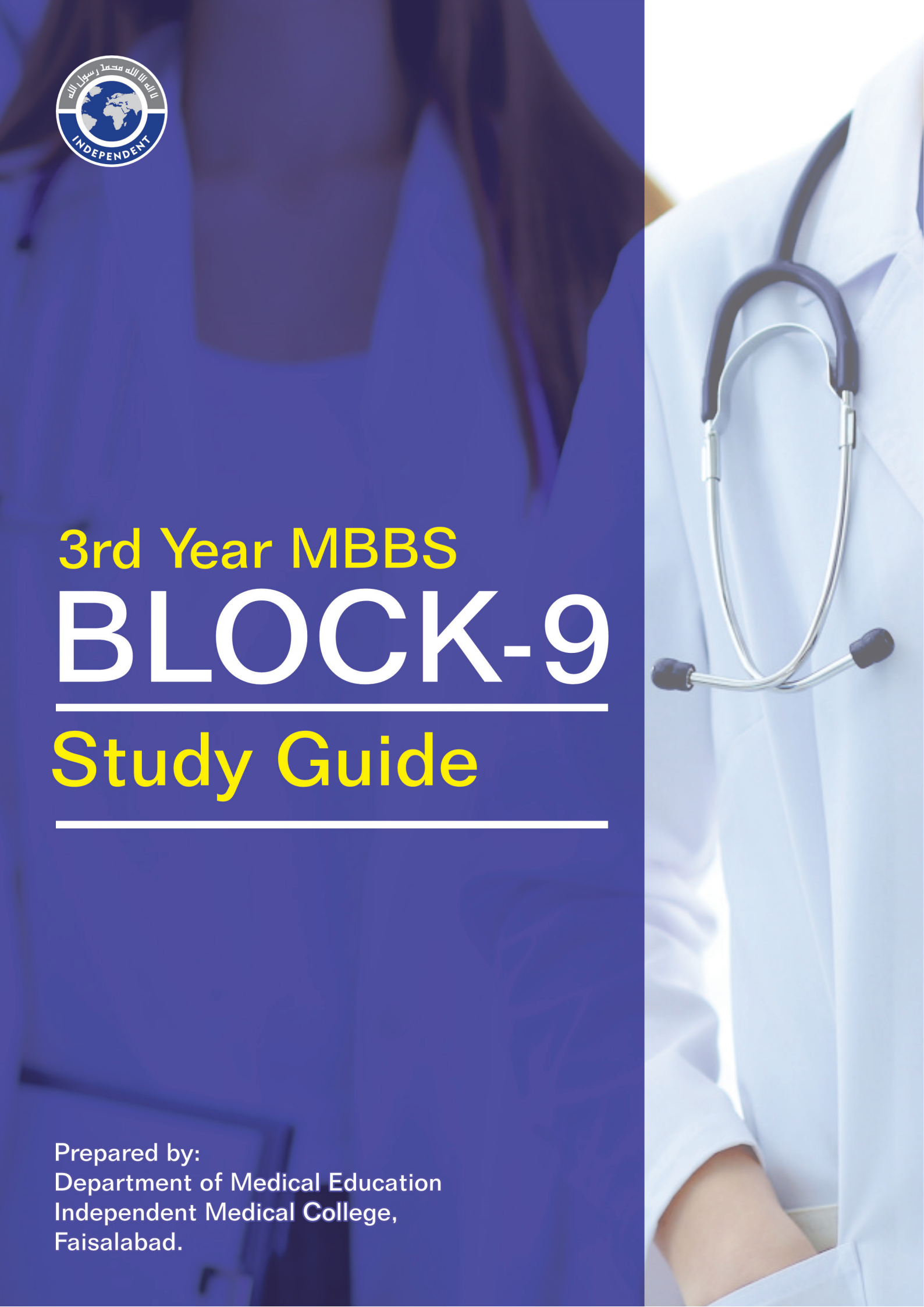

3rd Year MBBS

BLOCK-9

Study Guide

Prepared by:
Department of Medical Education
Independent Medical College,
Faisalabad.

BLOCK 12
4th Year MBBS

Table of Content

Curricular Framework

The modular integrated curriculum aligns the MBBS program outcomes with the nationally defined competencies of seven-star doctors. The program outcomes are at par with the outcomes that the national regulatory authorities have processed till date for the MBBS graduates. Curriculum outcomes translate the seven-star competencies to the objectives specific learning outcomes for the sessions. The outcomes are fragmented to objectives representing the three domains of learning and then graduated in spirals and horizontally integrated so as to acquire a professional approach, develop a broad-based practical knowledge, to nurture the learner's epistemic curiosity and to promote higher order thinking.

The horizontal integration is evident in the modular configuration where different basic disciplines approach the themes simultaneously. Module has been structured where all the basic disciplines are represented based on their respective weightage of content. Assessment framework ensures that the applied/clinical aspect also is inculcated in the concept development of the learner keeping the clinical relevance and context at the core.

Clinical Skills follow a spiral which is entirely skills dominant. This spiral is the core of psychomotor training. The clinical orientation along with the applied/clinical component of the knowledge base will channelize the learner for the practical and professional aspect of learning.

All module objectives are preceded by the recommended themes and clinical relevance. These are grounded in the rationale of the module so that pattern of learning could be steered for a practical professional approach. However institutional discretion does not prohibit adopting any other thematic approach provided that the program outcomes are adequately achieved.

<table>
<tr><th colspan="3">FOURTH YEAR MBBS</th></tr>
<tr><th>BLOCK X</th><th>BLOCK XI</th><th>BLOCK XII</th></tr>
<tr><td rowspan="2">Community Medicine & Family Health-II</td><td>Neurosciences-II</td><td rowspan="2">Endocrine & Reproduction- II</td></tr>
<tr><td>Psychiatry & Behavioural Sciences</td></tr>
<tr><td>GIT & Nutrition- II</td><td>Renal-II</td><td>Dermatology</td></tr>
<tr><td>Eye & ENT-I</td><td>Eye & ENT-II</td><td>Eye & ENT-III</td></tr>
<tr><td>11 WEEKS</td><td>14 WEEKS</td><td>11 WEEKS</td></tr>
<tr><td colspan="3">PERLS-4</td></tr>
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</table>

INTRODUCTION TO STUDY GUIDE

WHAT IS A STUDY GUIDE?

It is an aid to: Inform students how student learning program of the subject has been Organized
Help students organize and manage their studies throughout the module/block
Guide students on assessment methods, rules and regulations

THE STUDY GUIDE:

- Communicates information on organization and management of the module.
- This will help the student to contact the right person in case of any difficulty.
- Defines the objectives which are expected to be achieved at the end of the program.
- Identifies the learning strategies such as lectures, small group teachings, clinical skills,
- Demonstration, tutorial and case based learning that will be implemented to achieve the Learning objectives.
- Provides a list of learning resources such as books, computer assisted learning program, web-links, and journals, for students to consult in order to maximize their learning.
- Highlights information on the contribution of continuous and semester examinations on the Student's overall performance.
- Includes information on the assessment methods that will be held to determine every student's
- Achievement of objectives.
- Focuses on information pertaining to examination policy, rules and regulations

TIMELINE FOR BLOCK 12

BLOCK 12

Block 12			
1	02-11-26 to 07-11-26	Module - 31: Endocrinology and Reproduction II	Module 31 test: 21-11-26
2	09-11-26 to 14-11-26		
3	16-11-26 to 21-11-26		
4	23-11-26 to 28-11-26	Module 32: Dermatology	Module 32 test: 12-12-26
5	30-11-26 to 05-12-26		
6	07-12-26 to 12-12-26		
7	14-12-26 to 19-12-26	Module 33: Eye & ENT-IIII	Module 33 test: 02-01-27
8	21-12-26 to 26-12-26		
9	28-12-26 to 02-01-27		
10	04-01-27 to 09-01-27	Block 10 exam	
Parent Teacher Meeting		16-01-27	

Clinical rotation:

	ENT	EYE	Surgery - I	Surgery - II	Medicine - I	Medicine - II
02-11-26 to 07-11-26	A	B	C1	C2	D1	D2
09-11-26 to 14-11-26			C2	C1	D2	D1
16-11-26 to 21-11-26	B	A	D1	D2	C1	C2
23-11-26 to 28-11-26			D2	D1	C2	C1
30-11-26 to 05-12-26	C	D	A1	A2	B1	B2
07-12-26 to 12-12-26			A2	A1	B2	B1
14-12-26 to 19-12-26	D	C	B1	B2	A1	A2
21-12-26 to 26-12-26			B2	B1	A2	A1

ASSESSMENT

BLOCK EXAM

Block-X						
Modules	Theory		Practical			
	MCQs (1 mark each)	Marks	OSCE (8 marks each)	OSVE (10 marks each)	Short Case (20 marks each)	Marks
Community Medicine-II & Family health-II	25 + 15	40	2	1	-	26
GIT & Nutrition-II	35 + 5	40	2	1	-	26
Eye-I	30	30	3	-	1	44
ENT-I	30	30	3	-	1	44
Total	140 MCQs	140 Marks	10 stations x 8=80 Marks	2 stations x 10=20 Marks	2 short cases x 20=40 Marks	140 Marks
Grand Total=280 Marks						

Internal Assessment (Theory)			
No.	Scoring Parameter	Marks out of 20%	Marks distribution
1	Attendance in Lectures	85-90%=1%, > 90%=2%	85-90%= 01 mark > 90%=02 marks
		Remedial classes – re-sit examination allowed only after case endorsed and submitted by the college Principal and approval given by the Competent Authority. However, no marks given	
		Remedial classes – re-sit exam allowed only in genuine cases after approval from Competent Authority. However, no marks given	
2	Block Examination	15%	27
3	Continuous Internal Assessment/ Class Quiz/Class participation/ Professional Behaviour/ Ethical practices/ Leadership traits/ Module Exam Discipline/ Punctuality	3%	06

Internal Assessment (Theory)			
No.	Scoring Parameter	Marks out of 20%	Marks distribution
1	Attendance in Lectures	85-90%=1%, > 90%=2%	85-90%= 01 mark > 90%=02 marks
		Remedial classes – re-sit examination allowed only after case endorsed and submitted by the college Principal and approval given by the Competent Authority. However, no marks given	
		Remedial classes – re-sit exam allowed only in genuine cases after approval from Competent Authority. However, no marks given	
2	Block Examination (OSPE/OSCE/OSVE)	13%	23
3	CFRC Log Book / PERLs Portfolio	02%	06
4	Ward / Clinical / Bedside assessment based on the clinical rotation / DOPS	02%	04

EDUCATIONAL RESOURCES

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 & Michaell 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. 305
- Pharmacology by Champe and Harvey, Lippincott Williams & Wilkins 8th Edition.
- Katzung Basic and Clinical pharmacology, Lippincot Illustated 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 Beverely 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.

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

Family Medicine

- Oxford Handbook of General Practice, 5th Edition

Orthopedics

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

MODULE - 31
ENDOCRINOLOGY AND REPRODUCTION II

Module weeks	Recommended Minimum Hours

End of module assessment
Written paper
25 MCQ, s 5 SEQ, s

	Subject	MCQ, s	SEQ	

Module committee

Co Ordinator		
Co-coordinator		
Member		
Member		
Member		
Member		
Member		
Member		
Member		

Module Rationale

Endocrinology and Reproduction II builds upon the foundation laid in Endocrinology and Reproduction I (Block 5), in which the anatomy and physiology of the endocrine organs and the functional biochemistry of their hormones were taught in an integrated fashion with reference to common diseases occurring in the Pakistani community. This second module advances from normal physiology to the study of pathology, related pharmacology, and clinical aspects of endocrine, gynecological, and urological disorders. It emphasizes integration of basic sciences with clinical application to strengthen diagnostic reasoning and therapeutic decision-making. In addition to patient-level care, the module incorporates community medicine and public health perspectives, focusing on prevention, early detection, and health promotion strategies for prevalent conditions such as diabetes, thyroid disorders, infertility, menstrual health problems, and reproductive cancers. Through this integration, students will develop a holistic understanding of endocrine and reproductive health, equipping them to address these issues both in clinical practice and at the population level.

Module outcomes

- Explain the pathophysiology of common endocrine, gynecological, and urological disorders.
- Correlate pathology, pharmacology, and clinical features of endocrine and reproductive system disorders to strengthen diagnostic reasoning.
- Demonstrate an understanding of pharmacological principles in the management of endocrine, gynecological, and urological conditions.
- Perform focused clinical assessments, including history taking and physical examination, to evaluate endocrine and reproductive health problems.
- Interpret essential laboratory and imaging investigations in the diagnosis of common conditions.
- Demonstrate professional communication and counseling skills by educating patients and families about disease, treatment options, and preventive measures.

SUBJECTS INTEGRATED IN THE MODULE

1. Endocrinology/Medicine
2. Gynecology
3. Pharmacology
4. Pathology
5. Urology

WEEK 6: Time Table Fourth year MBBS block 10, Module 27, Dated:							
	Lecture 08:00 to 08:45	Lecture 08:45 to 09:30	Ward 09:30 to 11:00	Practical/tutorial 11:00 to 12:15	Lecture 12:15 to 01:00	BREAK	Tutorial 01:15 to 02:00
Mon							
Tue							
Wed							
Thur							
Fri							
Sat							

THEORY			
HYPOTHALAMIC AND PITUTARY DISORDERS			
CODE	SPECIFIC LEARNING OUTCOMES	INTEGRATING DISCIPLINE	TOPIC
EnR-En-001	Diagnose diabetes insipidus on the basis of characteristic symptoms and clinical presentation. Differentiate between central and nephrogenic types. Outline the investigations to reach the diagnosis. Formulate a management plan for central and nephrogenic cases. Identify potential complications if left untreated.	Endocrinology/ Medicine	Diabetes Insipidus
EnR-En-002	Describe the clinical features of precocious puberty. Differentiate between its central and peripheral causes. Develop a stepwise diagnostic and management plan for a patient presenting with precocious puberty.	Gynaecology / Endocrinology	Precocious Puberty
EnR-En-003	Diagnose delayed puberty based on absence of secondary sexual characteristics by expected age. Explain the pathophysiology of GnRH deficiency. Develop a stepwise diagnostic and management plan for a patient presenting with precocious puberty.	Gynaecology / Endocrinology	Delayed Puberty
EnR-En-004	Identify the clinical features of dwarfism due to growth hormone deficiency. Explain the underlying mechanisms leading to the disorder. List the investigations for diagnosing the condition. Plan the management of dwarfism caused by growth hormone deficiency. Identify possible complications associated with untreated cases.	Endocrinology/ Medicine	Dwarfism
EnR-En-005	Diagnose gigantism on the basis of characteristic signs and symptoms. Describe its etiology. Outline investigation and discuss management plan. Identify potential complications. Diagnose acromegaly on the basis of characteristic signs and symptoms. Differentiate acromegaly from gigantism. Describe the underlying etiology. Outline the approach to investigation and discuss management strategies. Enlist complications.	Endocrinology/ Medicine	Gigantism & Acromegaly
EnR-Pa-006	Classify pituitary adenomas. Describe etiopathogenesis of pituitary adenomas. Describe their gross and microscopic pathological features. Correlate the clinical features with the type of hormone secreted (prolactinoma, somatotroph adenoma, corticotroph adenoma). Discuss the complications. Outline the diagnostic approach including hormonal assays, imaging findings, and histopathology.	Pathology	Pituitary Adenomas
EnR-En-007	Diagnose SIADH based on signs and symptoms. Explain underlying mechanism leading to the development of SIADH. List the investigations and plan management. List the potential complications of SIADH.	Endocrinology/ Medicine	SIADH
EnR-En-008	Describe the role of melatonin in regulating circadian rhythm. Recognize clinical implications of melatonin deficiency or excess. Outline the use of melatonin supplements in clinical practice.	Endocrinology /Medicine	Pineal Dysfunction and Sleep Disorders
EnR-Ph-009	Classify hypothalamic and pituitary hormones and state their functions. Describe the pharmacokinetics of pituitary and hypothalamic hormones. Explain the mechanism of action of these hormones. Discuss the pharmacological effects of pituitary and hypothalamic hormones. Identify their clinical uses. List potential adverse effects. Describe drug interactions involving hypothalamic and pituitary hormones. Enlist contraindications for the use of hypothalamic and pituitary hormones.	Pharmacology	Hypothalamic and Pituitary Hormones

EnR-Ph-010	Enlist prolactin antagonists (dopamine agonists). Describe their pharmacokinetics, mechanism of action, pharmacological effects, uses, adverse effects, drug interactions, and contraindications.	Pharmacology	Prolactin Antagonists (Dopamine Agonists)
EnR-Ph-011	Describe the pharmacokinetics, mechanism of action, pharmacological effects, uses, adverse effects, drug interactions, and contraindications of oxytocin.	Pharmacology	Oxytocin
EnR-Ph-012	Describe the pharmacokinetics, mechanism of action, pharmacological effects, uses, adverse effects, drug interactions, and contraindications of vasopressin. Enumerate vasopressin antagonists and describe their pharmacokinetics, mechanism of action, pharmacological effects, uses, adverse effects, drug interactions, and contraindications.	Pharmacology	Vasopressin and Vasopressin Antagonists

THYROID AND PARATHYROID DISORDERS			
CODE	**SPECIFIC LEARNING OUTCOMES**	**INTEGRATING DISCIPLINE**	**TOPIC**
EnR-En-013	Enlist causes of hypothyroidism. Discuss the pathophysiology of decreased thyroid hormone production. Identify the clinical features and complications of hypothyroidism. Interpret diagnostic tests of TSH, T_3, T_3. Outline treatment plan and long-term follow-up.	Endocrinology /Medicine	Hypothyroidism
EnR-En-014	Explain the pathophysiology of excessive thyroid hormone production and its systemic effects. Enlist etiology of hyperthyroidism. Explain the autoimmune mechanism and clinical triad of Graves' disease. Diagnose hyperthyroidism based on the symptoms and signs, laboratory and imaging diagnostic findings. Discuss medical and surgical management strategies. Explain the pathophysiology, precipitating factors, clinical features, and emergency management of thyroid storm. Explain the importance of long-term monitoring and patient education regarding medication adherence and follow-up.	Endocrinology /Medicine	Hyperthyroidism
EnR-Pa-015	Classify thyroid tumors based on histopathological types: papillary, follicular, medullary, anaplastic. Identify clinical presentation, risk factors, and diagnostic approaches including molecular testing. Identify prognostic indicators and follow-up requirements.	Pathology	Thyroid Neoplasms
EnR-Ph-016	Describe different thyroid preparations. Describe the pharmacokinetics, mechanism of action, pharmacological effects, uses, adverse effects, drug interactions, and contraindications of thyroid preparations.	Pharmacology	Thyroid Preparations
EnR-Ph-017	Classify anti-thyroid drugs. Describe their pharmacokinetics, mechanism of action, pharmacological effects, uses, adverse effects, drug interactions, and contraindications.	Pharmacology	Anti-Thyroid Drugs
EnR-Ph-018	Describe the Jod-Basedow phenomenon caused by iodides.	Pharmacology	Iodides and Related Phenomena
EnR-Ph-019	Explain the use of beta-blockers in the treatment of hyperthyroidism. Explain the rationale for the use of different drugs in thyroid storm.	Pharmacology	Adjuvant Drugs in Hyperthyroidism
EnR-En-020	Identify the clinical features of hyperparathyroidism. Interpret biochemical findings in hyperparathyroidism. Explain the pathophysiological basis of symptoms in relation to calcium and bone metabolism. Discuss the complications of untreated hyperparathyroidism. Outline the management plan.	Endocrinology/ Medicine	Hyperparathyroidism

EnR-En-021	Explain the causes of hypoparathyroidism. Describe the pathophysiology of hypocalcemia due to PTH deficiency. Identify clinical features such as tetany, Chvostek's and Trousseau's signs. Interpret laboratory findings. Outline acute and chronic management plan.	Endocrinology/ Medicine	Hypoparathyroidism
EnR-Ph-022	Enumerate vitamin D preparations. Describe their pharmacokinetics, mechanism of action, pharmacological effects, uses, adverse effects, drug interactions, and contraindications.	Pharmacology	Vitamin D Preparations
EnR-Ph-023	Enumerate drugs used for the treatment of hypercalcemia. Describe their mechanism of action, clinical uses, and adverse effects (e.g., calcitonin, bisphosphonates, corticosteroids).	Pharmacology	Drugs Used in the Treatment of Hypercalcemia
EnR-Ph-024	Enlist bisphosphonates. Describe their pharmacokinetics, mechanism of action, pharmacological effects, uses, adverse effects, drug interactions, and contraindications.	Pharmacology	Bisphosphonates

PANCREATIC DISORDERS			
CODE	**SPECIFIC LEARNING OUTCOMES**	**INTEGRATING DISCIPLINE**	**TOPIC**
EnR-En-025	Describe the underlying pathophysiology of pancreatic $_{3}$-cells leading to insulin deficiency. Diagnose Type 1 Diabetes Mellitus based on clinical presentation and diagnostic findings. Identify acute complications of T1DM. Describe the pathophysiology, clinical manifestations, and laboratory findings of diabetic ketoacidosis. Outline the management principles of Type 1 Diabetes Mellitus, focusing on insulin therapy, dietary regulation, lifestyle modification, and self-monitoring of blood glucose.	Endocrinology/ Medicine/ Pathology	Diabetes Mellitus Type 1
EnR-En-026	Identify clinical presentation of Type 2 Diabetes and differentiate it from type 1 diabetes. Describe the pathophysiology of insulin resistance and relative insulin deficiency. Identify risk factors. Discuss diagnosis and monitoring. Outline management strategies and patient counselling.		Diabetes Mellitus Type 2
EnR-Ph-027	Classify oral antidiabetic drugs	Pharmacology	Oral Antidiabetic Drugs
EnR-Ph-029	Classify insulins. Describe the pharmacokinetics of different insulin preparations. Explain the mechanism of action of insulin. Describe the pharmacological effects and efficacy of insulin. Enumerate the clinical uses of insulin. Discuss adverse effects, drug interactions, and contraindications of insulin. Describe the concept and causes of insulin resistance.	Pharmacology	Insulin
EnR-Ph-030	Classify sulfonylureas. Explain the mechanism of action of sulfonylureas. Enumerate their clinical uses. Describe their adverse effects.	Pharmacology	Sulfonylureas
EnR-Ph-031	Classify biguanides. Explain the mechanism of action of biguanides. Enumerate their clinical uses. Describe their adverse effects.	Pharmacology	Biguanides
EnR-Ph-032	Classify thiazolidinediones. Explain the mechanism of action of thiazolidinediones. Enlist their clinical uses and adverse effects.	Pharmacology	Thiazolidinediones

EnR-Ph-033	Classify alpha-glucosidase inhibitors and amylin analogues. Explain their mechanism of action. Enlist their clinical uses and adverse effects.	Pharmacology	Alpha-Glucosidase Inhibitors and Amylin Analogues
EnR-Ph-034	Classify incretin-based drugs and SGLT2 inhibitors. Explain their mechanism of action. Enumerate their clinical uses and adverse effects.	Pharmacology	Incretin-Based Drugs and SGLT2 Inhibitors
EnR-En-035	Explain the pathophysiology of insulinoma. Identify clinical features of hypoglycemia. Describe Whipple's triad and its diagnostic significance. Outline investigations and discuss management.	Endocrinology/ Medicine	Insulinoma
EnR-En-036	Explain the pathophysiology of glucagonoma. Diagnose glucagonoma based on its clinical presentation and specific diagnostic findings. Discuss its management plan.	Endocrinology/ Medicine	Glucagonoma

ADRENAL GLAND DISORDERS			
CODE	**SPECIFIC LEARNING OUTCOMES**	**INTEGRATING DISCIPLINE**	**TOPIC**
EnR-En-037	Describe the pathophysiology of Cushing's Syndrome. Differentiate between Cushing's syndrome and Cushing's disease. Diagnose Cushing's syndrome based on key clinical features. Interpret relevant diagnostic investigations including cortisol levels and dexamethasone suppression test. Outline the principles of management, including surgical and medical options.	Endocrinology/ Medicine	Cushing's Syndrome
EnR-En-038	Explain the pathophysiology of adrenal insufficiency leading to Addison's disease. Diagnose Addison's disease based on key clinical presentation. Interpret diagnostic tests including serum cortisol, ACTH, and electrolyte levels. Outline the management plan.	Endocrinology/ Medicine	Addison's Disease
EnR-En-039	Explain the underlying pathophysiology of Conn's Syndrome. Identify the key clinical manifestations and correlate them with the underlying biochemical changes. Interpret the laboratory findings and diagnostic tests used to confirm Conn's syndrome. Outline the principles of management, including medical and surgical treatment options.	Endocrinology/ Pathology	Conn's Syndrome
EnR-Pa-040	Classify adrenal tumors. Describe the etiopathogenesis of pheochromocytoma. Explain the morphological features of pheochromocytoma. Describe the clinical manifestations due to excess catecholamine secretion. Interpret relevant laboratory and imaging findings used in the diagnosis of adrenal tumors. Outline the principles of management, including surgical, medical, and supportive treatment approaches.	Pathology/ Endocrinology	Tumors of the adrenal cortex and medulla
EnR-Ph-041	Classify corticosteroids. Describe the pharmacokinetics, mechanism of action, pharmacological effects, clinical uses, adverse effects, drug interactions, and contraindications of corticosteroids. Justify the tapering off of corticosteroids to prevent adrenal suppression and withdrawal effects.	Pharmacology	Corticosteroids
EnR-Ph-042	Classify corticosteroid antagonists (e.g., receptor antagonists and synthesis inhibitors). Describe their pharmacokinetics, mechanism of action, pharmacological effects, clinical uses, adverse effects, drug interactions, and contraindications.	Pharmacology	Corticosteroid antagonists

EnR-Ph-043	Identify the clinical indications for Hormone Replacement Therapy (HRT) and evaluate its potential risks and benefits for post-menopausal women. Discuss the patient education aspects regarding HRT, including lifestyle modifications and alternative therapies. Enlist estrogen antagonists including SERMs and describe their pharmacokinetics, mechanism of action, pharmacological effects, uses, adverse effects, drug interactions, and contraindications.	Pharmacology	Hormone replacement therapy

BREAST AND REPRODUCTIVE DISORDERS			
CODE	**SPECIFIC LEARNING OUTCOMES**	**INTEGRATING DISCIPLINE**	**TOPIC**
EnR-Ph-044	Classify benign epithelial lesions for breast. Describe morphological changes of non proliferative and proliferative diseases of breast. Classify benign, premalignant, and malignant tumors of breast. Enumerate molecular types of breast carcinoma. Describe the incidence, epidemiology, risk factors, pathogenesis, and morphology of breast carcinomas. Describe the prognostic and predictive factors for invasive carcinoma of breast. Describe grading and staging of breast carcinoma. Describe the role of FNAC, biopsy, and immunohistochemistry in diagnosis of breast cancer. Enumerate stromal tumors of breast. Describe the morphology of fibroadenoma and Phyllodes tumors.	Pathology	Breast
EnR-En-045	Describe causes of Hyperprolactinemia. Explain the pathophysiology of hyperprolactinemia. Identify clinical presentation and interpret diagnostic tests. Outline management plan.	Endocrinology/ Medicine	Hyperprolactinemia
EnR-Pa-046	Describe the morphological features of uterine fibroids. Classify the types of fibroids based on location: submucosal, intramural, subserosal, and pedunculated. Explain the pathogenesis of fibroid development, including hormonal influences (estrogen and progesterone) and genetic factors.	Pathology	Uterine Fibroids
EnR-Gyn-047	Define female Subfertility and its significance in reproductive health Describe type of Subfertility (primary, secondary). Describe the common causes of female Subfertility, including ovulatory disorders, structural abnormalities, and endocrine issues. Discuss the impact of lifestyle factors on female fertility.	Gynaecology	Female Subfertility
EnR-Ph-048	Classify drugs used for treatment of subfertility. Enlist progesterone antagonists. Describe pharmacokinetics, mechanism of action, pharmacological effects, uses, adverse effects, drug interactions and contraindications of progestogen antagonists. Enlist androgen and antiandrogen preparations Describe pharmacokinetics, mechanism of action, pharmacological effects, uses, adverse effects, drug interactions and contraindications. Enumerate estrogen & progestogen preparations. Describe their pharmacokinetics, mechanism of action, pharmacological effects, uses, adverse effects, drug interactions and contraindications. Classify Contraceptives. Describe their pharmacokinetics, mechanism of action, pharmacological effects, uses, adverse effects, drug interactions and contraindications. Enlist estrogen antagonists. Describe their pharmacokinetics, mechanism of action, pharmacological effects, uses, adverse effects, drug interactions and contraindications. Describe use of Clomiphene in treatment of Subfertility. Describe the use of AntiEstrogen (Leterozole) in the treatment of Subfertility. Tabulate differences between Clomiphene and Letrozole.	Pharmacology	Treatment of subfertility

EnR-Ph-049	Explain the pathophysiology of male subfertility, including the role of testosterone and other hormones. Discuss the clinical features associated with male subfertility and hypogonadism, including symptoms and signs. Enlist the investigations. Interpret the Semen Analysis parameter.	Urology/ Endocrinology	Male Subfertility
EnR-Ph-050	Enumerate anabolic steroids. Describe pharmacokinetics, mechanism of action, pharmacological effects, uses, adverse effects, drug interactions and contraindications of Testosterone	Pharmacology	Anabolic steroids
EnR-Pa-051	Define premalignant uterine conditions, including endometrial hyperplasia and its types. Describe the pathophysiology and histological classification of endometrial hyperplasia. Describe the pathophysiology and histological features of Hydatidiform mole. Explain the pathological mechanisms underlying progression from atypical endometrial hyperplasia to endometrial carcinoma. Classify uterine carcinoma based on histological type (endometrial carcinoma, uterine sarcoma) and describe its pathophysiology and staging. Discuss the prognosis of uterine carcinoma based on stage, grade, and histological type.	Pathology	Premalignant and Malignant Conditions of Uterus
EnR-Pa-052	Define benign cervical lesions and CIN. Differentiate between benign and premalignant cervical lesions based on histopathology. Explain the principles of cervical cytology, including Pap smear technique, interpretation, and the Bethesda reporting system. Describe the pathological significance of HPV infection in cervical lesions. Identify indications for cervical biopsy during colposcopy.	Pathology	Benign and Premalignant Lesions of the Cervix
EnR-Pa-053	Define benign ovarian cysts and classify them (functional cysts, dermoid cysts). Describe the pathophysiology and histological features of functional ovarian cysts (follicular and corpus luteum cysts). Define malignant ovarian neoplasms and categorize them into epithelial, germ cell, and sex-cord stromal tumors. Explain the pathophysiology and molecular mechanisms involved in ovarian tumor development.	Pathology	Benign and malignant ovarian tumors

MODULE - 32
DERMATOLOGY

Module weeks	Recommended Minimum Hours

End of module assessment
Written paper
25 MCQ, s 5 SEQ, s

	Subject	MCQ, s	SEQ	

Module committee

Co Ordinator		
Co-coordinator		
Member		
Member		
Member		
Member		
Member		
Member		
Member		

Module Rationale

Skin diseases are among the most common health problems and significantly impact patients' quality of life. A sound understanding of dermatological conditions is therefore essential for every medical graduate. This module is designed to provide medical students with fundamental knowledge and clinical skills in dermatology, integrated with related basic sciences. It emphasizes the recognition of common skin disorders, underlying pathophysiological mechanisms, and principles of management, while highlighting links with systemic diseases. Early clinical exposure, case-based discussions, and integration with disciplines such as microbiology, pathology, pharmacology, and internal medicine will prepare students to diagnose, manage, and appropriately refer patients with dermatological problems

Module outcomes

- 3 Identify and describe common dermatological disorders and their clinical presentations.
- 3 Correlate pathological features with clinical manifestations to formulate differential diagnoses.
- 3 Develop basic management and treatment plans for common dermatological conditions.
- 3 Provide patient counseling on disease course, prevention, and lifestyle modifications.
- 3 Apply principles of referral and recognize cases requiring specialist intervention.

SUBJECTS INTEGRATED IN THE MODULE

1. Dermatology
2. Pathology
3. Microbiology
4. Pharmacology
5. Community Medicine

WEEK 6: Time Table Fourth year MBBS block 10, Module 28, Dated:							
	Lecture 08:00 to 08:45	Lecture 08:45 to 09:30	Ward 09:30 to 11:00	Practical/tutorial 11:00 to 12:15	Lecture 12:15 to 01:00	BREAK	Tutorial 01:15 to 02:00
Mon							
Tue							
Wed							
Thur							
Fri							
Sat							

THEORY			
BEHAVIORAL SCIENCES			
CODE	SPECIFIC LEARNING OUTCOMES	INTEGRATING DISCIPLINE	TOPIC
Derm2-001	Describe the morphological features of following skin lesions: Macule, Papule, Nodule, Plaque, Wheal, Vesicles and bullae, Pustule, Cyst, Scale, Crust, Fissuring, Erosion, Ulceration, Excoriation, Lichenification, Annular lesions, Discoid lesions, Atrophy, scar, and keloid. Describe and differentiate dermatological features including desquamation, burrow, comedone, telangiectasia, reticulate, petechiae, purpura, and ecchymosis.	Dermatology	Skin lesions
Derm2-002	Describe the etiology and mode of transmission of Sarcoptes scabiei. Identify clinical presentation of scabies Differentiate scabies from other pruritic dermatoses. Outline the treatment of scabies including preventive measures.	Dermatology/ Community medicine	Scabies
Derm2-003	Explain the etiology and types of lice infestation. Describe clinical presentation. Differentiate pediculosis from dandruff, scabies, and seborrheic dermatitis. Outline treatment strategies with preventive measures.	Dermatology / Community medicine	Pediculosis
Derm2-004	Classify dermatitis. Enlist the common forms of endogenous and exogenous eczema.	Dermatology	Eczema/dermatitis
Derm2-005	Describe the etiology and predisposing factors of atopic dermatitis. Identify the clinical features. Differentiate atopic dermatitis from seborrheic dermatitis, scabies, and contact dermatitis on basis of clinical features. Outline treatment and preventive strategies.	Dermatology	Atopic Dermatitis
Derm2-006	Explain the etiology and role of Malassezia, sebum, immune factors. Identify clinical features of seborrheic dermatitis. Differentiate seborrheic dermatitis from psoriasis, atopic dermatitis, and pediculosis. Outline treatment and preventive strategies for relapse control.	Dermatology	Seborrheic Dermatitis
Derm2-007	Differentiate between irritant and allergic contact dermatitis in terms of etiopathogenesis, and clinical features. Identify the clinical features of contact dermatitis. Differentiate contact dermatitis from atopic dermatitis, urticaria, and scabies. Outline treatment plan and preventive measures.	Dermatology	Contact Dermatitis
Derm2-008	Describe the etiology and pathophysiology of urticaria. Identify clinical features. Differentiate urticaria from contact dermatitis, scabies, and drug reactions on basis of sign and symptoms. Outline emergency management for angioedema/anaphylaxis.	Dermatology/ Medicine	Urticaria

Derm2-009	Define bullous disorders. Classify immune-mediated bullous disorders. Explain the pathogenesis of: i. Pemphigus vulgaris ii. Bullous pemphigoid iii. Dermatitis herpetiformis Describe the clinical presentation and lesion morphology of each disorder. Differentiate between these disorders on the basis of site, blister type, and mucosal involvement. Enlist appropriate diagnostic tests. Outline management plan. Enlist potential complications and their preventive measures.	Dermatology	Bullous disorders
	Define epidermolysis bullosa. Explain the underlying molecular and genetic mechanisms leading to skin fragility in EB. Describe the clinical features and complications associated with EB. Outline the diagnostic approaches and principles of management.	Dermatology	
	Define infective bullous disorders. Classify them based on causative agents. Identify the etiological factors and common pathogens. Describe characteristic clinical features of major infective bullous disorders (bullous impetigo and staphylococcal scalded skin syndrome) with complications. Outline the principles of management.	Dermatology	
Derm2-010	Explain the etiopathogenesis of acne vulgaris. Identify the clinical features and types of acne lesions. Differentiate acne vulgaris from other acneiform eruptions. Outline the treatment plan including preventive and longterm management strategies. Explain mechanism of action and adverse effects of drugs used in acne.	Dermatology/ Pharmacology	Acne Vulgaris
Derm2-011	Describe the etiopathogenesis of psoriasis. Identify the clinical features and common variants. Outline treatment modalities with preventive and lifestyle strategies.	Dermatology	Psoriasis
Derm2-012	Describe the etiopathogenesis of lichen planus. Identify the classical clinical features. Enlist the differential diagnosis of lichen planus. Outline the treatment plan. Discuss preventive and long-term considerations, including malignant transformation risk.	Dermatology/ Pathology	Lichen Planus
Derm2-013	Differentiate erythema multiforme and erythema nodosum in terms of etiology, clinical features, morphology, distribution, associated conditions, and principles of management.	Dermatology	Erythema Multiforme and erythema nodosum
Derm2-014	Identify drug causing Stevens–Johnson syndrome. Describe the characteristic signs and symptoms. Outline management plan.	Dermatology/ Pharmacology	Stevens–Johnson Syndrome (SJS)
Derm2-015	Describe toxic epidermal necrolysis with its pathophysiology. Identify the common causative drugs and triggers of TEN. Identify the hallmark clinical features including extent of epidermal detachment and systemic involvement. Identify complications of TEN and their impact on prognosis. Outline the principles of intensive treatment and supportive care in TEN.		Toxic Epidermal Necrolysis (TEN)

Derm2-016	Describe the role of Staphylococcus aureus as a causative organism in skin infections. Describe the clinical patterns including impetigo, bullous impetigo, boils (abscesses), bacterial folliculitis, and infected eczema. Outline the diagnostic considerations, complications, and management principles.	Dermatology/ Microbiology	Acute bacterial skin infections
Derm2-017	Identify acute bacterial skin infections caused by Streptococcus pyogenes. Describe their clinical patterns including non-bullous impetigo, ecthyma, and erysipelas. Identify the role of group A $_{3}$-hemolytic streptococci (and occasionally groups B, C, G) as causative organisms. Outline the clinical course, complications, and management including systemic antibiotics.	Dermatology/ Microbiology	
	Describe the etiological agent and routes of infection of cutaneous tuberculosis. Identify the major clinical forms of cutaneous tuberculosis. Outline the diagnostic approach and treatment. Describe the causative organism, transmission, and pathogenesis of leprosy. Identify the clinical spectrum of leprosy and cardinal signs of diagnosis. Explain the complications and deformities resulting from nerve involvement in leprosy. Outline the diagnostic approach and management principles.	Dermatology/ Microbiology	Chronic bacterial skin infections
Derm2-018	Describe the etiology and types of warts. Identify the clinical presentation of warts. Enlist the differential diagnosis. Outline the management options with preventive measures.	Dermatology	Viral skin infections
	Explain the etiology and mode of transmission of molluscum contagiosum virus. Identify the clinical features and distribution of molluscum contagiosum lesions. Differentiate mollascum contagiosum from warts, milia, and basal cell carcinoma on basis of clinical features. Discuss treatment options and prevention strategies.	Dermatology/ Microbiology	
	Explain the etiopathogenesis of herpes zoster (Shingles) including reactivation of varicella-zoster virus. Describe the clinical features, dermatomal distribution, and prodromal symptoms. Differentiate herpes zoster from HSV, contact dermatitis, and impetigo on basis of clinical features. Outline management and prevention strategies.	Dermatology/ Microbiology	
	Identify the etiology and types of herpes simplex. Discuss the clinical presentation of primary and recurrent HSV infections. Discuss differential diagnosis of herpes simplex. Outline the management plan.	Dermatology/ Microbiology	
Derm2-019	Describe the etiology of tinea. Discuss the clinical features of different types of tinea. Differentiate tinea from eczema, psoriasis, seborrheic dermatitis, and candidiasis. Outline the diagnostic approach, treatment options, and preventive measures.	Dermatology	Fungal skin infections
	Explain the etiology of Pityriasis Versicolor and predisposing factors. Describe the clinical presentation. Differentiate pityriasis versicolor from vitiligo. Outline diagnostic tests and management plan.	Dermatology	

Derm2-020	Classify the types of leishmaniasis. Describe the clinical features of cutaneous, mucocutaneous, and visceral leishmaniasis. Enlist its complications. Outline the diagnostic methods, treatment options and preventive measures.	Parasitology/ Dermatology	Protozoal skin infection
Derm2-021	Define vitiligo and describe its epidemiology. Explain the underlying pathogenetic mechanisms. Describe its clinical features. Make differential diagnosis of hypopigmented skin lesions. Discuss the management options. Outline the psychosocial impact of vitiligo.	Dermatology	Pigmentation Disorders
	Define melasma and describe its etiology and epidemiology. Describe the clinical features with its treatment options. Describe adverse effects of de-melanizing agents.	Dermatology	
	Define albinism and explain its genetic basis. Describe the clinical features. Outline management plan.	Dermatology	
Derm2-022	Describe the role of sunscreen in protecting skin. Explain the importance of Sun Protection Factor (SPF) and choosing an appropriate SPF for daily use. Describe the correct method of applying sunscreen, including quantity, timing, and reapplication.	Dermatology	Use of sunscreen
Derm2-023	Describe the clinical features of onychomycosis and paronychia. Describe nail changes in psoriasis and lichen planus. Identify common traumatic nail changes. Describe systemic associations of nail changes. Describe the importance of emollients and early antifungal treatment in nail care.	Dermatology/ Medicine	Disorders of nails
Derm2-024	Define alopecia areata. Explain the etiological and immunological basis of alopecia areata. Describe the clinical features and patterns of presentation. Outline the differential diagnosis. Discuss the management options for alopecia areata.	Dermatology	Disorders of hairs
	Define and classify androgenic alopecia. Explain the hormonal and genetic factors contributing to androgenic alopecia. Describe the clinical features and diagnostic criteria. Outline the management plan.	Dermatology	
	Define hirsutism and differentiate it from hypertrichosis. Identify the common causes of hirsutism. Outline the diagnostic workup for hirsutism. Discuss medical, cosmetic, and lifestyle-based management strategies.	Dermatology/ Medicine	
Derm2-025	Discuss types of naevi with reference to clinical and morphological features. Differentiate benign nevi from malignant melanoma on the basis of clinical signs.	Pathology/ Dermatology	Naevi
Derm2-026	Describe the signs and symptoms of malignant melanoma. Enlist the risk factors. Outline the diagnostic investigations and management. Explain the importance of early detection for survival outcomes. Describe the clinical features of basal cell carcinoma. Discuss diagnostic methods and outline the management.	Pathology/ Dermatology	Cutaneous tumors
	Enlist the predisposing factors for squamous cell carcinoma. Describe the clinical presentation. Identify diagnostic approaches with treatment options.	Pathology/ Dermatology	

MODULE - 33
EYE & ENT - III

ENT - III

Module weeks	Recommended Minimum Hours

End of module assessment
Written paper
25 MCQ, s 5 SEQ, s

	Subject	MCQ, s	SEQ	

Module committee

Co Ordinator		
Co-coordinator		
Member		
Member		
Member		
Member		
Member		
Member		
Member		

Module Rationale

The inclusion of module related to otorhinolaryngology in the undergraduate medical curriculum is imperative to ensure that future physicians acquire the essential knowledge and skills to diagnose and manage both common and potentially serious otorhinolaryngological conditions. Such training not only contributes to improved patient care but also alleviates the burden on specialized ENT (ear, nose, throat) services, thereby enhancing overall healthcare delivery and efficiency. The objective of this module is to outline the essential knowledge, skills, attitudes, and competencies in otorhinolaryngology that must be attained during undergraduate medical training.

Module outcomes

- Explain the pathophysiology and clinical features of common ear, nose, and throat disorders.
- Identify and diagnose prevalent otorhinolaryngological conditions through history-taking and clinical evaluation.
- Perform basic otorhinolaryngological examination techniques competently.
- Initiate appropriate first-line management for common ENT conditions and determine indications for timely referral to specialist care.
- Recognize and provide initial stabilization for otorhinolaryngological emergencies, such as airway obstruction and severe epistaxis, followed by appropriate referral.
- Communicate effectively with patients regarding ENT conditions, management options, and preventive strategies, ensuring clarity and patient-centered care.
- Demonstrate professionalism, ethical conduct, and a respectful attitude in the care of patients with otorhinolaryngological conditions

SUBJECTS INTEGRATED IN THE MODULE

1. Anatomy
2. Physiology
3. Pathology
4. Pharmacology
5. Oncology
6. Forensic Medicine

WEEK 6: Time Table Fourth year MBBS block 10, Module 29, Dated:							
	Lecture 08:00 to 08:45	Lecture 08:45 to 09:30	Ward 09:30 to 11:00	Practical/tutorial 11:00 to 12:15	Lecture 12:15 to 01:00	BREAK	Tutorial 01:15 to 02:00
Mon							
Tue							
Wed							
Thur							
Fri							
Sat							

THEORY			
ENT-III (THROAT)			
CODE	SPECIFIC LEARNING OUTCOMES	INTEGRATING DISCIPLINE	TOPIC
ENT-Throat-001	Enlist cystic lesions of oral cavity. Discuss differential diagnosis of following cystic lesions of oral cavity and their treatment i. Mucoceles ii. Ranula iii. Dermoid cyst	ENT	Cystic lesions of oral cavity
ENT-Throat-002	Identify the clinical features and order investigations of sialadenitis, sialolithiasis, and sialectasis. Outline the treatment plan for sialadenitis, sialolithiasis, and sialectasis		Salivary Gland Disorders
ENT-Throat-003	Describe the etiology and risk factors of aphthous ulcer. Explain the morphological features of aphthous ulcer. Differentiate aphthous ulcers from other oral ulcers. Outline the management plan of aphthous ulcer.		Aphthous ulcer
ENT-Throat-004	Describe the etiology, predisposing factors, and clinical features of Vincent's angina. Differentiate Vincent's angina from diphtheria. Discuss the diagnostic approach, including clinical examination and smear findings. Enlist the complications associated with Vincent's angina. Outline the management plan of Vincent's angina.		Vincent's angina
ENT-Throat-005	Describe the clinical features, differential diagnosis, and management of leukoplakia and erythroplakia of the tongue.		Leukoplakia and erythroplakia
ENT-Throat-006	Describe the surgical anatomy of the nasopharynx, oropharynx, and hypopharynx. Identify important anatomical relations and structures at risk during surgery.	ENT/Anatomy	Surgical anatomy and physiology of pharynx
ENT-Throat-007	Describe predisposing factors and the clinical presentations and treatment of acute & chronic pharyngitis.	ENT	Membranous pharyngitis/ Diphtheria
ENT-Throat-008	Enumerate the disorders that may present with a white patch or membrane over the tonsils. Identify the clinical features and order investigations required for diagnosis of diphtheria. Discuss the possible complications resulting from diphtheria and its prevention. Plan the management of faucial diphtheria.	ENT/Paediatrics	Membranous pharyngitis/ Diphtheria
ENT-Throat-009	Describe the clinical features of acute and chronic tonsillitis. Outline the treatment of acute & chronic tonsillitis. Enlist the indications and contraindications of tonsillectomy. Discuss the pre-operative preparation, post-operative care, and management of complications in tonsillectomy. Identify the clinical signs and symptoms of peritonsillar abscess and outline its management	ENT	Tonsillitis
ENT-Throat-010	Enlist the etiology of adenoid hypertrophy. Identify the clinical features and order the investigations required for diagnosis of adenoiditis. Describe the management of adenoiditis. Enlist the indications, contraindications and complications of adenoidectomy		Adenoids
ENT-Throat-011	Describe the clinical features, investigations, and surgical management of juvenile nasopharyngeal angiofibroma. Explain the clinical presentation, diagnostic work-up, and treatment of nasopharyngeal carcinoma.	ENT/Oncology	Neoplasms of nasopharynx

ENT-Throat-012	Define Plummer-Vinson syndrome and its classical triad. Explain the pathophysiological role of iron deficiency in the development of mucosal atrophy and esophageal webs. Describe the clinical features and possible complications of PVS. Outline the management plan of PVS.	ENT/Pathology	Plummer-Vinson syndrome
ENT-Throat-013	Describe the causes, clinical features, and management of acute laryngitis. Discuss the etiology, clinical features, and treatment of chronic laryngitis.	ENT	Acute and chronic laryngitis
ENT-Throat-014	Describe the etiology and pathophysiology of acute laryngo-tracheobronchitis. Identify its clinical. Differentiate from other causes of stridor. Outline the management plan. Describe the emergency measure in acute laryngotracheobronchitis.	ENT/Paediatrics	Stridor/Croup
ENT-Throat-015	Enumerate the causes of vocal cord paralysis. Identify the clinical features of unilateral and bilateral abductor paralysis. Diagnose the unilateral and bilateral adductor paralysis.on basis of clinical features. Discuss the principles of management of vocal cord paralysis. Explain the role of speech therapy in the management of vocal cord paralysis.	ENT	Hoarseness - vocal cord paralysis
ENT-Throat-016	Describe the etiology of vocal nodules. Explain the pathophysiology of vocal nodules. Identify the clinical features of vocal nodules. Outline the management principles of vocal nodules. Describe the etiology of vocal polyps. Explain the pathophysiology of vocal polyps. Recognize the clinical features of vocal polyps. Discuss the management of vocal polyps.		Hoarseness - Vocal nodules Vocal polyps
ENT-Throat-017	Describe the clinical presentation of acute Epiglottitis. Enumerate the complications of Acute Epiglottitis. Outline the principles of emergency management of acute epiglottitis with emphasis on airway protection. Describe the role of antibiotics and supportive care in Acute Epiglottitis.		Acute Epiglottitis
ENT-Throat-018	Enlist congenital disorders of Larynx . Describe the clinical features, diagnosis, and natural course of laryngomalacia. Discuss the presentation, complications, and management of juvenile recurrent laryngeal papillomatosis.		Congenital conditions of Larynx
ENT-Throat-019	Describe the etiology and predisposing factors of following neck infections: i. Cervical lymphadenitis and abscess ii. Cold abscess iii. Ludwig's angina iv. Parapharyngeal abscess v. Retropharyngeal abscess vi. Peritonsillar abscess Describe the clinical presentation of neck space infections including warning signs. Interpret investigations (laboratory and imaging) required for the diagnosis of neck infections. Formulate a management plan for neck space infections. Explain the potential complications of untreated neck infections.		Infections of Head and Neck Spaces
ENT-Throat-020	Enlist the common types and sources of aero-digestive tract foreign bodies. Describe the clinical presentation of a patient presenting with aero-digestive tract foreign bodies. Discuss the diagnostic approach in a patient with suspected aero-digestive tract foreign bodies. Outline the initial emergency measures definitive management of aero-digestive tract foreign bodies with possible complications of delayed diagnosis or mismanagement.	ENT/ Emergency medicine	Aero-digestive tract foreign bodies.

ENT-Throat-021	Identify common signs and symptoms of laryngeal tumors. Describe appropriate investigations to confirm diagnosis Explain basic management options.	ENT	Laryngeal tumors
ENT-Throat-022	Enlist indications of tracheostomy Describe pre-procedure assessment and preparation. Outline the steps of tracheostomy. Describe postoperative care and monitoring. Identify common complications of tracheostomy.	ENT	Tracheostomy

MODULE - 33
EYE & ENT - III

EYE - III

Module weeks	Recommended Minimum Hours

End of module assessment
Written paper
25 MCQ, s 5 SEQ, s

	Subject	MCQ, s	SEQ	

Module committee

Co Ordinator		
Co-coordinator		
Member		
Member		
Member		
Member		
Member		
Member		
Member		

Module Rationale

Ophthalmology is a vital medical specialty dedicated to the diagnosis, treatment, and prevention of eye diseases. It is essential for medical students to have a thorough understanding of the eye's basic anatomy, physiology, and pathology in order to manage common ocular conditions effectively. This module aims to equip medical students with the knowledge and clinical skills necessary to identify and manage a wide range of ophthalmic conditions frequently encountered in general practice and emergency settings.

Module outcomes

- Identify common ophthalmic diseases and disorders encountered in OPD, IPD, multidisciplinary and emergency settings.
- Apply fundamental clinical skills in the examination of the eye and adnexa, including visual acuity assessment and basic use of ophthalmic instruments.
- Formulate differential diagnosis and initial management plans for common ophthalmic conditions, including appropriate referral when necessary.
- Integrate knowledge of ophthalmic health into the broader context of systemic diseases and public health considerations.

SUBJECTS INTEGRATED IN THE MODULE

1. Medicine
2. Oncology
3. Pharmacology
4. Forensic Medicine
5. Rheumatology

WEEK 6: Time Table Fourth year MBBS block 10, Module 30, Dated:							
	Lecture 08:00 to 08:45	Lecture 08:45 to 09:30	Ward 09:30 to 11:00	Practical/tutorial 11:00 to 12:15	Lecture 12:15 to 01:00	BREAK	Tutorial 01:15 to 02:00
Mon							
Tue							
Wed							
Thur							
Fri							
Sat							

THEORY			
EYE-III			
CODE	**SPECIFIC LEARNING OUTCOMES**	**INTEGRATING DISCIPLINE**	**TOPIC**
Eye3-001	Define and classify strabismus. Classify Concomitant (non- paralytic) squint Explain the causes and types of non-paralytic squint. Recognize the clinical presentation and diagnostic signs of non-paralytic squint. Plan a management strategy for non-paralytic squint, including medical and surgical correction.	Ophthalmology	Squint/ Strabismus
	Classify In-Concomitant (paralytic) squint. Describe the etiology and pathophysiology of paralytic squint. Identify the clinical features and diagnostic signs of paralytic squint. Differentiate paralytic/ In-Concomitant squint from nonparalytic/ Concomitant squint based on history and examination. Outline the management plan for paralytic squint, including medical and surgical options. Describe the ocular manifestation of Myasthenia gravis.		
Eye3-002	Describe the underlying pathophysiology of papilledema in relation to raised intracranial pressure. List common causes of papilledema. Describe the clinical features of papilledema, including fundoscopic signs. List the differential diagnosis of papilledema. Discuss the principles of management of papilledema, including treating the underlying cause, reducing intracranial pressure, and preventing permanent vision loss.	Ophthalmology	Neuro-ophthalmology
	Describe the underlying pathophysiology of papilledema in relation to raised intracranial pressure. List common causes of papilledema. Describe the clinical features of papilledema, including fundoscopic signs. List the differential diagnosis of papilledema. Discuss the principles of management of papilledema, including treating the underlying cause, reducing intracranial pressure, and preventing permanent vision loss.		
	Define optic neuritis. List the causes and types of optic neuritis. Identify the signs and symptoms of optic neuritis. Outline the key investigations including fundoscopy, visual field testing, MRI, and blood tests for systemic associations. Describe the principles of management of optic neuritis.		
Eye3-003	List the common causes and clinical features of oculomotor, trochlear, and abducens nerve palsies. Discuss the clinical significance of pupil involvement in oculomotor nerve palsy. Describe the ocular manifestations of facial nerve (VII) palsy such as lagophthalmos, impaired blink reflex, and exposure keratitis. Identify ocular complications that may arise from cranial nerve palsies. Outline the management plan and strategies to protect the eye in these nerve palsies.		Visual pathways and visual field defects
Eye3-004	Describe the anatomical course of the visual pathway. Correlate lesions at different levels of the visual pathway with characteristic visual field defects. Differentiate common visual field defects based on lesion location.	Ophthalmology/ Emergency Medicine/ Forensic Medicine	Ocular trauma

Eye3-005	Describe the clinical manifestations of different types of ocular trauma. (burns, chemical injuries, blunt trauma, penetrating trauma) Discuss the early and late complications of ocular trauma. Describe the management plan for corneal and conjunctival foreign bodies. Describe the indications for referral of ocular injuries. Discuss the management plans for ocular burns and chemical injuries. Explain the medicolegal responsibilities of physicians in documentation, reporting, and evidence preservation (including photographs and medico-legal certificates) in cases of ocular trauma related to assault, accidents, and occupational injuries.	Ophthalmology/ Medicine	Systemic diseases
	Enlist the symptoms and signs of thyroid eye disease. Explain its underlying pathophysiology. Discuss possible complications of thyroid eye disease. Outline relevant investigations, including blood tests, eye-related tests, and imaging. Formulate a comprehensive treatment plan for a patient with thyroid eye disease, including medical treatment and ocular interventions.	Ophthalmology/ Nutrition	
	Describe the ocular manifestations of vitamin A deficiency including night blindness, conjunctival and corneal xerosis, Bitot's spots, keratomalacia, xerophthalmia. Identify the methods of diagnosis including clinical signs. Discuss the management plan and prevention of ocular disease due to vitamin A deficiency.	Ophthalmology/ Medicine	
	Describe the ocular manifestations of hypertension and diabetes. Differentiate the vascular changes in hypertensive retinopathy from those in diabetic retinopathy Describe stages of hypertensive retinopathy Describe stages of diabetic retinopathy Outline the management plan for ocular complications in hypertension and diabetes.	Ophthalmology/ Rheumatology	
Eye3-006	Enlist the common collagen vascular diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, ankylosing spondylitis, Wegener's granulomatosis) associated with ocular involvement. Describe the ocular manifestations of collagen vascular diseases.	Ophthalmology/ Oncology	Ophthalmic Oncology
	Describe epidemiology and risk factors of retinoblastoma. Identify the common clinical signs and symptoms of retinoblastoma. Explain the diagnostic methods used in retinoblastoma, including fundoscopy and imaging. Discuss the available treatment options (enucleation, chemotherapy, radiotherapy, focal therapy, and intraarterial chemotherapy). Outline the prognosis and long-term outcomes of retinoblastoma. Counsel patients and families regarding genetic counseling, risk of bilateral disease, and the importance of early detection. Identify the risk factors and common signs and symptoms of (eyelid tumors including basal cell carcinoma, squamous cell carcinoma, sebaceous gland carcinoma, melanoma) ocular squamous cell carcinoma. Discuss the treatment plan for eyelid tumors.		

Eye3-007	**Antibiotics, Antivirals, and Antifungals:** • List commonly used topical and systemic agents in ophthalmology. • Describe their indications in eye infections (e.g., conjunctivitis, keratitis, endophthalmitis). • Discuss contraindications, dosage forms, and common adverse effects. **Local Anesthetics:** • Explain the mechanism of action of ocular local anesthetics. • Identify their clinical uses (e.g., tonometry, minor surgical procedures). • Recognize adverse effects and precautions in ophthalmic use. **Fluorescein Dye:** • State the uses of fluorescein in ophthalmology (e.g., corneal ulcer, angiography). • Recognize adverse reactions and limitations. **Mydriatics and Cycloplegics:** • Differentiate between mydriatics and cycloplegics. • Discuss indications for their use (e.g., refraction, uveitis, fundoscopy). • Identify contraindications (e.g., narrow-angle glaucoma) and adverse effects. **Corticosteroids:** • Describe the role of topical steroids in ocular inflammation. • Discuss indications, contraindications, and potential complications (e.g., cataract, glaucoma, infections).	Ophthalmology	Diagnostics
	Explain the principle and clinical applications of visual field testing. Describe the procedure and diagnostic value of fundus fluorescein angiography (FFA). Explain the principle of optical coherence tomography (OCT) and its role in anterior segment, retinal and optic nerve disorders. Describe the principle of corneal topography and its applications in corneal and refractive conditions. Explain the principle and use of ultrasound A scan Describe the principle of ultrasound B scan and its applications in diagnosing posterior segment diseases.		

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