

STUDY GUIDE	
PROGRAM	MBBS
MODULE TITLE	REPRODUCTIVE SYSTEM- 2
ACADEMIC YEAR	Fourth year -2024
INTRODUCTION	This module builds on the module Reproductive 1, taught in Year-2 of
	MBBS, and the concepts learnt in the Foundation module. The
	emphasis in this module is on providing information to students
	regarding common conditions and diseases concerned with
	reproductive health, identifying the common issues in men and
	women, investigating them, and making decisions based on patient
	information. They must also know the main concepts of molecular
	structure, regulation and functions of hormones. While studying
	principles of treatment in this module, learners are ad-vised to revise
	details of relevant drugs used in the maintenance and restoration of
	reproductive health. Students must learn the principles of
	management but are <i>not</i> expected to know, at this stage, details of
	treatment procedures; medical or surgical.
RATIONALE	The clinical and basic science aspects of reproductive Health are
	taught since Pakistan is a country with not only a very high birth rate
	but also with high infant and maternal mortality and morbidity rates.
	Our graduates need to comprehend the issues that cause such poor
	outcomes so that they are better able to manage the prevalent
	conditions.
OUTCOMES	By the end of the module, all the students will be able to justify the
	diagnosis and management plans of various reproductive diseases
	based on their knowledge of relevant basic sciences.

DEPARTMENTS	1. Behavioral Sciences / Psychiatry
INVOLVED	2. Community Medicine
	3. Gynecology & Obstetrics
	4. Pathology
	5. Pharmacology
	6. Urology
COURSE	By the end of the course, the students will be able to:
OBJECTIVES	
LECTURES	1. Management of male & female sexual and reproductive
BEHAVIORAL	dysfunction
SCIENCES/	Describe the psychosocial issues associated with infertility
PSYCHIATRY	Describe ethical issues confronted by patients with infertility
	2. Sexual and domestic violence
	List characteristics of people at increased risk for sexual
	assault Describe the medical and psychosocial
	management of a victim of sexual as-sault
COMMUNITY	Introduction to reproductive health
MEDICINE	Describe Reproductive Health
	Explain the phases of Reproductive Health
	Identify the components of Reproductive Health
	Discuss Reproductive Health in Islam
	2. Maternal care
	Describe maternal care
	Describe maternal mortality
	Explain three delay model
	Discuss safe motherhood initiative
	Identify the interventions to reduce maternal mortality
	3. Infant Care

	- Describe intent core
	Describe infant care
	Identification of ''at risk'' infant
	Explain the importance of breastfeeding
	Describe infant mortality
	Describe preventive measures of infant mortality
	4. Integrated Management of Neonatal &Childhood Illness
	(IMNCI)
	Describe the components of IMNCI
	Discuss the role of community and family practice in IMNCI
	Explain the process of assessment of danger signs in IMNCI
	5. Family Planning
	Describe family planning
	Explain methods used in family planning
	List the common reasons for unmet need of Family Planning
	(UMNFP)
	6. Reproductive Tract Infections
	Classify reproductive tract infections
	Discuss epidemiology of Reproductive Tract Infections
	Discuss the syndromic management of reproductive tract
	infections
	Describe the preventive measures of HIV/AIDs
	Describe HIV/AIDS control Programme in Pakistan
	7. Fertility determinants
	Differentiate between fertility and fecund ability
	Describe determinants of fertility
	Calculate the measures of fertility
GYNAECOLOGY	1. Female hormone in the menstrual cycle
	Define primary & secondary amenorrhea, oligo menorrhea,
	menorrhagia, dysmenorrhea, dyspareunia, post-
L	

- menopausal bleeding, post- coital bleeding, pre-menstrual syndrome
- Describe symptoms and signs of primary and secondary amenor rhea, and oligomenorrhea
- Differentiate among the three types of amenorrhea
- Define primary & secondary dysmenorrhea
- Interpret the clinical abnormalities of the menstrual cycle and its biochemical investigations

2. Bleeding PV and early pregnancy complications

- List the most common pregnancy complications
- Define ectopic pregnancy
- Discuss differential diagnosis of acute abdomen in women
- Diagnose ectopic pregnancy, based on provided data (history, examination findings, investigation reports)
- Define abortion according to WHO criteria
- Differentiate among the various types of abortions based on data provided (history, examination findings, investigation reports)
- Describe the treatment options for each type of abortion
- Discuss the definition, etiology, risk factors and the classification of GTN
- Discuss Gestational Trophoblastic diseases/ neoplasia (molar) GTD/GTN

3. Physiology of normal puerperium, Puerperal disorder & Postnatal care

- Define puerperium
- Describe signs and symptoms, and management of normal and abnormal puerperium, including puerperal pyrexia and puerperal sepsis

- Recognize the risk factors for depression (postpartum blues)
 and the role of psychosocial support
- Identify the capacity of mother to take care of her newborn
- Discuss the issues in postnatal care effectively with patient

4. Lactation management and breast care

- Discuss the benefits & complications of breastfeeding for the baby, mother, family, and country
- Discuss the role of health care provider about counseling breast feeding at term
- Explain the significance of self-breast examination and clinical examination

5. Poly-Cystic Ovary Syndrome (PCOS)

- Interpret the hormone profile report for PCOS
- Discuss the etiology, pathophysiology, diagnosis, and management options for PCOS

6. Vulvo-vaginal infections

- List the causes of vaginal discharge (candida, bacterial vaginosis, trichomonas's)
- Differentiate between a normal vaginal discharge and pathological vaginal discharge (Leucorrhea) on the basis of clinical history
- Describe symptoms, signs, investigations and treatment options for vaginal discharge due to infection
- Discuss steps of prevention and recurrence of vaginal discharge

7. Pelvic Inflammatory Disease

 Define Pelvic Inflammatory disease (PID, Post-delivery PID, Post abortion PID, Post-Surgical PID)

- Diagnose PID based on symptoms, signs and investigation findings
- Discuss the differential diagnosis of PID and its possible complications
- Discuss the management options for acute and chronic PID

8. Sexually transmitted diseases

- Classify STD
- Differentiate among the various types based on their etiology, modes of infections, clinical features, investigations and treatment option for each.

9. Human Immunodeficiency Virus (HIV)

- Differentiate between HIV and AIDS
- Discuss the etiology, modes of infection, clinical features, investigations and principles of management of patients infected with HIV

10.UTI in Gynecology

- Diagnose UTI in pregnant women with relation to Cystitis,
 Lower Urinary Tract Symptoms
- Discuss the principles for their effective investigation and treatment

11. Infertility

- Define infertility and sub-fertility
- Discuss the causes and relevant investigations of anovulation in women
- Interpret the reports of Semen analysis in male and fertilityrelated hormone profile in female

12. Benign valval disorders

 Identify the clinical features and risk factors of various vulvovaginal conditions including Warts, Bartholin cysts, and

abscess.

13. Benign tumors of the genital tract I

- Explain benign tumors of female genital tract
- Differentiate among the various types of ovarian cysts, polyps & fibroids based on their etiology, symptoms, signs and pathophysiology
- Justify the selection of investigations for ovarian cysts, polyps & fibroid uterus

14. Gynecological Investigations

- Describe the of role of Hysteroscopy & Hystrosalpangiogram
- Interpret the lab investigation X-Rays & laparoscopic views of different disorders
- Identify the hard and soft copy views of X rays and contrast X-rays
- Identify the laparoscopic views of adnexal mass, ruptured and unruptured ectopic pregnancy, PID and TO mass, endometriosis, and pelvic adhesions
- Identify the hysteroscopy views (endometrial polyp, normal uterine cavity, sub mucous fibroid, septate uterus) including Colposcopy views of cervix
- Describe the role of ultrasound in evaluation & diagnosis of different disorders in gynae
- Discuss Point of care ultrasound (POCOS) in gynae
- Discuss Doppler ultrasound in gynae

15. Public health issues related to reproductive health

- Discuss the maternal health situation in Pakistan (Total fertility, maternal mortality, perinatal mortality, contraceptive prevalence rate)
- Discuss the important causes of maternal mortality and

	no o de ielik i
	morbidity
	Describe maternal health services
	Describe the levels of obstetric care including obstetric first
	aid, basic EmNOC, comprehensive EmNOC
	 List the basic steps of counseling in reproductive health,
	with emphasis
	on family planning
	Discuss the role of contraception in population dynamics
	16. Family planning (contraceptive) methods
	Describe the commonly used methods of family planning,
	and their indications
	Explain their significance
OBSTETRICS	1. Antenatal care & Assessment
	Explain the importance of routine prenatal laboratory
	investigations, prenatal diagnostic options (IPS, Quad
	screen, amniocentesis, CVS) and fetal ultrasound
	assessment
	Explain the process/schedule of antenatal care and
	investigations (GDM screening, Rh prophylaxis, GBS
	screening, term cervical assessment) and its importance in
	ensuring maternal health and normal fetal growth and well-
	being
	2. Antenatal investigation
	Explain the importance and process antenatal care and
	investigations
	 Interpret Rh prophylaxis, GBS screening, term cervical
	assessment to ensure maternal health and normal fetal
	growth and well being
	3. Normal Labor

- Define labor
- Explain the stages of normal labor
- Describe the basic mechanisms of labor evaluation
- Describe the seven cardinal movements of labor
- Explain the technique of delivery, traction, and handling of infant after delivery
- Define Who Labor Guide and CTG
- List the uses of partograph and CTG in the management of normal labor
- Interpret result of Who Labor Guide

4. Anemia in pregnancy

- Discuss the causes, sign and symptoms, investigations & management.
- Discuss fetal and maternal complications of anemia in pregnancy.

5. Preterm Labor

- Define preterm labor
- Explain indications, contraindication and complications of induction of labor
- Discuss the advantages, disadvantages of augmentation of labor
- Discuss the monitoring and management of induced and augmented labor
- Differentiate between Threatened preterm labor, Preterm pre-labor rupture of membranes and preterm labor
- Discuss the clinical features, diagnosis and management of preterm labor and preterm prelab or rupture of membranes
- Appraise the principles of diagnosis and management of Threatened preterm labor, Preterm pre-labor rupture of

membranes and Preterm labor

List the causes of IUD

6. Abnormal Labor-I (Fetal malpresentation and malposition)

- Define mal-presentation & malposition
- List the different types of mal-presentation & malposition
- Describe the causes of Breech, Transverse lie and other mal-presentations and malposition
- Describe the management options for mal-presentation and abnormal labor.

7. Abnormal Labor-II (Obstructed Labor)

- Define obstructed labor
- List the main causes of obstructed labor
- Describe how each cause contributes to the development of this complication
- Describe the clinical signs of obstructed labor and the common maternal and fetal complications that result from uterine obstruction
- Describe the management of obstructed labor

8. Induction of Labor

- Define induction and augmentation of labor
- Explain indications, contraindications, advantages and disadvantages of induction and augmentation of labor
- Discuss the advantages, disadvantages of augmentation of labor
- Discuss the monitoring and management of induced and augmented labor
- Discuss the management of abnormal pantograph and CTG

9. Analgesia & Anesthesia in Obstetrics

- Describe analgesic techniques used in labor and cesarean delivery
- Describe different anesthetic options used in labor and cesarean delivery including the risks and benefits of general, spinal, & epidural anesthesia, pudendal nerve block, and narcotics

10. Role of ultrasound in Obstetrics

 Describe the role of Ultrasound, point of care ultrasound (POCUS), and Doppler ultrasound in Obstetrics including antepartum fetal surveillance in the normal and high risk pregnancy & evaluation of fetal growth restriction

11. Safe Motherhood

- Define Pillars of safe motherhood
- Discuss components of safe motherhood
- Discuss WHO strategies of safe motherhood

12. Respectful maternity care

Discuss the seven principles of RMC

PATHOLOGY AND MICROBIOLOGY

Congenital anomalies of female and male genital tract; Epididymo-orchitis

- Describe the various congenital anomalies of female genital tract with their important salient features
- Discuss developmental abnormalities and related features of the hypospadias, epispadias, phimosis & Cryptorchidism.
- Discuss the microorganism, pathogenesis and morphology of specific and non-specific types epididymo-orchitis

2. Infectious agents causing genital ulcer disease

- List the important microorganism causing genital ulcer disease
- Discuss in detail the pathophysiology, clinical manifestation,

laboratory diagnosis, treatment and prevention of:

- i. HSV 2 infection
- ii. HPV infection

3. Infectious agents causing vaginitis

- List the important microorganisms causing vaginitis
- Briefly discuss candida infections
- Discuss in detail the important properties, pathophysiology, clinical mani festation, diagnosis, treatment and prevention of:
 - i. Trichomonas vaginalis infection
 - ii. Gardnerella vaginalis infection

4. Pelvic Inflammatory Disease (PID)

- Define Pelvic Inflammatory Disease
- List the important microorganisms causing cervicitis and PID
- Discuss the risk factors, pathophysiology, morphology and clinical presentation and complications of PID
- Discuss the role of Staphylococcus in causing toxic shock syndrome
- Discuss in detail the important properties, pathophysiology, clinical manifestation, laboratory diagnosis, treatment and prevention of Neisserria gonorrhea infection

5. Sexually Transmitted Infections (STI)

- Define STI
- List the important microorganisms causing STI
- Discuss the risk factors, pathophysiology, morphology and clinical presentation of STI's
- Discuss in detail the pathophysiology, clinical manifestation,
 laboratory diagnosis, and treatment of:
 - i. CMV Chlamydial infection

- ii. Syphilis (Treponema pallidum)
- Briefly discuss the role of HIV as sexually transmitted infection

6. Non-neoplastic and neoplastic conditions of vulva and vagina

- Discuss the morphology, pathogenesis and clinical presentation of Bartholin cyst, Lichen Sclerosis, Squamous Cell Hyperplasia, Condyloma Acuminatum, Papillary Hidradenoma and Extra mammary Paget Disease, Vulvar Intraepithelial Neoplasia and vulvar carcinoma
- Discuss the pathogenesis and morphology of Vaginal Intraepithelial Neoplasia and squamous cell carcinoma, Embryonal rhabdomyosarcoma

7. Non-neoplastic and neoplastic conditions of cervix

- Discuss the infections of cervix including acute & chronic cervicitis, and End cervical Polyps
- Discuss the risk factors, pathogenesis and morphology of cervical intraepithelial lesions and cervical carcinoma
- Elaborate the role of HPV in cervical cancer,
- Discuss cervical screening methods and pap smear

8. Endometrial Hyperplasia & Functional Endometrial Disorders

- Define dysfunctional uterine bleeding (DUB)
- Classify abnormal uterine bleeding according to age group and etiology
- Discuss the etiology, pathogenesis, morphology and clinical features of abnormal uterine bleeding and An ovulatory Cycle
- Discuss the etiology, pathogenesis, morphology and clinical features of acute and chronic Endometritis, Endometriosis, adenomyosis and Endometrial Polyps
- Classify Endometrial hyperplasia

 Discuss the etiology, pathogenesis, morphology and clinical features of Endometrial hyperplasia

Tumors of Uterine corpus (Benign and Malignant endometrial tumors)

- Classify tumors of uterus/endometrium
- Discuss the etiology, pathogenesis, morphology and clinical features of Carcinoma of the Endometrium, Tumors of Endometrial Stroma & mixed Mullerian tumors

Non-neoplastic cysts and functional cyst of ovary and Poly Cystic Ovaries

- Discuss the follicular and luteal cysts, and their morphology
- Define Polycystic Ovaries (PCOs)
- Discuss its etiology, pathogenesis, morphology and complications

11. Ovarian Tumors - I (Tumors of ovary & fallopian tube)

- Classify Ovarian tumors
- Discuss the etiology, pathogenesis, morphology and clinical features of Serous tumors, Mucinous tumors, Endometrioid tumors, Clear cell tumors, Transitional cell tumors, Adenosarcoma and Malignant mixed Müllerian tumor, and tumors of fallopian tube

12. Ovarian Tumors - II

 Discuss the etiology, pathogenesis, morphology and clinical features of Sex Cord-Stromal Tumors, Teratoma,
 Dysgerminoma, Yolk sac tumor, Mixed germ cell tumors and
 Metastatic Cancer

13. Testicular Tumors

- Classify testicular tumors
- Discuss the etiology, pathogenesis, morphology and clinical

features of various types of testicular cancer

14. Early and late disorders of Pregnancy/ Placenta; preeclampsia & eclampsia

 Discuss the etiology, pathogenesis, morphology and clinical features of:

Spontaneous abortion, Ectopic pregnancy, Twin Placenta, Abnormalities of placental insertion, the disorders of placenta viz. Placenta Previa, Placental Abruption, Placental Insufficiency, Placental Infarcts, Placenta Accrete, Placental infection, Preeclampsia and eclampsia

15. Gestational Trophoblastic Diseases

- Discuss the etiology, pathogenesis and morphology of hydatiform mole including complete, partial and invasive mole
- Explain the pathogenesis and morphology of choriocarcinoma and placental site trophoblastic tumor

16. Non-proliferative & proliferative breast diseases

- Name non proliferative and proliferative breast lesions
- Discuss the etiology, pathogenesis, morphology and clinical features of all non-proliferative and proliferative breast diseases including mastitis, duct ectasia, fat necrosis, fibrocystic change, proliferative breast lesions with and without atypia, ectasia, fat necrosis, fibrocystic change, proliferative breast lesions with and without atypia

17. Tumors of breast

- Classify Breast tumors
- Discuss the etiology, risk factors, pathogenesis, morphology, molecular profile and clinical features of various types of breast cancer

	Discuss risk factors, pathogenesis, morphology and clinical
	features of stromal tumors of breast (Fibro adenoma, Phyllo
	ides)
PHARMACOLOGY	1. Androgens & Anti-androgens
	 Discuss classification of Androgens & Anti-androgens with
	their basic & Clinical pharmacology of these agents
	2. Estrogens & Anti-estrogens
	 Discuss classification of estrogens & anti-estrogens
	 Explain basic & clinical pharmacology of these agents
	3. Progestin's & Anti-progestins
	 Discuss classification of Progestins, Anti-progestins
	Explain the basic & clinical pharmacology of these agents
	4. Drug used in pregnancy &lactation
	Discuss the contraindicated and safer drugs in pregnancy &
	lactation
	5. Contraceptive Drugs
	Discuss the classification, kinetics and dynamics of different
	hormonal contraceptive drugs
SURGERY	1. Breast Lump
	 Discuss the clinical features and investigations of breast
	lumps
	Discuss the differential diagnosis of breast lump
	Describe the Triple assessment of breast lump
	2. Diseases of Nipple and Areola
	Describe the etiology, clinical presentation, investigations and
	plan of treatment of diseases of Nipple and Areola
	3. Benign breast diseases (Gynecomastia, Bacterial infections,
	Fibrocystic disease, Cyst, Fibroadenoma, Periductal mastitis,

	Primary breast cancer)
	Describe the surgical Anatomy of breast
	Discuss the clinical features, investigations and treatment
	plans of Benign Breast diseases
	Discuss the differential diagnosis
UROLOGY	1. STIs in male genital tract; including epididimytis, orchitis,
	prostatitis
	Describe the etiology, pathophysiology, symptoms and signs,
	investigations and treatment plan for STIs in males (viz.
	Epididymitis ,orchitis, prostati- tis gonorrhoea, non-specific
	urethritis, genital herpes, genital warts, syphilis and HIV)
	2. Male sexual dysfunction
	Explain the anatomy and physiology of penile erection
	Classify the causes of erectile dysfunction
	Discuss the various investigations for diagnosis of erectile
	dysfunction
	Discuss the treatment options for Erectile dysfunction including
	penile im- plant
	3. Male Infertility
	Define infertility
	Describe the stages of spermatogenesis and fertilization
	List the causes of male infertility
	Discuss steps of evaluation of male infertility including history,
	examina- tion andinvestigations
	Describe the treatment options for the common conditions
	causing male infer- tility
TUTORIALS	1. Ovarian tumors
PATHOLOGY	Discuss the etiology and morphological features of ovarian

tumors

2. Testicular tumors

 Discuss the etiology and morphological features of testicular tumors

3. Breast tumors

 Discuss the etiology and morphological features of breast tumors

4. Lesions of Cervix

- Discuss histopathology of premalignant and malignant lesions of cervix
- Discuss screening methods for cervical lesions

5. Lab diagnosis related to genital infection

- Discuss high vaginal swab
- Discuss pH test and Whiff test

PHARMACOLOGY

1. Androgens & Anti-androgens

 Explain the clinical importance of Androgen and Antiandrogens with their basic and clinical pharmacology

2. Estrogens & Anti-estrogens

 Explain the clinical importance of Estrogens & Antiestrogens with their basic and clinical pharmacology

3. Progestin's & Anti-progestin's

 Explain the clinical importance of Progestin's & Antiprogestin's with their basic and clinical pharmacology

4. Drug used in pregnancy & Lactation

Explain contraindicated and safer drugs in pregnancy & lactation

5. Contraceptive Preparations

Explain the clinical importance of Contraceptive
 Preparations The skills to be learnt in the clinical rotations

	are listed below:
PRACTICALS	1. Effects of different drugs on the rat uterus
PHARMACOLOGY	Observe the effects of the drug oxytocin on rat uterus by
	using power lab
CLINICAL SKILLS	1. History taking
	2. Perform on patient
	Per abdominal examination
	3. Perform on manikin (Skill lab & video)
	Per abdominal examination
	Per speculum examination
	Pap smear
	High vaginal swab
	DNC (on manikin)
	Manual vacuum aspiration MVA
	Forceps delivery
	Foleys Observe on patient (Ward)
	Mechanism of labor & normal Vaginal delivery
	Pap smear
	High vaginal swab
	• DNC
	Examination of Breast
	4. Instruments in Gynecology
	Identify the following instruments:
	I. Cusco speculum
	II. Sims speculum
	III. Ayers spatula
	IV. Instruments of DNC & MVA
	V. Forceps & vacuum

- VI. Family planning tray
- Discuss their uses, indications and contraindications, and complications
- 5. Investigations in Gynae: Hysteroscopy X-Rays & Laparoscopic views of different disorders
- Identify the hard and soft copy views of:
- i. X rays and contrast X-rays
- ii. Laparoscopic views (adnexal mass, ruptured and unruptured ectopic pregnancy, PID and TO mass, endometriosis, pelvic adhesions), Hysteroscopy views (endometrial polyp, normal uterine cavity, sub mucus fibroid, septate uterus) including Colposcopy views of cervix

SKILLS IN OBSTETRICS

- 1. Obstetrics history taking
- 2. Obstetric examination (Perform on patient/manikin)
- 3. P/A & antenatal investigations
- 4. Antenatal card
- 5. Discharge card
- 6. Interpretation of normal and abnormal CTG & WHO Labor guide

1. Instruments related to obstetrics

- Identify the following instruments:
 - I. Instruments of C/section
 - ii. Outlet forceps
 - iii. Vacuum
 - iv. Episiotomy scissors
 - v. Fetoscope
- Discuss their uses, indications and contraindications, and complications

INTERNAL	Internal assessment will be according to JSMU policy. The
ASSESSMENT	de- tails of internal assessment will be determined by the
	respective institutions.
	Internal assessment carries 20% weightage in the final,
	end-of-year examination
ANNUAL	MCQs and OSCE/OSPE (observed + un observed)
EXAMINATION	
MODULE	Course will be evaluated through a feedback form which
EVALUATION	will be posted on the JSMU website
REFERENCE	Basic & Clinical pharmacology, 15 th Ed. Bertram G. Katzung
BOOKS	Gynecology by Ten Teachers
	K Park's textbook of Preventive and Social Medicine 23rd
	Edition
	Kaplan Series of Behavioral Sciences, Psychiatry
	Llewellyn - Jones Fundamentals of Obstetrics & Gynecology
	Obstetrics by Ten Teachers
	Public Health and Community Medicine 8th Edition. Author:
	Ilya's, Ansari
	Robbins & Citron, Pathologic Basis of Diseases, 9th Edition