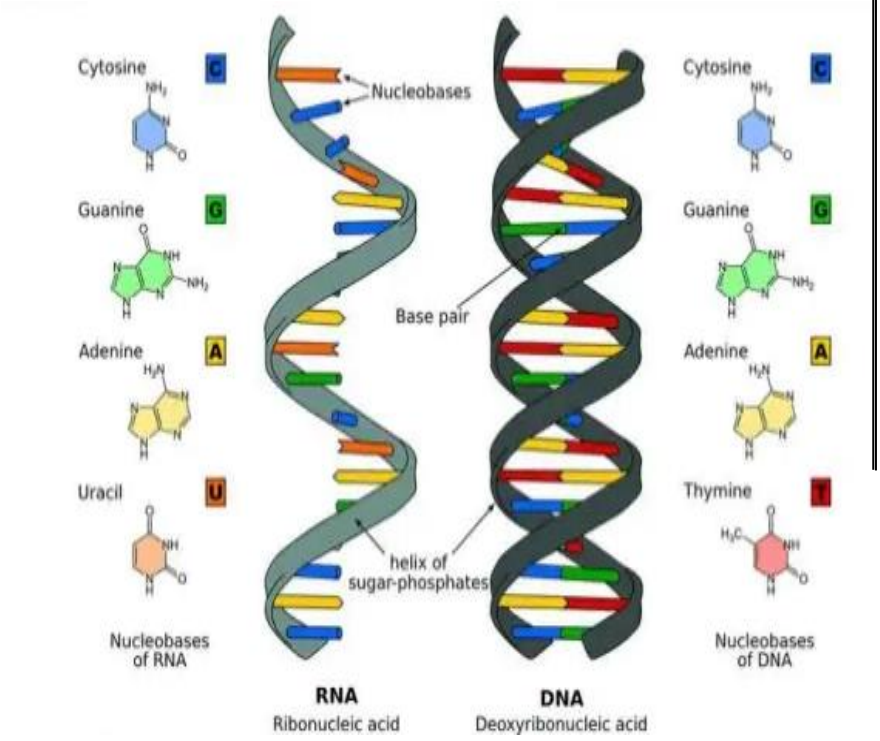
# STUDY GUIDE

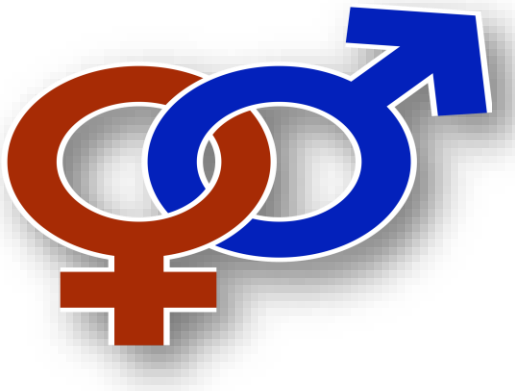
## SECOND YEAR MBBS

**16TH AUG- 17TH SEP 2021**

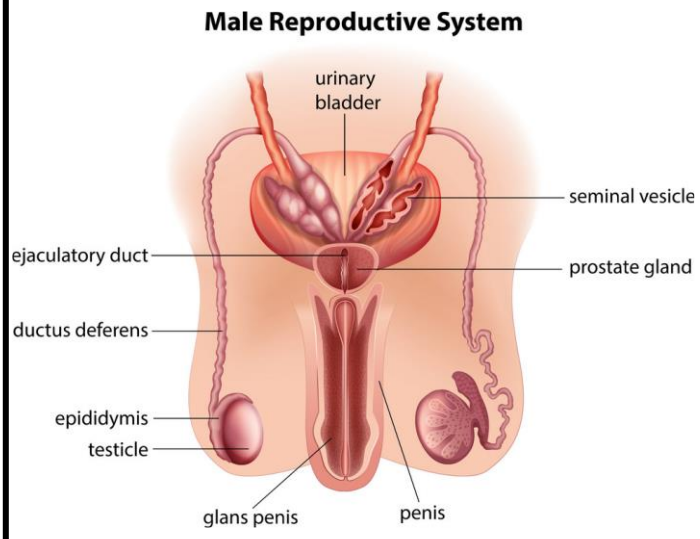
**DURATION: 5 WEEKS**

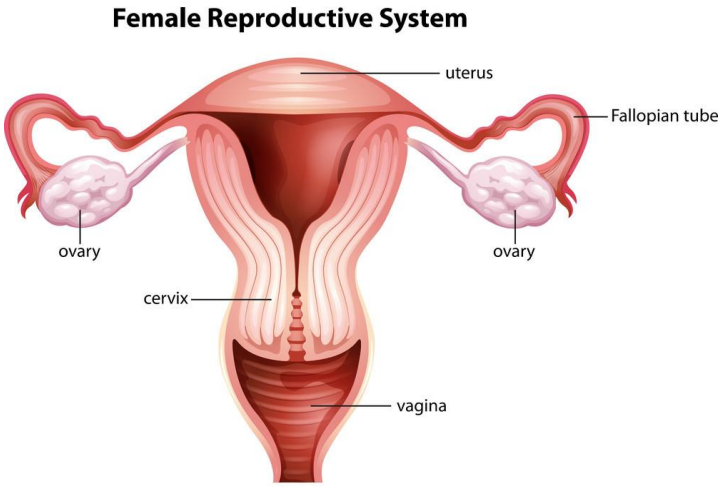



**Structure of DNA & RNA**



# REPRODUCTIVE MODULE I




**LIAQUAT NATIONAL HOSPITAL AND MEDICAL COLLEGE**

Institute for Postgraduate Medical Studies & Health Science

# STUDY GUIDE FOR REPRODUCTIVE SYSTEM MODULE-I

*Module name:* **Reproductive System-I** *Year:* ***Two*** *Duration:* ***5 weeks (Aug - Sep 2021)***

*Timetable hours:* **Interactive Lectures, Case-Based Learning (CBL), Self-Study, Practicals, Skills, Demonstrations**

## MODULE INTEGRATED COMMITTEE

| | |
|---|---|
| ***MODULE COORDINATOR:*** | • Dr. Ahsan Ashfaq (**Physiology**) |
| ***CO-COORDINATORS:*** | • Dr. Fatima Rehman (**Anatomy**) |

## DEPARTMENTS' and RESOURCE PERSONS' FACILITATING LEARNING

| BASIC HEALTH SCIENCES | CLINICAL AND ANCILLARY DEPARTMENTS |
|---|---|
| ***ANATOMY***<br>Professor Zia-ul-Islam | ***GYNAE/OBSTETRICS***<br>Professor Syeda Zehra Naqvi |
| ***BIOCHEMISTRY***<br>Professor Kashif Nisar | ***SURGERY***<br>Professor Rufina Soomro |
| ***COMMUNITY MEDICINE***<br>Dr. Saima Zainab | ***PEDIATRICS***<br>Professor Mehnaz Atiq |
| ***MICROBIOLOGY***<br>Professor Shaheen Sharafat | |
| ***PATHOLOGY***<br>Professor Naveen Faridi | |
| ***PHARMACOLOGY***<br>Professor Nazir Ahmad Solangi | |
| ***PHYSIOLOGY***<br>Professor Syed Hafeezul Hassan | |

***DEPARTMENT of HEALTH PROFESSIONS EDUCATION***

- Professor Nighat Huda
- Professor Sobia Ali
- Dr. Afifa Tabassum
- Dr. Sana Shah

***LNH&MC MANAGEMENT***

- Professor Karimullah Makki, Principal LNH&MC
- Dr. Shaheena Akbani, Director A.A and R.T LNH&MC

***STUDY GUIDE COMPILED BY: Department of Health Professions Education***

## INTRODUCTION

### WHAT IS A STUDY GUIDE?

It is an aid to:

- Inform students how student learning program of the module has been organized
- Help students organize and manage their studies throughout the module
- Guide students on assessment methods, rules and regulations

### THE STUDY GUIDE:

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

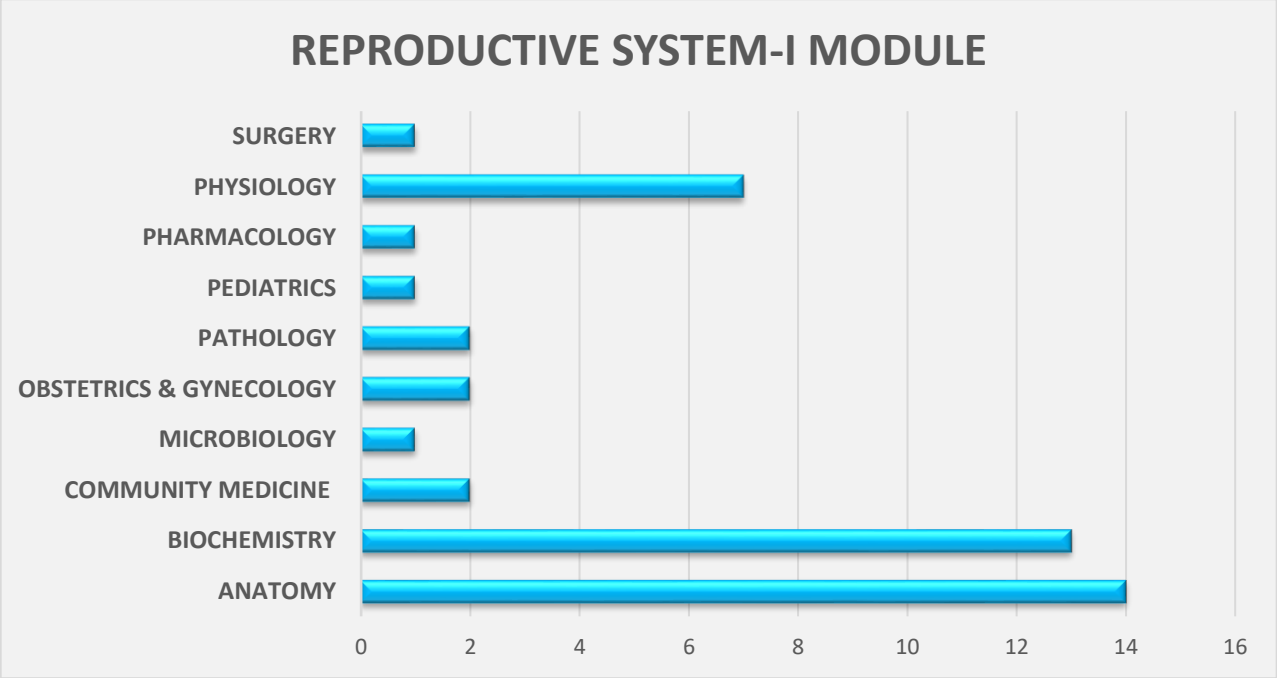
### CURRICULUM FRAMEWORK

Students will experience *integrated curriculum* in the modules at LNMC in accordance with the JSMU guidelines and most recent developments that have an impact on individual health.

**INTEGRATED CURRICULUM** comprises of system-based modules such as Head and Neck, Neurosciences and Endocrinology and Reproductive System-I which links basic science knowledge to clinical problems. Integrated teaching means that subjects are presented as a meaningful whole. Students will be able to have better understanding of basic sciences when they repeatedly learn in relation to clinical examples.

Case-based discussions, computer-based assignments, early exposure to clinics, wards, and skills acquisition in skills lab and physiotherapy department are characteristics of integrated teaching program.

# INTEGRATING DISCIPLINES OF REPRODUCTIVE SYSTEM-I MODULE




## LEARNING METHODOLOGIES

The following teaching / learning methods are used to promote better understanding:

- Interactive Lectures
- Small Group Discussion
- Case- Based Learning
- Practicals
- Skills session
- Self-Study

## INTERACTIVE LECTURES

In large group, the Lecturer introduces a topic or common clinical conditions and explains the underlying phenomena through questions, pictures, videos of patients' interviews, exercises, etc. Students are actively involved in the learning process.

**SMALL GROUP DISCUSSION (SGD):** This format helps students to clarify concepts acquire skills or attitudes. Sessions are structured with the help of specific exercises such as patient case, interviews or discussion topics. Students exchange opinions and apply knowledge gained from Interactive Lectures, tutorials and self study. The facilitator role is to ask probing questions, summarize, or rephrase to help clarify concepts.

**CASE- BASED LEARNING:** A small group discussion format where learning is focused around a series of questions based on a clinical scenario. Students' discuss and answer the questions applying relevant knowledge gained in clinical and basic health sciences during the module.

**PRACTICAL:** Basic science practicals related to anatomy, biochemistry, pathology, pharmacology and physiology are scheduled for student learning.

**SKILLS SESSION:** Skills relevant to respective module are observed and practiced where applicable in skills laboratory or Department of Physiotherapy.

**SELF STUDY:** Students' assume responsibilities of their own learning through individual study, sharing and discussing with peers, seeking information from Learning Resource Center, teachers and resource persons within and outside the college. Students can utilize the time within the college scheduled hours of self-study.

***Apart from attending daily scheduled sessions, students too should engage in self-study to ensure that all the objectives are covered.***

# MODULE: REPRODUCTIVE SYSTEM-I

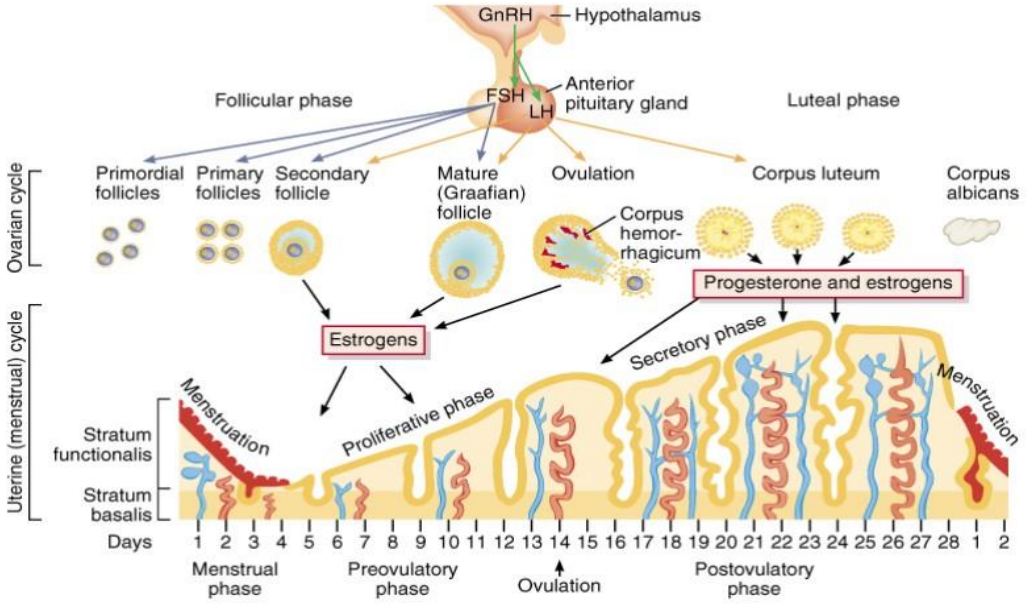
## IMPORTANCE:

The module focuses on integrating basic health sciences to clinical medicine. It will be taught in a combination of lectures, tutorials, small group learning sessions, practical and skills classes and possibly visits to clinics / wards. The module will explore the normal as well as the abnormal physiology of the male and female reproductive system. Students will be introduced to a variety of pathologies to facilitate a better understanding of how the reproductive system is impacted by diseases. It will give the broad overview of the system. The module will also address reproductive hormonal changes associated with different stages of life correlating pathophysiology with clinical presentation. This will extend students' integrative abilities. Video and hands – on sessions on basic examination skills will enhance students' understanding of the subject/topic.

## AIMS OF THIS MODULE

The module aims to provide:

- Knowledge and understanding of the structures and functions of the reproductive system and how it responds to changing metabolic needs of the body, organs and tissues, revealing the relevance of such knowledge to clinical practice
- Knowledge and understanding of the origin and associated risk factors of common diseases of the reproductive system
- Knowledge and prevention of common hormonal disorders associated with the reproductive system
- Practice of basic skills used in testing the function of this system in a simulated clinical setting
- Knowledge of drugs used to treat reproductive system diseases



## COURSE TOPICS, OBJECTIVES AND STRATEGIES

AT the end of the module the students will be able to:

## *ANATOMY*

| OBJECTIVES | LEARNING STRATEGY |
|---|---|
| **1. Pelvis and its types (Sacrum + Joints of Pelvis)** | Small Group Discussion/Tutorial |
| • Discuss the features of bony pelvis | |
| • Describe the boundaries of pelvic inlet & outlet | |
| • Differentiate between male and female pelvis | |
| • Discuss the important points of pelvimetery | |
| • Explain the types, articulations, ligaments, relations and movements of joints of pelvis | |
| • List factors providing stability to the joints of pelvis | |
| • Discuss the osteology of sacrum | |
| • List the muscles and ligaments attached to sacrum | |
| **2. Pelvic Boundaries** | |
| • Describe the anatomy of the pelvic walls | |
| • Enumerate the muscles of pelvic floor/pelvic diaphragm | |
| • Discuss the attachment & actions of muscles of pelvic floor/pelvic diaphragm | |
| • Discuss the blood supply, nerve supply& lymphatic drainage of pelvic floor muscles | |
| • Describe the attachment & significance of pelvic fascia | |
| • Discuss the clinical conditions associated with the pelvic floor & fascia | |
| • Discuss the role of pelvic floor in urinary and fecal continence | |
| **3. Pelvic Malformations** | Case- Based Learning |
| • Discuss pelvic malformations in males and females | |
| **4. Blood supply, venous and lymphatic drainage of pelvis** | Interactive Lectures |
| • Describe the blood supply, nerve supply & lymphatic drainage of pelvis | |
| **5. Testis, Epididymi and Scrotum** | Interactive Lectures/ Small Group Discussion/Practical |
| • Describe the anatomy of the testes | |
| • Describe the anatomy of Ductus Deferens, Epididymis & Ejaculatory duct | |
| • Describe the histological features of the testis and epididymis | |
| **6. Pelvic peritoneal reflections in male & female** | Interactive Lectures |
| • Describe pelvic reflections in males and females | |
| **7. Perineum: division, spaces and urogential region** | Interactive Lectures/ Small Group Discussion/Tutorial |
| • Describe the gross anatomical features of perineum | |
| • List the boundaries of perineum | |
| • Discuss the blood supply, nerve supply and lymphatic drainage of the perineum | |
| • Describe male urogenital triangle and its contents | |
| • Describe the gross anatomy, blood supply, nerve supply and lymphatic drainage of male urethra | |
| • Discuss the clinical conditions associated with penis & male urethra | |
| • Describe female urogenital triangle and its contents | |

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| **8. Perineum: Anal triangle, Anal canal and Ischiorectal Fossa** | Interactive Lectures/ Small Group Discussion/Tutorial |
| • Describe the division of perineum into anal and urogenital triangles | |
| • Discuss the boundaries and features of anal triangle | |
| • Discuss the importance of pectinate line with respect to the vasculature and lymphatic drainage of the rectum and anal canal | |
| **9. Nerves of pelvis, perineum and sacral plexus** | Interactive Lectures |
| • Enumerate the nerves innervating pelvis | |
| • Describe Sacral plexus and its formation | |
| • Describe the branches and divisions of sacral plexus | |
| • Identify coccygeal plexus | |
| • Describe hypogastric plexus, its location, formation and branches | |
| • Discuss the injuries associated with the nerves of pelvis, perineum and sacral plexus | |
| **10. Prostate, Seminal vesicles & Bulbourethral glands** | Interactive Lectures/ Small Group Discussion/Practical |
| • Describe the gross features of following male internal organs: | |
| i. Prostate gland | |
| ii. Seminal Vesicles | |
| iii. Ductus deference | |
| iv. Bulbourethral glands | |
| • Discuss their location, relations, blood supply, nerve supply & lymphatic drainage. | |
| • Discuss the clinical conditions associated with prostate gland, seminal vesicles & bulbourethral glands | |
| • Describe the histological features of the prostate, seminal vesical and bulbourethral gland | |
| • Identify the histological features of the following, under light microscope: | |
| i. Prostate gland | |
| ii. Seminal Vesicle | |
| iii. Bulbourethral glands | |
| **11. Development of male reproductive system and Spermatogenesis** | Interactive Lectures/ Small Group Discussion/Case- Based Learning |
| • Describe the process of spermatogenesis | |
| • List the timeline of development of male reproductive system | |
| • Describe the process of development of parts of male reproductive system | |
| • Discuss the development of male external genitalia | |
| • Discuss the congenital anomalies of male genital system | |
| i. Cryptorchidism (un-descended testes) | |
| ii. Hypospadiasis and other malformation of urethra | |
| • List the male reproductive organs | |
| • Describe the histological features of testes and male genital duct system | |
| • Describe the histology of seminiferous tubules, sertoli cells, spermatozoa, leydig cells, rete testis and epididymis | |
| • Identify the histological features of testes and duct system under light microscope | |

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| **12. Anatomy of female genital tract, Ovary & Fallopian tube** | Interactive Lectures/ Small Group Discussion/Tutorial |
| • State the location of ovary & fallopian tube | |
| • Describe the parts & functions of fallopian tube | |
| • Explain the ligaments of ovary & fallopian tube | |
| • Describe the blood supply, nerve supply & lymphatic drainage of ovary & fallopian tube | |
| • Discuss the clinical correlates of ovary & fallopian tube | |
| • Describe the histological features of ovary & fallopian tube | |
| • Identify the histological features of ovary (follicles in different stages) | |
| • Identify layers of different parts of fallopian tubes under light microscope | |
| **13. Anatomy of Uterus, Cervix & Vagina** | |
| • List the parts of uterus, cervix & vagina | |
| • Describe the location & relations of uterus, cervix and vagina with surrounding structures | |
| • Describe the ligaments of uterus | |
| • Discuss the blood supply, nerve supply & lymphatic drainage of uterus, cervix & vagina | |
| • Describe the histological features of the uterus, cervix and vagina | |
| • Discuss the clinical conditions associated with uterus, cervix and vagina | |
| • Identify the histological features of: | |
| i. Walls of the uterus; perimetrium, myometrium, endometrium | |
| ii. Lining epithelium of uterus | |
| • Identify the histological features and parts of cervix & vagina under light microscope | |
| **14. Development of Female reproductive system** | Interactive Lectures/ Small Group Discussion/Case- Based Learning |
| • Discuss the primordial germ cells, their precursors and migration | |
| • Describe the location and division of genital ridges | |
| • Describe the development of female genital ducts | |
| • Discuss the development and differentiation of Paramesonephric ducts, and the development of uterus and vagina | |
| • Discuss the congenital anomalies associated with the female reproductive system | |

## *BIOCHEMISTRY*

| OBJECTIVES | LEARNING STRATEGY |
|---|---|
| **1. Male Sex Hormones** | Interactive Lectures/Small Group Discussion |
| • List the male sex hormones | |
| • Discuss the production of male sex hormones | |
| • Explain the synthesis, chemical structure, mechanism of action and metabolic functions of male sex hormones | |
| • Discuss the hypothalamic pituitary axis of male sex hormones | |
| • Discuss the regulation and feedback mechanism of male sex hormones | |
| • Describe the clinical diseases and complication associated with male sex hormones | |
| • Discuss the clinical importance of Male Sex hormones (e.g. Infertility) | |
| • Interpret relevant clinical conditions correlated with their laboratory investigations | |

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| **2. Female sex hormones** | Interactive Lectures/Small Group Discussion |
| • List the female sex hormones | |
| • Discuss the production of female sex hormones | |
| • Explain the synthesis, chemical structure, mechanism of action and metabolic functions of female sex hormones | |
| • Discuss the hypothalamic pituitary axis of female sex hormones | |
| • Discuss the regulation of female sex hormones and feedback mechanism | |
| • Describe the clinical diseases and complication associated with female sex hormones | |
| **3. Pituitary Hormone and Menstrual Cycle** | |
| • Explain the biochemical functions of female reproductive system | |
| • Discuss hormonal regulation (the hypothalamic-pituitary-ovarian axis) during prepuberty, puberty and menopause | |
| • Describe the menstrual cycle (Ovarian and uterine cycles) | |
| • Discuss the three phases of the ovarian cycle (Follicular, Ovulation and Luteal) | |
| • Discuss the three phases of the uterine cycle (Menstrual, Proliferative and Secretory) | |
| • Explain the hormonal changes at menarche and menopause | |
| • Discuss the clinical abnormalities of the menstrual cycle and its biochemical investigations | |
| • Discuss the clinical importance of menstrual cycle abnormalities | |
| • Interpret relevant clinical conditions correlated with their laboratory investigations | |
| **4. Biochemical changes during menopause** | |
| • Define menopause | |
| • Discuss the hormonal and biochemical changes during menopause | |
| • Discuss the clinical conditions associated with menopause | |
| • Describe the types of amenorrhea | |
| **5. Biochemical role of Placenta** | |
| • List the placental hormones | |
| • Discuss the cells type and production of placental hormones | |
| • Explain the synthesis, chemical structure, mechanism of action and metabolic functions of placental hormones | |
| • Discuss the hypothalamic pituitary axis of placental hormones | |
| • Discuss the regulation of placental hormones and feedback mechanism | |
| • Describe the clinical conditions associated with placental hormones and their lab investigations | |
| **6. Amniotic fluid Analysis** | |
| • Discuss the normal composition of amniotic fluid | |
| • List the biochemical markers of fetal development | |
| • Discuss the functions of amniotic fluids | |
| • Describe the clinical conditions associated with amniotic fluid | |
| • Discuss the laboratory investigations of amniotic fluid | |
| • Discuss the clinical importance of mutations (e.g. sickle cell anemia etc.) | |
| • Interpret relevant clinical conditions correlated with their laboratory investigations | |

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| **7. DNA & RNA structure** | Interactive Lectures/Small Group Discussion |
| • Explain the central dogma of molecular biology | |
| • Describe the biochemical structure, types and functions of DNA and RNA | |
| • Discuss the genetic disorders | |
| **8. DNA Replication** | |
| • Define Replication | |
| • Classify the types of replication in prokaryotes and eukaryotes | |
| • Describe the steps of DNA Replication | |
| • Discuss the disorders related to DNA replication and repair (e.g. Xeroderma pigmentosa and radiation damage) | |
| **9. Transcription** | |
| • Define Transcription | |
| • Explain the process of Transcription in Prokaryotes | |
| • Describe the mechanism of transcription in Eukaryotes | |
| • Discuss the process of Post transcription modification (mRNA, tRNA, and rRNA) | |
| • Explain the retroviruses in relation with cancers and AIDS and the effects of drugs | |
| **10. Translation** | |
| • Define Translation | |
| • Explain genetic code, codon, and wobble hypothesis | |
| • Explain the process of Translation | |
| • Discuss the inhibitors of protein synthesis | |
| • Discuss the process of Post translation modification | |
| • Describe the different types of mutations | |
| **11. Amniocentesis** | |
| • Discuss the clinical importance of amniocentesis | |
| • Interpret relevant clinical conditions correlated with their laboratory investigations | |
| **12. Pregnancy test** | Practical |
| • Outline the methods for performance of pregnancy test | |
| • Explain the principle of HCG one step pregnancy test | |
| • Perform urine pregnancy test by using dip stick (β-HCG levels) | |
| • Interpret relevant clinical conditions correlated with their laboratory investigations | |
| **13. Polymerase Chain Reaction (PCR)** | |
| • Explain the principle and procedure of PCR | |
| • Describe the applications of PCR | |
| • Interpret relevant clinical conditions correlated with their laboratory investigations | |

## *COMMUNITY MEDICINE*

| OBJECTIVES | LEARNING STRATEGY |
|---|---|
| **Basic concept of family planning** | Interactive lecture |
| • Describe basic concept of family planning method | |
| • Outline the importance of family planning | |

## *MICROBIOLOGY*

| OBJECTIVES | LEARNING STRATEGY |
|---|---|
| **Immunization of COVID-19 during pregnancy** | Interactive lecture |
| • List the types of vaccines that can be administered during pregnancy | |
| • Discuss the mechanism of action of various different vaccines | |
| • Discuss the possible side effects of vaccines | |

## *OBSTETRICS & GYNECOLOGY*

| OBJECTIVES | LEARNING STRATEGY |
|---|---|
| **Prenatal Diagnosis** | Interactive lecture |
| • Diagnose Congenital Abnormalities of a Fetus during Antenatal Period. | |
| **Menstrual Disorder** | |
| • Describe the anatomy and physiology of menstrual cycle and related abnormalities | |

## *PEDIATRICS*

| OBJECTIVES | LEARNING STRATEGY |
|---|---|
| **Protein energy malnutrition** | Interactive lecture |
| • Define normal nutrition and malnutrition | |
| • List the important forms of malnutrition | |
| • Diagnose protein energy malnutrition | |
| • Manage protein energy malnutrition | |

## *PATHOLOGY*

| OBJECTIVES | LEARNING STRATEGY |
|---|---|
| **Prostatitis and benign prostatic hyperplasia** | Interactive lecture |
| • Describe the pathophysiology & clinical presentation of benign prostatic hyperplasia and prostatitis | |
| **Vaginal Infections** | |
| • Describe the pathophysiology of vaginal Infections | |

## *PHARMACOLOGY*

| OBJECTIVES | LEARNING STRATEGY |
|---|---|
| **Contraceptive drugs** | Interactive lecture |
| • Classify contraceptive drugs | |
| • Discuss dynamics of different hormonal contraceptive drugs | |

## *PHYSIOLOGY*

| OBJECTIVES | LEARNING STRATEGY |
|---|---|
| **1. Spermatogenesis, Semen & Capacitation of Sperms** | Interactive Lectures /Small Group Discussion |
| • Explain the stages of spermatogenesis | |
| • Describe the hormonal control of spermatogenesis | |
| **2. Male Sex Hormone: Testosterone & its functions** | |
| • Describe the synthesis, function and regulation of male sex hormones | |
| **3. Abnormalities of Male sexual function** | |
| • Discuss the abnormalities of male sexual function (hypo and hypergonadism) | |
| **4. Functions of Ovary** | |
| • Discuss oogenesis, stages of follicle development through ovulation, and formation of corpus luteum | |
| **5. Puberty, Menstrual Cycle, Menarche & Menopause** | Interactive Lectures/Small Group Discussion/Case- Based Learning |
| • Describe the synthesis, function and regulation of hormones of female reproductive system | |
| • Describe the hormonal changes and control mechanism of the changes that occur during puberty | |
| • Explain the secondary sexual characteristics that develop during puberty in males and females | |
| • Explain the control of secretion of FSH and LH through negative and positive feedback during menstrual cycle | |
| • Describe the cyclical changes that occur in endometrium and hormonal mechanisms that control these changes | |
| **6. Pregnancy, Functions of Placenta, Maternal Changes During Pregnancy & Parturition** | Interactive Lectures /Small Group Discussion |
| • List hormones secreted by placenta and their actions | |
| • Interpret endocrine assays during the course of pregnancy | |
| • Describe the physiological changes during pregnancy with respect to all body systems | |
| • Describe briefly parturition especially its stages, mechanism & hormonal changes | |
| **7. Mammary Gland & Lactation** | |
| • Describe the hormonal requirements for development of mammary gland during pregnancy and milk ejection reflexes | |

## *RESEARCH METHODOLOGY*

| OBJECTIVES | LEARNING STRATEGY |
|---|---|
| **Proposal development** | Interactive lecture |
| • To develop research synopsis of individual research group | |

## *SURGERY*

| OBJECTIVES | LEARNING STRATEGY |
|---|---|
| **Clinical presentation of benign and malignant breast lesion** | Interactive lecture |
| • Differentiate between benign and malignant lesions on basis of sign and symptoms and clinical features | |

## LEARNING RESOURCES

| *SUBJECT* | *RESOURCES* |
|---|---|
| **ANATOMY** | **A. GROSS ANATOMY**<br>1. K.L. Moore, Clinically Oriented Anatomy<br>2. Neuro Anatomy by Richard Snell<br>**B. HISTOLOGY**<br>1. B. Young J. W. Health Wheather's Functional Histology<br>**C. EMBRYOLOGY**<br>1. Keith L. Moore. The Developing Human<br>2. Langman's Medical Embryology |
| **BIOCHEMISTRY** | **TEXTBOOKS**<br>1. Harper's Illustrated Biochemistry<br>2. Lehninger Principle of Biochemistry<br>3. Biochemistry by Devlin |
| **PHYSIOLOGY** | **A. TEXTBOOKS**<br>1. Textbook Of Medical Physiology by Guyton And Hall<br>2. Ganong ' S Review of Medical Physiology<br>3. Human Physiology by Lauralee Sherwood<br>4. Berne and Levy Physiology<br>5. Best and Taylor Physiological Basis of Medical Practice<br>**B. REFERENCE BOOKS**<br>1. Guyton and Hall Physiological Review<br>2. Essentials Of Medical Physiology by Jaypee<br>3. Textbook Of Medical Physiology by InduKhurana<br>4. Short Textbook Of Physiology by Mrthur<br>5. NMS Physiology |

## ASSESSMENT METHODS:

- **Best Choice Questions(BCQs)** also known as MCQs (Multiple Choice Questions)
- **Objective Structured Practical/Clinical Examination (OSPE or OSCE)**

**BCQs:**

- A BCQ has a statement or clinical scenario of four options (likely answers).
- **Correct answer carries one mark, and incorrect 'zero mark'. There is NO negative marking.**
- Students mark their responses on specified computer-based sheet designed for LNHMC.

**OSCE:**

- All students rotate through the same series of stations in the same allocated time.
- At each station, a brief written statement includes the task. Student completes the given task at one given station in a specified time.
- Stations are observed, unobserved, interactive or rest stations.
- In unobserved stations, flowcharts, models, slide identification, lab reports, case scenarios may be used to cover knowledge component of the content.
- Observed station: Performance of skills /procedures is observed by assessor
- Interactive: Examiner/s ask questions related to the task within the time allocated.
- In Rest station, students in the given time not given any specific task but wait to move to the following station.

**Internal Evaluation**

- Students will be assessed comprehensively through multiple methods.
- 20% marks of internal evaluation will be added to JSMU final exam. That 20% may include class tests, assignment, practicals and the internal exam which will all have specific marks allocation.

**Formative Assessment**

Individual department may hold quiz or short answer questions to help students assess their own learning. The marks obtained are not included in the internal evaluation

**For JSMU Examination Policy, please consult JSMU website!**

| | | |
|---|---|---|
| | **More than 75% attendance is needed to sit for the internal and final examinations** | |

## LNH&MC EXAMINATION RULES & REGULATIONS

- Student must report to examination hall/venue, 30 minutes before the exam.
- **Exam will begin sharp at the given time.**
- No student will be allowed to enter the examination hall after 15 minutes of scheduled examination time.
- Students must sit according to their roll numbers mentioned on the seats.
- **Cell phones are strictly not allowed in examination hall.**
- If any student is found with cell phone in any mode (silent, switched off or on) he/she will be not be allowed to continue their exam.
- No students will be allowed to sit in exam without University Admit Card, LNMC College ID Card and Lab Coat
- Student must bring the following stationary items for the exam: Pen, Pencil, Eraser, and Sharpener.
- Indiscipline in the exam hall/venue is not acceptable. Students must not possess any written material or communicate with their fellow students.

# SCHEDULE:

| WEEKS | 2nd YEAR | MONTH |
|---|---|---|
| WEEK 1-4 | ENDOCRINE MODULE -I | 12th July, 2021<br><br>13th August, 2021 |
| WEEK 1-5 | REPRODUCTIVE MODULE -I | 16th August, 2021<br><br>17th September, 2021 |
| WEEK 1-3 | RENAL MODULE | 20th September, 2021<br><br>9th October, 2021 |
| PRE PROF EXAMINATION* | | |

*Final dates will be announced later.