Intended Learning Outcomes (ILOs): Upon successful completion of this course students will be able to …

1- Anatomy and histology ILOs by Dr. Ahmed Salman:

1. understand the general concepts of Gross Anatomy of the Urinary System (Kidneys, Urinary tract, bladder)

2. understand the general concepts of Gross Anatomy of Male Reproductive System (Testis, Epididymis, Vas deferens and Spermatic Cord, Seminal Vesicles, Prostate and Penis)

3. grasp the detilas about Gross Anatomy of Female Reproductive System (Uterus, Uterine tubes, Ovaries, Vagina, and Mammary gland)

4. recognize major aspects of Histology of urinary tract: kidney, urinary system

5. recognize major aspects of Histology of Male Reproductive System

6. recognize major aspectsof Histology of Female Reproductive System.

2- Physiology ILOs (Dr. Yanal Shafagoj)

1. understand major concepts of Renal Physiology

2. recognize methods for Assessment of renal function. Glomerular filtration Rate (Tubular load: Measurements:Dynamics: Control). Regulation of Renal Blood Flow

3. identify concepts of Tubular function I: General concepts: The micropuncture technique.

Different forms of transport. Clearance (definition, usages & interpretations).

4- identify concepts of Tubular function II. Reabsorption and secretion. Absorptive capabilities of different tubule segments (Transport maximum (Tm) and Glucose Titration curve).

5- identify concepts of Tubular function III. Reabsorption and secretion of Na^+, K^+ & H^+. Concentration and dilution of urine. The Countercurrent Mechanism. The minimum obligatory urine output. Why we need to make diluted or concentrated urine. Understand and describe the renal handling of urea; Specific Gravity versus osmolality

6- comprehend the function of diuretics and their mechanism of action

7. understand the general concepts of Acid base balance I. Acidosis. Alkalosis. Defense Against Changes in hydrogen ion concentration [H^+]. (buffers: Lungs: Kidneys). Volatile acid and non-volatile acid. Henderson-Hasselbalch Equation.

8. understand the general concepts of Acid base balance II. Renal Control of Acid-Base Balance

The three major goals of the kidney in Acid-Base Balance

9. understand the general concepts of Acid-Base Imbalance III. Acidosis Vs Alkalosis. Metabolic Vs Respiratory. Compensation

3- Physiology of the reproductive system ILOs:

1. understand the general concepts of Spermatogenesis: Hormonal factors regulating initiation, maintenance of spermatogenesis; Function of sex organs

2. recognize physiological aspects of Androgens. Regulation of secretion. Mechanism of action, metabolism. Chronological pattern of secretion

3. understand the general concepts of Oogenesis, Follicular recruitment and development. Monthly follicular and hormonal changes and subsequent endometrial changes.

4. grasp details about Ovulation, fertility period, Corpus luteum (CL) formation, life span endocrine function, regression and consequences. Changes in the female following ovulation. CL of pregnancy Extended function of CL

5. understand the general concepts of Female hormones, regulation of secretion and different functions. Hypothalamic pituitary gonadal (testis and ovaries) regulation. Positive and negative feedback; Other hormones as prolactin.

6- recognize Early stage of embryo development and implantation in the maternal endometrium. Pregnancy hormones (hCG, Somatomammotropin) secretion and importance of such hormones). Materno-feto-placental hormone secretion

7. understand the general concepts of Breast development. Hormonal interaction. Milk synthesis and secretion; Milk letdown reflex

8. understand the general concepts of Puberty (male and female), menopause, andropause physiological changes.

9. understand the general physiological aspect of infertility.

4- ILOs of female genital system and breast pathology course (by Dr. Nisreen Abu Shahin):

1. Recognize the common infections of the vulva & vagina
2. Understand the pathogenesis of common vulvar and vaginal tumors
3. Comprehend common infections of the cervix
4. Grasp the details of HPV associated cervical carcinogenesis and the successful screening program
5. Recognize and understand common uterine diseases and its clinicopathological features (endometritis, adenomyosis, endometriosis, abnormal uterine bleeding)
6. Absorb the common benign proliferative & neoplastic uterine diseases (leiomyoma, polyps, endometrial hyperplasia).
7. Recognize common endometrial malignancies and its pathogenesis (endometrial carcinoma, leiomyosarcoma & MMT)
8. Recognize the pathology of ovarian and fallopian tube cysts and its diagnostic features
9. Understand the clinicopathological characteristics of polycystic ovarian syndrome
10. Identify common ovarian tumors and recognize their clinicopathological features

5- Pathology of the kidney and its collecting system (ILOs by Dr. Nisreen Abu Shahin):

1. identify major Clinical manifestations of renal diseases

2. recognise major glomerular diseases: Pathogenesis; immune complex nephritis; Other mechanisms of glomerular injury

3. understand The nephrotic syndrome and its major causes: Minimal change disease; Focal segmental glomerulosclerosis; Membranoproliferative glomerulonephritis

4. understand The nephritic syndrome and recognise major causes: Acute proliferative glomerulonephritis; Rapidly progressive glomerulonephritis (Cresentic); IgA nephropathy (Berger's disease)

5. identify the concept of Hereditary nephritis; and Chronic glomerulonephritis

6. grasp the details about major tubulointerstitial disease: Tubulointerstitial nephritis; Acute pyelonephritis; Chronic pyelonephritis and reflux nephropathy

7. recognise the concepts of Drug - induced interstitial nephritis; Acute tubular necrosis

8. comprehend blood vessel disorders: Benign nepherosclerosis; Malignant hypertension and malignant nephrosclerosis; Thrombotic microangiopathies

9. understand Cystic diseases of kidney: Simple cysts; Autosomal dominant (adult) polycystic kidney disease; Autosomal recessive (Childhood) polycystic kidney disease

10. grasp the consept of Urinay outflow obstruction: Renal stones; Hydronephrosis

11. recognise the different types of Renal tumors: Renal cell carcinoma; Wilms' tumor

12. recognise Tumors of the urinary bladder and collecting system

6- ILOs of THE MALE GENITAL SYSTEM: (Dr. Nisreen Abu Shahin):

1. grasp concepts and identify different types of Testicular Neoplasms

2. recognise major clinicopathological aspects of Prostate diseases: Nodular hyperplasia of the prostate; Carcinoma of the prostate

7- ILOs for Microbiology of the genital system: (Dr. Anas Abu Hmeidan)

1. recognize major aspects of Urinary tract infections (UTI)

1. Understand the Definition of UTI
2. Being able to Classify UTIs appropriately
3. Able to list and understand the differences between the common bacteria causing UTI, including pathogenesis and host factors: *E. Coli ; Enterococcus; Pseudomonas; Klebsiella; Proteus Staph saprophyticus;* Candida
4. Define the major types of urinary tract infections such as: pyelonephritis, cystitis, urethritis, and asymptomatic bacteriuria
5. Describe the signs and symptoms
6. Understand the necessary lab. Investigation including sample taking, storage and analysis.
7. List the common classes of antimicrobials used to treat urinary tract infections.

2. recognize major aspects of N. gonorrhea and Chlamydia

1. Understand the morphological and structural properties of the bacteria
2. Understanding pathogenesis including route of infection and host organism interactions
3. The student should be able to assess the importance of clinical and laboratory tools for diagnosis
4. Understanding the importance having a high index of suspicion in diagnosing asymptomatic cases
5. Explaining main methods of prevention

3. recognize major aspects of Syphilis :

1. Describe the morphology, taxonomy, and growth conditions.

2. Identify the four stages of syphilis (i.e., primary, secondary, latent,

and tertiary) according to clinical symptoms, antibody production, transmission, and infectivity.

3. Explain congenital syphilis, including transmission and clinical manifestations.

4. Define main diagnostic methods

5. Differentiate reagin and treponemal antibodies, including specificity and association with disease.

6. Identify the various serologic methods that utilize specific treponemal or nonspecific nontreponemal antigens.

4. recognize major aspects of Viral infections (Human papilloma virus, genital herpes)

identify the main properties of different viruses associated with GUM infections

Understand the pathogenesis and pathological outcomes

Explain Main tools of diagnosis and differences between different tools

Understand the mode of transmission and the main methods of infection prevention including vaccines if exist

Outline main lines of treatment

5. recognize major aspects of Candida and trichomonas vaginalis as part of sexually transmitted diseases: Understanding charecteristics of the organisms

Learning the mechanism of Pathogenesis and clinical outcomes

Identifying the main methods for Diagnosis (general and differentials)

Understanding Management and prevention

6. recognize major aspects of chistosomia

1. Describe the general life cycle and how human infection occurs.

2. Explain the diagnostic methods used for identification.

4. Differentiate the eggs of *schistosomes*.

5. Describe the pathogenesis.

6. List the drugs of choice for treatment of infections.

7. Describe where Schistosomia are found and how infection may be prevented.

8- ILOs for Renal pharmacology: (Dr.Suheil Zmeli) 1. recognize major aspects of Diuretics; Antidiuretic hormone 2. understand major aspects of Pharmacology of the reproductive system 3. recognize major aspects of Drugs acting on the uterus 4. recognize major aspects of Pharmacology of GnRH, LH, FSH in males 5. recognize major aspects of Pharmacology of GnRH, LH, FSH in females 6. grasp details of Pharmacology of androgens and antiandrogens 7. grasp details of Pharmacology of estrogens, progestins and oral contraceptive pills
9- ILOs of Clinical aspects of the genitourinary system (Gynecology and Nephrology) 1. grasp details of Introduction to history, physical examination and clinical manifestations of gynecological disorders 2. recognize major concepts of Urology: Introduction to history, physical examination and clinical manifestations of urological disorders. 3. recognize major concepts of Nephrology: Introduction to history, physical examination and clinical manifestations of renal disorders.