology	Grave's Disease		
EnR-Pa-005	Enumerate causes of hypo and hyperthyroidism along with levels of thyroid hormones	Pathology	Pathology of Thyroid Gland		

EnR-Pa-006	Enumerate causes of hypercalcemia, Describe the histopathological features of parathyroid hyperplasia and adenoma	Pathology	Pathology of Parathyroid Gland		
EnR-Pa-007	Give etiological Classification of DM (Diabetes Mellitus) Give 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-008	Enumerate causes of Cushing syndrome with lab investigations Enlist causes and clinical features of adrenocortical insufficiency (Addison disease)	Pathology	Pathology of Adrenal Gland		
EnR-Pa-009	Describe the morphological features of inflammatory disorders of breast.		Breast		
EnR-Pa-010	Enumerate the infectious agents that cause the lower genital tract infections and PID's along with lab investigations	Microbiology	Female Reproductive Pathology		
	Enumerate causes of infertility in females along with hormonal investigations Enlist causes of dysfunctional uterine bleeding with histopathological features Discuss pathophysiology and lab diagnosis of eclampsia and preeclampsia Enlist sites of abnormal placental implantations (ectopic pregnancy)	Pathology			

EnR-Pa-011	Enumerate causes of inflammation of male genital tract Enlist causes of male infertility with semen analysis Describe pathological features of testicular torsion	Pathology	Male Reproductive Pathology		
DISEASE PREVENTION & IMPACT					
CODE	COMMUNITY MEDICINE	TOTAL HOURS = 05			
	SPECIFIC LEARNING OBJECTIVES	DISCIPLINE	TOPIC		
EnR-CM-001	Define Diabetes Mellitus according to WHO (World Health Organization) criteria Classify types of Diabetes Mellitus Describe epidemiological risk factors for Diabetes Epidemiological distribution & statistics of DM Screening of community for Diabetes Apply levels of prevention for control of Diabetes.	Community Medicine and Public Health	Diabetes	LGIS	
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	LGIS	

EnR-CM-003	Define women health and life cycle approach for health- related events. Highlight statistics related to human reproductive health issues.	Community Medicine	Reproductive health		
	Enumerate health related problems across a woman’s reproductive lifetime. Explain the components of reproductive health.				
CODE	BEHAVIORAL SCIENCES	TOTAL HOURS = 1			
	SPECIFIC LEARNING OBJECTIVES	DISCIPLINE	TOPIC		
EnR-BhS-001	Discuss common sexual dysfunctions and 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	LGIS	

AGING					
CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 01			
		DISCIPLINE	TOPIC		
EnR-Ag-001	Enlist the changes that occur in female body after menopause.	Gynae/ OBS	Menopause		

The background of the slide is a blurred laboratory setting. On the left, a portion of a microscope is visible. On the right, a hand wearing a blue nitrile glove holds a test tube with a blue cap. Below the hand, a white test tube rack holds several other test tubes, some containing red liquid. The overall color palette is light blue and white.

Practicals

PRACTICAL

HISTOLOGY

CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 11			
		DISCIPLINE	TOPIC		
EnR-A-052	Identify draw & Label the Pituitary gland under light microscope	Anatomy	Pituitary gland	Practical	Ospe
EnR-A-053	Identify draw & label the Thyroid & Parathyroid glands under light microscope	Anatomy	Thyroid & Parathyroid		
EnR-A-054	Identify draw & Label the Adrenal gland under light microscope	Anatomy	Adrenal Gland		
EnR-A-055	Identify draw & Label Testes, Epididymis & Vas deferens under the light Microscope	Anatomy	Testes Epididymis Vas Deferens		
EnR-A-056	Identify draw & label the seminal vesicle & prostate gland under light Microscope	Anatomy	Seminal Vesicle Prostate Gland		
EnR-A-057	Identify, draw and label the ovaries under light microscope	Anatomy	Ovaries		
EnR-A-058	Identify, draw and label the slide of different phases of uterus under light microscope	Anatomy	Uterus		
EnR-A-059	Identify, draw and label the fallopian tube under light microscope	Anatomy	Fallopian Tube		
EnR-A-060	Identify, draw and label the cervix under light microscope	Anatomy	Cervix		
EnR-A-061	Identify, draw and label the vagina under light microscope	Anatomy	Vagina		
EnR-A-062	Identify, draw and label the mammary gland (different	Anatomy	Mammary		

	stages) under light microscope		gland		
BIOCHEMISTRY					
CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 06			
		DISCIPLINE	TOPIC		
EnR-B-030	Demonstrate DNA extraction	Biochemistry	DNA	practical	ospe
EnR-B-031	Demonstrate Gel Electrophoresis	Biochemistry	Electrophoresis		
EnR-B-032	Demonstrate PCR	Biochemistry	PCR		
EnR-B-033	Demonstrate ELISA (enzyme-linked immunoassay) to measure concentration of hormones	Biochemistry	ELISA		
PHYSIOLOGY					
CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 04			
		DISCIPLINE	TOPIC		
EnR-P-018	Perform Pregnancy test (urine+Blood)	Physiology	Pregnancy test		
	Interpret BetaHCG values to diagnose a normal pregnancy			practical	ospe
EnR-P-019	Diagram/flow chart showing the signs and symptoms of hypothyroidism./hyperthyroidism		Thyroid		
PHARMACOLOGY					
CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 02			
		DISCIPLINE	TOPIC		
En-R-Ph-003	Label the diagram/flow chart showing the synthesis and MOA of hypothalamic, pituitary and gonadal hormones.	Pharmacology	Hypothalamic and Pituitary and Gonadal Hormones	practical	ospe
PATHOLOGY					
		TOTAL HOURS = 15			

CODE	SPECIFIC LEARNING OBJECTIVES	DISCIPLINE	TOPIC		
EnR-Pa-012	Identify the salient microscopic features of	Pathology	Pituitary adenomas		
EnR-Pa-013	Identify the salient gross and microscopic features of Multinodular goiter	Pathology	Thyroid Disorders	practical	ospe
	Identify the salient gross and microscopic features of Diffuse & Multinodular Goiter				
	Identify the salient microscopic features of				

	i. Hashimoto Thyroid ii. Granulomatous Thyroid iii. Grave's Disease.				
	Interpretation of Thyroid Function Tests in Thyroid disorders				
EnR-Pa-014	Interpretation of causes of Hypercalcemia according to PTH levels		Parathyroid Disorders	Practical	ospe
	Identify the salient morphological features of Parathyroid hyperplasia				
EnR-Pa-015	Interpretation of BSF, GTT, and HbA1C to diagnose Diabetes Mellitus.		Diabetes Mellitus		
EnR-Pa-016	Interpretation of lab tests in diagnosing Cushing syndrome and Addison Disease.		Adrenal Disorders		
EnR-Pa-017	Discuss lab tests regarding:		Clinical chemistry Scenarios		
	i. Hyperthyroidism ii. Hypothyroidism iii. Diabetes mellitus iv. Diabetic ketoacidosis				

**Modular Integrated
Curriculum 2K23**
Volume-02

MODULE

09

**HEAD & NECK, SPECIAL
SENSES**



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. PLO-1
- 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. PLO1, PLO-2
- Demonstrate the clinical examination (simulation) skills necessary for the assessment of special senses, such as ophthalmoscopy, otoscopy, rhinoscopy, and vestibular testing. PLO-2
- Differentiate the differential diagnosis and options available for special senses conditions, including medical, surgical, and rehabilitative approaches. PLO-, PLO-6
- Illustrate awareness of the impact on overall health and well-being, the importance of preventing and early detection of related disorders. PLO-3
- Develop the ability to communicate effectively with patients and their families, including explaining diagnosis and treatment options, and providing emotional support. PLO-3, PLO-7
- Practice the attitude to work in a multidisciplinary team, collaborating with other healthcare professionals to provide comprehensive care for patients. PLO-3, PLO-7, PLO-8
- 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. PLO-5, PLO-3

THEMES

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

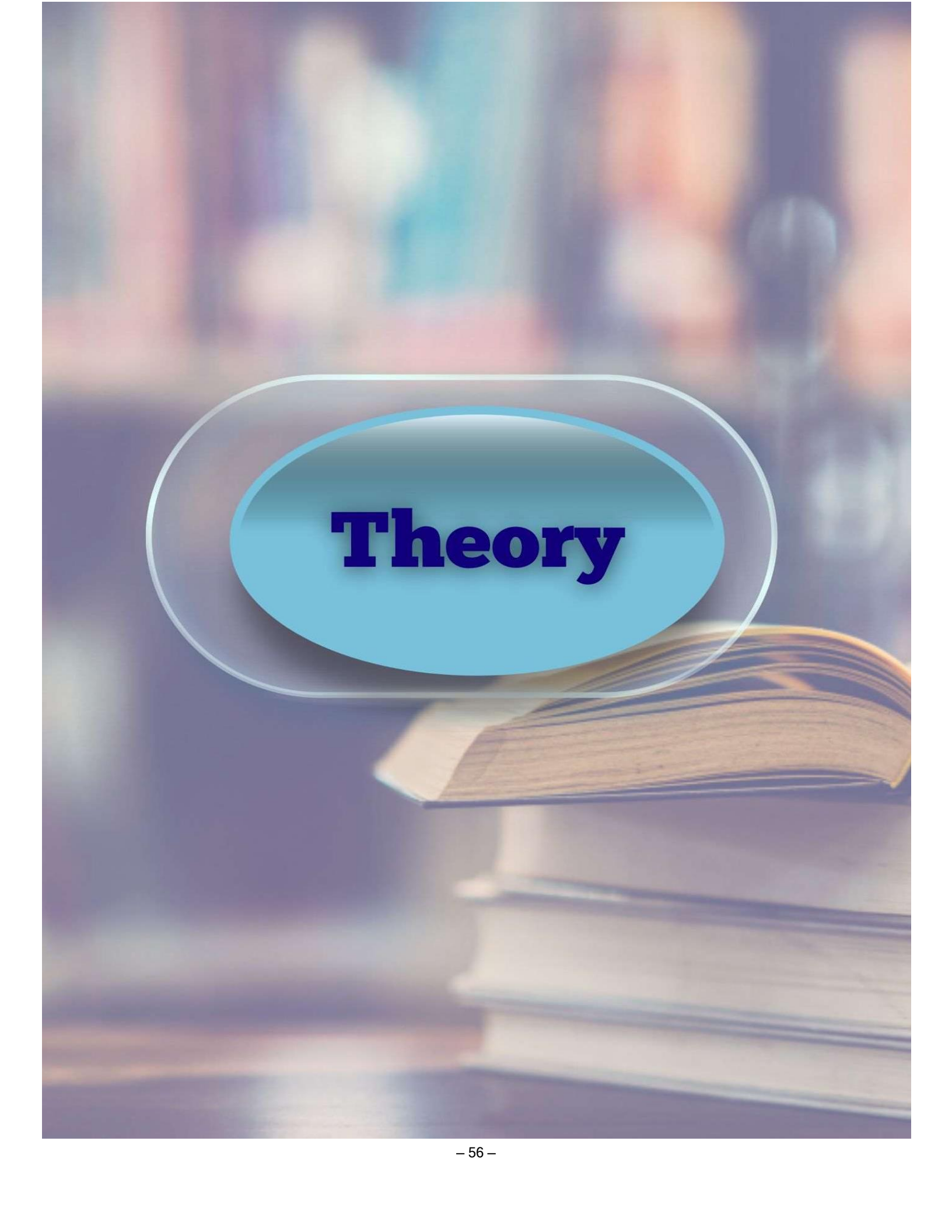
CLINICAL RELEVANCE

- 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.





Theory

NORMAL STRUCTURE					
GROSS ANATOMY					
CODE	SPECIFIC LEARNING OUTCOMES	TOTAL HOURS = 56			
		DISCIPLINE	TOPIC	Teaching / learning method	Assessment tools
HNSS-A-001	Define the boundaries and openings of orbital cavity. List orbital contents and structures traversing these openings.	Human Anatomy	Eye	LGIS/SGD	Viva/ospe
	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 pterygopalatine ganglion.	Human 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	Nose		
	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	Ear		
	Describe the parts, anatomical features and neurovascular supply of internal ear.	Human Anatomy			
	Describe the course and distribution of vestibulocochlear nerve mentioning the effects of its lesion. Describe auditory pathway.	Human Anatomy			
HNSS-A-004	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	Tongue		
	Describe the features of Norma Frontalis, Norma	Human			

HNSS-A-005	Verticalis, Norma Parietalis, Norma occipitalis and Norma Basalis	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 its clinical significance. Define the routes of spread of infection from face and scalp to intracranially.	Human Anatomy	Danger area		
	Describe the bony features and muscle attachment of mandible.	Human			

HNSS-A-010		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 the location, roots and distribution of otic and submandibular ganglia.	Human Anatomy	Otic and Submandibular ganglia.		
HNSS-A-012	Describe the anatomical features of Hyoid bone and give attachments on the bone.	Human Anatomy	Hyoid bone		
HNSS-A-013	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-014	List the prevertebral muscles of cervical region. Describe their attachments, actions and innervation.	Human Anatomy	Prevertebral muscles		
HNSS-A-015	Enumerate parts of deep cervical fascia with their respective extents, attachments, relations and contents.	Human Anatomy	Deep cervical fascia		
HNSS-A-016	Describe the facial spaces in head and neck mentioning their communications and their relation to spread of infection.	Human Anatomy	Facial spaces		
HNSS-A-	Describe the attachments, actions and nerve supply	Human Anatomy	Infrahyoid and suprahyoid		

017	of infrahyoid and suprahyoid muscles of neck.		muscles		
HNSS-A-018	Describe the location, formation and distribution of ansa cervicalis.	Human Anatomy	Ansa cervicalis.		
HNSS-A-019	Describe the attachments, actions and nerve supply of sternocleidomastoid and trapezius.	Human Anatomy	Sternocleidomastoid and trapezius		
HNSS-A-020	Describe the boundaries and contents of suboccipital, anterior and posterior triangles of neck.	Human Anatomy	Triangles of neck		
HNSS-A-021	Describe the cervical part of trachea and esophagus with their neurovascular supply.	Human Anatomy	Trachea and esophagus		
HNSS-A-022	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-023	Describe the carotid arteries mentioning their origin, course, branches, distribution and termination.	Human Anatomy	Carotid arteries		
HNSS-A-024	Describe carotid body and carotid sinus and give their clinical significance.	Human Anatomy	Carotid body		
HNSS-A-025	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-026	Name the superficial and deep cervical lymph nodes and give their location and drainage areas	Human Anatomy	Lymphatics		
HNSS-A-	Describe the location, formation, distribution and lesions of cervical plexus	Human Anatomy	Cervical plexus		

027					
HNSS-A-028	Name the pharyngeal constrictor muscles defining their attachments, innervation and structure traversing the gaps between adjacent muscles.	Human Anatomy	Pharynx		
HNSS-A-029	Name the parts of larynx giving their extent, anatomical features, musculoskeletal framework and neurovascular supply.	Human Anatomy	Larynx		
HNSS-A-030	Discuss the location, anatomical features, relations and vascular supply of tonsils: nasopharyngeal, palatine and lingual.	Human Anatomy	Tonsils		
EMBRYOLOGY & POST-NATAL DEVELOPMENT					
CODE	SPECIFIC LEARNING OUTCOMES	TOTAL HOURS = 15			
		DISCIPLINE	TOPIC		
HNSS-A-031	Describe the development of Skull	Embryology	Skull	LGIS/SGD	Ospe/ viva
HNSS-A-032	List the components of pharyngeal apparatus. Describe the development of pharyngeal arches, grooves, pouches derivatives and fate of each of them.	Embryology	Pharyngeal apparatus pharyngeal arches		
HNSS-A-033	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-034	Discuss the embryological basis of congenital anomalies related to the development of pharyngeal	Embryology	Congenital anomalies		

	arches, pharyngeal clefts and pharyngeal pouches: cervical sinus/fistula/cyst, 1 st arch syndrome, DiGeorge syndrome, congenital malformations of thymus and parathyroid glands				
HNSS-A-035	Describe the development of face and nasolacrimal duct and their respective congenital anomalies.	Embryology	Face and nasolacrimal duct		
HNS-A-036	Describe the development of nasal cavity and paranasal sinuses. Give the associated congenital anomalies.	Embryology	Nose		
HNSS-A-037	Describe the development of larynx.	Embryology	Larynx		
HNSS-A-038	Describe the development of lip associated congenital malformations.	Embryology	Lips and palate		
HNSS-A-039	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			
MICROSCOPIC ANATOMY (HISTOLOGY & PATHOLOGY)					
CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 08			
		DISCIPLINE	TOPIC		

HNSS-A-040	Describe the histological structure of layers of eyeball, eyelid and retina.	Histology	Eye	LGIS/SGD	Ospe /viva
	Describe the light and electron structure of cornea.	Histology			
HNSS-A-041	Describe the histological and ultramicroscopic structure of internal ear with special reference to Organ of Corti.	Histology	Ear		
NORMAL FUNCTION					
MEDICAL PHYSIOLOGY					
CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 30			
		DISCIPLINE	TOPIC		
HNSS-P-001	Define and describe the visual acuity	Physiology	Visual Acuity		
	Define Emmetropia	Physiology		LGIS/SGD	Ospe /viva
	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	Integrate with Ophthalmology	Refractive Errors		
	Describe the mechanism of formation and outflow of aqueous humor	Physiology			

HNSS-P-003	Describe normal value of intraocular pressure and its regulation	Physiology	Fluid systems of the Eye		
	Describe the method for measuring the intraocular pressure	Integrate with Ophthalmology			
HNSS-P-004	Discuss the clinical features of Open Angle and Angle Closure Glaucoma Describe the causes and features and pathophysiology of glaucoma	Integrate with Ophthalmology	Glaucoma		
HNSS-P-005	Describe the physiological anatomy and function of structural elements of retina	Physiology	Retina		
	Enlist different layers of retina				
	Explain the significance of melanin pigment in retina				
	Describe macula and foveal region of retina and their significance				
	Describe the structure of rods and cones				
	Comment on the location of optic disc and its significance				
	Describe the cause, features, and treatment of retinal detachment				
	Differentiate the Visual Pathway from the Cones to the Ganglion Cells and from rods to the ganglion cells				
	Enlist the current investigations for Retinal Diseases	Integrate with Ophthalmology			
HNSS-	Describe the rhodopsin-retinal visual cycle	Physiology	Photochemistry of vision		
	Describe the mechanism of excitation of rods/ rods receptor potential	Physiology			

P-006	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-008	Explain the tri color mechanism determination	Physiology	Color vision		
	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		
	Explain the mechanism of	Physiology			

HNSS-P-014	accommodation		Accommodation		
	Enlist the components of near response in	Physiology			
	accommodation				
	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	Physiology			
	CNS diseases				
	Describe the cause and features of 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 Otitomycosis	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	Discuss determination of loudness of sound		Determination of Loudness		
HNSS-P-021	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-022	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-	Describe the mechanism of stimulation of taste	Physiology	Excitation		

P-023	buds/ receptor potential		of Taste buds		
	Trace the pathway of taste sensation	Physiology			
HNSS-P-024	Define and explain the terms: Hypergeusia, Hypogeusia and dysgeusia	Physiology	Abnormalities of Taste sensations		
	Describe the senile changes in taste buds				
HNSS-P-025	Explain the terms: Taste preference and taste aversion	Physiology	Taste preference and aversion		

HNSS-P-026	Enlist the primary sensations of smell	Physiology	Sense of smell		
	Describe the physiological anatomy and location of olfactory membrane	Physiology			
	Explain the mechanism of excitation of olfactory cells, membrane potential and action potential on olfactory cells				
	Discuss the Adaptation of olfactory sensations				
	Discuss the transmission of smell signals in the the CNS				
HNSS-P-027	Enlist the causes and clinical features of Rhinitis	Integrate with Otorhinolaryngology	Rhinitis		
	Differentiate between viral and allergic Rhinitis	Integrate with Otorhinolaryngology			

MEDICAL BIOCHEMISTRY

CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 07			
		DISCIPLINE	TOPIC		
	Discuss the metabolism of mono and disaccharides	Biochemistry		LGIS/SGD	Ospe/viva/mcqs

HNSS-B-001	Interpret Hereditary fructose intolerance, fructosuria, galactosemia and lactose intolerance, in relevance to the clinical findings	Biochemistry	Metabolism of mono and disaccharides		
	Explain the Polyol pathway and hyperglycemia on sorbitol pathway	Biochemistry			
	Discuss the sources, metabolically active forms, biochemical role and clinical correlation of Vit-A with vision	Biochemistry			
PATHOPHYSIOLOGY AND PHARMACOTHERAPEUTICS					
CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 03			
		DISCIPLINE	TOPIC		
HNSS-Pa-001	Enlist the common causative agents of Eye, Ear infections	Pathology (Microbiology)	Eye/Ear infections	LGIS	ospe

	Discuss the pathogenesis and clinical features of common pathogens				
DISEASE PREVENTION AND IMPACT					
CODE	COMMUNITY MEDICINE & BEHAVIORAL SCIENCE	TOTAL HOURS = 06			
	SPECIFIC LEARNING OBJECTIVES	DISCIPLINE	TOPIC		
HNSS-CM-001	Identify factors leading to noise pollution	Community Medicine/ Otorhinolaryngology	Hearing loss	LGIS	mcqs
HNSS-CM-	Describe the common causes of blindness in community	Community Medicine	Blindness		
	Describe risk factors and preventive strategies for				

002	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	Familiarize with the age-related hearing loss	Otorhinolaryngology	Deafness		
HNSS-Ag-002	Discuss the age changes of mandible	Anatomy	Head & Neck		

The background of the slide is a blurred laboratory setting. On the left, a portion of a microscope is visible. On the right, a hand wearing a blue nitrile glove holds a test tube with a blue cap. Below the hand, a white test tube rack holds several other test tubes, some containing red liquid. The overall color palette is light blue and white.

Practicals

PRACTICAL

HISTOLOGY

CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 09			
		DISCIPLINE	TOPIC		
HNSS-A-042	Draw and label diagrams to show histological structure of serous demilunes, serous and mucous acini.	Histology	Head & Neck		
HNSS-A-043	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-044	Draw and label a diagram to show histological structure of internal ear.	Histology	Ear		

PHYSIOLOGY

CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 16			
		DISCIPLINE	TOPIC		
HNSS-P-028	Examine the Second, Third, Fourth & Sixth Cranial Nerves	Physiology	Cranial Nerves		
HNSS-P-029	Examination of Light Reflex		Light reflex		
HNSS-P-030	Determine the Visual Acuity for Far and Near vision		vision		

HNSS-P-031	Perform Ophthalmoscopy	Physiology	ophthalmoscopy		
HNSS-P-032	Examine Field of Vision and interpretation of visual field plotted		Visual field		
HNSS-P-033	Examine Color Vision		Color vision		
HNSS-P-034	Perform Tuning fork test and audiometry, interpret the report		Ear		

BIOCHEMISTRY					
CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 05			
		DISCIPLINE	TOPIC		
HNSS-B-002	Interpretation of insulin and C peptide	Biochemistry	Interpretation of results		
HNSS-B-003	Demonstrate HbA1C		HbA1C		
HNSS-B-004	Detect abnormal constituents in urine by chemical methods		Abnormal constituents in urine		

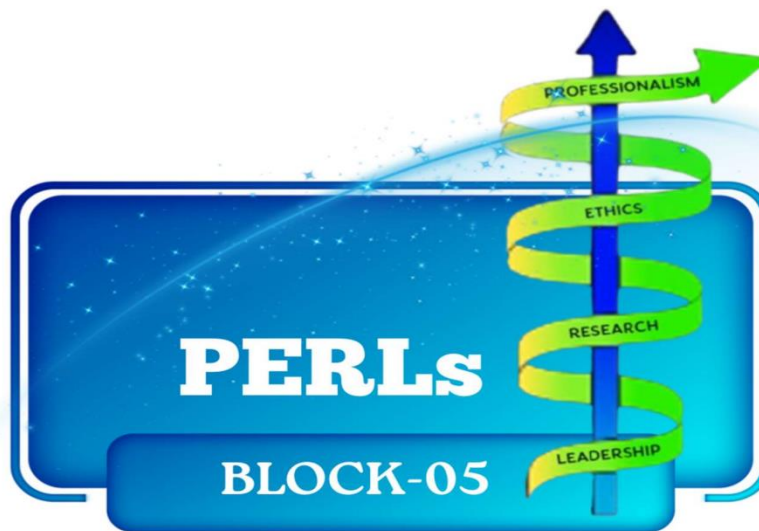
BLOCK-05-CFRC

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

- ❖ 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.

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.



ENDOCRINOLOGY & REPRODUCTION-I				
*Proposed Sequence of Topics Mentioned below. Medical Colleges are at liberty to manage according to their resources. Topics can switch within each Block				Total Hours = 09
* Research (R) in the PERL curriculum will be delivered by the Department of Community Medicine as a longitudinal component from the first to the fourth year of the MBBS program. At the end of the fourth year, students' research projects will be assessed through a dedicated PERL station.				
Code	Domain	Topic	Specific Learning Objectives	Proposed Portfolio Entry
PERLs-2-010	Professionalism	Task Management	- Discuss the principles of effective task management and productivity, focusing on setting priorities, managing workloads, and maintaining efficiency in both academic and clinical settings. - Create a task list for an academic week, prioritizing tasks based on deadlines and importance, and reflecting on strategies to enhance productivity and efficiency.	Submit a weekly task management plan, detailing how you organized and prioritized your tasks to maximize productivity. Reflect on how this approach helped improve your efficiency and ability to meet academic or clinical deadlines.

PERLs-2-011	Research	Literature Review	- Discuss the principles of developing a literature search strategy, including identifying relevant databases, using appropriate keywords, and refining search criteria to gather evidence for research purposes. - Design a literature search strategy for the selected research topic and conduct literature search using appropriate databases,	
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			search engines, and refined search terms to find relevant articles.	
PERLs-2-012	Leadership	Taking Evidence based Informed Consent	- Discuss principles of taking informed consent in a manner that incorporates evidence- based information, ensuring patients are fully informed about their treatment options, risks, and benefits. - Practice taking informed consent from a simulated patient, using evidence-based information to explain the procedure, risks, benefits and alternatives, ensuring the patient's understanding and comfort	Submit a reflection on a simulated informed consent session. Discuss how you communicated evidence-based information to the patient, how you ensured their understanding, and the importance of respecting their autonomy in the decision-making process

PERLS-2-013	Professionalism	Respect	Appreciate the Importance of respecting diversity in healthcare, Including sensitivity and responsiveness to patients' culture, age, gender, and disabilities, while applying principles of inclusion and equity.	Create a simple poster or a one-page reflection outlining key strategies for respecting diversity in patient care. Include examples of how to communicate effectively with patients from different backgrounds and ensure that care is inclusive and equitable.
PERLS-2-014	Leadership	Conflict Resolution	Discuss the principles and strategies of effective conflict resolution focusing on communication, negotiation, and	Submit a reflection on the conflict resolution exercise. Discuss the strategies you used, how effective communication
			collaboration to achieve positive outcomes. Participate in a role-playing exercise to navigate a conflict scenario, practicing conflict resolution techniques such as active listening, empathy, and problem solving.	played a role, and what you learned about resolving conflicts in a healthcare environment.

HEAD AND NECK & SPECIAL SENSES

**Proposed Sequence of Topics Mentioned below. Medical Colleges are at liberty to manage according to their resources. Topics can switch within each Block*

Total Hours = 06

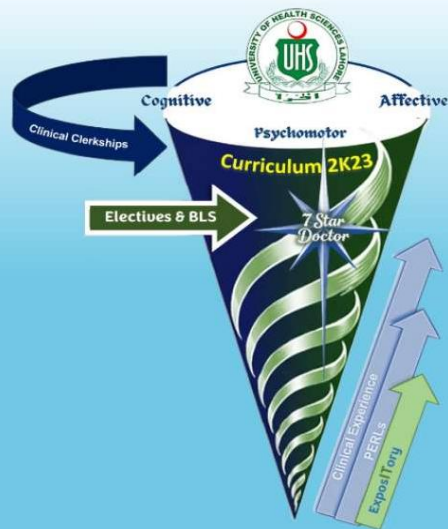
****Research (R)** in the PERL curriculum will be delivered by the Department of Community Medicine as a longitudinal component from the first to the fourth year of the MBBS program. At the end of the fourth year, students' research projects will be assessed through a dedicated PERL station.*

Code	Domain	Topic	Specific Learning Objectives	Proposed Portfolio Entry
PERLs -2- 015	Research	Literature Review	• Discuss the purpose and methodology of conducting a literature review, including how to synthesize existing research, identify gaps in the literature, and establish a framework for future research. • Create a literature matrix for a selected topic, summarizing key findings, methodologies, and conclusions from relevant articles to facilitate analysis and comparison.	
PERLs -2- 016	Leadership	Work-Life Balance	• Appreciate the importance of maintaining a healthy work-life balance, focusing on strategies for managing personal well-being while fulfilling professional commitments to ensure optimal mental and physical health. • Create a personal plan that outlines strategies for achieving work-life balance, including time management, self-care practices, and setting boundaries between	Submit a reflection on your work-life balance plan. Include specific strategies you intend to implement to manage stress and maintain your well-being while meeting your academic and professional responsibilities.

			personal and professional life	
PERLs -2- 016	Professionalism	Digital representation	• Discuss principles of digital representation in a professional context, focusing on how to effectively present an e- portfolio, wiki page, or blog page that reflects one's skills, experiences, and professional identity. • Create and present a digital representation of their professional achievements, utilizing platforms such as e- portfolios, wiki pages, or blogs to showcase their skills, projects, and reflections.	Submit a link to your e-portfolio, wiki page, or blog page along with a brief reflection on the choices you made in its design and content. Discuss how this digital representation aligns with your professional goals and identity.
PERLs -2- 017	Ethics	Patient autonomy	• Discuss the ethical principles surrounding patient autonomy, particularly in the context of individuals with sensory disabilities, focusing on their right to make informed decisions about their healthcare. • Analyze a case study involving a patient with sensory disabilities, discussing how healthcare providers can support and respect the patient's autonomy while ensuring they have access to the necessary information to make informed choices.	Create a presentation or infographic that highlights key strategies for supporting patient autonomy in individuals with sensory disabilities. Include information on effective communication techniques, adaptations to enhance understanding, and ways to ensure informed consent.



Modular Integrated Curriculum 2K23 Year 1 & 2



The Holy Quran

a. Importance of the protection of Human life

- i. Concept of the sanctity of human life in Quran and Sunnah
- ii. Importance and significance of a single human being even during war
- iii. Concept of punishment in regard to the killing of a human being, voluntarily or involuntarily

b. Jihad

- i. Concept of Jihad and its significance (hikmat)
- ii. Different forms of Jihad and their importance
- iii. Principles and preparation of Jihad
- iv. Divine reward of Jihad

c. Heirship/Inheritance (Virasat)

- i. Heirship and division of wealth in accordance with divine teachings
- ii. Heirs and their shares
- iii. Legal aspect of virasat (Hud-e-Illahi)

d. Amar-bil-marooif-wa-Nahi-anil-munkar

- i. Differentiation between Marooif and Munkar
- ii. Importance and significance (effects of avoiding this principle)
- iii. Necessary conditions of both amar-bil-marooif and nahi-anil-munkar
- iv. The different stages and the necessary prerequisites

e. Hadood-e Illahee and taazeerat

- i. Meaning and various types of hadood-e-Illahee
- ii. Authority for fixation of limit (hudd)
- iii. Criteria and permissible relaxation in fixing the limits
- iv. Difference between 'Hadood', 'Qisas' and 'Tazeerat'. Punishments which are left to the court of law
- v. Benefits for the good of community

f. Justice (Adal-o-insaf)

- i. Justice of Allah subhan wa taala
- ii. Importance of justice for the survival of community
- iii. Need of justice to be prevailed irrespective of religion
- iv. Devine reward for fair justice

g. Business (Bay-o-tijarat)

- i. Importance of fair business and its necessary constituents
- ii. Permissible and impermissible conditions of businesses
- iii. Concept of loan in businesses

h. Interest (Riba or Sudi karobar)

- i. Meaning of Riba or interest and its different forms
- ii. Impact of Riba on a society in general
- iii. Devine declaration and its punishment both in this world and Hereafter

i. Nikah-o-talaq

- i. Basic rulings regarding marriage and divorce
- ii. Importance of Nikah and its constituents
- iii. Conditions of Nikah and various forms of prohibited/impermissible nikah
- iv. Misconception of dowry
- v. Talaq and its various forms
- vi. Meaning of Khula and its conditions

CONTENTS

1. Importance of the protection of Human life
2. Jihad
3. Heirship/Inheritance (Virasat)
4. Amar-bil-marooof-wa-Nahi-anil-munkar
5. Hadood-e Illahee and taazeerat
6. Justice (Adal-o-insaf)
7. Business (Bay-o-tijarat)
8. Interest (Riba or Sudi karobar)
- 9.



Modular Integrated Curriculum 2K23 Year 1 & 2



Islamiyat & Pakistan Studies

MODULE RATIONALE

This module comprises of Islamiyat & Pakistan Studies. All the medical or other curricula relate to our core context and internal fiber. The study of religion and country endorses all relevancy and competency acquisition for the purpose of service to humanity and community orientation.

ISLAMIYAT

A short course on Islamic Studies will be completed in First and Second year with an exam at the end of second year.

Course Content:

1. Understand the basic principles of Islam.
2. Explain the concept of the Islamic state.
3. Explain the Quran as a guide for modern society and scientific development.
4. Describe the life of the Holy Prophet Peace be upon him as an example to follow.
5. Explain ethics in the Islamic prospective.
6. Describe the rights of the individual in Islam.
7. Describe the rights of women and children in Islam.
8. Explain the contribution of Islamic scholars to science and medicine.
9. Understand Islam in terms of modern scientific development.
10. Explain the concept of Rizk-e-Hilal.
11. Explain the concept of Hukook-ul-Ibad.

PAKISTAN STUDIES

A short course on Pakistan Studies will be completed in First and Second year with an exam at the end of second year.

Course Content:

1. Describe brief the salient features of the Pakistan movement.
2. Explain the basis for the creation of Pakistan.
3. Give a brief account of the history of Pakistan.
4. Explain the ethnic and cultural distribution of the population of Pakistan.
5. Describe the Provinces and resources available in Pakistan.
6. Explain current problems faced by Pakistan.
7. Describe the social, economic and health problems of the rural population of Pakistan.

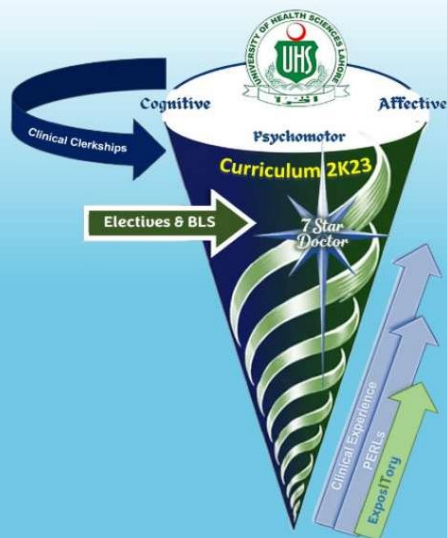
ISLAMIYAT AND PAKISTAN STUDIES BOOKS

- Standard Islamiyat (Compulsory) for B.A, B.Sc., M.A, M.Sc., MBBS by Prof. M.Sharif Islahi Ilmi Islamiyat (Compulsory) for B.A. B.Sc., & equivalent.
- Pakistan studies (Compulsory) for B.A. B.Sc., B.Com., Medical/Engineering by Prof. Shah Jahan Kahlun
- Pakistan studies (Compulsory) for B.A, B.Sc., B.Com., B.Ed., Medical/Engineering by Prof. Shah Jahan Kahlun



Modular Integrated Curriculum 2K23

Year 1 & 2



Civics

1. MODULE RATIONALE

Civics is part and parcel of life and the study of Civics has major thrust on improvement of the quality of life and welfare of human beings. This discipline enhances the approach towards rational behavior and daily life.

There is a need for us to know role of a citizen with specific reference to Global Village, the Citizen and Daily life issues, Citizenship, Rights and Responsibility, Role of Government and State, Implementation

Issues of Devolution plan, Social Welfare Institutions/ NGOs and their role at basic level, social interactions and the new discoveries in IT and mass media, relations with International Organizations and Pakistan and its neighbors. Civics goes beyond the cognitive level to deal with social values and attitudes. From the earliest stages of the course, it is important to respect students' opinions while helping them to develop a rationale for their opinions. This curriculum is adapted from Agha Khan University Examination Board curriculum for higher secondary examination.

2. VISION & MISSION

2.1 : Vision: Building the personality and character of health professionals

2.2 : Mission: Teaching Civics to undergraduate students of Health Sciences, building their personality and character, enabling them to apply these principles in patient care.

3. CURRICULUM DESIGN AND ORGANIZATION

3.1 : Course Aim:

- To develop understanding of the social nature and significance of civics, its key concepts and civic life.
- To emphasize learning of related themes in a way that encourages creativity, curiosity, observation, exploration and questioning.
- To create awareness of the nature of civic life and the relationship between civics and other social sciences.
- To promote understanding about the ideology of Pakistan and the struggle of an independent state.
- To inculcate the behavior patterns of national character, and qualities of a good citizen,
- self-reliance, patriotism and leadership.
- To create a strong sense of national unity, integration and cohesion.

- To prepare students as future citizens, conscious of their positive role in a society and the world at large.

3.2 : Mode of Delivery: The module will be taught in the form of interactive lectures.

3.3 : Learning Experience: Classroom environment will be used.

3.4 : Attendance: Eighty-five percent (85%) attendance is mandatory to be eligible to sit in the professional examination.

3.5 : Assessment: The assessment will be done through two written assignments and two quizzes per year. The assignments will be based on the topics discussed during the year. One will be given after first half of the course will be completed for the year and second will be given at the completion of the course.

3.7: Module Faculty: At least one full time faculty member (Lecturer or above) will be hired to run the civics course throughout four years. The qualifications of the faculty member will be certified by the academic council of the college/institution to be declared as the teacher of civics.



LEARNING OUTCOMES	TOPICS
i. Define civics ii. Describe how civics can improve the citizenship iii. Illustrate the scope of civics iv. Discuss the nature of civics v. Give examples how civics can help in the national development	Civics-Meaning & Nature
i. Examine the significance of civics ii. Explain how civics is important to know the problems of daily life iii. Discuss how civics can help to bring improvements in the civics life of citizens iv. Evaluate how civics can improve the sense of love and respect for human relationship v. Discuss that studying civics can develop a sense of gratitude vi. Give examples how civics is important to develop the global unity	Significance and Utility
i. Compare civics with political science, history, economics, sociology and ethics	Relationship with Social Sciences
i. Describe the term harmonic relationship ii. Explain the harmonic relationship among different members of society. (Women, children and senior citizens) iii. Explain how harmonic relationship develop for respect of religion	Harmonic Relationship
i. Define the term individual in relation to civics ii. Define the term state iii. Explain the relation between an individual and a state iv. Describe the importance of an individual in a state v. Enlist the responsibilities of an individual in a state	Individual and state

i. Identify the basic unit of social institution Discuss and characterize the different types of family ii. Give the importance of basic unit of social institution in the development of a state Enlist the responsibilities of family in general iii. Analyze your role for the betterment of the family Compare and contrast the impact of the deterioration of family in the western society and give examples	Family
i. Define community ii. Explain the nature and significance of community iii. Discuss the role of a family in community iv. Analyze the role of an individual for the betterment of the community	Community
i. Define society ii. Elaborate the relation between an individual and society and society and state iii. Analyze the role of an individual for the betterment of society	Society
i. Define the term nation, nationality and ummah differentiate between nation and nationality distinguish between nation and ummah analyze the value, behavior and the pattern of society based on religions ii. Evaluate the characteristics of society developed by religions	Nation, Nationality
i. Trace the origin of state with reference to the theories of Divine Origin, Force and Social ii. Contract (Hobbs, Lock, Rousseau) iii. Describe the elements of a state (sovereignty, population, territory, Government) iv. Compare and distinguish the role of state, society and government	Origin and elements of State

i. Describe the functions of state ii. Describe the factors which are necessary for proper functioning of state iii. Analyze the situation when a state does not function properly iv. Describe the characteristics of a welfare state Analyze how a welfare state guarantees the equity and justice on the issues of gender, religion, and social classes	Functions of state. (Defense, law and order, welfare etc.)
i. Define the concept of sovereignty in west ii. Discuss different kinds of sovereignty iii. Explain Austin's concept of sovereignty iv. Analyze critically Austin's concept of sovereignty	Sovereignty



Year 2: Expository Writing II – Advanced Argumentation and Critical Thinking + IT: Digital Research and Collaboration Tools

THEORY

Code	Subject: Expository writing & IT		Total Hours =10
	Specific Learning Outcome	Integrating Disciplines	Topics
EXP-02	Expository Writing Focus: 1. To evaluate the strengths and weaknesses of the written arguments& discern bias. 2. To create a poster to present the critical appraisal of research articles. IT Integration: 3. IT Skills: To use PowerPoint and other poster-making tools. 4. To perform advanced internet research, use online collaboration tools (Google Docs for teamwork, Google Drive for file sharing), and learn management systems (LMS). Writing Application: 5. To use critical appraisal templates and poster making tools.	PERLS, Anatomy, Physiology & Biochemistry	• Critical appraisal of research articles • Poster preparation and presentation skills. • Use of online collaboration tools (Google Docs, LMS) • Basic plagiarism checks (free AI Tools for plagiarism checks)

	6. To collaborate on writing tasks in groups using shared online platforms (e.g., editing documents in teams). 7. To use plagiarism detection software (free AI Plagiarism detection tools) to maintain academic integrity in writing.		
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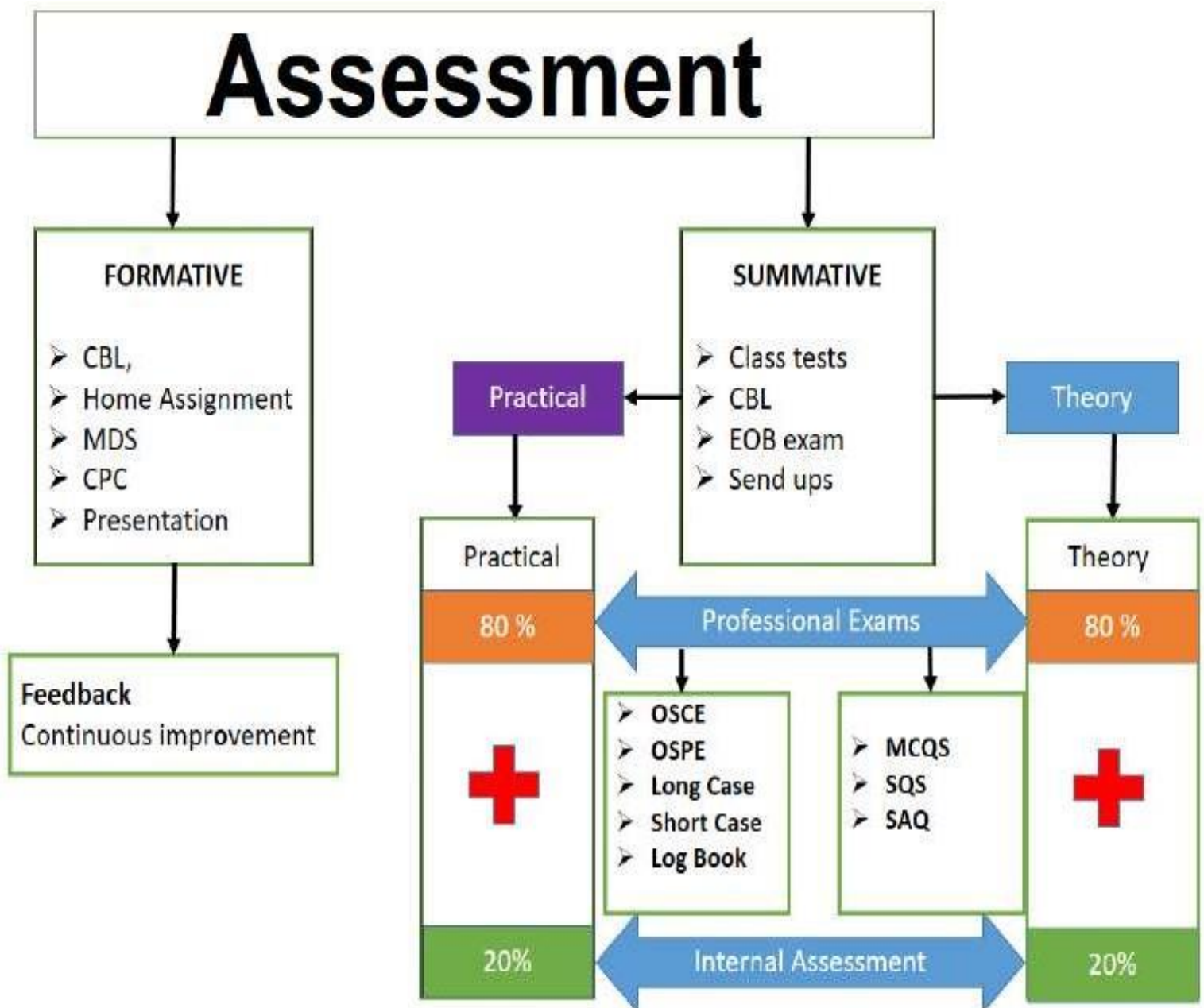
FAMILY MEDICINE

(Maternal and child health)



ToS BLOCK-5 EXAMINATION

Theme	Subject	Written Exam		Oral/Practical/Clinical Exam			
		MCQ (1 mark)	Marks	OSPE (8 marks each observed)	OSCE (5 marks each observed)	OSVE (14 marks each observed)	Marks
Normal Structure	Anatomy applied/clinical	50	50	04	-	01	46
Normal Function	Physiology applied/clinical	40	40	03	-	01	38
	Biochemistry applied/clinical	19	19	01	-	01	22
Disease Burden & Prevention	Community Medicine & Public Health	07	07	-	-	-	0
	Behavioral Sciences	04	04	-	-	-	0
Pathophysiology & pharmacotherapeutics	Pathology	18	18	2	-	-	16
	Pharmacology	02	02	1	-	-	08
CFRC	CF-2	-	-	-	01	-	05
PERLs	PERLs-2	-	-	-	01	-	05
Total		140	140	11 stations x 08 = 88	02 stations x 05 = 10	03 stations x 14=42	140





SKILL ACQUISITION WORKSHOPS



Workshop Schedule for MBBS students

The Following **Skill Acquisition Workshops** are included in the “Modular Integrated Curriculum 2K23 Final version”:

Sr. No.	Course Name	Academic Year	Duration	Eligibility
1.	Basic Life Support	1 st Year / 2 nd Year	2 days	Eligibility requirement for appearing in the 4 th Professional Examination



Anatomy

- Snell's Clinical Anatomy 10th ed.
- Langman's Medical Embryology 12th ed
- Medical Histology by Laiq Hussain Siddiqui 8th edition.
- General Anatomy by Laiq Hussain Siddiqui 6th edition.

Biochemistry

- Harpers illustrated Biochemistry (latest edition). Rodwell.V.W MCGrawHill publishers.
- Lippincott illustrated Review (latest edition). Kluwer.W.
- Essentials of Medical Biochemistry vol 1&2 by Mushtaq Ahmed.

Physiology

- Guyton and Hall Textbook of Medical Physiology (15th edition)
- Ganong's Review of Medical Physiology(27th edition)
- Berne and Levy Physiology
- Human Physiology by Pocock & Richards
- West's Physiological Basis of Medical Practice

Pathology

- Vinary Kumar, Abul K. Abbas and Nelson Fausto Robbins and Cotran, Pathologic basis of disease. WB Saunders.
- Robbins and Cotran Pathological Basis of Disease. Kumar, V., Abbas, A. and Aster, J. Latest Edition
- Richard Mitchall, Vinary Kumar, Abul K. Abbas and Nelson Fausto Robbins and Cotran, Pocket Companion to Pathologic basis of diseases, Saunder Harcourt.
- Walter and Israel. General Pathology. Churchill Livingstone.
- Robbins & Kumar, Medical Microbiology and Immunology Levinson.

General Medicine

- Principles and Practice of Medicine by Davidson (latest edition)
- Clinical Medicine by Parveen J Kumar & Michael Clark
- Oxford Handbook of Medicine
- Macleod's Clinical Examination book
- Medicine and Toxicology by C.K. Parikh

- Hutchison's Clinical Methods by Michael Swash. 21st edition

Pharmacology And Therapeutics

- Katzung and Trevor's Pharmacology: Examination and Board Review- 15th Edition
- Basic and Clinical Pharmacology by Bertram G Katzung (case scenarios only) - 16th Edition-
- Current Medical Diagnosis and Treatment- reference book –Edition-2024
- Basic and Clinical Pharmacology by Bertram G Katzung (case scenarios only) - 15th Edition
- Basic and Clinical Pharmacology by Katzung, McGraw-Hill. 16th Edition.
- Pharmacology by Champe and Harvey, Lippincott Williams & Wilkins 8th Edition.
- Katzung Basic and Clinical pharmacology, Lippincot Illustrated reviews.
- Clinical Pathology Interpretations by A. H. Nagi

Behavioural Sciences

- Handbook of Behavioural Sciences by Prof. Mowadat H.Rana, 3rd Edition
- Medical and Psychosocial aspects of chronic illness and disability 6th edition by Donna R.Falvo and Beverly E.Holland,
- Integrating behavioral sciences in healthcare, Asma Humayun,2003, 1st edition

Community medicine

- Parks Textbook of Preventive and Social Medicine. K. Park
- Public Health and Community Medicine by Ilyas Ansari
- MSDS manual of Government of Punjab
- Text book of Community Medicine by Park J E. Latest Edition

Surgery

- Bailey & Love's Short Practice of Surgery (latest edition)
- Browse's Introduction to the Symptoms & Signs of Surgical Disease 4th Edition
- Bailey & Love Short Practice of Surgery, Clinical Surgery pearls by Dayananda Babu RACS for Surgical Audits.

Patient Safety

- Patient Safety Curriculum Guide: Multi Professional Guide

Microbiology

- Levinson's review of Microbiology
- Medical Microbiology and Immunology by Levinson and Jawetz,

Pediatrics Medicine

- Nelson Textbook of Pediatrics
- Basis of Pediatrics by Pervez Akbar Khan

Gynecology

- Gynecology by Ten Teachers

Infection Control

- National Guidelines Infection Prevention and control, National Institute of Health Pakistan

Biosafety

- Biosafety in Microbiological and Biomedical Laboratories, 6th Edition (CDC, USA)
- WHO Laboratory Biosafety Manual, Fourth Edition, And Associated Monographs
- WHO safe management of wastes from healthcare facilities chapter 7 -8 page 77-99, 105-125)

Family medicine

- Oxford Handbook of General Practice, 5th Edition

Orthopedics

- Apley and Solomon's System of Orthopaedics and Trauma by Ashley Blom (Editor)

Rheumatology

- Davidson's Principles and Practice of Medicine
- Clinical Medicine by Parveen J Kumar & Michael Clark
- Hutchison's Clinical Methods by Michael Swash

Radiology

- Aids to Radiological Differential Diagnosis by Chapman S. and Nakielny R. 4th edition. Elsevier Science Limited; 2003.

Forensic Medicine

- Knight's Forensic Pathology by Barnard Knight 3rd edition
- G. Principles and Practice of Forensic Medicine by Prof. Nasib R. Awan, 2nd edition
- Forensic DNA Typing – 2nd Edition, Author: John M. Butler
- Parikh's Text book of Medical Jurisprudence, Forensic Medicine and Toxicology by C.K. Parikh 6th Ed., CBS Publisher.
- Gun Shot Wounds 2nd edition by V.J. DeMaio
- Knight B. Simpson's Forensic Medicine.
- Knight and Pekka. Principles of Forensic Medicine

Forensic Pathology

- Forensic pathology 2nd edition by V.J. DeMaio CRC press Boca Raton London New York Washington DC

Toxicology

- Principles of clinical toxicology 3rd edition Thomas . Gossel CRC press Taylor and Francis group

Forensic Sciences

- Fundamentals of Forensic Science- 3rd Edition: Author: Max M Houck, Jay A. Siegel
- Text Book of forensic medicine and toxicology Principles and Practice 5th edition by Krishan Vig

Biomedical ethics

- Principles of Biomedical ethics, 8th edition by Tom. L. Beauchamp, James F. Childress.

Evidence Based Medicine

- Databases for the latest articles/manuscripts

- Clinical Practice Guidelines- local and international - (within last 3 years)
- Books (Latest edition-within last 5 years)

Pediatrics

- Nelson's Book of Pediatric 22 edition Illustrated book of Pediatrics, Pervaiz Akbar textbook pediatrics medicine

Islamiyat

- Standard Islamiyat (compulsory) for B.A, BSc, MA, MSc, MBBS by Prof M Sharif Islahi.
- IImi Islamiyat(compulsory) for BA, BSc & equivalent.

Block-5 Coordinators

BIOCHEMISTRY

Dr. Adnan Riaz (Associate Professor)

ANATOMY

Dr. Rana M. Zeeshan (Assistant professor)

PHYSIOLOGY

Dr. Nayab Khalid (Assistant Professor)

PATHALOGY

Dr. Amina

COMMUNITY MEDICINE

Dr. Sehar Bano

BEHAVIOUR SCIENCES

Dr. Rana Mansoor

PHARMACOLOGY

Dr. Azan (Assistant Professor)

CFRC

Medicine..... dr. Umer siddique

Surger..... dr. Emaan

Gyne/obs.....dr. Ainan

Paedsdr. Maida Azmat

Eye.....dr. Iqra

ENT..... dr. Ruqayya

PERLs

Dr. Sara

TENTATIVE TIMETABLES ENDO-REPRO & HEAD& NECK& SPECIAL SENCES

Week-1

Day/Date	8:00-10:00	10:00-10:50	10:50-11:40	11:40-01:10		01:10-1:40	01:40-03:00
Monday	Anatomy SGD Batch A Batch B Batch C Discussion Hall	Embryology	LGIS Physiology	Anatomy A biochemistry B C SDL			Physiology X Topic Biochemistry Y Topic
Tuesday	Anatomy SGD Batch A Batch B Batch C Discussion Hall	LGIS Physiology	LGIS Biochemistry	Anatomy A biochemistry B C SDL			Physiology X Topic Biochemistry Y Topic
Wednesday	Anatomy SGD Batch A Batch B Batch C Discussion Hall	LGIS Physiology	LGIS Embryology	Anatomy A biochemistry B C SDL			Physiology X Topic Biochemistry Y Topic
Thursday	Anatomy SGD Batch A Batch B Batch C Discussion Hall	LGIS Physiology	LGIS Histology	11:40-12:30 LGIS Biochemistry	12:30-01:10 LGIS Physiology		LGIS Behavioral sciences
Friday	Anatomy SGD Batch A Batch B Batch C Discussion Hall	LGIS Physiology	LGIS Histology	11:40-12:30 LGIS Biochemistry	12:30-01:10 LGIS CFRC		Physiology X Topic Biochemistry Y Topic

Week-2

Day/Date	8:00-10:00	10:00-10:50	10:50-11:40	11:40-01:10		01:10-1:40	01:40-03:00	
Monday	Weekly Assessment	LGIS Physiology	LGIS Embryology	Anatomy A biochemistry B C SDL			Physiology X Topic Biochemistry Y Topic	
Tuesday	Anatomy SGD Batch A Batch B Batch C Discussion Hall	LGIS Physiology	LGIS Biochemistry	Anatomy A biochemistry B C SDL			Physiology X Topic Biochemistry Y Topic	
Wednesday	Anatomy SGD Batch A Batch B Batch C Discussion Hall	LGIS Physiology	LGIS Embryology	Anatomy A biochemistry B C SDL			Physiology X Topic Biochemistry Y Topic	
Thursday	Anatomy SGD Batch A Batch B Batch C Discussion Hall	LGIS Physiology	LGIS Histology	11:40-12:30 LGIS Biochemistry	12:30-01:10 LGIS Physiology		01:40-2:20 LGIS Community Medicine	2:20-3:00 LGIS Parma
Friday	Anatomy SGD Batch A Batch B Batch C Discussion Hall	LGIS Physiology	LGIS Histology	11:40-12:30 LGIS Biochemistry	12:30-01:10 LGIS Pathology		Physiology X Topic Biochemistry Y Topic	

Week-

Day/Date	8:00-10:00	10:00-10:50	10:50-11:40	11:40-01:10		01:10-1:40	01:40-03:00	
Monday	Weekly Assessment	LGIS Physiology	LGIS Embryology	Anatomy A biochemistry B C SDL			Physiology X Topic Biochemistry Y Topic	
Tuesday	Anatomy SGD Batch A Batch B Batch C Discussion Hall	LGIS Physiology	LGIS Biochemistry	Anatomy A biochemistry B C SDL			Physiology X Topic Biochemistry Y Topic	
Wednesday	Anatomy SGD Batch A Batch B Batch C Discussion Hall	LGIS Physiology	LGIS Embryology	Anatomy A biochemistry B C SDL			Physiology X Topic Biochemistry Y Topic	
Thursday	Anatomy SGD Batch A Batch B Batch C Discussion Hall	LGIS Physiology	LGIS Histology	11:40-12:30	12:30-01:10		01:40-2:20	2:20-3:00
				LGIS Biochemistry	LGIS Physiology		LGIS Community Medicine	LGIS Pharma
Friday	Anatomy SGD Batch A Batch B Batch C Discussion Hall	LGIS Physiology	LGIS Histology	11:40-12:30	12:30-01:10		Physiology X Topic Biochemistry Y Topic	
				LGIS Biochemistry	LGIS Pathology			

Week-4

Day/Date	8:00-10:00	10:00-10:50	10:50-11:40	11:40-01:10		01:10-1:40	01:40-03:00	
Monday	Weekly Assesment	LGIS Physiology	LGIS Embryology	Anatomy A biochemistry B C SDL			Physiology X Topic Biochemistry Y Topic	
Tuesday	Anatomy SGD Batch A Batch B Batch C Discussion Hall	LGIS Physiology	LGIS Biochemistry	Anatomy A biochemistry B C SDL			Physiology X Topic Biochemistry Y Topic	
Wednesday	Anatomy SGD Batch A Batch B Batch C Discussion Hall	LGIS Physiology	LGIS Embryology	Anatomy A biochemistry B C SDL			Physiology X Topic Biochemistry Y Topic	
Thursday	Anatomy SGD Batch A Batch B Batch C Discussion Hall	LGIS Physiology	LGIS Histology	11:40-12:30	12:30-01:10		01:40-2:20	2:20-3:00
				LGIS Biochemistry	LGIS Physiology		LGIS Community Medicine	LGIS Parma
Friday	Anatomy SGD Batch A Batch B Batch C Discussion Hall	LGIS Physiology	LGIS Histology	11:40-12:30	12:30-01:10		Physiology X Topic Biochemistry Y Topic	
				LGIS Biochemistry	LGIS Pathology			

Week-

Day/Date	8:00-09:30	09:30-10:20	10:20-11:10	11:10-12:10	12:10-01:00	01:00-1:40	01:40-03:00
Monday	Weekly Assessment	LGIS Physiology	LGIS Embryology	Anatomy A biochemistry B C SDL	LGIS Parma		Physiology X Topic Biochemistry Y Topic
Tuesday	Anatomy SGD Batch A Batch B Batch C Discussion Hall	LGIS Physiology	LGIS Biochemistry	Anatomy A biochemistry B C SDL	LGIS PERLS		Physiology X Topic Biochemistry Y Topic
Wednesday	Anatomy SGD Batch A Batch B Batch C Discussion Hall	LGIS Physiology	LGIS Anatomy	Anatomy A biochemistry B C SDL	LGIS PERLS		Physiology X Topic Biochemistry Y Topic
Thursday	Anatomy SGD Batch A Batch B Batch C Discussion Hall	LGIS Physiology	LGIS Histology	11:40-12:50 LGIS Biochemistry			01:40-2:20 2:20-3:00 LGIS Community Medicine LGIS Parma
Friday	Anatomy SGD Batch A Batch B Batch C Discussion Hall	LGIS Physiology	LGIS Histology	11:40-12:30 LGIS Biochemistry	12:30-01:10 LGIS Pathology		Physiology X Topic Biochemistry Y Topic

Week-6

Day/Date	8:00-09:30	09:30-10:20	10:20-11:10	11:10-12:10	12:10-01:00	1:00-1:40	01:40-3:00
Monday	Weekly Assessment	LGIS Physiology	DSL Anatomy	Anatomy A biochemistry B C SDL	LGIS Parma		Physiology X Topic Biochemistry Y Topic
Tuesday	Anatomy SGD Batch A Batch B Batch C Discussion Hall	LGIS Physiology	LGIS Biochemistry	Anatomy A biochemistry B C SDL	LGIS PERLS		Physiology X Topic Biochemistry Y Topic
Wednesday	Anatomy SGD Batch A Batch B Batch C Discussion Hall	LGIS Physiology	LGIS Embryology	Anatomy A biochemistry B C SDL	LGIS PERLS		Physiology X Topic Biochemistry Y Topic
Thursday	Anatomy SGD Batch A Batch B Batch C Discussion Hall	LGIS Physiology	LGIS Histology	11:40-12:30 LGIS Biochemistry	12:30-01:10 LGIS Physiology		01:40-2:20 2:20-3:00 LGIS Community Medicine LGIS Parma
Friday	Anatomy SGD Batch A Batch B Batch C Discussion Hall	LGIS Physiology	LGIS Histology	11:40-12:30 LGIS Biochemistry	12:30-01:10 LGIS Pathology		Physiology X Topic Biochemistry Y Topic

Week-

Day/Date	8:00-09:30	09:30-10:20	10:20-11:10	11:10-12:10		12:10-01:00	1:00-1:40	01:40-3:00	
Monday	Weekly Assessment	LGIS Physiology	DSL Anatomy	Anatomy A biochemistry B C SDL		DSL Biochemistry		Physiology X Topic Biochemistry Y Topic	
Tuesday	Anatomy SGD Batch A Batch B Batch C Discussion Hall	LGIS Physiology	LGIS Biochemistry	Anatomy A biochemistry B C SDL		DSL Physiology		Physiology X Topic Biochemistry Y Topic	
Wednesday	Anatomy SGD Batch A Batch B Batch C Discussion Hall	LGIS Physiology	LGIS Embryology	Anatomy A biochemistry B C SDL		LGIS Community Medicine		Physiology X Topic Biochemistry Y Topic	
Thursday	Anatomy SGD Batch A Batch B Batch C Discussion Hall	LGIS Physiology	LGIS Histology	11:40-12:30	12:30-01:10	12:50-01:50		01:40-2:20	2:20-3:00
				LGIS Biochemistry	LGIS Physiology	DSL Biochemistry		LGIS Community Medicine	LGIS Pharma
Friday	Anatomy SGD Batch A Batch B Batch C Discussion Hall	LGIS Physiology	LGIS Histology	11:40-12:30	LGIS Ageing			Physiology X Topic Biochemistry Y Topic	

IMPORTANT NOTE

To be able to sit in Annual Exam

**85% attendance and at least 50% in internal
assessment is mandatory**

DISCLAIMER

This module guide may be subject to changes and students should stay updated through official communication change

Week-