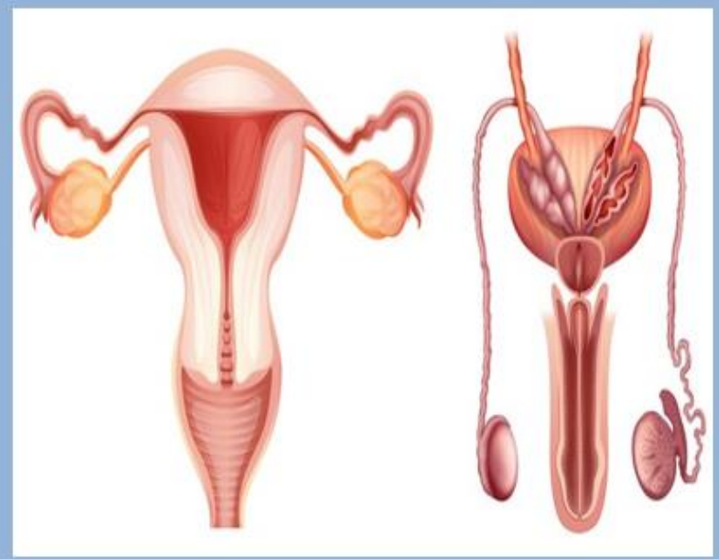
Reproduction Module



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Prepared By	Reviewed By	Approved By
Director Medical Education, Asst. Director Medical Education,	Curriculum Committee	Vice Chancellor

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Author(s)	Date	Version	Description
Prof Naeem Akhtar, Dr Ifra Saeed, Dr. Ayesha Yousaf, Dr Sidra Hamid, Dr Tehmina Qamar	2017-2018	1st	Developed for Second Year MBBS. Composed of Horizontally and vertically Integrated Reproductive System
Dr Tehzeeb, Dr Samia Sarwar, Dr Ifra Saeed, Dr. Ayesha Yousaf, Dr Tehmina Qamar, Dr Sidra Hamid	2019-2020	2nd	Developed for Second Year MBBS. Horizontally and vertically integrated Learning objectives updated
Dr Tehzeeb, Dr Samia Sarwar, , Dr Ifra Saeed, Dr Ayesha Yousaf , Dr Tehmina Qamar, Dr Sidra Hamid	2021-2022	3rd	Developed for Second Year MBBS. Horizontally and vertically integrated Learning objectives updated, Research curriculum incorporated
Dr Tehzeeb, Dr Samia Sarwar, Dr Ifra Saeed, Dr Ayesha Yousaf, Dr Tehmina Qamar, Dr Sidra Hamid	2022-2023	4th	Developed for Second Year MBBS. Horizontally and vertically integrated Learning objectives updated, Research, Bioethics, Family Medicine curriculum incorporated along with Professionalism
Dr Samia Sarwar, Dr Ifra Saeed, Dr Ayesha Yousaf, Dr Aneela Jamil, Dr Sidra Hamid	2023-2024	5th	Developed for Second Year MBBS. Horizontally and vertically integrated Learning objectives updated, Research curriculum revamped Bioethics, Family Medicine curriculum incorporated along with Professionalism. Entrepreneurship curriculum incorporated

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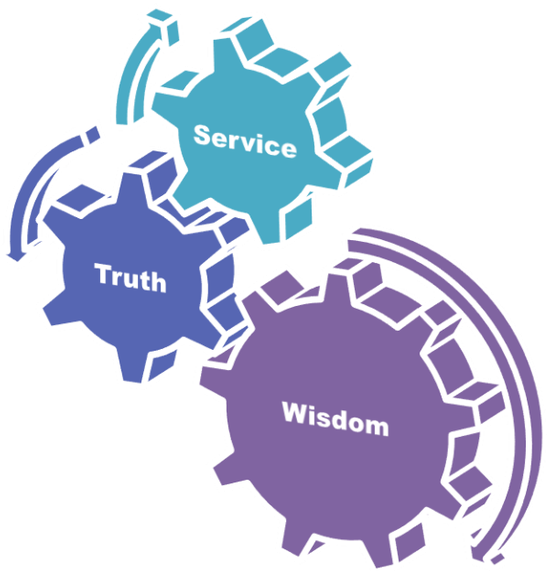
University Moto, Vision, Values & Goals

RMU Motto



Mission Statement

To impart evidence-based research-oriented health professional education in order to provide best possible patient care and inculcate the values of mutual respect, ethical practice of healthcare and social accountability.

Vision and Values

Highly recognized and accredited centre of excellence in Medical Education, using evidence-based training techniques for development of highly competent health professionals, who are lifelong experiential learner and are socially accountable.

Goals of the Undergraduate Integrated Modular Curriculum

The Undergraduate Integrated Learning Program is geared to provide you with quality medical education in an environment designed to:

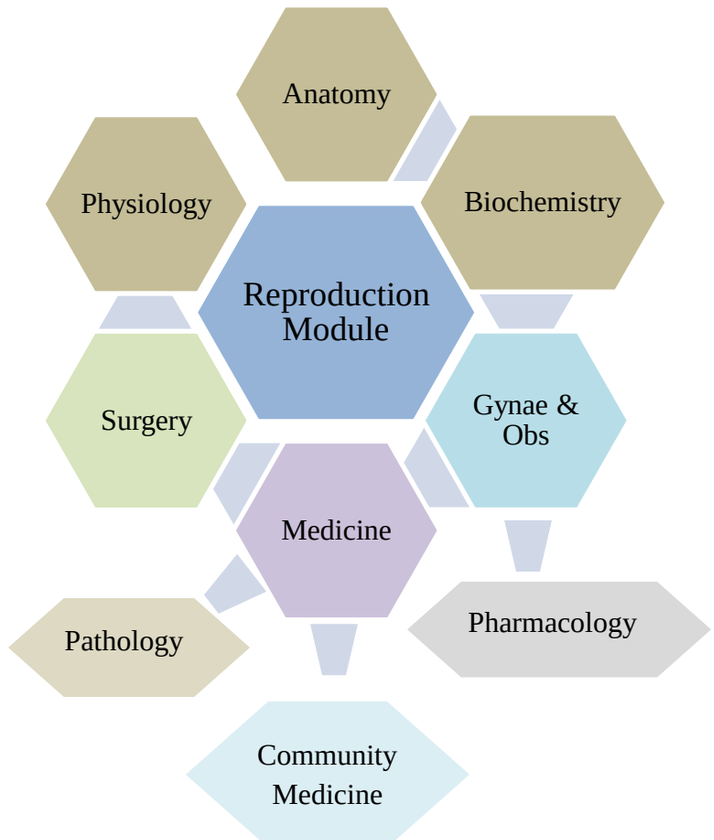
- Provide thorough grounding in the basic theoretical concepts underpinning the practice of medicine.
- Develop and polish the skills required for providing medical services at all levels of the Health care delivery system.
- Help you attain and maintain the highest possible levels of ethical and professional conduct in your future life.
- Kindle a spirit of inquiry and acquisition of knowledge to help you attain personal and professional growth & excellence.

Second Year MBBS 2024

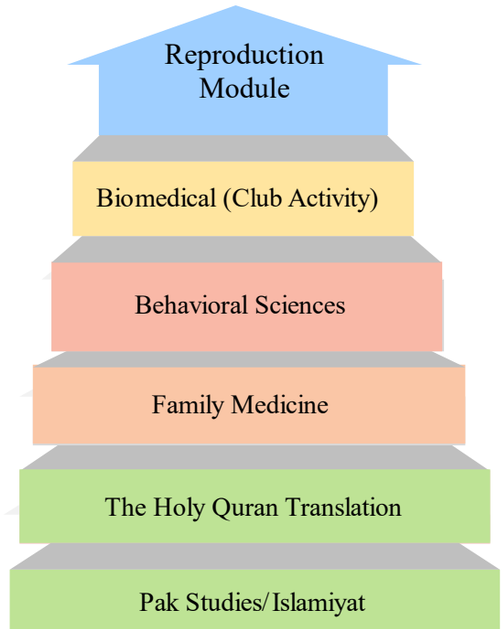
Study Guide

Reproduction Module

Integration of Disciplines in Reproduction Module



Spiral / General Education Cluster Courses



Discipline Wise Details of Modular Contents

Block	Subjects	Embryology	Histology	Gross Anatomy
II	• Anatomy	Embryology/Development • Testis • Genital Ducts • Prostate & Accessory Glands • Uterus & Uterine tubes • Ovary & Vagina	Histology • Testis • Genital Ducts • Prostate & Accessory Glands • Uterus & Uterine Tubes • Ovary & Vagina	• Sacrum • Bony Pelvis & Joints of Pelvis • Pelvic Fascia, Pelvic Diaphragm, & Pelvic Peritoneum • Male External Genitalia, Scrotum, & Testis • Prostate Vas Deferens, Seminal Vesicles & Ejaculatory Ducts • Female External Genitalia, Ovaries, Fallopian Tubes • Uterus, Cervix & Vagina • Ischioanal Fossa • Urogenital Diaphragm • Perineum, Superficial Perineal Pouch and its contents • Deep Perineal Pouch and its contents • Blood Supply & Lymphatic Drainage of Pelvis & Perineum • Sacral and Coccygeal Plexus • Radiology, Surface Marking
	• Biochemistry	• Digestion of nucleic acid & biosynthesis of purines • Purine catabolism and related disorders • Pyrimidine metabolism • Regulation of gene expression • Male Gonadal Hormones • Female Gonadal Hormones		
	• Physiology	• Physiological anatomy of male reproductive • system & spermatogenesis • Physiological anatomy female reproductive system • Semen, capacitation & acrosome reaction • Monthly Ovarian Cycle, ovulation • Male sex hormones, Abnormalities of male sexual • function and spermatogenesis • Monthly Endometrial Cycle and Menstruation • Response of mother's body to pregnancy and parturition • Female sex hormones (oestrogen and progesterone) • Lactation, Milk composition, breast feeding		

		• Puberty, menarche, menopause, postmenopausal symptoms & anovulatory cycles, Abnormalities of • secretion by ovaries • Growth &functional development of fetus, Adjustments of infant to extrauterine life, Growth • & development in child • Fertilization of ovum, transport, implantation, Functions of placenta • Hormonal factors in pregnancy, Special functional • problems in neonate. Prematurity and its problems
	Spiral Courses	
	• Biomedical (Club Activity)	• Ethical dilemmas Involving breech in Autonomy. • Ethical dilemmas in healthcare practice involving breach in principle of beneficence and non-maleficence. • Ethical dilemmas practice involving breach in principle of justice
	• Behavioural Sciences	• Emotion
	• Family Medicine	• AIDS
	• The Holy Quran Translation	• Imaniat-5 • Akhlaqiat-1
	• Pak Studies/Islamiyat	• Kaamyab logu ki sifaat • Nehru report, Quaid e Azam k 14 nukaat
	Vertical Integration	
	• Gynae & Obs	• Early Pregnancy Complications • Menstrual irregularities • Subfertily
	• Pharmacology	• Hormonal Contraceptives
	• Surgery	• Male hypogonadism, Acute Scrotum
	• Pathology	• BPH/Prostatitis / Sexually Transmitted Diseases • Polycystic Ovaries
	• Community Medicine	• Sexually Transmitted Diseases (STDs) • Acquired Immunodeficiency Syndromes/ Sexually Transmitted Diseases
	Early Clinical Exposure	
	• Clinical Rotations	• Ovarian Tumors • Uterine Tumors • Polycystic Ovaries • Menstrual Irregularities **(Gynecology)**

		• Important points in History of pregnant lady • Obstetrics Trimesters • Fetal heart sounds	**(Obstetrics)**
		• Testicular Tumors • Hydrocele • Undescended Testis • Hypospadias/ Epispadias	**(Surgery)**

Table of Contents

Reproduction Module Team

Module Name	:	Reproduction Module
Duration of module	:	04 Weeks
Coordinator	:	Dr. Uzma Zafar
Co-coordinator	:	Dr. Romessa Naeem
Reviewed by	:	Module Committee

Module Committee		
1.	Vice Chancellor RMU	Prof. Dr. Muhammad Umar
2.	Director DME	Prof. Dr. Ifra Saeed
3.	Chairperson Anatomy & Dean Basic Sciences	Prof. Dr. Ayesha Yousaf
4.	Chairperson Physiology	Prof. Dr. Samia Sarwar
5.	Chairperson Biochemistry	Dr. Aneela Jamil
6.	Focal Person Anatomy Second Year MBBS	Dr. Maria Tasleem
7.	Focal Person Physiology	Dr. Sidra Hamid
8.	Focal Person Biochemistry	Dr. Aneela Jamil
9.	Focal Person Pharmacology	Dr. Zunera Hakim
10.	Focal Person Pathology	Dr. Asiya Niazi
11.	Focal Person Behavioral Sciences	Dr. Saadia Yasir
12.	Focal Person Community Medicine	Dr. Afifa Kulsoom
13.	Focal Person Quran Translation Lectures	Dr. Uzma Zafar
14.	Focal Person Family Medicine	Dr. Sadia Khan

Module Task Force Team		
1.	Coordinator	Dr. Uzma Zafar (APWMO Demonstrator of Biochemistry)
2.	DME Focal Person	Dr. Farzana Fatima
3.	Co-coordinator	Dr. Tariq Furqan (Senior Demonstrator of Anatomy)
4.	Co-Coordinator	Dr. Romessa Naeem (Senior Demonstrator of Biochemistry)
5.	Co-coordinator	Dr. Nazia (Senior Demonstrator of Physiology)

DME Implementation Team		
1.	Director DME	Prof. Dr. Ifra Saeed
2.	Assistant Director DME	Dr Farzana Fatima
3.	DME Implementation Team	Prof. Dr. Ifra Saeed Dr. Farzana Fatima Dr. Saira Aijaz
4.	Editor	Muhammad Arslan Aslam

Module III – Reproduction Module

Rationale: Reproductive system plays an important role in person life although it does not contribute to homeostasis and is not essential for the survival of individual e.g. the manner in which people relate as sexual beings contributes in significant ways to psycosocial behavior and has an important influence on how people view themselves and how they interact with others. Reproductive function also has profound effect on society. The universal organization of societies into family units provide a stable environment that is condusive for perpetuating our species.

Module Outcomes

By the end of the module, students will be able to:

Knowledge

- This module is expected to build students basic knowledge about normal structure, organization, functions and development of reproductive system.
- Used technology based Medical Education including
  Artificial Intelligence
- Appreciate concept and importance of
  - **Family Medicine**
  - **Biomedical Ethics**
  - **Research**

Skills

- Demonstrate effective skill for performing and interpreting various laboratory tests like pregnancy test.
- Demostrate awareness of ethical, legal and social implecation of issues related to bioethics

Attitude

- Demonstrate **professional attitude, team building spirit and good communication** specially in small group discussions.

This module will run in 4 weeks duration. Instructional strategies are given in the time table and learning objectives are given in the study guides. Study guides will be uploaded on the university website. Good luck!

SECTION - I

Terms & Abbreviations

Contents

Tables & Figures

Table1. Domains of Learning According to Blooms Taxonomy

Sr. #	Abbreviation	Domains of learning
1.	C	**Cognitive Domain:** knowledge and mental skills.
	• C1	Remembering
	• C2	Understanding
	• C3	Applying
	• C4	Analyzing
	• C5	Evaluating
	• C6	Creating
2.	P	**Psychomotor Domain:** motor skills.
	• P1	Imitation
	• P2	Manipulation
	• P3	Precision
	• P4	Articulation
	• P5	Naturalization
3.	A	**Affective Domain:** feelings, values, dispositions, attitudes, etc
	• A1	Receive
	• A2	Respond
	• A3	Value
	• A4	Organize
	• A5	Internalize

Teaching and Learning Methodologies / Strategies

Large Group Interactive Session (LGIS)

The large group interactive session is structured format of Prof Umar Model of Integrated lecture. It will the followed for delivery of all LGIS. The lecturer will introduce a topic or common clinical condition and explains the underlying phenomena through questions, pictures, videos of patients, interviews, and exercises, etc. Students are actively involved in the learning process.

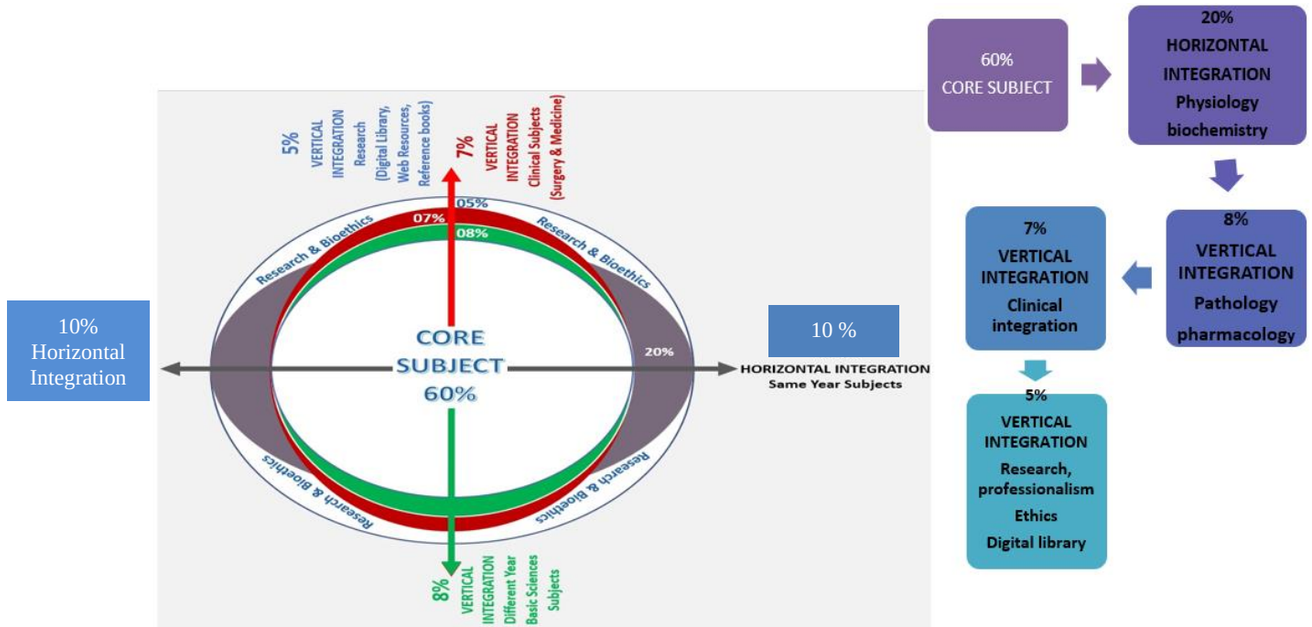


Figure 1. Prof Umar's Model of Integrated Lecture

Small Group Discussion (SGD)

This format helps students to clarify concepts acquire skills and attitudes. Sessions are structured with the help of specific exercises such as patient case, interviews or discussion topics or power point presentations. Students exchange opinions and apply knowledge gained from lectures, SGDs and self study. The facilitator role is to ask probing questions, summarize and help to clarify the concepts.

Table 2. Standardization of teaching content in Small Group Discussions

S. No	Topics	Approximate %
1	Title Of SGD	
2	Learning Objectives from Study Guides	
3	Horizontal Integration	5%+5%=10%
4	Core Concepts of the topic	60%
5	Vertical Integration	20%
6	Related Advance Research points	3%
7	Related Ethical points	2%

Table 3. Steps of Implementation of Small Group Discussions

Step 1	Sharing of Learning objectives by using students Study guides	First 5 minutes
Step 2	Asking students pre-planned questions from previous teaching session to develop co-relation (these questions will be standardized)	5minutes
Step 3	Students divided into groups of three and allocation of learning objectives	5minutes
Step 4	ACTIVITY: Students will discuss the learning objectives among themselves	15 minutes
Step 5	Each group of students will present its learning objectives	20 min
Step 6	Discussion of learning content in the main group	30min
Step 7	Clarification of concept by the facilitator by asking structured questions from learning content	15 min
Step 8	Questions on core concepts	
Step 9	Questions on horizontal integration	
Step 10	Questions on vertical integration	
Step 11	Questions on related research article	
Step 12	Questions on related ethics content	
Step 13	Students Assessment on online MS teams (5 MCQs)	5 min
Step 14	Summarization of main points by the facilitator	5 min
Step 15	Students feedback on the SGD and entry into log book	5 min
Step 16	Ending remarks	

Self-Directed Learning (SDL)

- Self- directed learning is a process where students take primary charge of planning, continuing, and evaluating their learning experiences.
- Time Home assignment
- Learning objectives will be defined
- Learning resources will be given to students = Textbook (page no), web site
- Assessment:

  i Will be online on LMS (Mid module/ end of Module)

  ii.OSPE station

Case Based Learning (CBL)

- It's a learner centered model which engages students in discussion of specific scenarios that typically resemble real world examples.
- Case scenario will be given to the students
- Will engage students in discussion of specific scenarios that resemble or typically are real-world examples.
- Learning objectives will be given to the students and will be based on
  i. To provide students with a relevant opportunity to see theory in practice
  ii. Require students to analyze data in order to reach a conclusion.
  iii. Develop analytic, communicative, and collaborative skills along with content knowledge.

Problem Based Learning (PBL)

- Problem-based learning (PBL) is a student-centered approach in which students learn about a subject by working in groups to solve an open-ended problem.
- This problem is what drives the motivation and the learning.

The 7- Jump-Format of PBL (Masstricht Medical School)		
Step 7	Syntheise & Report	Session - II
Step 6	Collect Information from outside	
Step 5	Generate learning Issues	Session - I
Step 4	Discuss and Organise Ideas	
Step 3	Brainstorming to Identify Explanations	
Step 2	Define the Problem	
Step 1	Clarify the Terms and Concepts of the Problem Scenario	
Problem- Scenario		

Figure 2. PBL 7 Jumps Model

Practical Sessions/Skill Lab (SKL)

Practical Session/ Skill Lab (SKL)	
Demonstration/ power point presentation 4-5 slide	10-15 minutes
Practical work	25-30 minutes
Write/ draw and get it checked by teacher	20-25 minutes
05 mcqs at the end of the practical	10 minutes
At the end of module practical copy will be signed by head of department	
At the end of block the practical copy will be signed by Head of Department Dean Medical education department QEC	

SECTION – II

Learning Objectives, Teaching Strategies & Assessments

Contents

- Horizontally Integrated Basic Sciences (Anatomy, Physiology & Biochemistry)
- Large Group Interactive Session:
  - Anatomy (LGIS)
  - Physiology (LGIS)
  - Biochemistry (LGIS)
- Small Group Discussions
  - Anatomy (SGD)
  - Physiology (SGD)
  - Biochemistry (SGD)
- Self-Directed Topic, Learning Objectives & References
  - Anatomy (SDL)
  - Physiology (SDL)
  - Biochemistry (SDL)
- Skill Laboratory
  - Anatomy
  - Physiology
  - Biochemistry

Horizontally Integrated Basic Sciences (Anatomy, Physiology & Biochemistry)

Anatomy Large Group Interactive Session (LGIS)

Topics	At The End Of Lecture Students Should Be Able To:	Learning Domains	Teaching Strategy	Assessment Tools
Development of testis	• Recall the time of early sex differentiation and genes involved in it. • Explain the development of male gonads and formation of testis. • Describe the descent of testis. • Describe the concepts of chromosomal determination of sex, primordial germ cells and indifferent gonads. • Describe histogenesis of interstitial cells of leydig and seminiferous tubules. • Correlate with the clinical conditions. • Understand curative and preventive heath care measures. • Practice the principles of bioethics. • Apply strategic use of A.I in health care. • Read relevant research article.	C1 C2 C2 C2 C2 C3 C3 C3 C3 C3 C3 C3	LGIS	• MCQS • SAQS • VIVA
Histology of Testis	• Discuss germ cells at different steps of spermatogenesis in the seminiferous tubule. • Describe histology of Sertoli cells and Leydig cells. • Explain their roles in the production of sperm and regulation of the male reproductive system. • Understand the bio-physiological aspects of spermatogenesis. • Discuss the related clinicals like orchitis, male infertility, testicular cancers, cryptorchidism. • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethics. • Apply strategic use of A.I in health care. • Read relevant research article	C2 C2 C2 C2 C3 C3 C3 C3 C3 C3 C3 C3 C3	LGIS	• MCQS • SAQS • VIVA
Histology of male genital ducts	• Describe the histological organization of epididymis, ductus deferens and ejaculatory ducts.	C2 C2		• MCQS

	• Describe the epithelium and microscopic features of epididymis, ductus deferens and ejaculatory ducts. • Understand the bio-physiological aspects of epithelium of ducts. • Discuss the related clinicals like vasectomy, epididymitis. • Understand curative and preventive heath care measures. • Practice the principles of bioethics. • Apply strategic use of A.I in health care. • Read relevant research article	C3 C3 C3 C3 C3	LGIS	• SAQS • VIVA
Development of male genital ducts, Seminal vesicles and prostate	• Describe the development of male genital ducts during indifferent stage. • Discuss development of male genital ducts at advanced stage • Describe the molecular regulation of male genital ducts. • Describe the development of seminal vehicles. • Discuss the development of prostate. • Discuss the remnants of mesonephric and paramesonephric ducts in males and their clinical significance. • Understand curative and preventive heath care measures. • Practice the principles of bioethics. • Apply strategic use of A.I in health care. • Read relevant research article.	C2 C2 C2 C2 C2 C3 C3 C3 C3 C3 C3 C3	LGIS	• MCQS • SAQS • VIVA
Histology of accessory male reproductive glands	• Describe the histological organization of prostate gland, seminal vesicles and bulbourethral glands. • Describe microscopic features of these glands. • Discuss the related clinicals like prostatitis. • Understand curative and preventive heath care measures. • Practice the principles of bioethics. • Apply strategic use of A.I in health care. • Read relevant research article.	C2 C2 C2 C3 C3 C3 C3	LGIS	• MCQS • SAQS • VIVA
Development of male external genitalia	• Explain the different stages and further development of external genitalia. • Discuss the related clinical like ambiguous genitalia, Androgen insensitivity syndrome, hypospadias, epispadias, bifid penis, micropenis • Understand curative and preventive heath care measures. • Practice the principles of bioethics.	C2 C2 C3 C3	LGIS	• MCQS • SAQS • VIVA

	• Apply strategic use of A.I in health care. • Read relevant research article.	C3 C3		
Histology of uterus and uterine tubes	• Recollect knowledge of histological features of endometrium in various phases • Discuss microanatomy of layers of uterus • Describe parts of uterine tubes • Explain microscopic features of all parts of uterine tubes. • Dicuss the related clinicals like endometriosis, tubal ligation, salpingitis, and cervical cancers • Understand curative and preventive heath care measures. • Practice the principles of bioethics. • Apply strategic use of A.I in health care. • Read relevant research article.	C1 C2 C2 C2 C2 C3 C3 C3 C3	LGIS	• MCQS • SAQS • VIVA
Development of uterus and uterine tubes	• Describe role of paramesonephric ducts, uterovaginal primordium in development of uterine tubes • Discuss the role of paramesonephric ducts and uterovaginal primordium in the development of uterus. • Discuss the related clinicals like bicornuate uterus, unicornuate uterus, double uterus. • Understand curative and preventive heath care measures. • Practice the principles of bioethics. • Apply strategic use of A.I in health care. • Read relevant research article	C2 C2 C2 C3 C3 C3 C3	LGIS	• MCQS • SAQS • VIVA
Histology of Ovary and Vagina	• Discuss the stages of follicular growth (primordial, primary, secondary, tertiary), as well as the changes that occur in the follicular wall. • Discuss ovarian cycle and menstrual cycle. • Describe the histological features of corpus luteum of mensuration and pregnancy. • Discuss the related clinicals like PCOS, Follicular cyst, hemorrhagic cyst. • Discuss histological structure of vagina. • Understand the bio-physiological aspects of vaginal epithelial cells.	C2 C2 C2 C2 C2 C2 C3	LGIS	• MCQS • SAQS • VIVA

	• Discuss the related clinical like vaginitis, squamous cell carcinoma of vagina. • Understand curative and preventive heath care measures. • Practice the principles of bioethics. • Apply strategic use of A.I in health care. • Read relevant research article	C3 C3 C3 C3		
Development of Ovary	• Recall the process of oogenesis in female. • Explain the different steps involved in early oogenesis. • Explain the ovarian and menstrual cycle and phases. • Explain the hormonal changes occurring during reproductive cycle. • Describe role of paramesonephric ducts, uterovaginal primordium in development of ovary • Describe the descent of ovaries. • Understand curative and preventive heath care measures • Practice the principles of bioethics. • Apply strategic use of A.I in health care • Read a relevant research article	C1 C2 C2 C2 C2 C2 C3 C3 C3 C3	LGIS	• MCQS • SAQS • VIVA
Development of Vagina	• Discuss the developmental stages of vagina and female external genitalia • Enlist different congenital anomalies of female reproductive system. • Describe different syndromes and gene defects associated with congenital anomalies • Understand curative and preventive heath care measures • Practice the principles of bioethics. • Apply strategic use of A.I in health care • Read a relevant research article	C2 C1 C2 C3 C3 C3 C3	LGIS	• MCQS • SAQS • VIVA

Physiology Large Group Interactive Session (LGIS)

Topics	At the end of lecture students should be able to:	Learning Domains	Teaching Strategy	Assessment Tools		
Physiological anatomy of male reproductivesystem & spermatogenesis	• DescribePhysiological anatomy of male reproductive system • Explainthestepsof spermatogenesis • Identifytheprocessof meiosis • Describethehormonal factors that stimulate spermatogenesis • Describefunctionsof seminal vesicles	C2 C2 C2 C2 C2	LGIS	MCQ SEQ SAQ EMQ VIVA	• Ganong's Review of Medical Physiology.25TH Edition. Function of Male reproductive system (Chapter 23, Page 417) • Physiology by Linda S. Costanzo 6th Edition. Reproductive Physiology (Chapter 10. Page 466) • Human Physiology by Dee Unglaub Silver thorn. 8TH Edition. Reproduction and Development (Chapter 26 Page 843,847) • Textbook of Medical Physiology by Guyton & Hall.14th Edition.Reproductive and hormonal Functions of the Male..Section 14. (Chapter 81, Page 1011)	1. https://teachmephysiology.com/reproductive-system/embryology/ 2. https://www.annualreviews.org/doi/abs/10.1146/annurev.ph.36.030174.001515?journalCode=physiol
Physiological anatomy female reproductive system	• Describe oogenesis & follicular development in ovaries • Discussfemalehormonal system	C2 C2	LGIS	MCQ SEQ SAQ EMQ VIVA	• Ganong's Review of Medical Physiology.25TH Edition. Reproductive development and Function of female reproductive system (Chapter 22, Page 389) • Physiology by Linda S. Costanzo 6th Edition. Reproductive Physiology (Chapter 10. Page 470) • Human Physiology by Dee Unglaub Silver thorn. 8TH Edition. Reproduction and Development (Chapter 26 Page 852) • Textbook of Medical Physiology by Guyton & Hall.14th Edition.Female Physiology before pregnancy and female hormones. Section 14. (Chapter 82, Page 1027)	**1.**https://teachmephysiology.com/reproductive-system/ **2.** https://youtu.be/2_owp8kNMus **3.** https://youtu.be/rYVGjbzmAtg

Semen,capacitation& acrosome reaction	• Explain capacitation • Describe acrosomal reaction • Summarize the abnormalities related to spermatogenesis: ➢ Bilateral orchitis ➢ Effects of temperature ➢ Cryptorchidism	C2 C2 C2	LGIS	MCQ SEQ SAQ EMQ VIVA	• Ganong's Review of Medical Physiology.25TH Edition. Function of Male reproductive system (Chapter 23, Page 420) • Physiology by Linda S. Costanzo 6th Edition. Reproductive Physiology (Chapter 10. Page 466) • Physiological Basis of Medical Practice by Best & Taylor's.13th Edition. Fertilization, Pregnancy and Lactation. (Chapter 59, Page 977) • Textbook of Medical Physiology by Guyton & Hall.14th Edition.Reproductive and hormonal Functions of the Male..Section 14. (Chapter 81, Page 1014)	1. https://www.sciencedirect.com/science/article/abs/pii/S0093691X02009536 2. https://www.ibbiotech.com/en/info/sperm-capacitation/
MonthlyOvarian Cycle,ovulation	• Describe gonadotropic hormones & their effects on ovaries • Explain follicular phase of ovarian cycle • Explain ovulation hormones • Explain LH surge • Describe luteinizing function of Luteinizing	C2 C2 C2 C2 C2	LGIS	MCQ SEQ SAQ EMQ OSPE VIVA	• Ganong's Review of Medical Physiology.25TH Edition. Reproductive development and Function of female reproductive system (Chapter 22, Page 399) • Physiological Basis of Medical Practice by Best & Taylor's.13th Edition.The Female Reproductive System (Chapter 58, Page 959) • Textbook of Medical Physiology by Guyton & Hall.14th Edition. Female Physiology before pregnancy and female hormones.Section 14.(Chapter 82, Page 1028)	1. https://courses.lumenlearning.com/wm-biology2/chapter/the-ovarian-cycle-the-menstrual-cycle-and-menopause/ 2. https://youtu.be/V9a2AQSJIMc **(Dr Najeeb Lectures)**
Male sex hormones, Abnormalitiesofmale sexual function and spermatogenesis system	• Describe male sex hormone's (secretion, metabolism, chemistry, degradation and excretion) • Explain functions of testosterone in detail • Describe: ➢ Hypogonadism in males ➢ Interstitial Leydig cell tumors	C2 C2 C2	LGIS	MCQ SEQ SAQ EMQ VIVA	• Ganong's Review of Medical Physiology.25TH Edition. Function of Male reproductive system (Chapter 23, Page 421-426) • Physiology by Linda S. Costanzo 6th Edition. Reproductive Physiology (Chapter 10. Page 467) • Textbook of Medical Physiology by Guyton & Hall.14th Edition.Reproductive and hormonal	1. https://youtu.be/VS72mR5aMyo**(Male reproductive system)** 2. https://www.annualreviews.org/doi/abs/10.1146/annurev.ph.36.030174.00151

	➢ Erectiledysfunctionin males				Functions of the Male..Section 14. (Chapter 81, Page 101)	5?journalCode=physiol
MonthlyEndometrial Cycle and Menstruation	• Explain monthly endometrial cycle • Explain menstruation & physiological changes in endometrium	C2 C2	LGIS	MCQ SEQ SAQ EMQ VIVA	• Ganong's Review of Medical Physiology.25TH Edition. Reproductive development and Function of female reproductive system (Chapter 22, Page 399) • Physiology by Linda S. Costanzo 6th Edition. Reproductive Physiology (Chapter 10. Page 475) • Human Physiology by Dee Unglaub Silver thorn. 8TH Edition. Reproduction and Development (Chapter 26 Page 853) • Textbook of Medical Physiology by Guyton & Hall.14th Edition. Female Physiology before pregnancy and female hormones.Section 14.(Chapter 82, Page 1036)	1. https://courses.lumenlearning.com/wm-biology2/chapter/the-ovarian-cycle-the-menstrual-cycle-and-menopause/
Responseofmother's body to pregnancy, Parturition	• Explain: ➢ Anterior pituitarygland secretion ➢ Increased corticosteroid secretion ➢ Increased thyroidgland secretion ➢ Increasedparathyroid gland secretion • Explainincreaseduterine excitability near term • Explainhormonalfactors increasing uterine contractility • Discuss mechanical factorsincreasinguterine contractility	C2 C2 C2 C2 C2	LGIS	MCQ SEQ SAQ EMQ VIVA	• Ganong's Review of Medical Physiology.25TH Edition. Reproductive development and Function of female reproductive system (Chapter 22, Page 410,413) • Physiology by Linda S. Costanzo 6th Edition. Reproductive Physiology (Chapter 10. Page 478,479) • Human Physiology by Dee Unglaub Silver thorn. 8TH Edition. Reproduction and Development (Chapter 26 Page 863) • Physiological Basis of Medical Practice by Best & Taylor's.13th Edition. Fertilization, Pregnancy and Lactation. (Chapter 59, Page 994) • Textbook of Medical Physiology by Guyton & Hall.14th Edition.Pregnancy and	1. https://teachmephysiology.com/reproductive-system/ 2. https://zerotofinals.com/obgyn/reproductivesystem/physiologyinpregnancy/ 3. https://www.sciencedirect.com/science/article/abs/pii/S001502822200485X

	• Explainthephysiological mechanism of labour				Lactation.Section 14.(Chapter 82, Page 1045,1052)	
Female sex hormones (estrogen and progesterone)	• Explain: ➢ Functions of estradiol & progesterone ➢ Chemistry of sex hormones ➢ Synthesis of estrogen & progesterone	C2	LGIS	MCQ SEQ SAQ EMQ VIVA	• Ganong's Review of Medical Physiology.25TH Edition. Reproductive development and Function of female reproductive system (Chapter 22, Page 404) • Physiology by Linda S. Costanzo 6th Edition. Reproductive Physiology (Chapter 10. Page 472) • Textbook of Medical Physiology by Guyton & Hall.14th Edition. Female Physiology before pregnancy and female hormones.Section 14.(Chapter 82, Page 1032)	1. https://youtu.be/hW4XpW7LfIM 2. https://teachmephysiology.com/endocrine-system/hypothalamus-pituitary/anterior-pituitary/hypothalamic-pituitary-gonadal-axis/
Lactation, Milk composition,breast feeding	• Explaindevelopmentof breasts • Explainhormonalcontrol of breast development • Describe the role of prolactininlactation • Explain: ➢ Milkletdown reflex ➢ Milk composition ➢ Metabolicdrainin mother caused by lactation	C2 C2 C2 C2	LGIS	MCQ SEQ SAQ EMQ VIVA	• Ganong's Review of Medical Physiology.26TH Edition. Reproductive development and Function of female reproductive system (Chapter 22, Page 414) • Textbook of Medical Physiology by Guyton & Hall.14th Edition. Female Physiology before pregnancy and female hormones.Section 14.(Chapter 82, Page 1056-1059)	1. https://rupress.org/jgp/article/5/4/441/30794/THE-RATE-OF-DECLINE-OF-MILK-SECRETION-WITH-THE 2. https://www.annualreviews.org/doi/abs/10.1146/annurev.nutr.20.1.249
Puberty, menarche, menopause, postmenopausal symptoms & anovulatory cycles, Abnormalities of secretion by ovaries	• Discussthephysiology of: ➢Puberty ➢Menarche ➢ Menopause Explainhypogonadism • Describeamenorrhea • Describehypersecretion by ovaries	C2 C2 C2	LGIS	MCQ SEQ SAQ EMQ OSPE VIVA	• Ganong's Review of Medical Physiology.26TH Edition. Reproductive development and Function of female reproductive system (Chapter 22, Page 396,398,408) • Textbook of Medical Physiology by Guyton & Hall.14th Edition. Female Physiology before pregnancy and female hormones.Section 14.(Chapter 82, Page 1040)	1. https://journals.lww.com/clinicalobgyn/Citation/1977/09000/PUBERTY_AND_MENARCHE.11.aspx 2. https://www.glowm.com/section-view/heading/Physiology%20of%20Pu

					•	berty/item/285#.ZCKTtXZBzIU
Fertilization of ovum, transport, implantation Functions of placenta	• Describe: ➢ Entry of ovum into fallopian tube ➢ Transport of fertilized ovum ➢ Implantation of blastocyst ➢ Early nutrition of embryo • Describe physiological anatomy of placenta • Explain placental permeability • Explain diffusion of gases & excretion of waste products	C2 C2 C2 C2	LGIS	MCQ SEQ SAQ EMQ VIVA	❖ Ganong's Review of Medical Physiology.25TH Edition. Reproductive development and Function of female reproductive system (Chapter 22, Page 410) ❖ Physiological Basis of Medical Practice by Best & Taylor's.13th Edition. Fertilization, Pregnancy and Lactation. (Chapter 59, Page 975) ❖ Textbook of Medical Physiology by Guyton & Hall.14th Edition. Pregnancy and Lactation .Section 14. (Chapter 83, Page 1045)	1. https://teachmephysiology.com/reproductive-system/ 2. https://my.clevelandclinic.org/health/articles/11585-conception
Growth &functional developmentoffetus, Adjustmentsofinfant to extrauterine life, Growth & development in child	• Describedevelopmentof organ system in fetus • Explainfetalmetabolism	C2 C2	LGIS	MCQ SEQ SAQ EMQ VIVA	❖ Physiological Basis of Medical Practice by Best & Taylor's.13th Edition. Physiology of Pregnancy (Chapter 60, Page 998) ❖ Textbook of Medical Physiology by Guyton & Hall.14th Edition. Fetal and Neonatal Physiology. Section 14. (Chapter 84 , Page 1061-1065)	1. https://youtu.be/rYVGjbzmAtg 2. https://www.msdmanuals.com/home/women-s-health-issues/normal-pregnancy/stages-of-development-of-the-fetus
Hormonal factors in pregnancy, Special functionalproblemsin neonate. Prematurity and its problems	• ExplainfunctinsofB- HCG • Describesecretionof estrogens by the placenta • Summarizefunctionof estrogen in pregnancy • Summarizefunctionof progesterone in pregnancy • Explainonsetof breathing	C2 C2 C2 C2 C2 C2 C2 C2	LGIS	MCQ SEQ SAQ EMQ OSPE VIVA	Physiological Basis of Medical Practice by Best & Taylor's.13th Edition. Physiology of Pregnancy (Chapter 60, Page 998) Textbook of Medical Physiology by Guyton & Hall.14th Edition. Fetal and Neonatal Physiology. Section 14. (Chapter 84 , Page 1066-1070)	1. https://teachmephysiology.com/reproductive-system/ 2. https://patient.info/pregnancy/premature-babies

	• Describethecauseof breathing at birth • Explain delayed / abnormalbreathingat birth • Describechangesto hypoxia					

Biochemistry Large Group Interactive Session (LGIS)

Topics	At the end of lecture students should be able to:	Learning Domains	Teaching Strategy	Assessment Tools
Male gonadal hormones	• Synthesis mechanism of action and functions of male gonadal hormones	C2	LGIS	MCQ SEQ VIVA
Female gonadal hormones	• Synthesis mechanism of action and functions of female gonadal hormones	C2	LGIS	MCQ SEQ VIVA
Digestion of nucleic acid and purine synthesis	• Explain digestion of nucleoprotein • Describe purine biosynthesis (Denovosynthesis and salvage pathway)	C2 C2	LGIS	MCQ SEQ VIVA
Purine catabolism and related disorders	• Explain purine catabolism • Discuss related disorders	C2 C3	LGIS	MCQ SEQ VIVA
Pyrimidine metabolism	• Explain Pyrimidine catabolism • Related disorders	C2 C3	LGIS	MCQ SEQ VIVA
Regulation of gene expression	• Explain the regulation of gene expression	C2	LGIS	MCQ SEQ VIVA

Anatomy Small Group Discussion (SGDs)

Topics	At The End Of Demonstration Student Should Be Able To	Learning Domains	Teaching Strategy	Assessment Tools
Sacrum	• Identify the bone • Place the bone in anatomical position • Demonstrate anatomical features on bone • Discuss attachments and relations on bone • Discuss important clinical anatomy of bone • Understand curative and preventive heath care measures • Practice the principles of bioethics. • Apply strategic use of A.I in health care • Read a relevant research article	C2 P P C2 C3 C3 C3 C3 C3 C3	Skill Lab	• MCQS • SAQS • OSPE • VIVA
Bony pelvis	• Identify type of pelvis • Place pelvis in anatomical position • Demonstrate different diameters of each type • Differentiate bony features of each type • Clinical importance of each type • Understand curative and preventive heath care measures • Practice the principles of bioethics. • Apply strategic use of A.I in health care • Read a relevant research article	C2 P P C1 C3 C3 C3 C3 C3	Skill Lab	• MCQS • SAQS • OSPE • VIVA
Pelvic Peritoneum and its contents	• Identify visceras present in pelvis • Demonstrate peritoneal reflections on pelvic visceras • Discuss pouches formed by peritoneum • Discuss clinical anatomy of pelvic peritoneum and pelvic visceras • Understand curative and preventive heath care measures • Practice the principles of bioethics. • Apply strategic use of A.I in health care • Read a relevant research article	C2 P C2 C3 C3 C3 C3 C3	Skill Lab	• MCQS • SAQS • OSPE • VIVA

Pelvic diaphragm	• Identify the muscles forming pelvic diaphragm • Demonstrate the attachments and nerve supply of muscles of pelvic diaphragm • Locate the structures piercing the pelvic diaphragm • Discuss clinical anatomy of pelvic diaphragm • Understand curative and preventive heath care measures • Practice the principles of bioethics. • Apply strategic use of A.I in health care • Read a relevant research article	C2 P C2 C2 C3 C3 C3 C3	Skill Lab	• MCQS • SAQS • OSPE • VIVA
Male external genitalia	• Identify the anatomical structures of external genitalia • Demonstrate anatomical position of testis • Enlist layers of scrotum with its neurovasculature • Discuss clinical anatomy of scrotum • Understand curative and preventive heath care measures • Practice the principles of bioethics. • Apply strategic use of A.I in health care • Read a relevant research article	C2 P C1 C3 C3 C3 C3 C3	Skill Lab	• MCQS • SAQS • OSPE • VIVA
Testis	• Identify the structure • Demonstrate anatomical position of testis • Discuss layers and structure of testis • Discuss important clinical anatomy related to testis • Understand curative and preventive heath care measures • Practice the principles of bioethics. • Apply strategic use of A.I in health care • Read a relevant research article	C2 P C2 C3 C3 C3 C3 C3	Skill Lab	• MCQs • SAQs • OSPE • VIVA
Male genital ducts	• Describe the anatomical position of vas deferens, seminal vesicles, ejaculatory ducts on model • Discuss the anatomical relations of vas deferens, seminal vesicles, ejaculatory ducts • Discuss clinical anatomy • Understand curative and preventive heath care measures	C2 C2 C3 C3	Skill Lab	• MCQs • SAQs • OSPE

	• Practice the principles of bioethics. • Apply strategic use of A.I in health care • Read a relevant research article	C3 C3 C3		• VIVA
Prostate	• Identify the position of prostate • Demonstrate the anatomical features and relations of prostate • Discuss clinical anatomy • Understand curative and preventive heath care measures • Practice the principles of bioethics. • Apply strategic use of A.I in health care • Read a relevant research article	C2 P C3 C3 C3 C3 C3	Skill Lab	• MCQs • SAQs • OSPE • VIVA
Ovaries	• Identify the site of ovarian fossa • Discuss anatomical relations of ovary • Discuss neurovasculature and hormonal effects of ovaries • Discuss important clinical anatomy of ovary • Understand curative and preventive heath care measures • Practice the principles of bioethics. • Apply strategic use of A.I in health care • Read a relevant research article	C1 C2 C2 C3 C3 C3 C3 C3	Skill Lab	• MCQs • SAQs • OSPE • VIVA
Fallopian tubes, Uterus	• Identify the location of structures in pelvis • Demonstrate anatomical relations of these structures • Discuss normal positions of uterus with its ligaments • Discuss its neurovasculature • Discuss important clinical anatomy of fallopian tubes, uterus and uterine tube • Understand curative and preventive heath care measures • Practice the principles of bioethics. • Apply strategic use of A.I in health care • Read a relevant research article	C1 P C2 C2 C3 C3 C3 C3 C3	Skill Lab	• MCQs • SAQs • OSPE • VIVA

Cervix	• Discuss anatomy of cervix • Describe anatomical relations of cervix • Describe its neurovasculature • Understand curative and preventive heath care measures • Practice the principles of bioethics. • Apply strategic use of A.I in health care • Read a relevant research article	C2 C2 C2 C3 C3 C3 C3	Skill Lab	• MCQs • SAQs • OSPE • VIVA
Ischio-anal fossa	• Discuss the dimensions, boundaries and recesses • Describe the contents of Ischio anal fossa • Describe pudendal canal and its contents • Discuss important clinical anatomy of structures • Understand curative and preventive heath care measures • Practice the principles of bioethics. • Apply strategic use of A.I in health care • Read a relevant research article	C2 C2 C2 C3 C3 C3 C3 C3	Skill Lab	• MCQs • SAQs • OSPE • VIVA
Urogenital diaphragm	• Discuss the formation of diaphragm • Identify the relations and contents of diaphragm • Discuss organs piercing urogenital diaphragm • Discuss important clinical anatomy related to diaphragm • Understand curative and preventive heath care measures • Practice the principles of bioethics. • Apply strategic use of A.I in health care • Read a relevant research article	C2 C1 C2 C3 C3 C3 C3 C3	Skill Lab	• MCQs • SAQs • OSPE • VIVA
Perineum & Superficial perineal pouches	• Identify boundaries and divisions of perineum • Discuss formation of perineal pouches • Discuss in detail the contents of superficial perineal pouches in male and female • Discuss important clinical anatomy related to superficial perineal pouches • Understand curative and preventive heath care measures • Practice the principles of bioethics. • Apply strategic use of A.I in health care • Read a relevant research article	C1 C2 C2 C3 C3 C3 C3 C3	Skill Lab	• MCQs • SAQs • OSPE • VIVA

		C3		
Deep perineal pouches	• Discuss in detail the contents of deep perineal pouches in male and female • Discuss important clinical anatomy related to deep perineal pouches. • Understand curative and preventive heath care measures • Practice the principles of bioethics. • Apply strategic use of A.I in health care • Read a relevant research article	C2 C3 C3 C3 C3 C3	Skill Lab	• MCQs • SAQs • OSPE • VIVA
Blood supply of pelvis and perineum	• Identify major blood vessels & nerves of pelvis and perineum • Demonstrate anatomical relationships • Describe important clinical anatomy related to blood vessels of pelvis and perineum • Understand curative and preventive heath care measures • Practice the principles of bioethics. • Apply strategic use of A.I in health care • Read a relevant research article	C1 P C3 C3 C3 C3 C3	Skill Lab	• MCQs • SAQs • OSPE • VIVA
Lymphatic drainage of pelvis and perineum	• Identify major lymphatic vessels of pelvis and perineum • Discuss lymphatic drainage of pelvis and perineum • Discuss important clinical anatomy • Understand curative and preventive heath care measures • Practice the principles of bioethics. • Apply strategic use of A.I in health care • Read a relevant research article	C1 C2 C2 C3 C3 C3 C3	Skill Lab	• MCQs • SAQs • OSPE • VIVA
Sacral and Coccygeal plexus	• Identify various branches of sacral and coccygeal plexus • Discuss anatomical relations • Describe root values of each branch of plexus and its related applied • Understand curative and preventive heath care measures • Practice the principles of bioethics. • Apply strategic use of A.I in health care • Read a relevant research article	C1 C2 C2 C3	Skill Lab	• MCQs • SAQs • OSPE • VIVA

Radiology	➢ Describe the radiological appearance of pelvis and perineum on ➢ Interpret normal radiographs ➢ Read ultrasound uterus for gestation/feotus ➢ Describe Hysterosalpangigraphy ➢ Understand curative and preventive heath care measures ➢ Practice the principles of bioethics. ➢ Apply strategic use of A.I in health care ➢ Read a relevant research article	C2 C3 C3 C3 C3 C3 C3 C3	Skill Lab	• MCQs • SAQs • OSPE • VIVA
Cross Sectional Anatomy	• Identify different structures of male pelvis at different levels; S5, coccyx, Symphysis pubis, ischial tuberosity, anal verge • Identify different structures of female pelvis at different levels; S5, coccyx, Symphysis pubis, ischial tuberosity, anal verge • Practice the principles of bioethics. • Apply strategic use of A.I in health care • Read a relevant research article	C2 C2 C3 C3 C3 C3	Skill Lab	• MCQs • SAQs • OSPE • VIVA

Physiology Small Group Discussion (SGDs)

Topics	At the end of discussion students should be able to:	Learning Domains	Teaching Strategy	Assessment Tools
Infertility	• Correlate basic knowledge with clinical application	C3	CBL	MCQ SEQ VIVA
Menorrhagia	• Correlate basic knowledge with clinical application	C3	CBL	MCQ SEQ VIVA
Neonatal problems of Prematurity	• Correlate basic knowledge with clinical application	C3	SGD	MCQ SEQ VIVA

Biochemistry Small Group Discussion (SGDs)

Topics	At the end of tutorial students should be able to	Learning Domains	Teaching Strategy	Assessment Tools
Purine metabolism	• Purine denovo synthesis and describe salvage pathway • Read a relevant research article • Use digital library	C2 C3 C3	SGD	MCQ SEQ VIVA
Male female sex hormones	• Synthesis, mechanism of action and functions of male female gonadal hormones • Read a relevant research article • Use digital library	C2 C3 C3	SGD	MCQ SEQ VIVA

Anatomy Self Directed Learning (SDL)

Topics	Learning objectives	Learning Resources
Sacrum	• Identify the bone • Place the bone in anatomical position • Demonstrate anatomical features on bone • Discuss attachments and relations on bone • Discuss important clinical anatomy of bone • Read a relevant research article	• Clinical Oriented Anatomy by Keith L. Moore.6TH Edition. (Chapter 4, Page 451). • https://www.youtube.com/watch?v=93c9nlxbMUw • https://www.youtube.com/watch?v=PuOE-PI1eps
Bony pelvis	• Identify type of pelvis • Place pelvis in anatomical position • Demonstrate different diameters of each type • Differentiate bony features of each type • Clinical importance of each type • Read a relevant research article	• Clinical Oriented Anatomy by Keith L. Moore.6TH Edition. (Chapter 3, Page 327-337). • https://www.youtube.com/watch?v=yK-8ZwLFarc • https://www.youtube.com/watch?v=3v5AsAESg1Q • https://www.youtube.com/watch?v=3Z0XBCyXb3Y
Pelvic Peritoneum and its contents	• Identify visceras present in pelvis • Demonstrate peritoneal reflections on pelvic visceras • Discuss pouches formed by peritoneum • Discuss clinical anatomy of pelvic peritoneum and pelvic visceras • Read a relevant research article	• Clinical Oriented Anatomy by Keith L. Moore.6TH Edition. (Chapter 3, Page 338-349). • https://www.youtube.com/watch?v=F2-5tX_CMlQ • https://www.youtube.com/watch?v=3Z0XBCyXb3Y
Pelvic diaphragm	• Identify the muscles forming pelvic diaphragm • Demonstrate the attachments and nerve supply of muscles of pelvic diaphragm • Locate the structures piercing the pelvic diaphragm • Discuss clinical anatomy of pelvic diaphragm • Read a relevant research article	• Clinical Oriented Anatomy by Keith L. Moore.6TH Edition. (Chapter 3, Page 338-349). • https://www.youtube.com/watch?v=P3BBAMWm2Eo • https://www.youtube.com/watch?v=3Z0XBCyXb3Y

Male external genitalia	• Identify the anatomical structures of external genitalia • Demonstrate anatomical position of testis • Enlist layers of scrotum with its neurovasculature • Discuss clinical anatomy of scrotum • Read a relevant research article	• Clinical Oriented Anatomy by Keith L. Moore.6TH Edition. (Chapter 3, Page 418-419). • https://www.youtube.com/watch?v=ai7MjQvenKs • https://www.youtube.com/watch?v=5eHvZ2gyR1Y • https://www.youtube.com/watch?v=N66sAZH1VA8
Testis	• Identify the structure • Demonstrate anatomical position of testis • Discuss layers and structure of testis • Discuss important clinical anatomy related to testis • Read a relevant research article	• Clinical Oriented Anatomy by Keith L. Moore.6TH Edition. (Chapter 2, Page 208-215). • https://www.youtube.com/watch?v=ai7MjQvenKs • https://www.youtube.com/watch?v=5eHvZ2gyR1Y • https://www.youtube.com/watch?v=N66sAZH1VA8
Male genital ducts	• Describe the anatomical position of vas deferens, seminal vesicles, ejaculatory ducts on model • Discuss the anatomical relations of vas deferens, seminal vesicles, ejaculatory ducts • Discuss clinical anatomy • Read a relevant research article	• Clinical Oriented Anatomy by Keith L. Moore.6TH Edition. (Chapter 3, Page 376 -381). • https://www.youtube.com/watch?v=N66sAZH1VA8 • https://www.youtube.com/watch?v=ai7MjQvenKs
Prostate	• Identify the position of prostate • Demonstrate the anatomical features and relations of prostate • Discuss clinical anatomy • Read a relevant research article	• Clinical Oriented Anatomy by Keith L. Moore.6TH Edition. (Chapter 3, Page 376 -381). • https://www.youtube.com/watch?v=93Ayq248u_8 • https://www.youtube.com/watch?v=ai7MjQvenKs
Ovaries	• Identify the site of ovarian fossa • Discuss anatomical relations of ovary • Discuss neurovasculature and hormonal effects on ovaries • Discuss important clinical anatomy of ovary • Read a relevant research article	• Clinical Oriented Anatomy by Keith L. Moore.6TH Edition. (Chapter 3, Page 391-392). • https://www.youtube.com/watch?v=AREHaMls9Y4 • https://www.youtube.com/watch?v=2tOtIqSNqbc

Fallopian tubes, Uterus	• Identify the location of structures in pelvis • Demonstrate anatomical relations of these structures • Discuss normal positions of uterus with its ligaments • Discuss its neurovasculature • Discuss important clinical anatomy of fallopian tubes, uterus and uterine tube • Read a relevant research article	• Clinical Oriented Anatomy by Keith L. Moore.6TH Edition. (Chapter 3, Page 385-390, 392-399). • https://www.youtube.com/watch?v=AREHaMls9Y4 • https://www.youtube.com/watch?v=PMI-iJwNt3Y • https://www.youtube.com/watch?v=2tOtIqSNqbc
Cervix	• Discuss anatomy of cervix • Describe anatomical relations of cervix • Describe its neurovasculature blood • Read a relevant research article	• Clinical Oriented Anatomy by Keith L. Moore.6TH Edition. (Chapter 3, Page 385-390, 392-399). • https://www.youtube.com/watch?v=AREHaMls9Y4 • https://www.youtube.com/watch?v=PMI-iJwNt3Y
Ischio-anal fossa	• Discuss the dimensions, boundaries and recesses • Describe the contents of Ischio anal fossa • Describe pudendal canal and its contents • Discuss important clinical anatomy of structures • Read a relevant research article	• Clinical Oriented Anatomy by Keith L. Moore.6TH Edition. (Chapter 3, Page 409-411, 416). • https://www.youtube.com/watch?v=SFq0hA3PwK4 • https://www.youtube.com/watch?v=K4K3a8UnS5M
Urogenital diaphragm	• Discuss the formation of diaphragm • Identify the relations and contents of diaphragm • Discuss organs piercing urogenital diaphragm • Discuss important clinical anatomy related to diaphragm • Read a relevant research article	• Clinical Oriented Anatomy by Keith L. Moore.6TH Edition. (Chapter 3, Page 406-408). • https://www.youtube.com/watch?v=edI7knFSu_k • https://www.youtube.com/watch?v=ZaIRPhXavVg
Perineum & Superficial perineal pouches	• Identify boundaries and divisions of perineum • Discuss formation of perineal pouches • Discuss in detail the contents of superficial perineal pouches in male and female • Discuss important clinical anatomy related to superficial perineal pouches • Read a relevant research article	• Clinical Oriented Anatomy by Keith L. Moore.6TH Edition. (Chapter 3, Page 402-405). • https://www.youtube.com/watch?v=GegidLpxW9A • https://www.youtube.com/watch?v=OwWk6tqsW8o

Deep perineal pouches	• Discuss in detail the contents of deep perineal pouches in male and female • Discuss important clinical anatomy related to deep perineal pouches. • Read a relevant research article	• Clinical Oriented Anatomy by Keith L. Moore.6TH Edition. (Chapter 3, Page 406-409, 414). • https://www.youtube.com/watch?v=q0Ax3rLFc6M • https://www.youtube.com/watch?v=OwWk6tqsW8o
Blood supply of pelvis and perineum	• Identify major blood vessels & nerves of pelvis and perineum • Demonstrate anatomical relationships • Describe important clinical anatomy related to blood vessels of pelvis and perineum • Read a relevant research article	• Clinical Oriented Anatomy by Keith L. Moore.6TH Edition. (Chapter 3, Page 350-357, 361). • https://www.youtube.com/watch?v=xYu56Luwdls • https://www.youtube.com/watch?v=o4TplbDDcj8
Lymphatic drainage of pelvis and perineum	• Identify major lymphatic vessels of pelvis and perineum • Discuss lymphatic drainage of pelvis and perineum • Discuss important clinical anatomy • Read a relevant research article	• Clinical Oriented Anatomy by Keith L. Moore.6TH Edition. (Chapter 3, Page 400-402). • https://www.youtube.com/watch?v=F-Ba96V0R-c • https://www.youtube.com/watch?v=o4TplbDDcj8
Sacral and Coccygeal plexus	• Identify various branches of sacral and coccygeal plexus • Discuss anatomical relations • Describe root values of each branch of plexus and its related applied • Read a relevant research article	• Clinical Oriented Anatomy by Keith L. Moore.6TH Edition. (Chapter 3, Page 357-361). • https://www.youtube.com/watch?v=DZ0IL1tHNxo • https://www.youtube.com/watch?v=f7Zig8eBCqY • https://www.youtube.com/watch?v=JqUleDnXuEI

Physiology Self Directed Learning (SDL)

Topics Of SDL	Learning Objectives	Learning resources
Fertilization of ovum, transport, implantation, Functions of placenta	• Maturation and fertilization of ovum • Transport and Implantation • Early nutrition of the Embryo • Functions of Placenta	• Ganong's Review of Medical Physiology.25TH Edition. Reproductive development and Function of female reproductive system (Chapter 22, Page 410) • Physiological Basis of Medical Practice by Best & Taylor's.13th Edition. Fertilization, Pregnancy and Lactation. (Chapter 59, Page 975) • Textbook of Medical Physiology by Guyton & Hall.14th Edition. ▪ Pregnancy and Lactation. Section 14. (Chapter 83, Page 1045) ○ https://teachmephysiology.com/reproductive- system/ ○ https://my.clevelandclinic.org/health/articles/11585- conception
Growth &functional development of fetus, Adjustments of infant to extrauterine life, Growth & development in child	• Growth & functional development of fetus • Fetal Metabolism • Changes in Fetal circulation at Birth Adjustment of the Infant to the Extrauterine life	• Physiological Basis of Medical Practice by Best & Taylor's.13th Edition. Physiology of Pregnancy (Chapter 60, Page 998) • Textbook of Medical Physiology by Guyton & Hall.14th Edition. Fetal and Neonatal Physiology. Section 14. (Chapter 84, Page 1061-1065) ○ https://youtu.be/rYVGjbzmAtg ○ https://www.msdmanuals.com/home/women-s- health-issues/normal-pregnancy/stages-of-development- of-the-fetus
Hormonal factors in pregnancy, Special functional problems in neonate. Prematurity and its problems.	• Special functional problems in neonate • Prematurity • Immature development of the premature Infant • Instability of Homeostasis in Premature Infant Instability of body temperature in Infants	• Physiological Basis of Medical Practice by Best & Taylor's.13th Edition. Physiology of Pregnancy (Chapter 60, Page 998) • Textbook of Medical Physiology by Guyton & Hall.14th Edition. Fetal and Neonatal Physiology. Section 14. (Chapter 84, Page 1066-1070) ○ https://teachmephysiology.com/reproductive- system/ ○ https://patient.info/pregnancy/premature-babies

Biochemistry Self Directed Learning (SDL)

Topics Of SDL	Learning Objectives	Learning resources
Male gonadal hormones	• Synthesis mechanism of action and functions of male gonadal hormones	• Text Book of Harper,32 edition (chapter 41 page – 487-488) • https://www.sciencedirect.com/topics/biochemistry-genetics-and-molecular-biology/gonad-function • https://www.youtube.com/watch?v=A5u_TY1A0t8 • Use digital library • https://www.ncbi.nlm.nih.gov/books/NBK29/
Female gonadal hormones	• Synthesis mechanism of action and functions of female gonadal hormones	• Text Book of Harper,32 edition (chapter 41 page – 487-488) • https://www.sciencedirect.com/topics/biochemistry-genetics-and-molecular-biology/gonad-functionn • https://www.youtube.com/watch?v=A5u_TY1A0t8 • Use digital library • https://www.ncbi.nlm.nih.gov/books/NBK29/
Introduction to nucleic acid and purine synthesis	• Digestion of nucleoprotein • Understand whole purine synthesis (Denovo and salvage pathway)	• Lippincott Illustrated reviews of biochemistry 8th edition (Chapter 22, page 292-295) • https://www.sciencedirect.com/topics/biochemistry-genetics-and-molecular-biology/purine-synthesis • https://www.youtube.com/watch?v=VXWyWzbigrg • Use digital library • https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3243375/
Purine catabolism	• Explain purine catabolism • Discuss related disorder	• Lippincott Illustrated reviews of biochemistry 8th edition (Chapter 22, page 298-301) • https://www.sciencedirect.com/topics/medicine-and-dentistry/purine-metabolism-disorder • https://www.youtube.com/watch?v=e2KFVvI8Akk • Use digital library • https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4215161/

Pyrimidine metabolism	• Explain Pyrimidine catabolism and related disorders	• Lippincott Illustrated reviews of biochemistry 8th edition (Chapter 22, page 302-304) • https://www.cliffsnotes.com/study-guides/biology/biochemistry-ii/purines-and-pyrimidines/pyrimidine-metabolism • https://www.youtube.com/watch?v=n7Uec8Jtr4E • Use digital library • https://www.ncbi.nlm.nih.gov/pmc/articles/PMC378357/
Regulation of gene expression	• Explain the regulation of gene expression	• Lippincott Illustrated reviews of biochemistry 8th edition (Chapter 22, page 465-477) • https://www.healio.com/hematology-oncology/learn-genomics/genomics-primer/regulation-of-gene-expression-in-eukaryotes • https://www.youtube.com/watch?v=J9jhg90A7Lw • Use digital library • https://www.nature.com/scitable/topicpage/regulation-of-transcription-and-gene-expression-in-1086/

Histology Practicals Skill Laboratory (SKL)

Topics	At The End of Demonstration Student Should Be Able To	Learning Domains	Teaching Strategy	Assessment Tools
Testis, epididymis, ductus deferens	• Identify the histological slide of testis, ductus deferens and epididymis • Illustrate the microscopic picture of testis, ductus deferens and epididymis • Enlist two points of identification of each • Read relevant research article • Use digital library	P C2 C1 C3 C3	Skill Lab	OSPE
Seminal vesicles, prostate	• Identify the histological slide of seminal vesicles and prostate • Illustrate the microscopic picture of seminal vesicles and prostate • Enlist two points of identification of each • Read relevant research article • Use digital library	P C2 C1 C3 C3	Skill Lab	OSPE
Ovary	• Identify the histological slide of ovary • Illustrate the microscopic picture of ovary • Enlist two points of identification • Read relevant research article • Use digital library	P C2 C1 C3 C3	Skill Lab	OSPE
Uterus, uterine tubes	• Identify the histological slide of Uterus and uterine tubes • Illustrate the microscopic picture of Uterus and uterine tubes • Enlist two points of identification of each • Read relevant research article • Use digital library	P C2 C1 C3 C3	Skill Lab	OSPE

Physiology Practicals Skill Laboratory (SKL)

Practicals	At The End Of This Skill Lab, Student Should Be Able To Illustrate:	Learning Domains	Teaching Strategy	Assessment Tools
Examination of 7th Cranial nerve	• Principle • Procedure • Clinical correlation • Overview of Cranial nerves • Performance of student	C1 P3 C3 C1 P3	Skill lab	OSPE
Pregnancy Test	• Apparatus identification • Principle • Procedure • Precautions • Recall types of pregnancy test • Performance of student	P3/A3 C1 P3 C1 C1 P3	Skill lab	OSPE
Examination of 3rd,4th,6th cranial nerves	• Principle • Procedure • Clinical correlation of reflexes • Overview of cranial nerves	C1 P3 C3 C1	Skill lab	OSPE

Biochemistry Practicals Skill Laboratory (SKL)

Topics	At the End Of Practical Students Should Be Able To	Learning Domain	Teaching Strategy	Assessment Tool
Estimation of uric acid	Perform estimation of uric acid by spectrophometer	P	Skill Lab	OSPE
Estimation of Cholestrol	Estimation of cholesterol by spectrophometer	P	Skill Lab	OSPE
Milk analysis	Protein, carbohydrates, lipid detection	P	Skill Lab	OSPE

SECTION - III

Basic and Clinical Sciences (Vertical Integration)

Content

- **CBLs**
- **PBLs**
- **Vertical Integration LGIS**

Case Based Learning Objectives (CBL)

Subjects	Topics	At the end of the session the student should be able to	Learning Domains
Anatomy	• Prostatic Hyperplasia	Apply basic knowledge of subject to study clinical case.	C3
	• Ovarian Cyst	Apply basic knowledge of subject to study clinical case.	C3
Physiology	• Infertility	Apply basic knowledge of subject to study clinical case.	C3
	• Menorrhagia	Apply basic knowledge of subject to study clinical case.	C3
	• Neonatal problems of Prematurity	Apply basic knowledge of subject to study clinical case.	C3
Biochemistry	• Gout	Apply basic knowledge of subject to study clinical case.	C3

Problem Base Learning (PBL)

Subject	Topic	Learning Objectives At the end of the lecture the student should be able to	Learning Domain
PBL	• Pregnancy	Apply basic knowledge of subject to study clinical case.	C3
	• PCOS	Apply basic knowledge of subject to study clinical case.	C3

Vertical Integration LGIS

Pathology

Topics	At the end of lecture students of should be able to:	Learning Domains	Teaching Strategy	Assessment Tools
Sexually transmitted diseases	• Enumerate the STDs • Describe the pathogenesis of syphilis and gonorrhea	C1 C2	LGIS	MCQ's
BPH/Prostatitis	• Define benign prostatic hyperplasia • Briefly discuss the morphological features of BPH & prostatitis	C1 C2	LGIS	MCQ's
Polycystic ovaries	• Define the polycystic ovaries Describe the pathophysiology of polycystic ovaries	C1 C2	LGIS	MCQ's

Community Medicine

Topics	At the end of lecture students of should be able to:	Learning Domains	Teaching Strategy	Assessment Tools
Sexually Transmitted Diseases				
Definition	• Define STD and its various factors	C1	LGIS	MCQ,
Problem statement	• Discuss the problem statement of STD worldwide.	C2		
Types of STDs	• Enumerate different types of STDs	C1		
Host factors related to STDs	• Discuss all host factors responsible for STDs	C2		
Demographic factors	• Discuss in detail role of demographic factors in STD spread.	C2		
Social factors role	• Role of social factors in STDs	C2		
Intervention strategies.	• Role of intervene on strategies and planning in control of STDs	C2		
AIDS	• Discuss In detail the definition of AIDS	C2	LGIS	MCQ
Problem statement of AIDS and HIV	• Discuss in detail the problem statement of HIV n AIDs. • Its impact on underdeveloped eloped world. • understanding the gravity of the situation.	C2		
Risk factors	• Discuss the key risk factors in HIV responsible.	C2		
Agent and other biological determinants	• Explain agent details • Describe the effect of agent stability and its biological determinants	C2		
Host, reservoir of infection and transmission details	• Detailed discussion on the host factors, reservoir of infection and transmission factors responsible.	C2		
Symtomology, treatment and prevention of AIDs and HIV	• Discuss in detail the symptomology, treatment and prevention of AIDS and HIV .	C2		

Surgery

Topics	At The End Of Lecture, Students Should Be Able To:	Learning Domains	Teaching Strategy	Assessment Tools
Male hypogonadism	• Discuss pathophysiology, signs and symptoms of male hypogonadism • Describe altered hormonal levels in male hypogonadism • Outline treatment plan for breast tumors	C2 C2 C1	LGIS	MCQ
Undescended Testes	• Define UDT • Define Retractile Testes • Define Ectopic Testes • Causes of UDT/Ectopic Testes • Differentiate between UDT and Retractile Testes • Management plan	C1 C1 C1 C2 C2 C2	LGIS	MCQ
Acute Scrotum	• Enumerate the causes of acute scrotum • Describe Torsion, orchitis, epididymorchitisetc • Differentiate between Torsion and Epididymorchitis • Describe the approach towards diagnosis of acute scrotum	C1 C2 C2 C2	LGIS	MCQ

Obstetrics & Gynaecology

Topics	At the end of lecture students should be able to:	Learning Domains	Teaching Strategy	Assessment Tool
Menstrual irregularity due to anovulation	• Understand ovarian and endometrial changes during normal menstrual cycle • Describe the process of ovulation under the effect of LH • Describe causes of anovulation • Describe effects of anovulation • Enumerate the tests for confirmation of ovulation	C2 C2 C2 C2 C1	LGIS	MCQs

List of Reproduction Module Vertical Courses Lectures

Sr. #	Date/Day	Week	Department	Time	Topic Of Lectures	Facilitators Names And Contact Numbers
1.	30-05-2024 Thursday	1st	Gynae And Obs	11:20am – 12:10 Pm	Early Pregnancy Complications	
2.	31-05-2024 Friday	1st	Pharmacology	11:00am – 12:00pm	Hormonal Contraceptives	
3.	03-06-2024 Monday	2nd	Surgery	11:20am – 12:10pm	Male hypogonadism Acute Scrotum	Dr. Mariyam (Even) Dr. Faraz (Odd
4.	04-06-2024 Tuesday	2nd	Pathology	11:20am – 12:10pm	Sexually transmitted diseases BPH/Prostatitis	Dr Abid Hassan (Even) Dr Rabbiya Khalid (Odd)
5.	05-06-2024 Wednesday	2nd	Pathology	11:20am – 12:10pm	BPH/ Prostatitis Sexually transmitted diseases	Dr Abid Hassan (Odd) Dr Rabbiya Khalid (Even)
6.	06-06-2024 Thursday	2nd	Surgery	11:20am – 12:10pm	Undescended Testes	Dr. Rameez (Even) Dr. Ameen (Odd)
7.	10-06-2024 Monday	3rd	Pathology	10:30am – 11:20am	Polycystic ovaries	Dr Tayaba Ali (Even) Dr. Aasiya Niazi (Odd)
8.	11-06-2024 Tuesday	3rd	Community Medicine	10:30am – 11:20am	Sexually Transmitted Diseases (STDs) Acquired immunodeficiency syndromes (AIDs)	Dr. Rizwan (Even) Dr. Asif (Odd)
9.	11-06-2024 Tuesday	3rd	Gynae And Obs	11:20am – 12:10pm	Menstrual irregularities	Dr Shama Bashir (Even) Dr. Saira Ahmed (Odd)
10.	12-06-2024 Wednesday	3rd	Community Medicine	11:20am – 12:10pm	Acquired immunodeficiency syndromes (AIDs) Sexually Transmitted Diseases (STDs)	Dr. Asif (Even) Dr. Rizwan (Odd)
11.	15-06-2024 Saturday	3rd	Gynae And Obs	10:30am – 11:20am	Subfertility	

SECTION – IV

Spiral Courses

Content

- **Longitudinal Themes**
  - **The Holy Quran Translation**
  - **Pak Studies/Islamiyat Biomedical (Club Activity)**
  - **Family Medicine**
  - **Behavioral Sciences**
  - **Early Clinical Exposure (ECE)**

The Holy Quran Translation Lecture

Topic	Learning Objectives At the end of the lecture the student should be able to	Learning Domain	Teaching Strategy	Assessment Tool
Imaniat-5	• Quate Example of Shrik from Surrah Ul Hajj	C1	LGIS	MCQs
Akhlaqiat-1	• Define Truth and Righteousness	C1	LGIS	MCQs
	• Describe Truth and Righteousness with help of Quranic Verses	C2	LGIS	MCQs

Pak Studies/Islamiyat

Topic	Learning Objectives At the end of the lecture the student should be able to	Learning Domain	Teaching Strategy	Assessment Tool
Kaamyab Logu Ki Sifaat	• Describe Qualities of Successful People with the help of Quranic Verses and Sunnah	C2	LGIS	MCQs
Nehru report, Quaid e Azam k 14 nukaat	• Descirbe Nehru Report and fourteen points of Quaid e Azam	C2	LGIS	MCQs

Family Medicine

Topic	At The End Of Lecture, Students Should Be Able To:	Learning Domain	Teaching Strategy	Assessment Tools
AIDS	• Discuss pathophysiology, signs and symptoms of patients with HIV • Discuss the diagnostic criteria • Discuss the complications • Discuss the management of disease and its complications.	C1 C2 C2 C2	LGIS	MCQs

Behavioural Sciences

Topic	Learning Objectives At the end of the lecture the student should be able to	Learning Domain	Teaching Strategy	Assessment Tool
Emotion	• To define emotions. • To explain the neuroanatomy and neurochemistry of emotion • To handle situations with heightened emotions encountered in • daily life and clinical practice	C3	LGIS	MCQs

Biomedical (Club Activity)

Topics	At the end of session students should be able to:	Learning Domains	Teaching Strategy	Assessment Tools
Ethical dilemmas in healthcare practice involving breach in principle of autonomy	• Analyze ethical dilemmas in healthcare practice involving breach in principle of autonomy. • Explain what procedures adopted to maintain patient autonomy. • Identify situations in which doctor may have to take decisions in the best interest of the patients	C3 C2 C1	Short video demonstration on violation of Ethical principle of autonomy from suit CBEC Video resources	• Assignment based assessment involving real life case scenarios under aggregate Marks. (Internal Assessment) • Assignment to be uploaded on LMS
Ethical dilemmas in healthcare practice involving breach in principle of beneficence and non-maleficence	• Analyze ethical dilemmas in healthcare practice involving breach in principle of beneficence and non-maleficence. • Explain what procedures adopted to maintain the principle of beneficence and non-maleficence in challenging situations. • Identify situations in which a doctor may have to take decisions in the best interests of the patient considering the principle of beneficence and non-maleficence	C3 C2 C1	Short video demonstration on violation of Ethical principle of beneficence and non-maleficence from suit CBEC Video resources Students deliberations and reflections Reflective writing	• Assignment based assessment involving real life case scenarios under aggregate Marks (Internal Assessment) • Assignment to be uploaded on LMS

Ethical dilemmas practice involving breach in principle of justice	• Analyze ethical dilemmas in healthcare practice involving breach in principle of justice. • Explain what procedures adopted to maintain the principle of justice in challenging situations. • Identify situations in which a doctor may have to take decisions in the best interests of the patient considering the principle of justice	C3 C2 C1	Short video demonstration on violation of Ethical principle of beneficence and non-maleficence from suit CBEC Video resources Students deliberations and reflections Reflective writing	• Assignment based assessment involving real life case scenarios under aggregate Marks (Internal Assessment) • Assignment to be uploaded on LMS

Introduction to Spiral Courses

The Holy Quran Translation

A course of Islamic Studies provides students with a comprehensive overview of the fundamental aspects of Islam, its history, beliefs, practices, and influence on society and familiarize students with a solid foundation in understanding the religion of Islam from an academic and cultural perspective. Ethics, in integrated form will shape the core of the course to foster among students the universal ethical values promoted by Islam.

Bioethics

Biomedical ethics, also known as bioethics, is a field of study that addresses the ethical, social, and legal issues arising from medicine and the life sciences. It applies moral principles and decision-making frameworks to the practice of clinical medicine, biomedical research, and health policy. Biomedical ethics seeks to navigate the complex ethical dilemmas posed by advances in medical technology, research methodologies, and healthcare practices. Key areas of focus include patient rights and autonomy, confidentiality, informed consent, end-of-life care, resource allocation, and the ethics of genetic engineering, among others.

Biomedical ethics within medical universities plays a pivotal role in shaping the moral framework through which future healthcare professionals navigate the complex and often challenging decisions they will face in their careers. This critical discipline integrates ethical theories and principles with clinical practice, research, and healthcare policy, fostering a deep understanding of the ethical dimensions of medicine. By embedding biomedical ethics into the curriculum, Rawalpindi medical university equips students with the tools to critically analyze and address ethical dilemmas, ranging from patient confidentiality and informed consent to end-of-life care and the equitable distribution of healthcare resources.

This education goes beyond theoretical knowledge, encouraging students to apply ethical reasoning in practical scenarios, thus preparing them for the moral complexities of the medical field. Biomedical ethics also promotes a culture of empathy, respect, and integrity, ensuring that future medical practitioners not only excel in their technical skills but also uphold the highest ethical standards in patient care and research. Through seminars, case studies, and interdisciplinary collaborations, students are encouraged to engage in ethical discourse, reflecting on the societal impact of medical advancements and the responsibility of medical professionals to society. This foundational aspect of medical education cultivates a generation of healthcare professionals committed to ethical excellence, patient advocacy, and the pursuit of equitable healthcare for all.

Professionalism

Professionalism in medicine refers to the set of values, behaviors, and relationships that underpin the trust the public has in doctors and other healthcare professionals. It encompasses a commitment to competence, integrity, ethical conduct, accountability, and putting the interests of patients above one's own. Professionalism involves adhering to high standards of practice, including maintaining patient confidentiality, communicating effectively and respectfully with patients and colleagues, and continually engaging in self-improvement and professional development. It also includes a responsibility to improve access to high-quality healthcare and to contribute to the welfare of the community and the betterment of public health. In essence, professionalism in medicine is foundational to the quality of care provided to patients and is critical for maintaining the trust that is essential for the doctor-patient relationship.

Rawalpindi Medical University emphasizes the importance of professionalism in medicine, integrating it throughout its curriculum to ensure that students embody the core values of respect, accountability, and compassion in their interactions with patients, colleagues, and the community. This focus on professionalism is designed to prepare students for the complexities of the healthcare environment, instilling in them a deep sense of responsibility to their patients, adherence to ethical principles, and a commitment to continuous learning and improvement. Through a combination of theoretical learning, practical training, and mentorship, RMU encourages its students to exemplify professionalism in every aspect of their medical practice. Workshops, seminars, and clinical rotations further reinforce these values, providing students with real-world experiences that highlight the importance of maintaining professional conduct in challenging situations. RMU's approach to professionalism not only shapes competent and ethical medical professionals but also contributes to the broader mission of improving healthcare standards and patient outcomes. By prioritizing professionalism, Rawalpindi Medical University plays a crucial role in advancing the medical profession and ensuring that its graduates are well-equipped to meet the demands of a rapidly evolving healthcare landscape with honor and integrity.

Communication Skills

Communication skill for health professionals involves the ability to effectively convey and receive information, thoughts, and feelings with patients, their families, and other healthcare professionals. It encompasses a range of competencies including active listening, clear and compassionate verbal and non-verbal expression, empathy, the ability to explain medical conditions and treatments in an understandable way, and the skill to negotiate and resolve conflicts. Effective communication is essential for establishing trust, ensuring patient understanding and compliance with treatment plans, making informed decisions, and providing holistic care. It directly impacts patient satisfaction, health outcomes, and the overall efficiency of healthcare delivery

At Rawalpindi Medical University (RMU), the development of communication skills is regarded as a fundamental aspect of medical education, recognizing its critical importance in enhancing patient care, teamwork, and interdisciplinary collaboration. RMU is dedicated to equipping its students with exceptional communication abilities, enabling them to effectively interact with patients, their families, and healthcare colleagues. The curriculum is thoughtfully designed to incorporate various interactive and experiential learning opportunities, such as role-playing, patient interviews, and group discussions, which allow students to practice and refine their communication skills in a supportive environment.

By integrating communication skills training throughout its programs, RMU not only enhances the interpersonal competencies of its future healthcare professionals but also contributes to improving the overall quality of healthcare delivery. Graduates from RMU are distinguished not just by their clinical expertise but also by their ability to connect with patients and colleagues, making them highly effective and compassionate practitioners.

Behavioral Sceinces

Behavioral sciences in medicine focus on understanding and addressing the psychological and social aspects of health and illness. This interdisciplinary field combines insights from psychology, sociology, anthropology, and other disciplines to enhance medical care and patient outcomes. It explores how behavior, emotions, and social factors influence health, disease, and medical treatment. By incorporating behavioral science principles into medical practice, healthcare professionals can better understand patients' perspectives, improve communication, and promote positive health behaviors, ultimately contributing to more comprehensive and effective patient care.

Family Medicine

Family medicine is a medical specialty dedicated to providing comprehensive health care for people of all ages and genders. It is characterized by a long-term, patient-centered approach, building sustained relationships with patients and offering continuous care across all stages of life. It focuses on treating the whole person within the context of the family and the community, emphasizing preventive care, disease management, and health promotion.

The Family Medicine Curriculum at Rawalpindi Medical University (RMU) marks a significant stride towards holistic healthcare education, aiming to prepare medical graduates for the comprehensive and evolving needs of family practice. This curriculum is designed to offer a broad perspective on healthcare, focusing on preventive care, chronic disease management, community health, and the treatment of acute conditions across all ages, genders, and diseases. Emphasizing a patient-centered approach, the curriculum ensures that students develop a deep understanding of the importance of continuity of care, patient advocacy, and the ability to work within diverse community settings.

RMU's Family Medicine Curriculum integrates theoretical knowledge with practical experience. Students are exposed to a variety of learning environments, including community health centers, outpatient clinics, and inpatient settings, providing them with a well-rounded understanding of the different facets of family medicine. This hands-on approach is complemented by interactive sessions, workshops, and seminars that cover a wide range of topics from behavioral health to geriatric care, ensuring students are well-equipped to address the comprehensive health needs of individuals and families.

Artificial Intelligence

To realize the dreams and impact of AI requires autonomous systems that learn to make good decisions. Reinforcement learning is one powerful paradigm for doing so, and it is relevant to an enormous range of tasks, including robotics, game playing, consumer modeling and healthcare. This class will provide a solid introduction to the field of reinforcement learning and students will learn about the core challenges and approaches, including generalization and exploration. Through a combination of lectures, and written and coding assignments, students will become well versed in key ideas and techniques for RL. Assignments will include the basics of reinforcement learning as well as deep reinforcement learning — an extremely promising new area that combines deep learning techniques with reinforcement learning. In addition, students will advance their understanding and the field of RL through a final project.

Integrated Undergraduate Research Curriculum

The integrated undergraduate research curriculum (IUGRC) of RMU occupies a definite space in schedule of each of the five years in rational and incremental way. It has horizontal harmonization as well as multidisciplinary research work potentials. In the first-year teachings are more introductory & inspirational rather than instructional. The teachings explain what & why of research and what capacities are minimally required to comprehend research & undertake research. Some research dignitaries' lecture are specifically arranged for sharing their experiences and inspiring the students. Students are specifically assessed through their individual compulsory written feedback (reflection) after the scheduled teachings end.

Entrepreneurship

Entrepreneurship is the process of designing, launching, and running a new business, which typically starts as a small enterprise offering a product, process, or service for sale or hire. It involves identifying a market opportunity, gathering resources, developing a business plan, and managing the business's operations, growth, and development.

Entrepreneurship in medical universities represents a burgeoning field where the innovative spirit intersects with healthcare to forge advancements that can transform patient care, medical education, and healthcare delivery. This unique amalgamation of medical expertise and entrepreneurial acumen empowers students, faculty, and alumni to develop groundbreaking medical technologies, healthcare solutions, and startups that address critical challenges in the health sector. By integrating entrepreneurship into the curriculum, Rawalpindi Medical university is not only expanding the traditional scope of medical education but also fostering a culture of innovation and problem-solving. This enables future healthcare professionals to not only excel in clinical skills but also in business strategies, leadership, and innovation management.

Such initiatives often lead to the creation of medical devices, digital health platforms, and therapeutic solutions that can significantly improve patient outcomes and make healthcare more accessible and efficient. Through incubators, accelerators, and partnerships with the industry, medical universities are becoming hotbeds for healthcare innovation, driving economic growth, and contributing to the broader ecosystem of medical research and entrepreneurial success.

Digital Literacy Module

Digital literacy means having the skills one needs to live, learn, and work in a society where communication and access to information is increasingly through digital technologies like internet platforms, social media, and mobile devices.

Early Clinical Exposure (ECE)

Early clinical exposure helps students understand the relevance of their preclinical studies by providing real-world contexts. This can enhance motivation and engagement by showing students the practical application of their theoretical knowledge. Early exposure allows students to begin developing essential clinical skills from the start of their education. This includes not only technical skills but also crucial soft skills such as communication, empathy, and professionalism. Direct interaction with patients early in their education helps students appreciate the complexities of patient care, including the psychological and social aspects of illness. Early exposure to various specialties can aid students in making informed decisions about their future career paths within medicine.

Early clinical experiences contribute to the development of a professional identity, helping students see themselves as future physicians and understand the responsibilities and ethics associated with the profession. This can help reduce the anxiety associated with clinical work by familiarizing students with the clinical environment. It can build confidence in their abilities to interact with patients and healthcare professionals. Engaging with real-life clinical situations early on encourages the development of critical thinking and problem-solving skills, which are essential for medical practice. It helps bridge the gap between theoretical knowledge and practical application, leading to a more integrated and holistic approach to medical education. It allows students to observe and understand how healthcare systems operate, including the challenges and limitations faced in different settings.: Early patient interaction emphasizes the importance of patient-centered care from the outset, underscoring the importance of treating patients as individuals with unique needs and backgrounds. Practical experiences can enhance long-term retention of knowledge as students are able to connect theoretical learning with clinical experiences.: Early clinical experiences often involve working in multidisciplinary teams, which fosters a sense of collaboration and understanding of different roles within healthcare.

In summary, early clinical exposure in medical education is pivotal for the holistic development of medical students, providing them with a strong foundation of practical skills, professional attitudes, and a deep understanding of patient-centered care.

List of Reproduction Module Spiral Courses Lectures

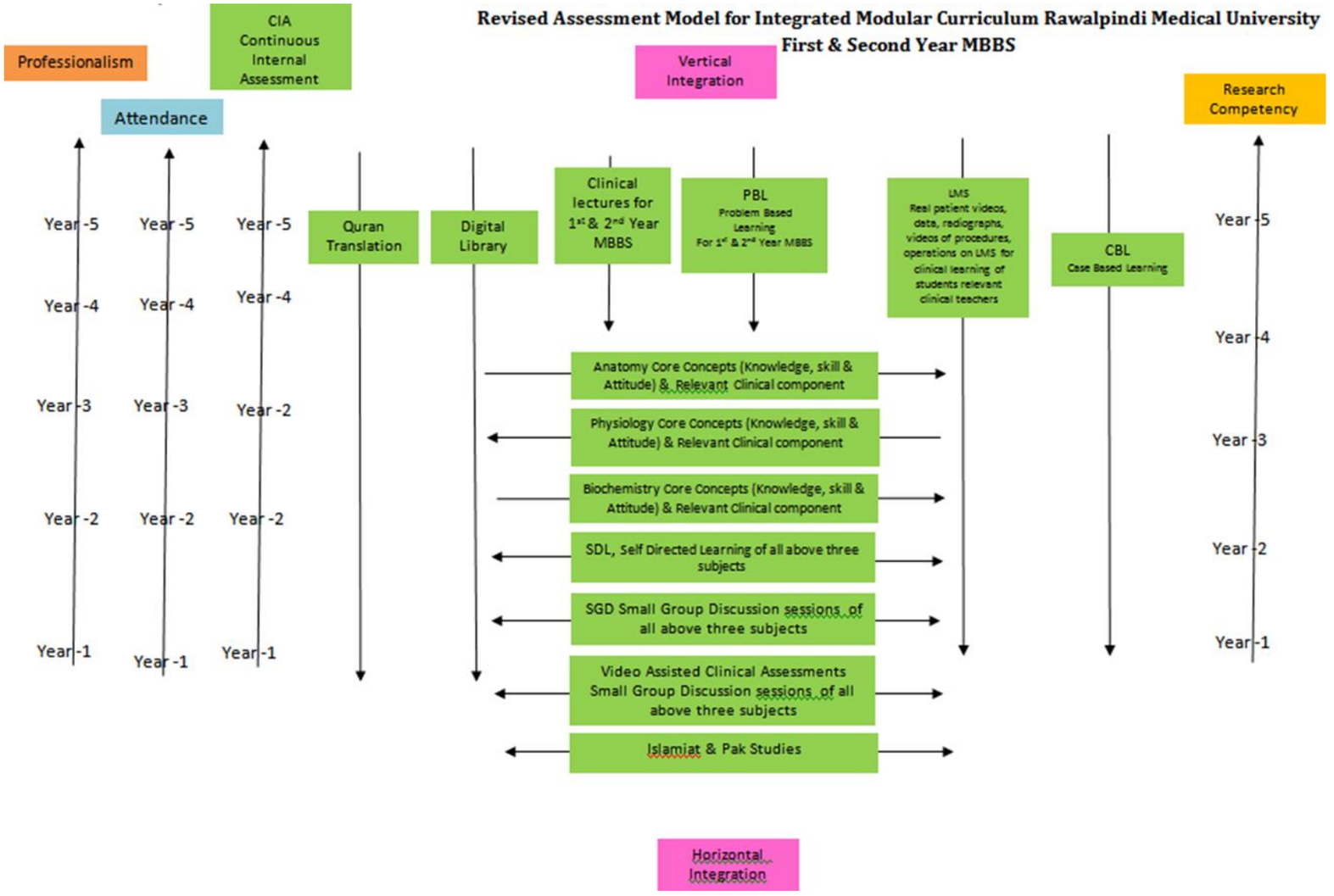
Sr. #	Date/Day	Week	Department	Time	Topic Of Lectures	Facilitators Names And Contact Numbers
1.	31-05-2024 Friday	1st	Quran Translation - I	08:00am – 09:00 Am	Imaniat-5/ Akhlaqiat-1	Mufti Naeem (0300-5580299) Dr. Fahd (0300-5156800)
2.	31-05-2024 Friday	1st	Pak Studies/Islamiyat	09:00am – 10:00am	Kaamyab Logu Ki Sifaat / Nehru Report, Quaid E Azam K 14 Nukaat	Mufti Naeem (0300-5580299) Qari Aman (0346-7598528)
3.	07-06-2024 Friday	2nd	Biomedical (Club Activity)	10:00am – 12:00pm	Ethical Dilemmas Involving Breech In Autonomy	
4.	10-06-2024 Monday	3rd	Behavioural Sciences	11:20am – 12:10pm	Emotion	
5.	12-06-2024 Wednesday	3rd	Biomedical Ethics	10:30am – 11:20am	Ethical Dilemmas In Healthcare Practice Involving Breach In Principle Of Beneficence And Non-Maleficence	
6.	13-06-2024 Thursday	3rd	Biomedical Ethics	10:30am – 11:20am	Ethical dilemmas practice involving breach in principle of justice	
7.	14-06-2024 Friday	3rd	Quran Translation – II	08:00am – 09:00am	Imaniat-6 Akhlaqiat-2	Dr. Fahd Anwar (Odd) Mufti Naeem Sherazi (Even
8.	14-06-2024 Friday	3rd	Pak Studies/Islamiyat	09:00am – 10:00am	Nehru Report, Quaid E Azam K 14 Nukaat/ Kaamyab Logu Ki Sifaat	Qari Aman (0346-7598528) Mufti Naeem (0300-5580299)
9.	15-06-2024 Saturday	3rd	Family Medicine	11:20am – 12:10pm	AIDS	Dr Shaheer(Even) Dr Shabaz Ashraf (Odd)

SECTION - V

Assessment Policies

Contents

- **Assessment plan**
- **Types of Assessment:**
- **Modular Examinations**
- **Block Examination**
- **Table 4: Assessment Frequency & Time in Reproduction Module**



Gauge for Continuous Internal Assessment (CIA)

Red Zone	High Alert	Yellow Zone	Green Zone	Excellent	Extra Ordinary
0 - 25%	26 - *50%	51 - 60%	61 – 70%	71 – 80%	81 - 100%

60% and above is passing marks.

Gauge for attendance percentage

Red Zone	High Alert	Yellow Zone-1	Yellow Zone-2	Green Zone	Excellent
0 - 25%	26 - 50%	51 - 60%	61 – 74%	*75 – 80%	81 - 100%

90% is eligibility criteria for appearing professional examination.

Assessment plan

University has followed the guidelines of Pakistan Medical and Dental Council for assessment. Assessment is conducted at the mid modular,modular and block levels.

Types of Assessment:

The assessment is formative and summative.

Formative Assessment	Summative Assessment
Formative assessment is taken at modular (2/3rd of the module is complete) level through MS Teams. Tool for this assessment is best choice questions and all subjects are given theshare according to their hour percentage.	Summative assessment is taken at the mid modular (LMS Based),modular and block levels.

Modular Assessment

Theory Paper	Viva Voce
There is a module examination at the end of first module of each block. The content of the whole teaching of the module are tested in this examination. It consists of paper with objective type questions and structured essay questions. The distribution of the questions is based on the Table of Specifications of the module. (Annexure I attached)	Structured table viva voce is conducted including the practical content of the module.

Block Assessment

On completion of a block which consists of two modules, there is a block examination which consists of one theory paper and a structured viva with OSPE.

Theory Paper	Block OSPE
There is one written paper for each subject. The paper consists of objective type questions and structured essay questions. The distribution of the questions is based on the Table of Specifications of the module.	This covers the practical content of the whole block.

Table 4-Assessment Frequency & Time in Reproduction Module

Block	Sr #	Module – 1 Reproduction Module Components	Type of Assessments	Total Assessments Time			No. of Assessments	
				Assessment Time	Summative Assessment Time	Formative Assessment Time		
Block-II	1	Weekly LMS Based Assessments (Anatomy, Physiology & Biochemistry)	Formative	2 Hours	3 Hours 45 Minutes	3 Hours	2 Formative	6 Summative
	2	End Module Examinations (SEQ, SAQ, EMQ & MCQs Based)	Summative	2 Hours				
	3	Audio Visual (AV) OSPE (10 slides) 5 minutes per slide	Summative	50 Minutes				
	4	Anatomy Structured and Clinically Oriented Viva	Summative	10 Minutes				
	5	Physiology Structured & Clinically oriented Viva voce	Summative	10 Minutes				
	6	Assessment of Clinical Lectures & Spiral Curriculums	Formative	60 Minutes				

Learning Resources

Subject	Resources
Anatomy	**A. Gross Anatomy** 1. Gray's Anatomy by Prof. Susan Standring 42th edition, Elsevier. 2. Clinical Anatomy for Medical Students by Richard S. Snell 10th edition. 3. Clinically Oriented Anatomy by Keith Moore 9th edition. 4. Cunningham's Manual of Practical Anatomy by G.J. Romanes, 16th edition, Vol-I, II and III **B. Histology** 1. B. Young J. W. Health Wheather's Functional Histology 6th edition. 2. Medical Histology by Prof. Laiq Hussain 7th edition. **C. Embryology** 1. Keith L. Moore. The Developing Human 11th edition. 2. Langman's Medical Embryology 14th edition. **D. Website** 1. https://my.clevelandclinic.org/health/articles/9117-male-reproductive-system 2. https://teachmeanatomy.info/pelvis/female-reproductive-tract/ 3. https://www.kenhub.com/en/start/pelvis-and-perineum **E. Youtube** 1. https://www.youtube.com/watch?v=G0ZuCilCu3E 2. https://www.youtube.com/watch?v=50iuBgTQCrQ **F. HEC Digital Library** 1. https://www.sciencedirect.com/science/article/pii/S0015028220304350 2. https://link.springer.com/article/10.1007/s11356-021-16581-9 3. https://link.springer.com/chapter/10.1007/978-3-030-30766-0_25 4. https://onlinelibrary.wiley.com/doi/abs/10.1111/and.13712
Physiology	**A. Textbooks** 1. Textbook of Medical Physiology by Guyton and Hall 14th edition. 2. Ganong 'S Review of Medical Physiology 26th edition. **B. Reference Books** 1. Human Physiology by Lauralee Sherwood 10th edition. 2. Berne & Levy Physiology 7th edition. 3. Best & Taylor Physiological Basis of Medical Practice 13th edition. 4. Guyton & Hall Physiological Review 3rd edition. **C. Website** **1.** https://teachmephysiology.com/reproductive-system/ (Reproductive physiology)

	2. https://courses.lumenlearning.com/wm-biology2/chapter/the-ovarian-cycle-the-menstrual-cycle-and-menopause/ 3. https://zerotofinals.com/obgyn/reproductivesystem/physiologyinpregnancy/ https://www.ibbiotech.com/en/info/sperm-capacitation/ **D. Youtube** 1. https://youtu.be/2_owp8kNMus (Female Reproductive system) 2. https://youtu.be/V9a2AQSJIMc (Dr Najeeb Lectures) https://youtu.be/rYVGjbzmAtg (Dr Najeeb lectures) **E. HEC Digital Library** 1. https://www.sciencedirect.com/science/article/abs/pii/S1532045621000296 2. https://www.sciencedirect.com/science/article/abs/pii/S001502822200485X **F. Physiology Journals** 1. https://rupress.org/jgp/article/5/4/441/30794/THE-RATE-OF-DECLINE-OF-MILK-SECRETION-WITH-THE 2. https://www.annualreviews.org/doi/abs/10.1146/annurev.ph.36.030174.001515?journalCode=physiol 3. https://zerotofinals.com/obgyn/reproductivesystem/physiologyinpregnancy/ https://www.msdmanuals.com/home/women-s-health-issues/normal-pregnancy/stages-of-development-of-the-fetus
Biochemistry	**Textbooks** 1. Harper's Illustrated Biochemistry 32th edition. 2. Lipponcott biochemistry 8th edition **B. Reference Books** 1.Lehninger Principle of Biochemistry 8th edition. 2. Biochemistry by Devlin 7th edition. **C. Website** • https://www.sciencedirect.com/topics/biochemistry-genetics-and-molecular-biology/gonad-function • https://www.sciencedirect.com/topics/biochemistry-genetics-and-molecular-biology/gonad-functionn • https://www.sciencedirect.com/topics/biochemistry-genetics-and-molecular-biology/purine-synthesis • https://www.sciencedirect.com/topics/medicine-and-dentistry/purine-metabolism-disorder • https://www.cliffsnotes.com/study-guides/biology/biochemistry-ii/purines-and- • https://www.healio.com/hematology-oncology/learn-genomics/genomics-primer/regulation-of-gene-expression-in-eukaryote **D. Youtube**

	• https://www.youtube.com/watch?v=A5u_TY1A0t8 • https://www.youtube.com/watch?v=A5u_TY1A0t8 • https://www.youtube.com/watch?v=VXWyWzbigrg • https://www.youtube.com/watch?v=e2KFVvI8Akk • https://www.youtube.com/watch?v=n7Uec8Jtr4E • https://www.youtube.com/watch?v=J9jhg90A7Lw **E. HEC Digital Library** • https://www.ncbi.nlm.nih.gov/books/NBK29/ • https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3243375/ • https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4215161/ • https://www.ncbi.nlm.nih.gov/pmc/articles/PMC378357/ • https://www.nature.com/scitable/topicpage/regulation-of-transcription-and-gene-expression-in-1086/ **F. Biochemistry Journals** • https://academic.oup.com/bmb/article/11/2/126/256755 • https://www.sciencedirect.com/topics/medicine-and-dentistry/gonadal-hormone

SECTION - VI

Time Table

Integrated Clinically Oriented Modular Curriculum for Second Year MBBS

Reproduction Module Time Table

Second Year MBBS

Session 2023-2024

Batch- 50

Reproduction Module Team

Module Name	:	Reproduction Module
Duration of module	:	04 Weeks
Coordinator	:	Dr. Uzma Zafar
Co-coordinator	:	Dr. Romessa Naeem
Reviewed by	:	Module Committee

Module Committee		
1.	Vice Chancellor RMU	Prof. Dr. Muhammad Umar
2.	Director DME	Prof. Dr. Ifra Saeed
3.	Chairperson Anatomy & Dean Basic Sciences	Prof. Dr. Ayesha Yousaf
4.	Chairperson Physiology	Prof. Dr. Samia Sarwar
5.	Chairperson Biochemistry	Dr. Aneela Jamil
6.	Focal Person Anatomy Second Year MBBS	Dr. Maria Tasleem
7.	Focal Person Physiology	Dr. Sidra Hamid
8.	Focal Person Biochemistry	Dr. Aneela Jamil
9.	Focal Person Pharmacology	Dr. Zunera Hakim
10.	Focal Person Pathology	Dr. Asiya Niazi
11.	Focal Person Behavioral Sciences	Dr. Saadia Yasir
12.	Focal Person Community Medicine	Dr. Afifa Kulsoom
13.	Focal Person Quran Translation Lectures	Dr. Uzma Zafar
14.	Focal Person Family Medicine	Dr. Sadia Khan

Module Task Force Team		
1.	Coordinator	Dr. Uzma Zafar (APWMO Demonstrator of Biochemistry)
2.	DME Focal Person	Dr. Farzana Fatima
3.	Co-coordinator	Dr. Tariq Furqan (Senior Demonstrator of Anatomy)
4.	Co-Coordinator	Dr. Romessa Naeem (Senior Demonstrator of Biochemistry)
5.	Co-coordinator	Dr. Nazia (Senior Demonstrator of Physiology)

DME Implementation Team		
1.	Director DME	Prof. Dr. Ifra Saeed
2.	Assistant Director DME	Dr Farzana Fatima
3.	DME Implementation Team	Prof. Dr. Ifra Saeed Dr. Farzana Fatima Dr. Saira Aijaz
4.	Editor	Muhammad Arslan Aslam

Discipline wise Details of Modular Contents

Block	Subjects	Embryology	Histology	Gross Anatomy
II	• Anatomy	Embryology/Development • Testis • Genital Ducts • Prostate & Accessory Glands • Uterus & Uterine tubes • Ovary & Vagina	Histology • Testis • Genital Ducts • Prostate & Accessory Glands • Uterus & Uterine Tubes • Ovary & Vagina	• Sacrum • Bony Pelvis & Joints of Pelvis • Pelvic Fascia, Pelvic Diaphragm, & Pelvic Peritoneum • Male External Genitalia, Scrotum, & Testis • Prostate Vas Deferens, Seminal Vesicles & Ejaculatory Ducts • Female External Genitalia, Ovaries, Fallopian Tubes • Uterus, Cervix & Vagina • Ischioanal Fossa • Urogenital Diaphragm • Perineum, Superficial Perineal Pouch and its contents • Deep Perineal Pouch and its contents • Blood Supply & Lymphatic Drainage of Pelvis & Perineum • Sacral and Coccygeal Plexus • Radiology, Surface Marking, Cross Sectional Anatomy
	• Biochemistry	• Digestion of nucleic acid & biosynthesis of purines • Purine catabolism and related disorders • Pyrimidine metabolism • Regulation of gene expression • Male Gonadal Hormones • Female Gonadal Hormones		
	• Physiology	• Physiological anatomy of male reproductive • system & spermatogenesis • Physiological anatomy female reproductive system • Semen, capacitation & acrosome reaction • Monthly Ovarian Cycle, ovulation • Male sex hormones, Abnormalities of male sexual • function and spermatogenesis • Monthly Endometrial Cycle and Menstruation • Response of mother's body to pregnancy and parturition • Female sex hormones (oestrogen and progesterone) • Lactation, Milk composition, breast feeding		

		• Puberty, menarche, menopause, postmenopausal symptoms & anovulatory cycles, Abnormalities of • secretion by ovaries • Growth &functional development of fetus, Adjustments of infant to extrauterine life, Growth • & development in child • Fertilization of ovum, transport, implantation, Functions of placenta • Hormonal factors in pregnancy, Special functional • problems in neonate. Prematurity and its problems
	Spiral Courses	
	• Biomedical (Club Activity)	• Ethical dilemmas Involving breech in Autonomy. • Ethical dilemmas in healthcare practice involving breach in principle of beneficence and non-maleficence. • Ethical dilemmas practice involving breach in principle of justice
	• Behavioural Sciences	• Emotion
	• Family Medicine	• AIDS
	• The Holy Quran Translation	• Imaniat-5 • Akhlaqiat-1
	• Pak Studies/Islamiyat	• Kaamyab logu ki sifaat • Nehru report, Quaid e Azam k 14 nukaat
	Vertical Integration	
	• Gynae & Obs	• Early Pregnancy Complications • Menstrual irregularities • Subfertily
	• Pharmacology	• Hormonal Contraceptives
	• Surgery	• Male hypogonadism, Acute Scrotum
	• Pathology	• BPH/Prostatitis / Sexually Transmitted Diseases • Polycystic Ovaries
	• Community Medicine	• Sexually Transmitted Diseases (STDs) • Acquired Immunodeficiency Syndromes/ Sexually Transmitted Diseases
	Early Clinical Exposure	
	• Clinical Rotations	• Ovarian Tumors • Uterine Tumors • Polycystic Ovaries • Menstrual Irregularities **(Gynecology)**

		• Important points in History of pregnant lady • Obstetrics Trimesters • Fetal heart sounds	**(Obstetrics)**
		• Testicular Tumors • Hydrocele • Undescended Testis • Hypospadias/ Epispadias	**(Surgery)**

Categorization of Modular Contents

Anatomy

Category A*	Category B**	Category C***			
Special Embryology	**Special Histology**	**Demonstrations / SGD**	**CBL**	**Practical's**	**Self-Directed Learning (SDL)**
• Testis • Genital Ducts • Prostate & Accessory Glands • Uterus & Uterine Tubes • Ovary & Vagina	• Testis • Genital Ducts • Prostate & Accessory Glands • Uterus & Uterine Tubes • Ovary & Vagina	• Sacrum • Bony Pelvis & Joints of Pelvis • Pelvic Fascia, Pelvic Diaphragm, & Pelvic Peritoneum • Male External Genitalia, Scrotum, & Testis • Female External Genitalia, Ovaries, Fallopian Tubes • Uterus, Cervix & Vagina • Prostate Vas Deferens, Seminal Vesicles & Ejaculatory Ducts • Ischioanal Fossa • Urogenital Diaphragm • Perineum, superficial Perineal Pouch and its contents • Deep Perineal Pouch and its contents • Blood Supply & Lymphatic Drainage of Pelvis & Perineum • Sacral and Coccygeal Plexus • Radiology, Surface Marking	• Prostate (Benign prostate hyperplasia) • Ovary (ovarian cyst)	• Testis, Epididymis, Ductus Deferens • Seminal Vesicles, Prostate • Ovary, Uterus, Uterine Tubes	• Sacrum • Bony Pelvis & Joints of Pelvis • Pelvic Fascia, Pelvic Diaphragm, & Pelvic Peritoneum • Male External Genitalia, Scrotum, & Testis • Prostate Vas Deferens, Seminal Vesicles & Ejaculatory Ducts • Female External Genitalia, Ovaries, Fallopian Tubes • Uterus, Cervix & Vagina • Ischioanal Fossa • Urogenital Diaphragm • Perineum, superficial Perineal Pouch and its contents • Deep Perineal Pouch and its contents • Blood Supply & Lymphatic Drainage of Pelvis & Perineum • Sacral and Coccygeal Plexus

Category A*: By Professors

Category B:** By Associate & Assistant Professors

Category C*:** By Senior Demonstrators & Demonstrators

Teaching Staff / Human Resource of Department of Anatomy

Sr. #	Designation Of Teaching Staff / Human Resource	Total number of teaching staff
1.	Professor of Anatomy department	01
2.	Assistant professor of Anatomy department (AP)	01
3.	Demonstrators of Anatomy department	03

Contact Hours (Faculty)

Sr. #	Hours Calculation for Various Type of Teaching Strategies	Total Hours
1.	Large Group Interactive Session (LGIS)	2 * 05 = 10 hours
2.	Small Group Discussions (SGD)	2*12 + 1*2=26 hours
3.	Practical / Skill Lab	1.5 * 15 = 22.5 hours

Contact Hours (Students)

Sr. #	Hours Calculation for Various Type of Teaching Strategies	Total Hours
1.	Large Group Interactive Session (LGIS)	1 * 5 = 05 hours
2.	Small Group Discussions (SGD)	2*12+ 1*2=26 hours
3.	Practical / Skill Lab	1.5 * 3 = 4.5 hours
4.	Self-Directed Learning (SDL)	1 * 5 = 10 hours

Physiology

Category A*	Category B**	Category C***				
LGIS	**LGIS**	**PBL**	**CBL**	**Practical's**	**SGD**	**SDL**
• Monthly Ovarian Cycle, ovulation • (Monthly Endometrial Cycle and Menstruation	• Physiological anatomy of male reproductive system & spermatogenesis • Physiological anatomy female reproductive system • Semen, capacitation & acrosome reaction • Male sex hormones, abnormalities of male sexual function and spermatogenesis • Response of mother's body to pregnancy, Parturition • Female sex hormones (oestrogen and progesterone) • Lactation, milk composition, breast feeding • Puberty, menarche, menopause, postmenopausal symptoms & anovulatory cycles, abnormalities of secretion by ovaries • Fertilization of ovum, transport, implantation, functions of placenta • Hormonal factors in pregnancy, special functional problems in neonate. Prematurity and its problems.		1. Menorrhagia 2. Infertility 3. Neonatal problems of Prematurity	1. Pregnancy test 2. Examination of 7th Cranial nerve 3. Examination of 3rd,4th,6th Cranial nerves		1. Fertilization of ovum, transport, implantation, Functions of placenta 2. Growth &functional development of fetus, Adjustments of infant to extrauterine life, Growth & development in child 3. Special functional problems in neonate. Prematurity and its problems

Category A*: By Professors

Category B:** By Associate & Assistant Professors

Category C*:** By Senior Demonstrators & Demonstrators

Teaching Staff / Human Resource of Department of Physiology

Sr. #	Designation Of Teaching Staff / Human Resource	Total Number Of Teaching Staff
1.	Professor of physiology department	01
2.	Associate professor of physiology department	01
3.	Assistant professor of physiology department (AP)	01
4.	Demonstrators of physiology department	10
5.	Residents of physiology department (PGTs)	09

Contact Hours (Faculty) & Contact Hours (Students)

Sr. #	Hours Calculation for Various Type of Teaching Strategies	Total Hours
1.	Large Group Interactive Session (LECTURES)	13 x 2= 26 x 1 hour = 26 hours
2.	Small Group Discussions (SGD)/CBL	15 x 1.5 hour = 22.5 hours
3.	Problem Based Learning (PBL)	---
4.	Practical / Skill Lab	15 x 1.5 hour = 22.5 hours
5.	Self-Directed Learning (SDL)	3 x 1 hour = 3 hours

Biochemistry

Category A*	Category B**	Category C***			
LGIS	**LGIS**	**PBL**	**CBL**	**Practical's**	**SGD**
• Regulation of gene expression	• Male gonadal hormones • Female gonadal hormones • Introduction to nucleic acid and purine synthesis • Purine catabolism and related disorders • Pyrimidine metabolism and related disorders		• Gout	• Estimation of Uric acid by spectrophometer • Estimation of cholesterol by spectrophometer • Analysis of Milk	• Purine synthesis and describe salvage pathway • Synthesis, mechanism of action and functions of male and female sex hormones

Category A*: Assistant Professor (HOD) and APMO (With Postgraduate Qualification)

Category B:** (Senior Demonstrators & APWMO)

Category C*:** (By All Demonstrators, Senior Demonstrators and APWMO)

Teaching Staff / Human Resource of Department of Biochemistry

Sr. #	Designation Of Teaching Staff / Human Resource	Total Number Of Teaching Staff
1	Assistant professor of biochemistry department (AP)	01
2	Demonstrators of biochemistry department	05

Contact Hours (Faculty) & Contact Hours (Students)

Sr. #	Hours Calculation for Various Type of Teaching Strategies	Total Hours (Faculty)	Total Hours (student)
1.	Large Group Interactive Session (LECTURES)	2 * 6 = 12 hours	06
2.	Small Group Discussions (SGD)	1.5 * 5= 22.5 hours	4.5
3.	Problem Based Learning (PBL)	Zero	zero
4.	Practical / Skill Lab	1.5 * 5= 22.5 hours	4.5
5.	Self-Directed Learning (SDL)	----------	05

Reproduction Module (First Week)
(27-05-2024 To 01-06-2024)

Date/Day	8:00am-9:20am	9:20am – 10:10am		10:10am – 10:30am	10:30am-11:20am		11:20am-12:10pm		12:10pm-12:30pm	12:30pm – 2:00pm	Home Assignments(2HRS)
27-05-2024 Monday	**Practical & SGD/CBL** Topics & venue mentioned at the end. Batches, Teachers & Venue Mentioned in Table No. 1	**PHYSIOLOGY (LGIS)**			LMS Based Assessment of Block - I						SDL Physiology Physiological anatomy of female reproductive system, Monthly Ovarian Cycle
		Physiological anatomy of female reproductive system,	Physiological anatomy of male reproductive system & spermatogenesis,								
		Prof Dr. Samia Sarwar/ Dr Sheena (Even)	Dr Fareed (Odd)								
28-05-2024 Tuesday	**Practical & SGD/CBL** Topics & venue mentioned at the end. Batches, Teachers & Venue Mentioned in Table No. 1	**PHYSIOLOGY (LGIS)**		B r e a k	**ANATOMY (LGIS)**		**BIOCHEMISTRY (LGIS)**		B r e a k	**SGD/DISSECTION**	SDL Anatomy Sacrum, Bony Pelvis & Joints of Pelvis, Pelvic Fascia, Pelvic Peritoneum, Pelvic Diaphragm & Contents of Pelvic Cavity
		Physiological anatomy of male reproductive system & spermatogenesis,	Physiological anatomy of female reproductive system		Special Embryology	Special Histology	Gene Expression	Nucleic Acid & purine synthesis		Sacrum, Bony Pelvis & Joints of Pelvis Batches, Teachers & Venue Mentioned in Table No. 2	
		Dr Fareed (Even)	Prof. Dr Samia Sarwar/ Dr Sheena (Odd)		Testis	Testis					
					Prof. Dr. Ifra (Even)	Assis. Prof. Dr. Maria (Odd)	Dr. Aneela (Even)	Dr. Uzma (Odd)			
29-05-2024 Wednesday	**Practical & SGD/CBL** Topics & venue mentioned at the end. Batches, Teachers & Venue Mentioned in Table No. 1	**ANATOMY (LGIS)**			**BIOCHEMISTRY (LGIS)**		**PBL 1 (SESSION -I)**			**SGD/DISSECTION**	SDL Anatomy External Male Genitalia, Testis & Scrotum
		Special Histology	Special Embryology		Nucleic Acid & purine synthesis	Gene Expression	PBL Team			Pelvic Fascia, Pelvic Peritoneum, Pelvic Diaphragm Contents of Pelvic Cavity Dissection Batches, Teachers & Venue Mentioned in Table No. 2	
		Testis	Testis								
		Assis. Prof. Dr. Maria (Even)	Prof. Dr Ifra (Odd)		Dr. Uzma (Even)	Dr. Aneela (Odd)					
30-05-2024 Thursday	**Practical & SGD/CBL** Topics & venue mentioned at the end. Batches, Teachers & Venue Mentioned in Table No. 1	**PHYSIOLOGY (LGIS)**			**ANATOMY (LGIS)**		**GYNAE AND OBS (LGIS)**			**SGD/DISSECTION**	SDL Biochemistry Constituents of Purine synthesis and Salvage Pathway of Purine Metabolism
		Monthly Ovarian Cycle, ovulation Monthly Endometrial Cycle and Menstruation	Semen, Capacitation & acrosome reaction Male sex hormones, Abnormalities of male sexual function and spermatogenesis		Special Histology (Genital Ducts and (Prostate & Seminal vesicles)	Special Embryology (Genital Ducts Prostate & Accessory gland)	Early Pregnancy Complications			External Male Genitalia, Testis & Scrotum (Dissection '& Spotting) Batches, Teachers & Venue Mentioned in Table No. 2	
		Prof. Dr Samia Sarwar/ Dr Sheena (Even)	Dr. Fareed (Odd)		Assis. Prof. Dr. Maria (Even)	Prof. Dr Ifra (Odd)	Dr. Shama Bashir (Even)	Dr. Masooda (Odd)			
Date/Day	**8:00 AM – 09:00 AM**	**09:00AM – 10:00 AM**			**10:00 AM – 11:00 AM**		**11:00 AM – 12:00 PM**				
31-05-2024 Friday	**QURAN TRANSLATION - I**		**PAK STUDIES/ISLAMIYAT**		**ANATOMY (LGIS)**		**PHARMACOLOGY (LIGIS)**				SDL Biochemistry Gene Expression
	Imaniat-5	Akhlaqiat-1	Kaamyab logu ki sifaat	Nehru report, Quaid e Azam k 14 nukaat	Special Embryology (Genital Ducts Prostate & Accessory gland)	Special Histology (Genital Ducts and (Prostate & Seminal vesicles)	Hormonal Contraceptives				
	Mufti Naeem (Even)	Dr. Fahd (Odd)	Mufti Naem (Even)	Qari Aman Ullah (Odd)	Prof. Dr Ifra (Even)	Assis. Prof. Dr. Maria (Odd)	Dr. Mehmoona Kanwal				
01-06-2024 Saturday	**Practical & SGD/CBL** Topics & venue mentioned at the end. Batches, Teachers & Venue Mentioned in Table No. 1	**PHYSIOLOGY (LGIS)**		B r e a k	**PBL 1 (SESSION -II)**		**ANATOMY (LGIS)**		B r e a k	**CBL/DISSECTION**	SDL Physiology
		Monthly Ovarian Cycle, ovulation Monthly Endometrial Cycle and Menstruation	Semen, Capacitation & acrosome reaction Male sex hormones, Abnormalities of male sexual function and spermatogenesis		PBL Team		Special Histology	Special Embryology		Prostate (Vas deferens, seminal vesicles & Ejaculatory Ducts) Batches, Teachers & Venue Mentioned in Table No. 2	
		Prof. Dr Samia Sarwar /Dr. Sheena (Odd)	Dr. Fareed (Even)				Uterus & Uterine Tubes	Uterus & Uterine Tubes			
							Assis. Prof. Dr. Maria (Even)	Prof. Dr. Ifra (Odd)			

Table No. 1 (Time: 12:20pm – 02:00pm)

Batch Distribution for Practical Skills (all subjects) CBL / Small Group Disscusion (Biochemistry and Physiology)

Sr. No	Batch	Roll No.
1.	A	01-70
2.	B	71-140
3.	C	141-210
4.	D	211-280
5.	E	281-onwards

Topics for Skill Lab with Venue

- Histology of Testis, epididymis, ductus deferens (Anatomy Histology Practical) Venue-Histology laboratory (Dr..Minahil Haq)
- Estimation of serum Uric acid by Spectrophotometer (Biochemistry Practical) Venue- Biochemistry laboratory
- Pregnancy test (Physiology Practical) Venue – Physiology Lecture Hall No 5

Topics for SGDs / CBL with Venue

- Anatomy CBL: Prostate (Benign prostate hyperplasia)
- Physiology CBL: Menorrhagia (Venue: Physiology Demo Room (Basement))
- Biochemistry tutorial: Deno synthesis of purine, describe salvage pathway (Purine Metabolism)
- (Venue: Lecture Hall No 2)

Schedule for Practical / Small Group Discussion

Day	Histology Practical		Biochemistry Practical		Supervised by HOD	Physiology Practical		Physiology SGD		Supervised by HOD	Biochemistry SGD	
	Batch	Teacher Name	Batch	Teacher Name		Batch	Teacher Name	Batch	Teacher Name		Batch	Teacher Name
Monday	C	Supervised by HOD	B	Dr. Rahat		E	Dr. Kamil	A	Dr. Aneela		D	Dr. Uzma
Tuesday	D		C	Dr. Nayab		A	Dr. Aneela	B	Dr. Shazia		E	Dr. Almas
Wednesday	E		D	Dr. Uzma		B	Dr. Shazia	C	Dr. Nayab		A	Dr. Romessa
Thursday	B		A	Dr. Almas		D	Dr. Iqra	E	Dr. Iqra		C	Dr. Nayab
Saturday	A		E	Dr. Romessa		C	Dr. Nayab	D	Dr. Kamil		B	Dr. Rahat

Table No. 2 Batch Distribution and Venues for Anatomy Small Group DisscussionSGDs / Dissections

Batches	Roll No	Anatomy Teacher	Venue	
A	01-90	Dr. Minahil Haq	New Lecture Hall Complex # 04	Supervised by Prof. Dr. Ayesha Yousaf
B	91-180	Dr. Tariq Furqan	Anatomy Lecture Hall 04	
C	181-270	Dr. Sadia Baqir	Anatomy Lecture Hall 03	
D	271 onwards	Dr. Gaiti Ara	New Lecture Hall Complex # 01	

Table No. 3 Batch Distribution with Venues and Teachers Name for Problem Based Learning (PBL) Sessions

Sr No.	Batches	Roll No	Venue	Teachers	Sr No.	Batches	Roll No	Venue	Teachers
1.	A1	(01-35)	Lecture Hall no.05 Physiology	Dr. Farhat Jabeen (PGT Physiology)	6.	C2	(176-210)	Lecture Hall no.04 (Basement)	Dr. Nayab Zonish (PGT Physiology)
2.	A2	(36-70)	Lecture Hall #.04 (1st Floor Anatomy)	Prof. Dr. Ifra Saeed (Professor of Anatomy)	7.	D1	(210-245)	Lecture Hall no.02 (Basement)	Dr. Iqra Ayub (PGT Physiology)
3.	B1	(71-105)	Anatomy Museum (First Floor Anatomy)	Dr. Afsheen Batool (PGT Physiology)	8.	D2	(246-280)	Conference Room (Basement)	Dr. Muhammad Usman (PGT Physiology)
4.	B2	(106-140)	Lecture Hall no.03 (First Floor)	Prof. Dr. Ayesha Yousaf (Professor of Anatomy)	9.	E1	(281-315)	New Lecture Hall no.01	Dr. Ramsha (PGT Physiology)
5.	C1	(141-175)	Lecture Hall no.05 (Basement)	Dr. Shazia (Demonstrator Physiology)	10	E2	(315 onwards)	Lecture Hall no.04	Dr. Jawad Hassan (Demonstrator Physiology)

Table No. 6 Venues for Large Group Interactive Session (LGIS)

Odd Roll Numbers	New Lecture Hall Complex Lecture Theater # 01
Even Roll Number	New Lecture Hall Complex Lecture Theater # 04

(Reproduction Module Second Week)
(03-06-2024 To 08-06-2024)

Date/Day	8:00am-9:20am	9:20am – 10:10am	10:10am – 10:30am	10:30am-11:20am	11:20am-12:10pm	12:10pm-12:30pm	12:30pm – 2:00pm	Home Assignments(2HRS)
03-06-2024 Monday	**Practical & SGD/CBL** Topics & venue mentioned at the end. Batches, Teachers & Venue Mentioned in Table No. 1	**PHYSIOLOGY (LGIS** Response of mother's body to pregnancy, Parturition / Female sex hormones (oestrogen and progesterone) / Dr. Sheena (Even) / Dr. Shazia (Odd	B r e a k	**ANATOMY (LGIS)** Special Embryology / Special Histology; Uterus & Uterine Tubes / Uterus & Uterine Tubes; Prof. Dr. Ifra(Even) / Assis. Prof. Dr. Maria (Odd)	**PBL 2 (SESSION -I)** PBL Team	B r e a k	**SGD/DISSECTION** Male Internal Genital Organs Batches, Teachers & Venue Mentioned in Table No. 2	SDL Biochemistry Mechanism of action of Steroid Hormones and Synthesis of Sex Hormones
04-06-2024 Tuesday	**Practical & SGD/CBL** Topics & venue mentioned at the end. Batches, Teachers & Venue Mentioned in Table No. 1	**PHYSIOLOGY (LGIS))** Female sex hormones (oestrogen and progesterone) / Female sex hormones (oestrogen and progesterone); Dr. Shazia (Even) / Dr. Shazia (Even))		**BIOCHEMISTRY (LGIS)** Purine catabolism / Male & Female Sex Hormones; Dr. Uzma / Dr.Aneela(Even) / Dr. Almas(Odd)	**PATHOLOGY (LGIS)** Sexually transmitted diseases / BPH/Prostatitis; Dr Sara (Even) / Dr Rabbiya Khalid (Odd)		**SGD/DISSECTION** Dissection & Spotting Batches, Teachers & Venue Mentioned in Table No. 2	SDL Physiology Male Reproductive Physiology
05-06-2024 Wednesday	**Practical & SGD/CBL** Topics & venue mentioned at the end Batches, Teachers & Venue Mentioned in Table No. 1	**PHYSIOLOGY (LGIS)** Lactation, Milk composition, breast feeding / Puberty, menarche, menopause PMS & anovulatory cycles, Abnormalities of secretion by ovaries; Dr. Sheena (Even) / Dr. Shazia (Odd)		**BIOCHEMISTRY (LGIS)** Male & Female Sex Hormones / Purine catabolism; Dr. Almas (Even) / Dr. Uzma/ Dr. Aneela(Odd)	**PATHOLOGY (LGIS)** BPH/ Prostatitis / Sexually transmitted diseases; Dr Rabbiya Khalid (Even) / Dr Sara (Odd)		**CBL/DISSECTION** Female Internal Genital Organs (Ovaries, Fallopian Tubes) Uterus & cervix) Batches, Teachers & Venue Mentioned in Table No. 2	SDL Biochemistry Purine Catabolism & Related Disorders
06-06-2024 Thursday	**Practical & SGD/CBL** Topics & venue mentioned at the end Batches, Teachers & Venue Mentioned in Table No. 1	**PHYSIOLOGY (LGIS)** Puberty, menarche, menopausePMS&a novulatorycycles, Abnormalities of secretion by ovaries / Puberty, menarche, menopausePMS &anovulatorycyc les, Abnormalities of secretion by ovaries; Dr. Shazia (Even) / Dr. Shazia (Even)		**PBL 2 (SESSION -II)** PBL Team	**SURGERY (LGIS)** Undescended Testes; Dr. Raneez (Even) / Dr. Ameen (Odd)		**SGD/DISSECTION** Ischioanal Fossa Urogenital Diaphragm Batches, Teachers & Venue Mentioned in Table No. 2	SDL Anatomy Female Internal Genital Organs Uterus cervix, (Ovaries, Fallopian Tubes)

Date/Day	8:00 AM – 09:00 AM		09:00AM– 10:00 AM		10:00AM– 11:00 AM		11:00 AM – 12:00 PM			
07-06-2024 Friday	QURAN TRANSLATION – II		**ANATOMY (LGIS)**		**PHYSIOLOGY (LGIS)**		**BIOMEDICAL (CLUB ACTIVITY)**		SDL Anatomy Male Internal Genital Organs (Prostate Vas deferens, seminal vesicles & ejaculatory ducts)	
	Akhlaqiat-1	Imaniat-5	Special Histology Ovary&Vagina	Special Embryology Ovary&Vagina	Fertilization of ovum, transport, implantation, Functions of placenta	Growth & functional development of fetus, Adjustments of infant to extrauterine life, Growth & development in child	Ethical dilemmas Involving breech in Autonomy			
	Dr. Fahd Anwar (Even)	Mufti Naeem Sherazi(Odd)	Assis. Prof. Dr. Maria (Even)	Prof. Dr. Ifra (Odd)	Dr. Shazia (Even)	Dr. Usman (odd)	Biomedical ethics PBL/ SGD team detail given on next page			
08-06-2024 Saturday	**Practical & SGD/CBL** Topics & venue mentioned at the end Batches, Teachers & Venue Mentioned in Table No. 1		Early Clinical Exposure							SDL Physiology Female Reproductive Physiology Online Clinical Evaluation

Table No. 1 (Time: 12:20pm – 02:00pm)

Batch Distribution for Practical Skills (all subjects) CBL / Small Group Disscusion (Biochemistry and Physiology)

Sr. No	Batch	Roll No.
1.	A	01-70
2.	B	71-140
3.	C	141-210
4.	D	211-280
5.	E	281-onwards

Topics for Skill Lab with Venue

- Histology of Seminal Vesicles & Prostate (Anatomy Histology Practical) Venue-Histology Laboratory (Dr..Sadia Baqir)
- Estimation of Cholestrol by Spectrophotometer (Biochemistry Practical) Venue- Biochemistry Laboratory
- Examination of VII Cranial Nerves (Physiology Practical) Venue – Physiology Lab

Topics for SGDs / CBL with Venue

- Anatomy CBL: Ovarian Cysts
- Physiology CBL: Infertility (Venue: Lecture Hall No 5)
- Biochemistry CBL: Gout: (Lecture Hall No 2)

Schedule for Practical / Small Group Discussion

Day	Histology Practical		Biochemistry Practical		Physiology Practical		Physiology SGD		Biochemistry SGD	
	Batch	Teacher Name	Batch	Teacher Name	Batch	Teacher Name	Batch	Teacher Name	Batch	Teacher Name
Monday	C	Supervised by HOD	B	Dr. Rahat	E	Dr. Kamil	A	Dr. Aneela	D	Dr. Uzma
Tuesday	D		C	Dr. Nayab	A	Dr. Aneela	B	Dr. Shazia	E	Dr. Almas
Wednesday	E		D	Dr. Uzma	B	Dr. Shazia	C	Dr. Nayab	A	Dr. Romessa
Thursday	B		A	Dr. Almas	D	Dr. Iqra	E	Dr. Iqra	C	Dr. Nayab
Saturday	A		E	Dr. Romessa	C	Dr. Nayab	D	Dr. Kamil	B	Dr. Rahat

Supervised by HOD (Biochemistry Practical)

Supervised by HOD (Biochemistry SGD)

Table No. 2 Batch Distribution and Venues for Anatomy Small Group Discussion SGDs / Dissections

Batches	Roll No	Anatomy Teacher	Venue
A	01-90	Dr. Minahil Haq	New Lecture Hall Complex # 04
B	91-180	Dr. Tariq Furqan	Anatomy Lecture Hall 04
C	181-270	Dr. Sadia Baqir	Anatomy Lecture Hall 03
D	271 onwards	Dr. Gaiti Ara	New Lecture Hall Complex # 01

Supervised by Prof. Dr. Ayesha Yousaf

Table No. 3 Batch Distribution with Venues and Teachers Name for Problem Based Learning (PBL) Sessions

Sr No.	Batches	Roll No	Venue	Teachers	Sr No.	Batches	Roll No	Venue	Teachers
1.	A1	(01-35)	Lecture Hall no.05 Physiology	Dr. Sana Latif (Demonstrator Biochemistry)	6.	C2	(176-210)	Lecture Hall no.04 (Basement)	Dr. Nayab Zonish (PGT Physiology)
2.	A2	(36-70)	Lecture Hall #.04 (1st Floor Anatomy)	Dr. Farah (Demonstrator of Physiology)	7.	D1	(210-245)	Lecture Hall no.02 (Basement)	Dr. Iqra Ayub (PGT Physiology)
3.	B1	(71-105)	Anatomy Museum (First Floor Anatomy)	Dr. Rahima PGT (Demonstrator Biochemistry)	8.	D2	(246-280)	Conference Room (Basement)	Dr. Muhammad Usman (PGT Physiology)
4.	B2	(106-140)	Lecture Hall no.03 (First Floor)	Prof. Dr. Ayesha Yousaf (Professor of Anatomy)	9.	E1	(281-315)	New Lecture Hall no.01	Dr. Ramsha (PGT Physiology)
5.	C1	(141-175)	Lecture Hall no.05 (Basement)	Dr. Ali Zain (PGT Physiology)	10	E2	(315 onwards)	Lecture Hall no.04	Dr. Jawad Hassan (Demonstrator Physiology)

Table No. 6 Venues for Large Group Interactive Session (LGIS)

Odd Roll Numbers	New Lecture Hall Complex Lecture Theater # 01
Even Roll Number	New Lecture Hall Complex Lecture Theater # 04

Reproduction Module (Third Week)
(10-06-2024 To 15-06-2024)

Date/Day	8:00am-9:20am	9:20am – 10:10am		10:10am – 10:30am	10:30am-11:20am		11:20am-12:10pm		12:10pm-12:30pm	12:30pm – 2:00pm	Home Assignments(2HRS)
10-06-2024 Monday	**Practical & SGD/CBL** Topics & venue mentioned at the end Batches, Teachers & Venue Mentioned in Table No. 1	**PHYSIOLOGY (LGIS)**		B r e a k	**FAMILY MEDICINE(LGIS)**		**BEHAVIOURAL SCIENCES**		B r e a k	**SGD/DISSECTION**	SDL Anatomy Ischioanal Fossa Urogenital Diaphragm
		Growth &functional development of fetus, Adjustments of infant to extrauterine life, Growth & development in child	Fertilization of ovum, transport, implantation, Functions of placenta		AIDS		Emotion			Perineum, Superficial Perineal Pouch & Contents Deep Perineal Pouch & Contents Batches, Teachers & Venue Mentioned in Table No. 2	
		Dr. Usman (Even)	Dr. Shazia (Odd)		Dr. Sadia Khan (Even)	Dr. Amna Rauf (Odd)					
11-06-2024 Tuesday	**Practical & SGD/CBL** Topics & venue mentioned at the end Batches, Teachers & Venue Mentioned in Table No. 1	**PHYSIOLOGY (LGIS)**			**COMMUNITY MEDICINE (LGIS)**		**GYNAE AND OBS (LGIS)**			**SGD/DISSECTION**	SDL Biochemistry Pyrimidine Metabolism & Related Disorde
		Special functional problems in neonate. Prematurity and its problems	Hormonal factors in pregnancy		Sexually Transmitted Diseases (STDs)	Acquired immunodeficiency syndromes (AIDs)	Menstrual irregularities			Blood Supply, Venous Drainage & Lymphatic Drainage of Pelvis & Perineum Batches, Teachers & Venue Mentioned in Table No. 2	
		Dr. Usman (Even)	Dr. Sheena (Odd)		Dr. Abdul Qadous (Even)	Dr. Asif (Odd)	Dr Saima Khan (Even)	Dr. Zainab (Odd)			
12-06-2024 Wednesday	**Practical & SGD/CBL** Topics & venue mentioned at the end Batches, Teachers & Venue Mentioned in Table No. 1	**PHYSIOLOGY (LGIS)**			**BIOCHEMISTRY (LGIS)**		**COMMUNITY MEDICINE (LGIS)**			**SGD/DISSECTION**	SDL Physiology Neonatal physiology
		Hormonal factors in pregnancy	Special functional problems in neonate. Prematurity and its problems		Sex hormones-II	Pyrimidine Metabolism	Acquired immunodeficiency syndromes (AIDs)	Sexually Transmitted Diseases (STDs)		Sacral & Coccygeal Plexus Dissection &Spotiing Batches, Teachers & Venue Mentioned in Table No. 2	
		Dr. Sheena (Even)	Dr. Usman (Odd)		Dr. Almas (Even)	Dr. Uzma / Dr. Aneela (Odd)	Dr. Asif (Even)	Dr. Abdul Qadous (Odd)			
13-06-2024 Thursday	**Practical & SGD/CBL** Topics & venue mentioned at the end Batches, Teachers & Venue Mentioned in Table No. 1	**ANATOMY (LGIS)**			**BIOMEDICAL EHTICS**		**BIOCHEMISTRY (LGIS)**			**SGD/DISSECTION**	SDL Biochemistry Pyrimidine Metabolism & Related Disorde
		Special Embryology Ovary&Vagina	Special Histology Ovary&Vagina		Ethical dilemmas practice involving breach in principle of justice		Pyrimidine Metabolism	Sex hormones-II		Cross-Sectional Anatomy Batches, Teachers & Venue Mentioned in Table No. 2	
		Prof. Dr. Ifra (Even)	Assis. Prof. Dr. Maria (Odd)		Biomedical ethics PBL/ SGD team detail given on next page		Dr. Uzma/ Dr. Aneela (Even)	Dr. Almas (Odd)			
Date/Day	**8:00 AM – 09:00 AM**	**09:00AM – 10:00 AM**			**10:00 AM – 12:00 PM**						
14-06-2024 Friday	**QURAN TRANSLATION - III**	**PAK STUDIES/ISLAMIYAT**			**BIOMEDICAL EHTICS**						
	Imaniat-6 / Mufti Naeem Sherazi (Even)	Akhlaqiat-2 / Dr. Fahd Anwar (Odd)	Haqook Ul Ebad / Mufti Naem (Odd)	Tareek e Ali Garh / Qari Aman Ullah (Even)	Ethical dilemmas in healthcare practice involving breach in principle of beneficence and non-maleficence						
					Biomedical Ethics PBL/ SGD team detail given on next page						
15-06-2024 Saturday	**Practical & SGD/CBL** Topics & venue mentioned at the end Batches, Teachers & Venue Mentioned in Table No. 1	**SURGERY (LGIS)**			**GYNAE AND OBS (LGIS)**		**PATHOLOGY(LGIS)**			**SGD/DISSECTION**	SDL Anatomy SDL AnatomyPerineum, Superficial Perineal Pouch & Contents Deep Perineal Pouch & Contents Blood Supply, Venous Drainage & Lymphatic Drainage of Pelvis & Perineum Sacral & Coccygeal Plexus Online Clinical Evaluation
		Male hypogonadism Acute Scrotum			Subfertily		Polycystic ovaries				
		Dr. Faraz (Even)	Dr. Faraz Butt (Odd)		Dr. Farah (Even)	Dr. Saira Ahmed (Odd)	Dr Rabbiya Khalid (Even)	Dr Sara (Odd)		Radiology Batches, Teachers & Venue Mentioned in Table No. 2	

Table No. 1 (Time: 12:20pm – 02:00pm)

Batch Distribution for Practical Skills (all subjects) CBL / Small Group Disscusion (Biochemistry and Physiology)

Sr. No	Batch	Roll No.
1.	A	01-70
2.	B	71-140
3.	C	141-210
4.	D	211-280
5.	E	281-onwards

Topics for Skill Lab with Venue

- Histology of uterus, uterine tube and ovary (Anatomy Histology Practical) Venue-Histology Laboratory (Dr..Gaiti Ara)
- Milk Analysis (Biochemistry Practical) Venue- Biochemistry Laboratory
- Examination of III, IV & VI Cranial Nerves (Physiology Practical) Venue – Physiology Lab

Topics for SGDs / CBL with Venue

- Physiology SGD: Special Problems of Prematurity (In Neonate) (Venue: Lecture Hall No 5)
- Biochemistry SGD: Synthesis mechanism of action and funtions of sex hormones: Lecture Hall No 2)

Schedule for Practical / Small Group Discussion

Day	Histology Practical		Biochemistry Practical		Supervised by HOD	Physiology Practical		Physiology SGD		Supervised by HOD	Biochemistry SGD	
	Batch	Teacher Name	Batch	Teacher Name		Batch	Teacher Name	Batch	Teacher Name		Batch	Teacher Name
Monday	C	Supervised by HOD	B	Dr. Rahat		E	Dr. Kamil	A	Dr. Aneela		D	Dr. Uzma
Tuesday	D		C	Dr. Nayab		A	Dr. Aneela	B	Dr. Shazia		E	Dr. Almas
Wednesday	E		D	Dr. Uzma		B	Dr. Shazia	C	Dr. Nayab		A	Dr. Romessa
Thursday	B		A	Dr. Almas		D	Dr. Iqra	E	Dr. Iqra		C	Dr. Nayab
Saturday	A		E	Dr. Romessa		C	Dr. Nayab	D	Dr. Kamil		B	Dr. Rahat

Table No. 2 Batch Distribution and Venues for Anatomy Small Group Discussion SGDs / Dissections

Batches	Roll No	Anatomy Teacher	Venue	
A	01-90	Dr. Minahil Haq	New Lecture Hall Complex # 04	Supervised by Prof. Dr. Ayesha Yousaf
B	91-180	Dr. Tariq Furqan	Anatomy Lecture Hall 04	
C	181-270	Dr. Sadia Baqir	Anatomy Lecture Hall 03	
D	271 onwards	Dr. Gaiti Ara	New Lecture Hall Complex # 01	

Table No. 3 Batch Distribution with Venues and Teachers Name for Problem Based Learning (PBL) Sessions

Sr No.	Batches	Roll No	Venue	Teachers	Sr No.	Batches	Roll No	Venue	Teachers
1.	A1	(01-35)	Lecture Hall no.05 Physiology	Dr. Sana Latif (Demonstrator Biochemistry)	6.	C2	(176-210)	Lecture Hall no.04 (Basement)	Dr. Nayab Zonish (PGT Physiology)
2.	A2	(36-70)	Lecture Hall #.04 (1st Floor Anatomy)	Dr. Farah (Demonstrator of Physiology)	7.	D1	(210-245)	Lecture Hall no.02 (Basement)	Dr. Iqra Ayub (PGT Physiology)
3.	B1	(71-105)	Anatomy Museum (First Floor Anatomy)	Dr. Rohina Khalid (Demonstrator Biochemistry)	8.	D2	(246-280)	Conference Room (Basement)	Dr. Muhammad Usman (PGT Physiology)
4.	B2	(106-140)	Lecture Hall no.03 (First Floor)	Dr. Zeneara Saqib (Senior Demonstrator of Anatomy)	9.	E1	(281-315)	New Lecture Hall no.01	Dr. Ramsha (PGT Physiology)
5.	C1	(141-175)	Lecture Hall no.05 (Basement)	Dr. Ali Zain (PGT Physiology)	10	E2	(315 onwards)	Lecture Hall no.04	Dr. Jawad Hassan (Demonstrator Physiology)

No PBL Session during this week

Table No. 6 Venues for Large Group Interactive Session (LGIS)

Odd Roll Numbers	New Lecture Hall Complex Lecture Theater # 01
Even Roll Number	New Lecture Hall Complex Lecture Theater # 04

Schedule for LMS Based Weekly Online Assessments for Second Year MBBS (Reproduction Module) Batch 50

The online assessment for Reproduction Module for Second Year MBBS will be as per following schedule:

Class	Module	Day & Date	Time of Assessment	Focal person	Department Responsible
Second Year MBBS	Reproduction Module	Monday 3rd June,2024	9:00 pm-9:30pm	Prof. Dr Ayesha Yousaf	Anatomy
		Tuesday 4th June,2024	9:00 pm-9:30pm	Prof. Dr Samia Sarwar	Physiology
		Wednesday 5th June,2024	9:00 pm-9:30pm	Dr Aneela Jamil	Biochemistry
		Monday 10th June,2024	9:00 pm-9:30pm	Prof. Dr Ayesha Yousaf	Anatomy
		Tuesday 11th June,2024	9:00 pm-9:30pm	Prof. Dr Samia Sarwar	Physiology
		Wednesday 12th June,2024	9:00 pm-9:30pm	Dr Aneela Jamil	Biochemistry

Reproduction Module (Fourth Week)
(17-06-2024 To 26-06-2024)

Date/time	9:00am - 12:00pm	12:00-02:00pm
17-06-2024 Monday	Eid Ul Adha Holidays	
18-06-2024 Tuesday		
19-06-2024 Wednesday		
20-06-2024 Thursday	Assessment Week	
21-06-2024 Friday		
22-06-2024 Saturday		
24-06-2024 Monday		
25-06-2024 Tuesday		
26-06-2024 Wednesday		

*Note: Detailed notice regarding content, time and venue will be issued accordingly

Note: Timetable Subject to change according to the current circumstances.

SECTION-VII

Table of Specification (TOS) For Reproduction Module Examination

Blue Print of Assessment for First Year & Second Year MBBS

Table of Specification

Tools of Asssessment: Cognitive: MCQ- Multiple Choice Questions, EMQs- Extended Matching Questions, SAQ- Short Answer Questions, SEQ- Short Essay Questions Psychomotor: AvOSPE- Audio Visual Assisted Objective Structured Pactical Examination, labOSPE- Laboratory Based Objective Structured Practical Examination, IOSPE- Integrated Objective Structured Practical Examination, COSPE- Clinically Oriented Objective Structed Practical Examination Affect: AED Reflective Writing- Artificial Intelligence, Entraprenureship, Digital Literacy based reflective writing, OSVE- Objective Structured Viva Assessment

Domains: C-Core Subject (70%) Levels C1-C2, HV- Horizontal & Vertical Integration (20%) Levels C2-C3, S- Spiral Integration (10%) Levels C2-C3

End of Module Assessment	Subject	Theory (Cognitive) Assessment																			Practical (Skill & Attitude) Assessment											Grand Total	Total Time of Module Assessment
		MCQs					EMQs			SAQs					SEQs				Marks	Total Marks Theory	Total Time	AV OSPE					Time	AED Reflective Writing	OSVE			Total Practical Marks		
		C	HV	S	Total	Marks	C	Total	Marks	C	HV	S	Total	Marks	C	HV	S	Total				C	HV	S	Total	Marks			Viva	Copy	Total			
First Module	Anatomy	19	4	2	25	25	1	1	5	3	1	1	5	25	3	1	1	5	45	100	2 HRS	7	2	1	10	50	50 min	15 min	45	5	50	100	200	6 HRS
	Physiology	19	4	2	25	25	1	1	5	3	1	1	5	25	3	1	1	5	45	100	2 HRS	7	2	1	10	50	50 min	15 min	45	5	50	100	200	6 HRS
	Biochemistry	19	4	2	25	25	1	1	5	3	1	1	5	25	3	1	1	5	45	100	2 HRS	7	2	1	10	50	50 min	15 min	45	5	50	100	200	6 HRS
Formative- Weekly LMS Based Assessment of 30 MCQs (10 MCQs per Subject)																																	
End of Module Assessment	Subject	Theory (Cognitive) Assessment																			Practical (Skill & Attitude) Assessment											Grand Total	Total Time of Module Assessment
		MCQs					EMQs			SAQs					SEQs				Marks	Total Marks Theory	Total Time	AV OSPE					Time	AED Reflective Writing	OSVE			Total Practical Marks		
		C	HV	S	Total	Marks	C	Total	Marks	C	HV	S	Total	Marks	C	HV	S	Total				C	HV	S	Total	Marks			Viva	Copy	Total			
Second Module	Anatomy	19	4	2	25	25	1	1	5	3	1	1	5	25	3	1	1	5	45	100	2 HRS	7	2	1	10	50	50 min	15 min	45	5	50	100	200	6 HRS
	Physiology	19	4	2	25	25	1	1	5	3	1	1	5	25	3	1	1	5	45	100	2 HRS	7	2	1	10	50	50 min	15 min	45	5	50	100	200	6 HRS
	Biochemistry	19	4	2	25	25	1	1	5	3	1	1	5	25	3	1	1	5	45	100	2 HRS	7	2	1	10	50	50 min	15 min	45	5	50	100	200	6 HRS
Formative- Weekly LMS Based Assessmen tof 30 MCQs (10 MCQs per Subject)																																	

Block	Subjects	LMS Based Assessment					OSPE						Grand Total	Total Block Time
		MCQs					LabOSPE	IOSPE	COSPE	Total	Marks	Time		
		C	HV	S	Total	Time	C	HV	S					
BLOCK	Anatomy	21	6	3	30	30 min	14	4	2	20	60	6 HRS	90	6.5 HRS
	Physiology	21	6	3	30	30 min	14	4	2	20	60	6 HRS	90	6.5 HRS
	Biochemistry	21	6	3	30	30 min	14	4	2	20	60	6 HRS	90	6.5 HRS

50% Questions/OSPE Stations/Viva Stations will be from Foundation Module and 50% Questions will be from MSK-1 Module

For Each assessment student will have to individually pass Theory and Practical components

Weekly LMS Assessment			
Subjects	Anatomy	Physiology	Biochemist
No of MCQs*	30	30	30
Marks/MCQ	30	30	30
*MCQ=1 Mark each, 1 min each			

Marks per Item

MCQ=1	EMQ= 5	SAQ= 5	SEQ= 9	AVOSPE= 5		OSPE= 3

OSPE Time=1 Round of 40 Students =80 min

3 Round of 40 Students =240 min

OSVE=Time per student=5mins

Annexure I

(Sample MCQ, SEQ Papers, OSPE, AV OSPE & Video Assisted OSPE)

Note: These sample papers aim to facilitate comprehension. However, it's important to note that the content and format of actual assessment papers may differ.

RAWALPINDI MEDICAL UNIVERSITY, RWP
ANATOMY DEPARTMENT
2nd Year MBBS Module Exam (Reproduction)

1. A 30 year old male having mumps came to emergency with high grade fever with feeling of heaviness, pain and swelling of scrotum. What is the most likely diagnosis
    a. Orchitis
    b. Cryptorchidism
    c. Prostatitis
    d. Salpingitis
    e. Urethritis

2. A 70-year-old male presented to OPD with severe dull backache, loss of weight and severe fatigue. His Prostate Specific Antigen were raised. On Direct Rectal Examination a hard, immobile and irregular mass was confirmed anteriorly. Most likely diagnosis is
    a. BPH
    b. Sciatica
    c. PID
    d. Prostatic Cancer
    e. Prostatitis

3. A baby was brought to a GP Clinic with the opening of the urethra on the downward curve of penis. The baby has
    a. Epispadias
    b. Bladder exstrophy
    c. Omphalocele
    d. Rectocele
    e. Hypospadias

4. While crossing road an elder woman was run over by a speeding car. She was taken to the emergency department by the police where an X-ray examination of the pelvis revealed the disruption of the sacroiliac joint and fracture of the body of the pubis.
    Which viscera are the most vulnerable to injury during pelvic fracture?
    a. Urinary bladder and urethra.
    b. sigmoid colon.
    c. appendix
    d. cecum
    e. anal canal

5. A woman came to gynae OPD with pain lower abdomen and pelvis. Medical officer suspected rupture of ovarian cyst which was confirmed on Ultrasound of pelvis as there was a collection of fluid in the rectouterine pouch. Culdocentesis was decided via syringe, the needle would be introduced through:
    a. Anterior fornix of vagina .
    b. Posterior fornix of vagina .
    c. Anal canal
    d. Rectum
    e. Urethra.

RAWALPINDI MEDICAL UNIVERSITY
REPRODUCTION MODULE EXAM 2ND YEAR MBBS
ANATOMY SEQS

Note: Attempt all questions. All questions carry equal marks. Draw diagram where necessary

Q1 a. Draw and label microscopic structure of fallopian tubes. 03

b. Briefly describe blood testis barrier. 02

Q2. 30 years female presented in gynae OPD with complaint of repeated miscarriages. On ultrasonography she was diagnosed as a case of uterus didelphys (double uterus).

a. Give embryological basis of this condition. 02
b. Tabulate the adult derivatives and remnants of mesonephric and paramesonephric ducts in males and females. 03

RAWALPINDI MEDICAL UNIVERSITY

DEPARTMENT OF PHYSIOLOGY

REPRODUCTION MODULE FOR SECOND YEAR MBBS

1. Testosterone is secreted by:

   a. Anterior pituitary gland
   b. Posterior pituitary gland
   c. Leyding cells of testis
   d. Adrenal gland
   e. Thyroid gland

2. The enzyme present in acrosome responsible for the opening pathways between the granulosa cells so that sperm can reach the ovum, is:

   a. Lipase
   b. Sucrase
   c. Amylase
   d. Lactase
   e. Hyaluronidase

3. The normal stimulus that causes the test is to descend into the scrotum from abdomen is:

   a. Testosterone secreted by fetal testes
   b. Aldosterone
   c. ADH
   d. Fetal cortisol
   e. Growth hormone

4. The function of testosterone in male includes:

   a. It increases protein formation & muscle development
   b. It decreases thickness of skin
   c. It decreases red blood cells
   d. It decreases basal metabolic rate
   e. It decreases reabsorption of sodium in distal tubule

5. Increased secretion by the fallopian tubules is promoted by:

   a. Estrogen
   b. Prolactin
   c. Progesterone
   d. Oxytocin
   e. Testosterone

RAWALPINDI MEDICAL UNIVERSITY
DEPARTMENT OF PHYSIOLOGY
REPRODUCTION MODULE SEQs SECOND YEAR MBBS

Q.1 A 35-year-old male known athlete, used testosterone to improve work performance and muscle mass.

a. How is testosterone secreted in males? (2)
b. Explain the feedback regulation of hypothalamic-pituitary testicular axis. (3)

Q.2 Explain the hormonal changes during normal female monthly cycle with the help of graph. (2,3)

Q.3 A 25-year-old obese female married for 2 years, presented with complaints of primary infertility. Her labs were performed. Hormonal profile showed raised LH and reduced FSH levels. Scan revealed multiple cysts in ovaries confirming the diagnosis of polycystic ovarian syndrome.

a. Explain the mechanism of ovulation. (2)
b. Briefly explain the phases of ovarian cycle. (3)

Q.4 A 55 years old female presented to OPD with complaints of hot flashes, insomnia and mood disturbances. The examining doctor counseled her about her menopause and related symptoms.

a. What are the effects of estrogen on primary and secondary sexual characteristics? (2)
b. Enlist the effects of deficiency of estrogen. (3)

Q.5 A 26 years old female presented with complaints of missed periods. Her pregnancy test came out be positive.

a. Name the hormone detected in urine pregnancy test. (1)
b. Explain the functions of this hormone. (2.5)
c. Enlist the hormones secreted by the placenta. (1.5)

RAWALPINDI MEDICAL UNIVERSITY DEPARTMENT OF BIOCHEMISTRY
2ND YEAR MBBS
REPRODUCTION MODULE

1. Which one of the following Nitrogenous base is absent in DNA?
   a. Adenine
   b. Guanine
   c. Uracil
   d. Thymine
   e. Cytosine

2. End product of Purine degradation is:
   a. Urea
   b. Uric acid
   c. Ammonia
   d. Allantoin
   e. Pyruvate

3. Following is the cause main clinical feature of Gout:
   a. Photosensitivity
   b. Arthritis
   c. Immunodeficiency
   d. Jaundice
   e. Anemia

4. Following statement is true regarding Testosterone:
   a. It is produced by Ovaries
   b. Acts on the liver and adipose tissue
   c. Receptors are present on the cell surface
   d. It is a steroid hormone
   e. Transported as free hormone in the plasma

SEQ

Q. a. Explain steps of synthesis of estrogen. 2.5

b. Discuss causes of hyperuricemia. 2.5

RAWALPINDI MEDICAL UNIVERSITY DEPARTMENT OF BIOETHICS
2ND YEAR MBBS
REPRODUCTION MODULE

1. ----Includes rules of conduct that may be used to regulate our activities concerning the biological world.
   a. Bio-piracy
   b. Biosafety
   c. Bioethics
   d. Bio-patents
   e. Bio-logistic

2. The right of patients having self-decision is called.
   a. Justice
   b. Autonomy
   c. Beneficence
   d. Veracity
   e. Fidelity

3. Following is not code of ethics.
   a. Integrity
   b. Objectivity
   c. Confidentiality
   d. Behaviour
   e. Autonomy

4. -------in the context of medical ethics, if it's fair and balanced
   a. Justice
   b. Autonomy
   c. Beneficence
   d. Veracity
   e. Fidelity

5. ------Principle requiring that physicians provide, positive benefits
   a. Justice
   b. Autonomy
   c. Beneficence
   d. Veracity
   e. Fidelity

OSPE
DEPARTMENT OF ANATOMY

A. Core Concept with Vertical Integration

Gross Anatomy

Station No. 1 **Time Allowed: 3 mins**

I. Identify **Red** on Specimen/ Model.(C2,P) (1)

II. Identify **Yellow** on Specimen/ Model (C2,P) (1)

III. Identify **Green** on Specimen/ Model. (C2,P) (1)

IV. Identify **Blue** on Specimen/ Model.(C2,P) (1)

V. On Per Rectal (PR) examination discontinuity in the wall of green was noticed. Name the associated clinical condition. (C3) (1)

Station No. 1 Key

I. Ligamentum Teres (1)

II. Lesser Omentum (1)

III. Anal Column (1)

IV. Major Calyx (1)

V. Anal fissure (1)

OSPE
DEPARTMENT OF BIOCHEMISTRY

Station 1 (Core Concept - Skill Based)

Prepare Sample solution for Estimation of Serum Uric acid using Spectrophotometer. 03

Key Station 1 (3 Marks)

Procedure 03

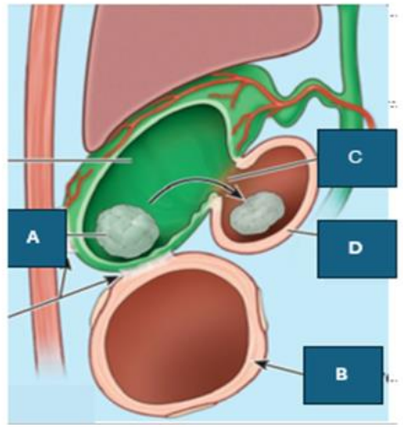
- Take a clean dry cuvette
- Label it as Sample cuvette
- Add 1ml of working reagent in cuvette
- Pipette out 25uL of sample solution in cuvette

Slide 1
Gross Anatomy

I. Label **A & B** in figure **(2)**

II. What is clinical condition **C.(1)**

III. What is clinical significance of Hartmann's pouch in relation to structure **D** **(2)**

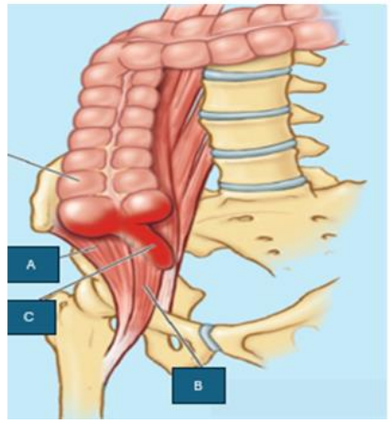


Slide 2
Gross Anatomy

I. Label A & B in figure. **(2)**

II. What is clinical condition C. **(1)**

III. What clinical sign is observed due to condition in C in relation to B. **(2)**

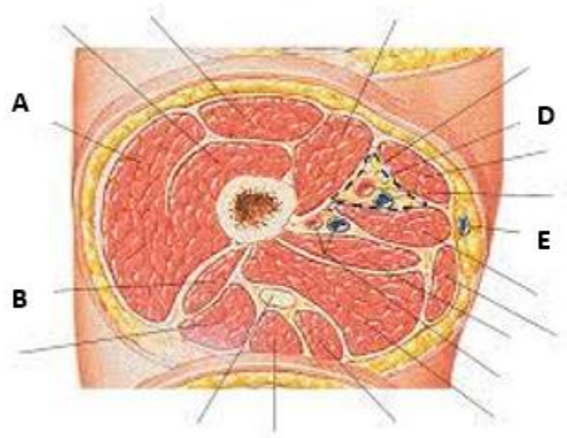


AV OSPE
DEPARTMENT OF ANATOMY

Cross Sectional Anatomy

Q.1) Identify A, B, C, D & E 2.5

Q.2) Give Nerve Supply of A & B 2.5



AV OSPE
DEPARTMENT OF BIOCHEMISTRY

A 36 years old male presented in ER with severe pain in right big toe. Examination showed red tender right big toe.

Q1. What is the likely diagnosis? 01

Q2. Write the causes of this disorder? (4)