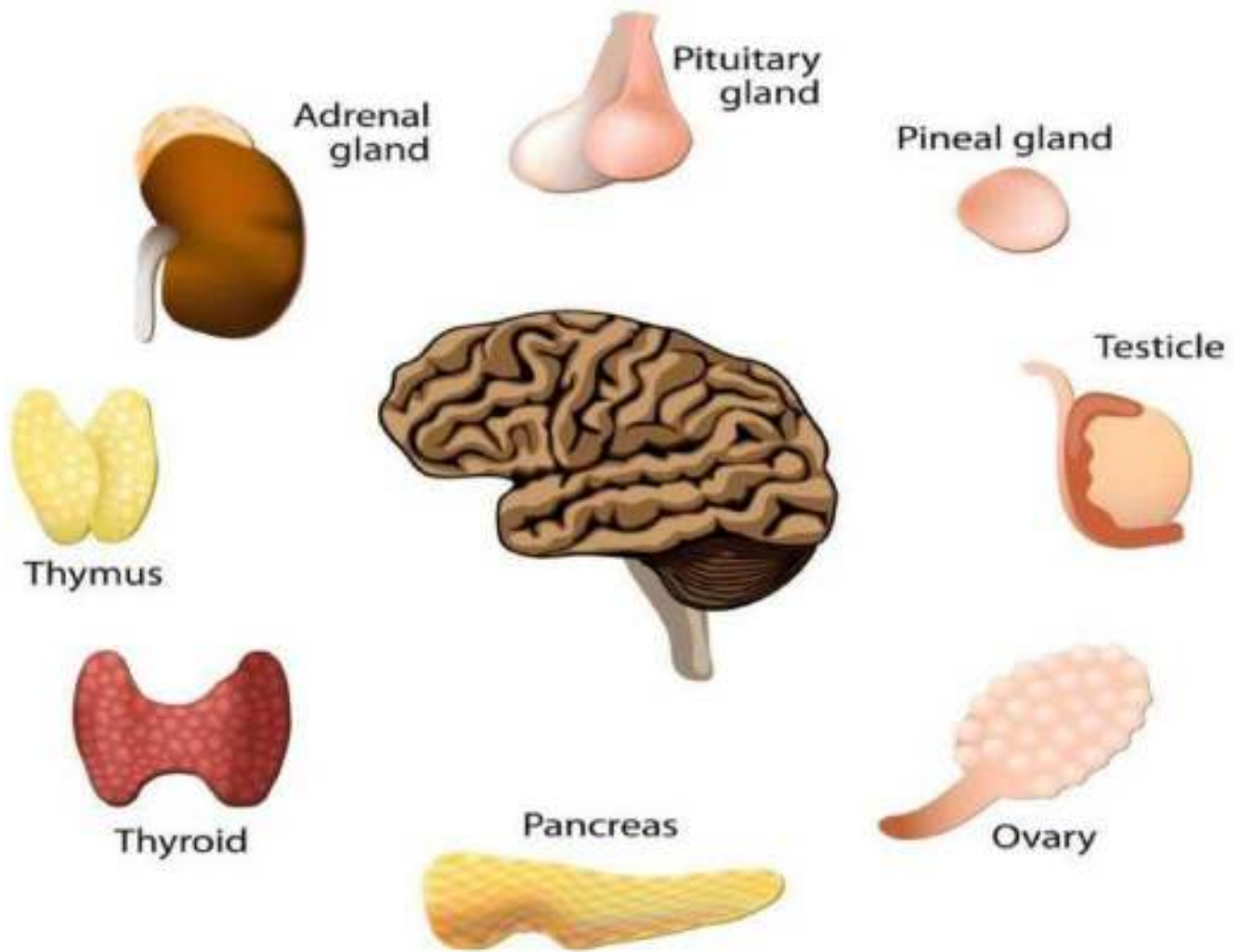


BlockERD-209
Endocrinology, Reproduction & Developmental
Biology
STUDENT STUDY GUIDE



Prepared by

**Anatomy, Histology, Physiology, Biochemistry Microbiology, Parasitology,
Pathology & Pharmacology Departments.**

2024-2025



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Block

ERD-209

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Basic Information about the Block

Program on which the course is given: Bachelor of Medicine and Surgery (M.B.B.Ch.).

Elements (maior or minor) of the program: Undergraduate

Departments offering the course: Integrated between Anatomy, Histology, Physiology, Biochemistry, Pathology, Microbiology, Parasitology and Pharmacology Departments.

Academic year level: 3rd semester/ Year 3

Date of specification approval: 2024-2025

- **Title:** Endocrinology, Reproduction & Developmental Biology
- **Code:** ERD -209
- **Credit points:** 12 points.
- **Weeks:** 8 weeks
- **Contact hours :**180 hours.
- **Lectures:** 70 hours.
- **Practical:** 44 hours.

: Case -based group discussion (52 h), formative assessment (14h)

©Student learning activities: 180 hours.

Total:360 hours.

Block Map

Block	Department involved	Code	Points	Weeks	Learning activities		
Endocrinology, Reproduction & Developmental Biology	All Departments of Basic Sciences	ERD-209	12	8 weeks	Contact Hours/Points	Formative assessment/ feedback	Assignments and other home self - learning activities (portfolio- based evidence)
					166 hrs./ 5.5 points	0.5 points	6 points

NARS competencies covered by the block

NARS areas covered by the block

The competency areas of the NARS- Medicine competency framework are

- 1- **The graduate as a health care provider.**
- 2- **The graduate as a health promoter.**
- 3- **The graduate as a professional.**
- 4- **The graduate as a scholar and scientist.**
- 5- **The graduate as a member of the health team and a part of the health care system.**
- 6- **The graduate as a lifelong learner and researcher.**

Sub competencies

- 1.1 Take and record a structured, patient centered history.
- 1.2 Adopt an empathic and holistic approach to the patients and their problems.
- 1.3 Assess the mental state of the patient.
- 1.4 Perform appropriately-timed full physical examination of patients, appropriate to the age, gender, and clinical presentation of the patient while being culturally sensitive.
- 1.5 Prioritize issues to be addressed in a patient encounter.
- 1.6 Select the appropriate investigations and interpret their results taking into consideration cost/ effectiveness factors.
- 1.7 Recognize and respond to the complexity, uncertainty, and ambiguity inherent in medical practice.
- 1.8 Apply knowledge of the clinical and biomedical sciences relevant to the clinical problem at hand.
- 1.9 Retrieve, analyze, and evaluate relevant and current data from literature, using information technologies and library resources, in order to help solve a clinical problem based on evidence (EBM).
- 1.10 Integrate the results of history, physical examination and laboratory test findings into a meaningful diagnostic formulation.
- 1.11 Perform diagnostic and intervention procedures in a skillful and safe manner, adapting to unanticipated findings or changing clinical circumstances.
- 1.12 Adopt strategies and apply measures that promote patient safety.
- 1.13 Establish patient-centered management plans in partnership with the patient, his/her family and other health professionals as appropriate, using Evidence Based Medicine in management decisions.
- 1.14 Respect patients' rights and involve them and /or their families / carers in management decisions.
- 1.15 Provide the appropriate care in cases of emergency, including cardio-pulmonary resuscitation, immediate life support measures and basic first aid procedures.
- 1.16 Apply the appropriate pharmacological and non-pharmacological approaches to alleviate pain and provide palliative care for seriously ill people, aiming to relieve their suffering and improve their quality of life.
- 1.17 Contribute to the care of patients and their families at the end of life, including management of symptoms, practical issues of law and certification.

- 2.1 Identify the basic determinants of health and principles of health improvement.
 - 2.2 Recognize the economic, psychological, social, and cultural factors that interfere with wellbeing.
 - 2.3 Discuss the role of nutrition and physical activity in health.
 - 2.4 Identify the major health risks in his/her community, including demographic, occupational and environmental risks; endemic diseases, and prevalent chronic diseases.
 - 2.5 Describe the principles of disease prevention, and empower communities, specific groups or individuals by raising their awareness and building their capacity.
 - 2.6 Recognize the epidemiology of common diseases within his/her community, and apply the systematic approaches useful in reducing the incidence and prevalence of those diseases.
-
- 3.1 Exhibit appropriate professional behaviors and relationships in all aspects of practice, demonstrating honesty, integrity, commitment, compassion, and respect.
 - 3.2 Adhere to the professional standards and laws governing the practice, and abide by the national code of ethics issued by the Egyptian Medical Syndicate.
 - 3.3 Respect the different cultural beliefs and values in the community they serve.
 - 3.4 Treat all patients equally, and avoid stigmatizing any category regardless of their social, cultural or ethnic backgrounds, or their disabilities.
 - 3.5 Ensure confidentiality and privacy of patients' information.
-
- 4.1 Describe the normal structure of the body and its major organ systems and explain their functions.
 - 4.2 Explain the molecular, biochemical, and cellular mechanisms that are important in maintaining the body's homeostasis.
 - 4.3 Recognize and describe main developmental changes in humans and the effect of growth, development and aging on the individual and his family.
-
- 5.1 Recognize the important role played by other health care professionals in patients' management.
 - 5.2 Respect colleagues and other health care professionals and work cooperatively with them, negotiating overlapping and shared responsibilities and engaging in shared decision-making for effective patient management.
 - 5.3 Implement strategies to promote understanding, manage differences, and resolve conflicts in a manner that supports collaborative work.
-
- 6.7 Demonstrate an understanding of the scientific principles of research including its ethical aspects and scholarly inquiry and Contribute to the work of a research study.
 - 6.8 Critically appraise research studies and scientific papers in terms of integrity, reliability, and applicability.
 - 6.9 Analyze and use numerical data including the use of basic statistical methods.



Learning Methods

- 1- Lectures/ team based or flipped for knowledge and intellectual skill outcomes.
- 2- Practical sessions 10 gain practical skills aided with the practical book
- 3- Case- based group discussions.

Structure of the Block

Items	Lectures	Practical	Cases	Formative assessment	Total
Contact Hours	70	44	52	14	180
Credit	2.33	1.47	1.7	0.5	6 points

Participation of Different Departments in ERD Block

Department	Lectures	Practical	Cases	Total
Anatomy	9	8	6	23
Histology	8	8	6	23
Physiology	15	4	8	27
Biochemistry	4	4	6	15
Microbiology	6	4	7	17
Parasitology	2	2	4	8
Pathology	16	10	8	34
Pharmacology	10	4	7	21
TOTAL	70	44	52	<u>166</u>

Professional Information



Block Overall Aims

This Interdisciplinary, integrated course of endocrine and reproductive systems gives comprehensive coverage of anatomy, histology, physiology, biochemistry, pathology, microbiology, parasitology and pharmacology. Disorders of both systems are presented with clinical presentations of diagnostic and treatment modalities. Teaching methods include lectures, labs and case-based group-discussion to self-directed learning.

Intended Learning Outcomes of the Block

A- Knowledge and understanding:

By the end of this course, students are expected to understand:

A1.1-Define and know the meaning and types of the endocrine glands. A1.2- List the endocrine glands.

A1.3- Describe the location, relation, blood and nerve supply, and the lymphatic drainage of pituitary glands.

A1.4- Identify the development of the pituitary gland.

A2.1-Recognize the general principles and major characteristics of endocrine glands.

A2.2- Identify the diffuse endocrine cells and enumerate their sites.

A2.3- Identify the parts of the pituitary gland.

A2.4- Describe the microscopic structure of the anterior pituitary gland.

A2.5- Describe the microscopic structure of the posterior pituitary gland.

A2.6- Identify the pineal gland.

A3.1- - Define hormones and pattern of hormone secretion.

A3.2- Classify the hormones according to their chemical properties and their mechanism of action.

A3.3- Define receptors and classify them according to their cellular sites and function (differences between group I and group II hormones)

A3.4- Describe the structure of G protein, contrast between types, mechanism of action of G protein and predict the result of changes on G protein by action of toxins.

A4.1-Know the differences between endocrine, exocrine glands.

A4.2- Identify the role of hormones as an integral part of the control system.

A4.3- Describe the physiological roles of hormones.

A4.4- Clarify the delivery of secretion

A4.5- Identify the regulation of hormone secretion.

A5.1- - List adenohypophyseal neurohypophysis hormones.

A5.2- Describe the regulation of anterior pituitary hormones by the hypothalamus.

A5.3- Describe the functions of the hormone.

A5.4- Describe the mechanism of action of growth hormone.

A5.5- Describe the regulation of growth hormone secretion.

A5.6- List the factors which stimulate growth hormone secretion.

A5.7- List the factors which inhibit growth hormone secretion.

A5.8 Identify the effect of disturbed hormonal level on different functions of the body.

A6.1-Describe the posterior pituitary gland relationship with the hypothalamus.

A6.2- Discuss the physiological effects of antidiuretic hormone.

A6.3- Describe the regulation of antidiuretic hormone secretion.

A6.4- Identify the effect of disturbed antidiuretic hormone level on the function of the ECF

- 6.5- List the major physiological effects of oxytocin.
- 6.6- Describe the regulation of oxytocin secretion.
- A7.1-Describe anterior pituitary tumors.
- A7.2- Know the causes & clinical entities related to hypopituitarism.
- A8.1- Know posterior pituitary syndromes.
- A 8.2 Describe pathology of craniopharyngioma.
- A9.1- - Identify pharmacological treatment of hormone deficiency, acromegaly, hyperprolactinemia and drugs that cause hyperprolactinemia.
- A9.2- Outline pharmacological uses of GnRH analogs and gonadotropins and therapeutic and diagnostic uses of ACTH preparations.
- A9.3- Identify diagnostic and therapeutic uses of TSH and Therapeutic uses of posterior pituitary hormones and their antagonists.
- A 10.1- Describe the location, relation, blood and supply and lymphatic drainage of the thyroid & parathyroid glands.
- A10.2- Identify the development of the thyroid & parathyroid glands.
- A11.1-Describe the microscopic structure of thyroid follicles and their lining epithelium.
- A11.2- Enumerate the cells of thyroid follicles.
- A11.3- Recognize the microscopic structure and cells of parathyroid gland.
- A12.1-List the physiological actions of thyroid hormones.
- A12.2- Describe the regulation of thyroid hormones secretion.
- A9.4- Identify the effect of disturbed thyroid hormone on different functions of the body
- A13.1- - Describe the major physiological functions of parathyroid hormone.
- A13.2- Describe the regulation of parathyroid hormone secretion.
- A13.3- Identify the effect of disturbed parathyroid hormone on different functions of the body.
- A13.4- List the functions of parathyroid hormones.
- A13.5- Describe the physiological functions of calcitonin.
- A14.1- Recall the Immunological basis of Hashimoto's, Graves's diseases and type 1 diabetes mellitus.
- A14.2- State the clinical manifestations of Hashimoto's, Graves diseases and type 1 diabetes mellitus.
- A15.1 - Define and classify goiter.
- A15.2- Describe etiology, pathogenesis, pathology and clinical features of hyperthyroidism and toxic goiter (Graves & secondary causes).
- A15.3 - Describe etiology, pathogenesis and pathology of multinodular goiter.
- A15.4- Describe pathology of hypothyroidism including (cretinism and myxedema).
- A16.1-Know definition, site, pathology of thyroglossal cyst.
- A16.2- Discuss etiology, pathogenesis, pathology, clinical and effects of Hashimoto's thyroiditis.
- A16.3- Classify thyroid tumors and Describe pathology and effects of thyroid adenomas.
- A17.1-Discuss various types of thyroid carcinomas.
- A17.2- Discuss primary and secondary hyperparathyroidism.
- A16.4- Describe hypoparathyroidism.
- A18.1 - Recall the synthesis of thyroid hormones.
- A18.2- Outline the treatment of hyperthyroidism, and the antithyroid drugs.
- A18.3- Outline the mechanism of action of antithyroid drugs, identify the mechanism of action, members, uses and adverse effects of thionamides.
- A19.1-Identify the mechanism of action, members, uses, contraindications and adverse effects of Radioactive iodine.
- A19.2- Identify thyroid storm and its management.
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- A19.4- Identify synthetic thyroid hormones and their uses.
- A19.5- Identify agents that affect calcium homeostasis, their adverse reactions.
- A20.1- - Describe the location, relation, blood and nerve supply and lymphatic drainage of adrenal glands.
- A20.2- Identify the development of the adrenal gland.
- A20.3- Describe the location, relation, blood and blood supply and lymphatic drainage of the pancreas (or endocrine pancreas).
- A20.4- Identify the development of the pancreas (or endocrine pancreas).
- A21.1- Recognize the zones of the adrenal cortex.
- A21.2- Describe the of steroid secreting cells.
- A21.3- Identify the adrenal medulla and describe its cells.
- A21.4- Recognize the microscopic structure of the endocrine pancreas.



- A21.5- Identify the main types of pancreatic endocrine cells.
- A22.1-Describe physiological effects of mineralocorticoids (aldosterone).
- A22.2- Discuss the regulation of aldosterone secretion.
- A22.3- Identify the effect of disturbed aldosterone hormone level on kidney and ECF.
- A23.1- - Describe the major physiological effects of glucocorticoids.
- A23.2- Discuss the regulation of cortisol secretion.
- A23.3- Identify the effect of distributed cortisol hormone level on different of the body.
- A23.4- Describe the functions of adrenal androgens and ACTH hormones.
- A23.5- Identify the effect of disturbed adrenal androgens levels on male and female.
- A24.1 - Discuss adrenal hyperfunction.
- A24.2 - Discuss adrenal insufficiency.
- A25.1 - Describe pathological features of benign and malignant adrenal tumors.
- A26.1- - Outline the naturally occurring corticosteroids (pharmacokinetics, pharmacodynamics).
- A26.2- Identify synthetic corticosteroids (pharmacokinetics, pharmacodynamics, clinical pharmacology).
- A27.1-Identify toxicity of adrenocorticosteroids.
- A26.3- Identify contraindications and cautions, special dosage forms.
- A26.4- Outline mineralocorticosteroids (pharmacodynamics and metabolism).
- A26.5- Identify Antagonists of Adrenocortical agents (synthesis inhibitors, glucocorticoid antagonists, mineralocorticoid antagonists).
- A28.1-List principal hormones that affect blood glucose concentration.
- A28.2- Clarify physiological effects of insulin.
- A28.3- Discuss the regulation of insulin secretion.
- A29.1- - Identify the effect of disturbed insulin hormone level on different functions of the body.
- A29.2- Discuss physiological effects of glucagon.
- A29.3- Describe the regulation of glucagon secretion.
- A29.4- Clarify physiological effects of somatostatin.
- A30.1- - Identify types of pancreatic glands and hormones.
- A30.2- Describe the steps of synthesis, storage, secretion, transport, receptors, degradation and excretion of insulin.
- A30.3- Describe synthesis and mechanism of action of glucagon hormone.
- A31.1- Define, classify diabetes mellitus, discuss pathogenesis, difference between type 1 and II of diabetes mellitus and discuss complications of diabetes mellitus.
- A32,33.1- Outline the classification of insulin preparations and their pharmacokinetics, explain the mechanism of action, adverse reactions and therapeutic uses of insulin.
- 430.4- .2- Outline the classification of oral hypoglycemic agents. Describe the mechanism,
- 12
- 430.5- .3- List the major drug-drug interactions and complementary medicine.
- A34.1- - List the structures of the male reproductive system.
- A34.2- Describe the structure, blood supply and lymphatics of the testis.
- A34.3- Describe the urogenital ducts and glands.
- A34.4- Illustrate the layers within the scrotum.
- A34.5- Enumerate the covering and contents of the spinal cord.
- A34.6- Describe the structure of the penis.
- A35.1- Describe the histological structure of the testis (seminiferous tubules, interstitial cells of Leydig).
- A35.2- Describe the histological structure of sperm.
- A35.3- - Recall stages of spermatogenesis.
- A35.4- List the intratesticular genital ducts and describe their histological structure
- A36.1- List the extra-testicular genital ducts and describe their histological structure.
- A36.2- Describe the histological structure of the seminal vesicles.
- A36.3- Describe the histological structure of the prostate gland.
- A36.4- Identify the histological structure of the penis.
- A37.1- List the internal structures of the female genital system.
- A37.2- Describe the location, structure, blood supply, and lymphatic drainage of the ovary and breast.
- A37.3- Describe the anatomy of the uterus, uterine tube, and vagina.

- A37.4- Describe the anatomy of the female external genitalia.
- A38.1- - Know the determination of sex.
- A38.2- Describe the male sex differentiation.
- A38.3- Illustrate the development of the testis.
- A38.4- Know the development of the male genital duct system.
- A38.5- Describe the development of the male external genitalia.
- A38.6- Describe the disorders of the sex development.
- A38.7- Illustrate the male congenital malformations.
- A39.1- - Know the female sex differentiation.
- A39.2- Illustrate the development of the ovary.
- A39.3- Know the development of the female genital duct system.
- A39.4- Describe the development of the female external genitalia.
- A39.5- Illustrate the disorders of female sex development.
- A39.6- Know the congenital malformations of the female reproductive system.
- A40.1 - Describe the histological structure of the ovary (ovarian follicles and corpora lutea).
- A40.2 - Describe the histological structure of the ovum.
- A40.3 - Describe the histological structure of the oviduct.
- A41.1- Describe the histological structure of uterus.
- A41.2- Identify layers of the endometrium and their changes during the menstrual cycle.
- A40.4 - List the parts of the cervix and describe their histological structure.
- A42.1- - Describe the histological structure of the vagina and external genitalia.
- A42.2- Describe the histological structure of the mammary gland.
- A42.3- Recognize breast development during puberty, and lactation.
- A43.1- - Describe the bony pelvis.
- A43.2- Illustrate the differences between male and female pelves.
- A43.3- Describe the pelvic floor.
- A43.4- Know the pelvic fascia.
- A43.5- Describe the pelvic nerves and vasculature.
- A44.1- - Locate the perineum.
- A44.2- Illustrate the divisions of the perineum.
- A44.3- Differentiate between male and female urogenital triangles.
- A44.4- Know the blood and nerve supply of the perineum.
- A45.1- Understand the functions of the male reproductive organs & glands.
- A45.2- Discuss factors affecting spermatogenesis.
- A45.4- Understand how androgen secretion is controlled.
- A46.1- Describe the biochemical nature of male sex hormones, their structures.
- 446.2 - Define the role of hypothalamic-pituitary hormones in male reproduction.
- 446.3 - Describe synthesis, transport, mechanism of action, metabolism and excretion of male steroid hormones.
- 447.1- - Identify common congenital anomalies of male genital systems including: definition & complications of Phimosis and definition, causes, sites complications of Crypto orchidism.
- 447.2- Identify and classify different types of inflammation male genital system: Describe pathology of Balanitis.
- 447.3- Describe pathology of prostate inflammatory conditions.
- 447.4- Describe pathology of epididymo-orchitis.
- 447.5- Identify pathology of prostate: Describe Benign prostatic hyperplasia.
- 448.1- - Know Pathology of Prostatic adenocarcinoma
- 448.2- Identify pathology of testis: Describe testicular tumors.
- 448.3- Mention definition, causes and effects of hydrocele, varicocele & hematocele.
- 448.4- List causes of male infertility.
- 449.1 - Outline the mechanism of action of testosterone.
- 449.2 - Identify therapeutic uses of synthetic androgens, their adverse effects and contraindications.
- A49.3-Identify uses and adverse effects of antiandrogens.
- 450.1 - Describe the biochemical nature of female sex hormones, their structure.
- 450.2 - Describe synthesis, transport, mechanism of action, metabolism and excretion of female steroid hormones.
- 450.3 - Identify biochemical basis and interpretation of congenital adrenal hyperplasia.
- A51.1- List the functions of the female reproductive system.
- A5L2- Describe the pituitary ovary axis and the changes that occur in the ovaries leading up to and following ovulation during an



ovarian cycle.

52.1 - Discuss the changes that occur in the endometrium during the cycle and explain how these changes are hormonally controlled.

A52.2- List the hormones of female reproduction and describe their functions.

450.4 - Describe the normal sequence of events of puberty in the female.

A52.4- Describe the physiology of the menopause.

A53.1- Describe the function of placenta.

453.2 - Describe the physiological changes of different body systems during pregnancy.

A54.1- Discuss the factors currently thought to be involved in the initiation of parturition.

454.2- Describe stages of Parturition.

A55.1-Discuss hormonal requirements for mammary gland development.

A55.2- Define lactation and understand how it is initiated and maintained

454.3- Know hypothalamic control of prolactin secretion

A55.4- Explain Mechanisms of milk formation and ejection "milk ejection reflex".

45657.1 - Recall the causative microorganisms causing STDs.

A5657.2- Describe the important morphological features of the organism causing STDs.

A56&57.3- Recall the important mode of transmission of each microorganism.

A56&57.4- State the characteristic clinical manifestations of each infection.

A56&57.5- List the important diagnostic laboratory tests for each infection.

A56&57.6- List important prophylaxis of each STDs.

458.1- - Recall the microorganisms causing non venereal genital system disease, pelvic inflammatory disease and 11101121 sepsis.

A58.2- State the pathogenesis of bacterial vaginosis, staphylococcal toxic shock syndrome, pelvic inflammatory disease and puerperal sepsis.

A58.3- Identify the important clinical picture and complication of each disease.

458.4- State the important microbiological diagnosis of each clinical situation.

45960.1 - Define congenital infections.

45960 2- List maternal infections that are transmitted to the fetus.

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45960.4- State neonatal manifestations produced by each microorganism.

45960.5- List the important diagnostic tests for each infection.

45960.6- List the prophylaxis of each infection.

A61.1- Determine different types of conditions affecting vagina, cervix, endometrium and tubes.

A61.2- Classify tumors of the, vagina, and cervix.

A61.3- Describe gross, microscopic features and effects of cervical squamous cell carcinoma.

462.1- - Define adenomyosis and endometriosis.

462.2- Describe pathologic features and complications of adenomyosis and endometriosis.

462.3- Mention causes, types, pathologic features and complications of endometrial hyperplasia.

462.4- Classify tumors of the uterus.

462.5- Describe the gross and microscopic features of fibromyoma and endometrial adenocarcinoma.

462.6- Identify different types of ovarian cysts whether non neoplastic or neoplastic.

463.2- Mention the pathological features of non-neoplastic ovarian cysts.

A63.3- Mention classification of ovarian tumors.

463.4- Mention pathologic features of neoplastic cyst: serous cyst, mucinous cyst and adenoid cyst.

A64 .1- Mention types of trophoblastic diseases.

A64.2- Describe the gross and microscopic features of vesicular mole.

A64.3- Describe the gross and microscopic features of choriocarcinoma.

A64.4- Mention causes of abnormal uterine bleeding.

465.1- Demonstrate *Toxoplasma gondii*, *Plasmodium*, *Leishmania*, and 111/092110501208 as medically important parasites causing congenital infections.

465.2- Recognize life cycle and the sources of parasitic infections of parasites causing congenital infections.

465.3- Define and differentiate the infective and diagnostic stages of parasites causing congenital infections.

465.4- Describe clinical features and complications associated with these parasitic infections.

465.5- Describe the methods of recovery of parasites as well as different diagnostic used for diagnosis.

465.6- Define the principles of management for these parasitic diseases.

A66.1-Demonstrate *Trichomonas vaginalis*, *Phthirus pubis* and as medically important sexually transmitted parasites.
 A66.2- Demonstrate other parasitic infections with urogenital involvement including schistosomiasis, filariasis, amebiasis, and enterobiasis.
 466.3- Recognize life cycle and the sources of parasitic infections of sexually transmitted parasites.
 A66.4-Define and differentiate the infective and diagnostic stages of the selected parasites.
 466.5- Describe clinical features and complications associated with these parasitic infections.
 466.6- Describe the methods of recovery of parasites as well as different diagnostic techniques used for diagnosis of parasitic infections.
 466.7- Define the principles of management for these parasitic diseases.
 A67.1- Define mastitis and identify pathological features of acute mastitis, chronic mastitis and Fat necrosis.
 467.2- Define fibrocystic disease of the breast, Identify the causes and describe the gross and microscopic picture.
 467.3- - Enumerate causes of breast mass.
 A68.1- Classify breast tumors and identify the gross and microscopic features of benign tumors of the breast: fibroadenoma, duct papilloma and Phylloids tumor.

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ductal carcinoma in situ, invasive duct carcinoma and lobular carcinoma.

A69.1-Enumerate different preparations of estrogens and progestins used in clinical practice.
 469.2- Describe the molecular mechanisms of actions of estrogen and progestins.
 469.3- Compare between synthetic and natural preparations of estrogens and progestins regarding their pharmacokinetics.
 469.4- Recognize the precise mechanism of tamoxifen and related drugs.
 469.5- List therapeutic uses and effects of estrogens, progestins and their antagonists or modulators.
 469.6- List different preparations of estrogens and progestins used in hormonal contraceptives.
 470.2- Classify hormonal contraceptives.
 470.3- Define and describe emergency contraceptives.
 470.4- Describe the mechanisms of actions of contraceptives.
 470.5- Enumerate the serious adverse effects of contraceptives.
 470.6- Identify contraindications of contraceptives.

B- Intellectual skills:

81.1 - Demonstrate the different types of glands.
 81.2 - Compare between anatomical parts the pituitary gland on embryological basis.
 82.1 - Recognize the importance of the hypothalamic-hypophyseal tract and portal system.
 82.2 - State the normal and morbid anatomy of the thyroid and parathyroid glands.
 14.1 - Interpret the clinical pictures and laboratory test results to identify Hashimoto's, Grave's diseases and type 1 diabetes mellitus.
 20.1 - Illustrate the anatomy the embryology of the adrenal gland.
 82.3 - Demonstrate the basis of each part of adrenal gland.
 82.4 - Distinguish the anatomy and embryology of the pancreas.
 B35. !-Recognize the relation between Sertoli cell and adjacent spermatogenic cells.
 836.1 - Recognize the approximate equivalencies between anatomical lobes and pathological zones of the prostate.
 5657.1 - Interpret the clinical pictures and laboratory test results to identify microorganisms causing STDs.
 858.1- Interpret the clinical pictures and laboratory test results to identify microorganisms causing non venereal genital system disease, pelvic inflammatory disease and puerperal sepsis.
 85960.1 - Interpret the clinical pictures and laboratory test results to identify microorganisms causing congenital infections and infections occurring around the time of birth.
 65.1 - Interpret different clinical presentations and correlate them to suspected parasites.
 858.2- Interpret similar stages of different parasites.
 858.3- Interpret the most suitable diagnostic technique for each parasitic problem.
 858.4- Interpret basic diagnostic features, general outline of prevention and control pathogenesis.
 858.5- Interpret life-threatening conditions.
 66.1- - Interpret different clinical presentations and correlate them to suspected parasites.
 66.2- Interpret similar stages of different parasites.
 66.3- Interpret the most suitable diagnostic technique for each parasitic problem.
 66.4- Interpret basic diagnostic features, general outlines of prevention and control pathogenesis.



C- Practical /Professional ILOs:

- 1.2- Evaluate the anatomy and embryology of the thyroid and parathyroid glands.
- 2.1- List the different laboratory methods used to estimate hormone levels in body fluids.
- 2.2- Mention the principle of immunoassay techniques used in hormonal analyses, list their types and mention advantages and disadvantages.
- 2.3- Mention thyroid function tests (TSH, T3 and T4, total and free hormones) and mention their importance in the diagnosis of thyroid dysfunction.
- 3.1- - Identify the microscopic appearance of pituitary and thyroid glands & draw labeled diagrams of these glands.
- 3.2- Identify and label diagrams of pituitary, pineal thyroid and parathyroid glands.
- 3.3- Identify and label diagrams of neuroendocrine cells.
- 4.1- Discuss the anatomy and embryological basis of the adrenal gland.
- 4.2- Discuss the embryogenesis and anatomy of the pancreas.
- 5.1- - Identify the microscopic appearance of adrenal gland & draw a labeled diagram of the gland.
- 5.2- Identify and label diagrams of adrenal gland and endocrine pancreas.
- 5.3- Identify and label diagrams of steroid secreting cells.
- 6.1- Identify the histopathological features of colloid goiter, toxic goiter, papillary carcinoma, thyroid.
- 6.2- Know thyroid functions tests, their normal values in order to be able to diagnose hypo and hyper function of thyroid gland.
- 6.3- Know Provocative tests for latent tetany.
- 6.4- Know Glucose tolerance curve and glucometer hemoglobin A1C (HBA1C).
- 6.5- Know Different type of adrenal tolerance tests of adrenocortical gland.
- 8.1- - Identify the gross appearance of colloid nodular goiter and colloid adenoma.
- 9.1- Become familiar with the clinical presentation of Grave's disease, thyrotoxicosis, hypothyroidism, hypo /and hyperparathyroidism, Cushing's syndrome, Addisonian disease, diabetes.
- 9.2- Identify the side effects of thioamides, drugs affecting calcium hemostasis, glucocorticoids and mineralocorticoids, insulin and oral hypoglycemic.
- 9.3- Identify the contra-indications of thioamides, drugs affecting calcium homeostasis, glucocorticoids and mineralocorticoids and their antagonists, insulin and oral hypoglycemic according to the clinical situation of the patient.
- 9.4- Determine how dosing of these takes place according to the patient's health state.
- 9.5- Mention the mechanism of action of these drugs.
- 9.6- Outline different samples of drug used in treatment of these patients and identify how to write appropriate prescription for them.
- 10.1 - Display the anatomy of the male genital system.
- 10.2 - Illustrate the anatomy of the female genital system.
- 11.1 - Identify the microscopic appearance of different parts of male reproductive system.
- 11.2 - Identify and label diagrams of different parts of male reproductive system.
- 12.1 - Describe role of sex hormone binding globulin in reproduction.
- 12.2- Measurement of SHBG in blood.
- 12.3 - Interpret abnormalities in level of SHBG.
- 13.1 - Display the anatomy of the pelvis.
- 13.2 - Display the anatomy of the perineum.
- 14.1 - Identify the microscopic appearance of different parts of female reproductive system.
- 14.2 - Identify and label diagrams of different parts of female reproductive system.
- 15.1 - Identify the microscopic features of benign prostatic hyperplasia and seminoma.
- 17- benign prostatic hyperplasia, seminoma and hydrocele.
- 16.1 - Know the testicular tests.
- 16.2- Know tests to determine ovulation.
- 16.3- Know different pregnancy tests.
- 17.1 - Identify the microscopic features of endometrial hyperplasia, vesicular mole, serous cystadenoma of ovary and mucinous cystadenoma of ovary.

- CI7.2- Identify the gross appearance of pubertal sepsis, endometrial polyp, adenomyosis, fibromyomas of uterus, endometrial carcinoma, serous cystadenoma of ovary, mucinous cystadenoma of ovary, dermoid cyst of ovary and choriocarcinoma.
- 17.2 - Describe the specimens taken to diagnose sexually transmitted disease and puerperal sepsis.
- CI8.2- Recognize the microscopic slides of some pathogens causing STDs.
- 17.3 - Identify the microscopic features of fibrocystic disease of breast and duct carcinoma of breast.
- 17.4 - Identify the gross appearance of Fibroadenoma of breast and duct carcinoma of breast.
- 20.1 - Demonstrate the culture media and biochemical reactions used for diagnosing STDs and puerperal sepsis.
- 20.2 - Identify diagnostic stages of sexually transmitted parasites: Trichomonas vaginalis trophozoites and adults of Pthirus pubis and scabii.
- 20.3 - Identify diagnostic stages of congenitally transmitted parasites: Toxoplasma gondii.
- 1- .1 - Become familiar with the clinical presentation of amenorrhea, postmenopausal syndrome, infertility, male hypogonadism, prostatic hyperplasia and carcinoma.
- 2- .2. Identify the different preparations of estrogens and progestins, hormonal contraceptives, testosterone and synthetic androgens.
- 3- .3. Identify the different therapeutic uses and side effects of estrogens and progestins, their antagonists and modulators, hormonal contraceptives, testosterone and synthetic androgens.
- 4- 2.4. Identify the contra-indications of estrogens and progestins, hormonal contraceptives, testosterone and synthetic androgens.
- 5- .5. Determine how dosing of these drugs takes place according to the patient's health state.
- 6- .6. Mention the mechanism of action of these drugs.

D- General and transferable skills:

- DI- Adhere the value of teamwork by acting in small groups.
- 92- Qualify adequate cooperation with his/her colleagues.
- 93- Justify the efforts required to accomplish the tasks in specified time.
- 94- Set the use of sources of biomedical information to remain current with advances in knowledge and practice.
- 95- Practice the skill of self-learning.
- 96- Demonstrate personal responsibility.
- 97- Practice the skill of respecting colleagues.
- 18- adequate cooperation with his/her colleagues.
- 99- Set the use of sources of biomedical information to remain current with advances in knowledge and practice.
- DIO- Display freely, keeping an ethical behavior-.
- DII- Share in the work efficiently with the instruments and equipment's of the department in a responsible in keeping them intact and clean.
- 100- Modify his/her capability to describe, discuss and solve problems.
- 18 information sources



Block Contents

A. Lecture Topics

No	Lecture Title	ILOs	NARS	Reference book (s)	Week	Contact hours	Department
1	Overview of the " of endocrine *anatomy of the hypothalamus and the pituitary gland.	-A26 2.1A	18,1.9, 4.1. 4.3 6.2	Lippincott Illustrated Reviews: Integrated Systems (2015), 24 th 0. 343 Pp. 76- 77	1st	1 h.	Anatomy
2	Overview of endocrine glands *histology of the pituitary gland.	A26 2.1A-	1.8, 1.9, 4.1, 4.2	-Oxford Handbook of 10181 Sciences 2nd 01. 2011 Pp. 588 589, 610, 614. Lippincott Illustrated Reviews: Integrated Systems (2015), 24 th ed. Pp. 77347-3469 .	1st	1 h.	Histology
	Signal transduction and mechanism of action of hormones	3.13.4	1.6, 1.8,1.11, 2.1, 2.3, 4.2. 4.4. 4.6	First 410 for the Basic Sciences ,organ system chapter 2. Endocrine Basic endocrine Pp. 108111, 330. Lippincott Illustrated Reviews: Integr ated Systems (2015), 24 th ed. Pp. 343-348. —Human body in health anddisease, the endocrine sy stem, chapter 12, Pp. 307, 310312. -Oxford handbook of medical science,2nd ed., Pp. 589.	1st	1h	Biochemistry
■4	Introduction to endocrinology	A4.1 A4.5	4.2	-Oxford handbook of medical science,2nd ed., Pp. 588,589. -Lippincott Illustrated Reviews: Integrated Systems (2015)» 24 th ed. Pp. 343,344. -First aid for the basic sciences Organ Systems, 31 edition, Pp. 108,109,111.	1st	1 h.	Physiology

5	Adenohypophyseal hormones	AS.1-A5.8		4.2	-Oxford handbook of medical 5 1011,210 ed., Pp. 590,591. -Lippincott Illustrated Reviews: Integrated Systems (2015)» 24th ed.	1st	1 h.	Physiology
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				Pp. 345,347,348. -First aid for the basic sciences Organ Systems, 311 edition, Pp.127-131.135-137.			
6	Posterior pituitary hormones	A6T-A6.6	4.2	-Oxford handbook of medical science,2nd 60. 9 01. 591. -Lippincott Illustrated 101V105: Integrated Systems (2015)29 th 60. Pp.346. -First aid for the basic sciences Organ Systems, 311 edition, Pp. 132,133,137-140.	1st	1h	Physiology
7	Pathology of pituitary		4.3, 4.6, 4.7, 4.8	First Aid for The Basic Sciences Organ Systems 3rd ed. (2017) Pp. 119121. -Oxford handbook of Medical Science p. 591-593.	1st	1h	Pathology
8	Pathology of pituitary 9121011	A8.1-A8.2	4.3, 4.6, 4.7, 4.8	- First Aid for The Basic Sciences Organ Systems 3rd ed. (2017) Pp. 122124, 436.	1st	1h	Pathology
9	PituitaryZHypothalam ic pharmacology	A9.1-A9.3	1.16,1.17 , 4.7	-Lippincott Illustrated 1101111Σ75: Integrated Systems (2015), 24th ed. Pp. 347-349.	1st	1h	Pharmacology
10	Anatomy and embryology of the thyroid and parathyroid glands	A10.2, 10.1	1.8, 1.9; 4.1,4.3 6.2	- Lippincott Illustrated Reviews: Integrated Systems (2015), 2411 ed. 0.349-350 2353-354	1st	1h	Anatomy
11	Histology of thyroid and parathyroid glands	11.3	1.8, 1.9, 4.1,4.2	-Lippincott Illustrated Reviews: Integrated Systems (2015), 24th ed. .:350 6 354. First Aid for The Basic Sciences Organ Systems 3rd ed. (2017) Pp. 142, 153-154.	1st	1h	Histology
12	Thyroid hormones	12.1 12.3	4.2	-Oxford handbook of medical science,2nd ed., Pp. 594-596. -Lippincott Illustrated Reviewvs: Integrated Systems (2015)» 24th ed. Pp. 349,352,353. -First aid for the basic sciences Organ Systems, 311 ed..	2nd	1h	Physiology

				9.145 -149.			
13	control of metabolism	13.1 13.5	4.2	-Oxford handbook of medical 5161,2110 60., Pp. 612, 613. -Lippincott Illustrated: Integrated Systems (2015), 24th ed. Pp. 354,355. -First aid for the basic sciences Organ Systems, 310 60., 00.154» 156-161.	2nd	1 h..	"
14	Immunological basis of some endocrine disorders	BIL.I	1.6,1.8, 1.10, 1.16,2.4, 2.5, 2.6, 4.5, 4.6, 4.8.	-Lippincott Illustrated Reviews: Integrated Systems (2015), 241 ed. Pp. 352,353, 366. First Aid for The Basic Sciences Organ Systems 3rd 00. (2017) Pp. 694.	2nd	1h.	Microbiology and Immunology
15	Pathology of 11111010 and parathyroid glands I	15.1 - Alt	4.3, 4.6, 4.7, 4.8	-Oxford handbook of aiedical Science . 596. - First Aid for The Basic Sciences Organ Systems 3rd ed. (2017) Pp. 131-134.	2nd	1h.	Pathology-
16	Pathology of 11111010 and parathyroid glands 11	A16.1 A16.3	4.3, 4.6, 4.7, 4.8	- First Aid for The Basic Sciences Organ Systems 3rd ed. (2017) Pp. 133, 134. -Oxford handbook of 1100121 Science . 596.	2nd	1 h..	Pathology
17	Pathology of 11111010 and parathyroid glands 111	17.1 - 17.3	4.6, 4.7, 4.8	- First Aid for The Basic Sciences Organ Systems 3rd ed. (2017) Pp. 134, 144, 145.	2nd	1h.	Pathology
18	Thyroid and parathyroid pharmacology!	18.1 18.3	1.16,1.17 , 4.7	- Lippincott Illustrated Reviews: Integrated Systems (2015), 241 ed. Pp. 352-353. - First Aid for The Basic Sciences Organ Systems 3rd 60. (2017)1. 151-152,161.	2nd	111.	Pharmacology
19	Thyroid and parathyroid pharmacology 11	X19-1 19.5	1.16,1.17 , 4.7	- Lippincott Illustrated Reviews: Integrated Systems (2015), 241 ed. Pp. 355-356. First Aid for The Basic Sciences Organ Systems 3rd ed. (2017) Pp. 151152,161.	2nd	1 h..	Pharmacology
20	Anatomy and embryology of the adrenal glands and	A2O.1 A2O.4, 20.1 - 20.3	1.8,1.11, 2.1, 2.3, 4.2, 4.4, 4.6	- Lippincott Illustrated Reviews: Integrated Systems (2015), 24 ed.	2nd	1 h..	Anatomy



	Anatomy of pancreas			Pp. 302,356,357 363			
21	Histology of the 2010121 9121210 endocrine pancreas	21.1 - 21.5	1.8, 1.9, 4.1, 4.2	-Lippincott Illustrated 10/1011075: Integrated Systems (2015), 241 ed. Pp. 357,363-364. -First Aid for The Basic Sciences Organ Systems 3rd ed. (2017) 0. 3163 174.	2 nd	1 h..	Histology
22	Normal function of adrenal gland I	22.1 22.3	4.2	-Oxford handbook of medical 510116,210 ed., Pp. 598,602. -Lippincott Illustrated 110111105: Integrated Systems (2015), 24th ed. 1. 357. -First aid for the basic sciences Organ Systems, 34 ed., Pp.165,166.	2 nd	1 h..	Physiology
23	Normal function of adrenal 9121011	23.1 - 23.5	4.2	-Oxford handbook of medical science,2nd ed., Pp. 599,600. -Lippincott Illustrated Reie s: Integrated Systems (2015) 24th ed. 1. 358. -First aid for the basic sciences Organ Systems, 31 ed., Pp.167-172.	2 nd	1 h..	Physiology
24	Pathology of adrenal gland I	A24.1- A24.2	4.3, 4.6, <i>AT Air</i>	-Oxford handbook of Medical Science . 6•2-6•0. - First Aid for The Basic Sciences Organ Sy stems 3rd ed. (2017)0. 153, 156.	3rd	1 h..	Pathology
25	Pathology of adrenal 9121011	25.1	4.6, 4.7, 4.8	- First Aid for The Basic Sciences Organ Sy stems 3rd ed. (2017). 157.	3rd	1 h..	Pathology
26	Adrenocorticosteroids & Adrenocortical Antagonists 1	A26.1- A26.2	1.16,1.17 4.7	- Lippincott Illustrated Reviews: Integrated Systems (2015), 241 ed. Pp. 359 363. - First Aid for The Basic Sciences Organ Systems 3rd 60. (2017) . 166, 172.	3rd	1 h..	Pharmacology
27	Adrenocorticosteroids & Adrenocortical Antagonists 11	27.1 - A27.4	1.16,1.17 4.7 23	- Lippincott Illustrated Reviews: Integrated Systems (2015), 241 ed. Pp. 359-363. - First Airi for The Basic Sciences Organ Systems	3rd	1 h..	Pharmacology

				3rd 60. (2017). 166» 172.			
28	Normal function of endocrine pancreas I	28.1 428.3	4.2	-Oxford handbook of medical science,2nd 60.» Pp. 604. -Lippincott Illustrated 10/101V105: Integrated Systems (2015), 24th 0. 1. 364. -First aid for the basic sciences Organ Systems, 3rd 60., 0.175g 176.	3rd	1 h..	Physiologs•
29	Normal function of endocrine pancreas II	A29.1- A29.4	4.2	-Oxford handbook of medical science,2nd 60.» 9. 605,606,607. -Lippincott Illustrated 10101V105: Integrated Systems (2015), 24th ed. Pp. 365,366. First aid for the basic sciences Organ Systems, 318 ed., .176-179.	3rd	1 h..	Physiology
30	Biochemistry of endocrine pancreas	A30.1- A30.3	1.6, 1.8,1.11, 2.1, 2.3, 4.2, 4.4	-First .Aid for the USMLE Step 12019g . Pp. 344- 345. - Lippincott Illustrated -Human body in health and disease, the endocrine system, chapter 12, Pp. 313, 324- 326. -Oxford handbook of medical science chapter 9, endocrine organs, Pp. 604- 606.	3rd	1 h..	Biochemistiy
31	Pharmacotherapy of Diabetes Mellitus I	32933.1 32933.3	1.16,1.17 , 4.7	- Lippincott Illustrated: Integrated Systems (2015), 241 ed. Pp. 366-368.	3rd	1 h..	Pharmacology
32	Pharmacotherapy of Diabetes 11	32,33.1 32933.3	1.16,1.17 , 4.7	Lippincott Illustrated Reviews: Integrated Systems (2015), 0. 366-368.	3rd	1 h..	Pharmacology



33	Anatom)'of Male reproductive system	34.1- A34.fi	4.1	Lippincott Illustrated Reviews: Integrated Systems, 24. -Oxford Handbook of Medical Sciences, Pp.624-62. -First aid for the basic sciences Organ Systems 3rd ed. .690-694.	4th	1 h..	<u>Anatomy</u>
34	Histology of Male reproductive system 1	35.1 135.4, 35.1	1.8., 1.9 4.1, 4.2	-Lippincott Illustrated Reviews: Integrated Systems (2015), 24th ed. Pp. 405-408. -First Aid for The Basic Sciences Organ Systems 3rd ed. (2017) Pp. 677684. -Oxford Handbook of Medical Sciences 210 00. 2011. 630 : 631.	4th	1 h..	Histology
35	Histology of Male Genital system II	36.1 36.4, 36.1	1.8., 1.9 4.1, 4.2	-Lippincott Illustrated Reviews: Integrated Systems (2015), 24th ed. Pp. 405-408. First Aid for The Basic Sciences Organ Sysleius 3rd ed. (2017) Pp. 677684.	4th	1 h..	Histology
36	Anatomy of Female reproductive system	37.1 437.4	4.1	-Lippincott Illustrated Reviews: Integrated Systems, 24th ed. Pp.395 398. Oxford Handbook of Medical Sciences 2nd ed. Pp.624-625. -First aid for the basic sciences Organ Systems 3rd ed. 7.690-695.	4th	1 h..	<u>Anatomy</u>
37	Embryology of Male genital system	A38.1- 438.7	4-3	-Lippincott Illustrated Reviews: Integrated Systems, 24th ed. Pp.379 382. Oxford Handbook of Medical Sciences 2nd ed. Pp.628, 678-681. -First aid for the basic sciences Organ Systems 3rd ed. 17.662-673.	4th	1 h..	<u>Anatomy</u>
38	Embryology of Female genital system	A39.1- 439.6	4-3 25	Lippincott Illustrated Reviews: Integrated Systems, 24th ed. Pp.379-382. -Oxford Handbook of Medical Sciences 210 ed. Pp.628,678-681. -First aid for tile basic sciences Organ Systems 3rd 60. .662-673.	4th	1 h..	<u>Anatomy</u>

39	Histology of Female reproductive system 1	A40.1-A40.3	1.9, 1.8, 4.2, 4.1	-Lippincott Illustrated Reviews: Integrated Systems (2015), 24th 00. Pp.:397-401. First Aid for The Basic Sciences Organ Systems 3rd 60. (2017) Pp. 684688.	4th	1 h..	Histology
40	Histology of Female reproductive system 11	A41.1-A41.3	1.9, 1.8, 4.2, 4.1	-Lippincott Illustrated Reviews: Integrated Systems (2015), 24th 00. :401 •-397 First Aid for The Basic Sciences Organ Systems 3rd 60. (2017) Pp. 684688.	4th	1 h..	Histology
41	Histology of Female reproductive system 111	A42.1-442.3	, 1.8, 1.9	-Lippincott Illustrated Reviews: Integrated Systems (2015), 24th 0. :385, 395-396. First Aid for The Basic Sciences Organ Systems 3rd 0. (2017) Pp. 679680. -Oxford Handbook of Medical Sciences 2nd 60. 2011. 642 643.	4th	1 h..	Histology
42	Anatomy of the Pelvis	443.1 - 443.5	4.1	-Lippincott Illustrated Reviews: Integrated Systems, 24th ed. Pp.382-384. Oxford Handbook of Medical Sciences 2nd ed. 9.622-623. -First aid for tile basic sciences Organ Systems 3rd ed. 0.689.	4th	1 h..	Anatomy
43	Anatomy of the Perineum	A44.1 444.4	4.1	-Lippincott Illustrated Reviews: Integrated Systems, 24th ed. 9.407. - Oxford Handbook of Medical Sciences 2nd ed. Pp.622.	4th	1 h..	Anatomy
44	Physiology ⁷ of Male reproductive system. Androgens	45.1 - A45.4	4.2	-Oxford Handbook of 100121 Sciences 2nd etl. 2011 1). 630-631. -Lippincott Illustrated Reviews: Integrated Systems (2015), 24th 60. Pp. 408, 409. -First Aid for The Basic Sciences Organ Systems 3rd 60. (2017) Pp. 682, 683,685, 690.	4th	1 h..	Physiology
45	Biochemistry of Male 161001111101	A46.1-A46.3	1.9, 1.10	-First Aid for the USMLE Step 120199 Pp.	5th	1 h..	Biochemistry



			1.13,2.2, 2.7,4.1, 4.2	328. -Lippincott Illustrated Reviews: Integrated Systems (2015), 24 th ed. Pp. 345-347, 386,387, -Human body ill health and disease, the endocrine system, chapter 12, Pp. 312-316, 327. -Oxford handbook of medical science Pp. 590, 631. -First Aid for The Basic Sciences Organ Systems 3rd ed. Pp.326, 687-689.			
46	Male reproductive pathology I	A47.1 447.5	4.3, 4.6, 4.7, 4.8	- First Aid for The Basic Sciences Organ Systems 3rd ed. (2017). 733-735, 738-739.	5th	1 h..	Pathology
47	Male reproductive pathology II	A48.1- 148.4	4.6, 4.7, 4.8	- First Aid for The Basic Sciences Organ Systems 3rd ed. (2017). 733, 735, 737	5th	1 h..	Pathology
48	Pharmacology of Male sex hormones	A49.1 449.3	1.16,1.17 , 4.7	- First Aid for The Basic Sciences Organ Systems 3rd ed. (2017). 741 743,	5th	1 h..	Pharmacology
49	Biochemistry of Female reproduction	50.1 - 450.3	1.6, 1.9,1.10, 1.13,2.2, 2.7,4.1, 4.2	-Lippincott Illustrated Reviews: Integrated Systems (2015), 24 th ed, Pp. 359, 361-362, 387-388. -First Aid for The Basic Sciences Organ Systems 3rd ed. Pp. 326, 687-689.	5th	1 h..	Biochemistry
50	Female reproductive Physiology-I. Physiology of female reproductive system Ovarian cycle	451.1 451.2	4.2	-Oxford Handbook of Medical Sciences 2nd ed. 2011 1 • 634, 635, 636. Lippincott Illustrated Reviews: Integrated Systems (2015)» 24 th ed. Pp. 398, 399, 400. - First Aid for The Basic Sciences Organ Systems 3rd ed. (2017). 686, 687, 688, 690.	5th	1 h..	Physiology
51	Female reproductive Physiology II. Menstrual cycle Female reproductive hormones Physiology of Puberty and menopause	452.1 - 52.4	4.2	-Oxford Handbook of Medical Sciences 2nd ed, 2011 21). 637, 644. -Lippincott Illustrated Reviews: Integrated Systems (2015)24 th ed. Pp. 398, 400,401. - First Aid for The Basic	5th	1 h..	Physiology

				Sciences Organ Systems 3rd ed. (2017). 686690, 698, 699, 700.			
52	10111751010102 0191018112 1109612 210115 10117510109121 changes Functions of placenta	53.1 453.2	4.2	-Oxford Handbook of Medical Sciences 2nd 60. 20110. 638, 639,640. - Lippincott Illustrated Reviews: Integrated Systems (2015), 24th ed. Pp. 412,413. - First Aid for The Basic Sciences Organ Systems 3rd ed. (2017). 690, 691- 695.	5th	1 h..	Physiology
53	Physiology of 121"011111101	454.2	4.2	-Oxford Handbook of Medical Sciences 2nd 60. 201101. 640, 641 642. - Lippincott Illustrated Reviews: Integrated Systems (2015), 24th ed. Pp. 414.	5th	1 h..	Physiology
54	Physiology of Lactation	55.1 55.4	4.2	-Oxford Handbook of Medical Sciences 2nd 60. 20111. 642, 643. - First Aid for The Basic Sciences Organ Systems 3rd ed. (2017) Pp. 698.	5th	1 h..	Physiology
55	Sexually transmitted diseases 1	456857.1 A56&57.6 5647.1	1.6, 1.8, 1.10,1.16 ,2.4, 2.5, 2.6, 4.5, 4.6, 4.8.	-First .Aid for the USMLE Step 1, 2019 Pp. 142,147, 148-149, 153, 164- 165,172-173, 175177,184.	5th	1 h..	Microbiology and Immunology
56	Sexually transmitted diseases 11	5657.1 A56&57.6 B56&57.1	1.6, 1.8, 1.10,1.16 9 2.4, 2.5, 4.5, 2.6 4.8. 4.6	First .Aid for the USMLE Step 1, 2019 Pp. 142,147,148-149, 153, 164- 165,172-173, 175177,184.	5th	1 h..	Microbiology and Immunology
57	Xonsexual female genital system disease	58.1 58.4 58.1	1.8, 1.6 1.109 .16 2.5, 2.4 4.5, 2.6 4.8. 4.6	-First Aid for the USMLE Step 1, 2019 Pp. 135,148. -Lippiucott Illustrated Reviews: Integrated Systems (2015)24 ,th ed. Pp. 416. - Integrated Medical Sciences Pp. 221.	6th	1 h..	Microbiology and Immunology
58	Congenital infectionsI	5960.1 A59&60.6 5960.1	1.6, 1.8, 1.10, .16, 2.4, 2.5, 2.6, 4.5, 4.6, 4.8.	First Aid for the USMLE Step 1, 2019 Pp. 165,169, 171, 182.	6th	1 h..	Microbiology and Immunology
59	Congenital infections II	45960.1 A59&60.6 59660.1	1.6, 1.8, 1.10,1.16 ,2.4, 2.5, 2.6, 4.5, 4.6, 4.8.	-First Aid for the USMLE Step 1, 2019 Pp. 165,169, 171, 182.	6th	1 h..	Microbiology and Immunology
60	Inflammatory lesions of female genital tract and tumors of vulva.	A61.1 A6L3	4.5, 4.6,	- First Aid for The Basic Sciences Organ Systems 3rd ed. (20170. 711-	6th	1 h..	Pathology



61	Patology of the uterus I	62.1 462.5	4.6, 4 * 5 4.8.	- First 410 for The Basic Sciences Organ Systems 310 ed. (2017) Pp. 722 727.	6th	1 h..	Pathology
62	Patology of the uterus II					1 h..	Pathology
63	Pathology of the ovaries	63.1 -463.4	4.5, 4.6, 4.8.	- First 410 for The Basic Sciences Organ Systems 3rd ed. (2017) Pp. 715721.	6th	1 h..	Pathology
64	Trophoblastic diseases	.464.1 .464.4	4.5, 4.6, 4.8.	- First Aid for The Basic Sciences Organ Systems 3rd ed. (2017) Pp. 711712.	6th	1 h..	Pathology
65	Congenitally transmitted parasites	-465.1 65.6 65.1 865.5	1.6, 1.8, 1.10, .16, 2.9 2.9 4.5, 2.6 4.8. 4.6	- Integrated Medical Sciences: The Essentials Pp. 237,293,300. -Lippincott Illustrated Reviews: Integrated Systems (2015), 24th ed. Pp.97, 190, 198, 394. -First Aid for the USMLE Step 1, 2019 Pp. 156,177, 182.	6th	1 h..	Parasitology
66	Sexually transmitted parasites	-466.1 66.1- B66.4	1.6, 1.8, 1.10, 1.16,2.4, 2.9 4.6, 2.9 4.5 4.8.	-Lippincott Illustrated Reslews: Integrated Systems (2015), 24th ed. Pp.389, 390, 393. - Integrated Medical Sciences: The Essentials Pp. 217. - First 410 for The Basic Sciences Organ Systems 3rd ed. (2017) Pp. 732. - First Aid for the USMLE Step 1, 2019 Pp. 158,161,181, 184.	6th	1 h..	Parasitology
67	Pathology of Breast 1	67.1 67.3	4.6, 4.9 4.8.	- First 410 for The Basic Sciences Organ Systems 31060. (2017) Pp. 727728.	7th	1 h..	Pathology
68	Pathology of Breast 11	.468.1 468.2	4.5, 4.6, 4.8.	First 10 for The Basic Sciences Organ Systems 3rd 60.(2017)1. 728731	7th	1 h..	Pathology
69	Pharmacology of Female sex hormones	469.1 469.5	1.16,1.17 , 4.7	- First 410 for The Basic Sciences Organ Systems 3rd ed. (2017) Pp. 744746.	7th	1 h..	Pharmacology

B. Practical Topics

0.	1105	Practical Topic	<u>Week</u> No.	Hours
1.	C1.1-C1.2	Practical 1 Anatomy: Anatomy of the pituitary and thyroid	1st	2 hrs
2	C2.1-C2.3	Practical 2 Biochemistry: Lab investigation 11560 in measuring hormone	1st	2 hrs
3	3.1-3.3	Practical 3 Histology: Histology? of the pituitary and thyroid glands	1st	2 hrs
4.	C4.1-C4.2	Practical 4 Anatomy: Anatomy of the adrenal gland and pancreas	2nd	2 hrs
5	5.1 - 5.3	Practical 5 Histology: Histology? of the adrenal gland and endocrine pancreas	2nd	2 hrs
6.		Practical 6 Pathology: Pathology of endocrine glands 1	2nd	2 hrs
7.	7.1-7.4	Practical 7 Physiology: Physiology of endocrine system	3rd	2 hrs
8		Practical 8 Pathology: Pathology of endocrine glands II	3rd	2 hrs
9	9.1 - 9.6	Practical 9 Pharmacology?: Drug treatment of disorders (clinical cases and drugsamples)	3rd	2 hrs
10	10.1 102	Practical 10 Anatomy: Anatomy of male and female reproductive systems	4 th	2 hrs
11	11.1 - 11.2	Practical 11 Histology: Histology of Male reproductive system	4 th	2 hrs
12	12.1 12.3	Practical 12 Biochemistry: Sex hormone binding globulin	4 th	2 hrs
13.	13.1 13.2	Practical 13 Anatomy: Anatomy of 1001~15and perineum 31	5 th	2 hrs



14.	C14.1- 14.2 15.1 - 15.2	Practical 14 Histology: Histology of Female reproductive system Practical 15 Pathology: Pathology of Male reproductive system	5 th	2 hrs
15.				
16.	C16.1- 16.3	Practical 16 Physiology: Physiology of Reproductive system	6 th	2 hrs
17.	17.1 17.2	Practical 17 Pathology: Pathology of Female Reproductive system	6 th	2 hrs
18.	C18.1- 18.2	Practical 18 Microbiology: Microbiological Examination of Urogenital Specimens (1)	6 th	2 hrs
19.	C19. 19.2	Practical 19 Pathology: Pathology of Breast	7 th	2 hrs
20.	20.1	Practical 20 Microbiology: Microbiological Examination of Urogenital Specimens (11)	7 th	2 hrs
21.	21.1 - 21.2	Practical 21 Parasitology: Parasitic Infection of Reproductive system	7 th	2 hrs
22.	22.1 - 22.6	Practical 22 Pharmacology: Drug treatment of male and female gonadal hormone disorders (clinical cases and drug samples)	7 th	2 hrs
Total				44hrs

Topics of Case -based Group Discussion

No.	ILOs	Topics		hrs
II	All- 70.6, Bl.1- 367.4» DI- 111	GD 1 Anatomy: Anatomy cases of pituitary gland	1st	1h
2.		GD 2 Histology: cases of pituitary gland	1st	1h
3.		GD 3 Physiology: Physiology cases of pituitary gland	1st	1h
4.		GD 4 Pathology: Pathology cases of pituitary gland	1st	1h
5.		GD 5 Pharmacology: Pharmacology cases of pituitary' gland	1st	1h
ε		GD 6 Biochemistry ⁷ : Biochemistry' cases of thyroid gland	1st	2h
		GD 7 Physiology: Physiology cases of thyroid and parathyroid glands	2nd	1h
8.		GD 8] Microbiology: Microbiology cases of thyroid gland and endocrine pancreas	2nd	2h
9.		GD 9 Pathology: Pathology cases of thyroid and parathyroid glands	2nd	1h
		GD 10 Pharmacology: Pharmacology cases of thyroid and parathyroid glands	2nd	1h
		GD 11 Anatomy: Anatomy cases of thyroid, parathyroid and adrenal glands and endocrine pancreas	2nd	2h
12.		GD 12 Histology: " cases of thyroid, parathyroid and adrenal glands and endocrine pancreas	3rd	2h
13.		GD 13 Physiology: Physiology cases of adrenal gland and endocrine pancreas	3rd	2h
14.		GD 14 Biochemistry: Biochemistry cases of endocrine pancreas	3rd	1h
15.		GD 15 Pathology: Pathology cases of adrenal gland and endocrine pancreas	3rd	2h
16.		GD 16 Pharmacology: Pharmacology cases of adrenal gland and endocrine pancreas	3rd	2h
17.		GD 17: Histology cases of Male reproductive system	4th	2h
18.		GD 18 Anatomy: Anatomy cases of Male and female reproducthe systems	4th	1h
19.		GD 19 Anatomy: Anatomy cases of Embryology of reproducth e systems	4th	1h
20.		GD 20 Physiology: Physiology cases of Male 34	4th	1h



21.		GD 21 Anatomy: Anatomy cases of the Penis and Perineum	5th	1h
22.		GD 22 Histology: 111510107 cases of Female reproductive system	5th	2h
23.		GD 23 Biochemistry: Biochemistry cases of Male reproductive system	5th	2h
24.		GD 24 Pathology: Pathology cases of Male reproductive system	5th	1h
25.		GD 25 Pharmacology: Pharmacology cases of Male reproductive system	5th	1h
26.		GD 26 Physiology: Physiology cases of Female reproductive system I & II	6th	2hrs
27.		GD 27 Microbiology: Microbiology cases of Sexually transmitted diseases	6th	2hrs
28.		GD 28 Microbiology: Microbiology cases of Nonsexual female genital system disease	6th	1h
29.		GD 29 Pathology: Pathology cases of female reproductive system	6th	2hrs
30.		GD 30 Parasitology: Parasitology cases of Congenitally transmitted parasites	6th	2hrs
31.		GD 31 Biochemistry: Biochemistry cases of Female reproductive system	7th	2hrs
		GD 32 Physiology: Physiology cases of Pregnancy and Lactation	7th	1h
33.		GD 33 Microbiology: Microbiology cases of Congenital infections	7th	2hrs
34.		GD 34 Parasitology: Parasitology cases of Sexually transmitted parasites	7th	2hrs
35.		GD 35 Pathology: Pathology cases of Breast	7th	1h
36.		GD 36 Pharmacology: Pharmacology cases of Female reproductive system	7th	2hrs
Total				54 hrs

Methods of Student Assessment

1. Formative:

This is used to monitor student's learning to provide ongoing feedback that can be used by instructors to improve their teaching and by students to improve their learning.

It's given at least once in the form of quizzes that is made available for the students at the E-learning site at the end of the block.

Answers are presented instantly after the attempts and discussed on the students groups or in person with the teaching staff

Questions should be consistent with the level of the final exam. The student's attendance is a condition for entering the summative exams. The electronic or paper achievement file must be used to follow up on the students' evaluation, and its completion is a condition for entering the final exams

2.Summative

It is used to evaluate student’s achievements at the end of an instructional unit The grades tell whether the student achieved the learning goal or not.

The student’s performance will be assessed according to the following:

Assessment task	Types of assessment	Proportion of total assessment	
		%	Marks
mid block exam	MCQ (best answer),	20%	36
Portfolio		10%	18
Final exam	50%MCQ (best answer), 50% short essay questions	40%	72
OSPE/OSCE Final		30%	54
Total		100%	180

Formative assessment

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It’s given at least once in the form of quizzes that is made available for the students at the E-learning site at the end of the block.

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Blueprint of the block



Outlines of the Lectures

Lecture (1): Anatomy: *Overview , the anatomy of endocrine glands*

By the end of the lecture the student will be able to:

- 1.1- Define and know the meaning and types of the endocrine glands.
- 1.2- List the endocrine glands.
- A1.3- Describe the location, relation, blood and nerve supply and lymphatic drainage of pituitary glands.
- A1.4- Identify the development of the pituitary gland.
- 1.1- - Demonstrate the different types of the glands.
- 1.2- Compare between anatomical parts the pituitary gland on the embryological basis.

1 : " the histology of endocrine glands & histology , the pituitary

By the end of the lecture the student will be able to:

- 1.3- Recognize the general principles and major characteristics of endocrine glands.
- A2.2- Identify the diffuse endocrine cells and enumerate their sites.
- 2.3- Identify the parts of pituitary gland.
- 2.4- Describe the microscopic structure of the anterior pituitary gland.
- A2.5- Describe the microscopic structure of posterior pituitary gland (pars 1707054).
- 42.6- Identify the pineal gland.
- 2.1- Recognize the importance of the hypothalamic-hypophyseal tract and portal system.

Lecture (3): Biochemistry: *Signal transduction and mechanism of action of hormones*

By the end of the lecture the students will be able to:

- 2.2- - Define hormones and pattern of hormone secretion.
- A3.2- Classify the hormones according to their chemical properties and their mechanism of action.
- A3.3- Define receptors and classify them according to their cellular site function (differences of group I and group II hormones)
- 43.4- Describe structure of protein, contrast between types, mechanism of action of G protein and predict the result of changes on G protein by action of toxins.

Lecture (4): Physiology: *Introduction to Endocrinology*

By the end of the lecture the student will be able to:

- 44.1- - Know the differences between endocrine, exocrine glands.
- 44.2- Identify the role of hormones as an integral part of the control

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i 44.3- Describe the physiological roles of hormones. ■

44.4- Clarify the delivery of secretion.

A4.5- Identify the regulation of hormone secretion.

Lecture (5): Physiology: *Adenohypophyseal Hormones*

By the end of the lecture the student will be able to:

- A5.1- List adenohypophyseal & neurohypophyseal hormones.
- A5.2- Describe the regulation of anterior pituitary hormones by the hypothalamus.
- A5.3- Describe functions of growth hormone.
- A5.4- Describe the mechanism of action of hormone.
- A5.5- Describe the regulation of growth hormone secretion.
- A5.6- List the factors which stimulate growth hormone secretion.
- A5.7- List the factors which inhibit growth hormone secretion.

Λ5.8- Identify the effect of disturbed growth hormone level on different functions of the body.

Lecture (6): Physiology: Posterior Pituitary Hormones

By the end of the lecture the student will be able to:

A6.1- Describe the posterior pituitary gland relationship with the hypothalamus.

46.2- Discuss the physiological effects of antidiuretic hormone.

46.3- Describe the regulation of antidiuretic hormone secretion.

46.4- Identify the effect of disturbed antidiuretic hormone level on the function of the kidney& ECF.

A6.5- List the major physiological effects of oxytocin.

Λ6.6- Describe the regulation of oxytocin secretion.

Lecture (7): Pathology: Pathology of pituitary gland I

By the end of the lecture the student will be able to:

47.1 - Describe anterior pituitary tumors.

47.2 - the causes & clinical entities related to hypopituitarism.

Lecture (8): Pathology: Pathology of pituitary gland II

By the end of the lecture the student will be able to:

A8.1- Know posterior pituitary syndromes.

A8.2- Describe pathology of craniopharyngioma.

Lecture (9): Pharmacology: Pituitary Hypothalamic pharmacology

By the end of the lecture the student will be able to:

49.1- - Identify pharmacological treatment of hormone deficiency, acromegaly, hyperprolactinemia and drugs that cause hyperprolactinemia.

49.2- Outline pharmacological uses of GnRH analogs and gonadotropins and therapeutic and diagnostic uses of ACTH preparations.



of posterior pituitary hormones and their antagonists.

Lecture (10): Anatomy: Anatomy and embryology of thyroid and parathyroid glands

By the end of the lecture the student will be able to:

A10.1- Describe the location, relation, blood and nerve supply and lymphatic drainage of the thyroid & parathyroid glands.

49.3- Identify the development of the thyroid & parathyroid glands.

810.1- State the normal and morbid anatomy of the thyroid and parathyroid glands.

Lecture (11): Histology: Histology of thyroid and parathyroid glands

By the end of the lecture the student will be able to:

All.1-Describe the microscopic structure of thyroid follicles and their lining epithelium.

All.2- Enumerate the cells of thyroid follicles.

Al 1.3- Recognize the microscopic structure and cells of parathyroid gland.

Lecture (12): Physiology: Thyroid hormones

By the end of the lecture the student will be able to:

A12.1-List the main physiological actions of thyroid hormones.

A12.2- Describe the regulation of thyroid hormone secretion.

A12.3- Identify the effect of disturbed thyroid hormone level on different functions of the body.

Lecture (13): Physiology: Hormonal control of calcium metabolism

By the end of the lecture the student will be able to:

13.1- Describe the major physiological functions of parathyroid hormone.

13.2- Describe the regulation of parathyroid hormone secretion.

A13.3- Identify the effect of disturbed parathyroid hormone level on different functions of the body.

A13.4- List the functions of vitamin D

413.5- Describe the physiological functions of calcitonin.

Lecture (14): Microbiology: Immunological basis of some endocrine disorders

By the end of the lecture the student will be able to:

A14.1-Recall the Immunological basis of Hashimoto's, Graves's diseases and type 1 diabetes mellitus.

A14.2- State the clinical manifestations of Hashimoto's, Graves diseases and type 1 diabetes mellitus.

14.1 - Interpret the clinical pictures and laboratory test results to identify

Hashimoto's, Graves's diseases and type 1 diabetes mellitus.

Lecture (15): Pathology: Pathology of thyroid and parathyroid glands 1

By the end of the lecture the student will be able to:

A15.1-Define and classify goiter.

hyperthyroidism and simple or toxic goiter (graves & secondary causes).

415.3- Describe etiology, pathogenesis and pathology of multinodular goiter.

Λ15.4- Describe pathology of hypothyroidism including (cretinism and myxedema).

Lecture (16): Pathology: Pathology of thyroid and parathyroid glands II

By the end of the lecture the student will be able to:

416.1- Know definition, site, pathology of thyroglossal cyst.

416.2- Discuss etiology, pathogenesis, pathology, clinical features and effects of Hashimoto's thyroiditis.

416.3- Classify thyroid tumor and Describe pathology and effects of thyroid adenomas.

Lecture (17): Pathology: Pathology of thyroid and parathyroid glands III

By the end of the lecture the student will be able to:

A17.1-Discuss various types of thyroid carcinomas.

A17.2- Discuss primary and secondary hyperparathyroidism.

A17.3- Describe hypoparathyroidism.

Lecture (18): Pharmacology: Thyroid and parathyroid pharmacology 1

By the end of the lecture the student will be able to:

A18.1-Recall the synthesis of thyroid hormones.

A18.2- Outline the treatment of hyperthyroidism, and the antithyroid.

416.4- Outline the mechanism of action of antithyroid drugs, identify the mechanism of action, members, uses and adverse effects of thioamides.

Lecture (19): Pharmacology: Thyroid and parathyroid pharmacology II

By the errd of the lecture the student will be able to:

419.1- Identify the mechanism of action, members, uses, contraindications and adverse effects of Radioactive iodine.

419.2- Identify thyroid storm and its management.

419.3- Identify hyperthyroidism and Pregnancy.

419.4- Identify synthetic thyroid hormones and their uses.

419.5- Identify agents that affect calcium homeostasis, their adverse reactions.

Lecture (20): Anatomy: Anatomy and embryology of the adrenal glands and endocrine pancreas

By the end of the lecture the student will be able to:

420.1- - Describe the location, relation, blood and nerve supply and lymphatic drainage of adrenal glands.

420.2- Identify the development of the adrenal gland.

420.3- Describe the location, relation, blood and nerve supply and lymphatic drainage of the pancreas.

420.4- Identify the development of the pancreas.

820.1- Illustr ate the anatomy & embryology of the adrenal gland.

820.2- Demonstrate the ernbryological basis of each part of adrerral gland.

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Lecture (21): Histology: Histology of the adrenal gland and endocrine

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By the end of the lecture the student will be able to:

A21.1- Recognize the zones of the adrenal coitex.

820.3- Describe the 11010170101087/ of steroid secreting cells.

A21.3- Identify the adrenal medulla and describe its cells.

421.4- Recognize the microscopic structure of the endocrine pancreas.

421.5- Identify the main types of pancreatic endocrine cells.

Lecture (22): Physiology: Normal function of adrenal gland 1

By the end of the lecture the student will be able to:



- A22.1- Describe physiological effects of mineralocorticoids (aldosterone).
422.2- Discuss the regulation of aldosterone secretion.
422.3- Identify the effect of disturbed aldosterone hormone level on functions of kidney and ECF.

Lecture (23): Physiology: Normal function of adrenal gland II

By the end of the lecture the student will be able to:

- 423.1- Describe the major physiological effects of glucocorticoids.
423.2- Discuss the regulation of cortisol secretion.
423.3- Identify the effect of disturbed cortisol hormone level on different parts of the body.
423.4- Describe the synthesis of adrenal androgens and mineralocorticoid hormones.
423.5- Identify the effect of disturbed adrenal androgens levels on male and female.

Lecture (24): Pathology: Pathology of adrenal gland I

By the end of the lecture the student will be able to:

- 424.1- Discuss adrenal hyperfunction.
424.2- Discuss adrenal insufficiency.

Lecture (25): Pathology: Pathology of adrenal gland II

By the end of the lecture the student will be able to:

- 425.1- Describe pathological features of benign and malignant adrenal tumors.

Lecture (26): Pharmacology: Adrenocorticosteroids & Adrenocortical Antagonists I

By the end of the lecture the student will be able to:

- 426.1- Outline the naturally occurring corticosteroids (pharmacokinetics, pharmacodynamics).
426.2- Identify synthetic corticosteroids (pharmacokinetics, pharmacodynamics, clinical pharmacology).

Lecture (27): Pharmacology: Adrenocorticosteroids & Adrenocortical Antagonists II

By the end of the lecture the student will be able to:

- 427.1- Discuss the clinical uses of corticosteroids.
427.2- Identify contraindications and cautions, special dosage.
426.3- Outline the synthesis of corticosteroids (pharmacodynamics and metabolism).
427.4- Identify antagonists of Adrenocortical agents (synthesis inhibitors, glucocorticoid antagonists, mineralocorticoid antagonists).

Lecture (28): Physiology: Normal function of endocrine pancreas I

By the end of the lecture the student will be able to:

- 428.1- List principal hormones that affect blood glucose concentration.
428.2- Clarify physiological effects of insulin.
428.3- Discuss the regulation of insulin secretion.

Lecture (29): Physiology: Normal function of endocrine pancreas II

By the end of the lecture the student will be able to:

- 429.1- Identify the effect of disturbed insulin hormone level on different parts of the body.
429.2- Discuss physiological effects of glucagon.
429.3- Describe the regulation of glucagon secretion.
429.4- Clarify physiological effects of somatostatin.

Lecture (30): Biochemistry: Biochemistry of endocrine pancreas

By the end of the lecture the student will be able to:

- 430.1- Identify types of pancreatic glands and hormones.
430.2- Describe the steps of synthesis, storage, secretion, transport, receptors, degradation.

and excretion of insulin.

430.3- Describe synthesis and mechanism of action of glucagon hormone.

Lecture (31 & 32): Pharmacology: Pharmacotherapy of Diabetes Mellitus I&H

By the end of the lecture the student **will** be able to:

1.1.1- Outline the classification of insulin preparations and their pharmacokinetics, explain the mechanism of action, adverse reactions and therapeutic uses of insulin.

1.1.2- Outline the classification of oral hypoglycemic agents. Describe the mechanism, pharmacokinetic, adverse reactions of different groups.

1.1.3- List the major - interactions and complementary medicine.

Lecture (33): Anatomy: Anatomy of Male reproductive system

By the end of the lecture the student will be able to:

434.1- List the structures of the male reproductive system.

434.2- Describe the structure, blood supply and lymphatics of the testis.

434.3- Describe the urogenital ducts and glands.

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i 434.5- Enumerate the covering and contents of the spermatic cord.

434.6- Describe the structure of the penis.

Lecture (34): Histology: Histology of Male reproductive system 1

By the end of the lecture the student **will** be able to:

435.1- Describe the histological structure of the testis (seminiferous tubes, interstitial cells of Leydig).

435.2- Describe the histological structure of sperm.

435.3- Recall stages of spermatogenesis.

435.4- List the intratesticular genital ducts and describe their histological structure

835.1- Recognize the relation Sertoli cell and adjacent spermatogenic cells.

Lecture (35): Histology: Histology of Male reproductive system II

By the end of the lecture the student be able to:

835.2- List the extratesticular genital ducts and describe their histological structure.

835.3- Describe the histological structure of the seminal vesicles.

835.4- Describe the histological structure of the prostate gland.

835.5- Identify the histological structure of the penis.

36.1- Recognize the approximate equivalencies between anatomical lobes and pathological zones of the prostate.

Lecture (36): Anatomy: Anatomy of Female reproductive system

By the end of the lecture the student will be able to:

437.1- List the internal structures of the female genital system.

437.2- Describe the location, structure, blood supply and lymphatic drainage of the ovary and breast.

437.3- Describe the anatomy of the uterus, uterine tube and vagina.

437.4- Describe the anatomy of the female external genitalia.

Lecture (37): Anatomy: Embryology of Male genital system

By the end of the lecture the student will be able to:

A38.1- Know the determination of sex

A38.2- Describe the male sex differentiation

438.3- Illustrate the development of the testis.

438.4- Know the development of the male genital duct system.

438.5- Describe the development of the male external genitalia.

438.6- Describe the disorders of the sex development

438.7- Illustrate the male congenital malformations

Lecture (38): Anatomy: Embryology of Female genital system

By the end of the lecture the student will be able to:



A39.1-Know the female sex differentiation.

439.2- Illustrate the development of the ovary.

439.3- Know the development of the female genital duct system.

- 439.5- Illustrate the disorders of female sex development.
 439.6- Know the congenital malformations of the female reproductive system.

Lecture (39): Histology: Histology of Female reproductive system I

By the end of the lecture the student will be able to:

- 440.1- Describe the histological structure of the ovary (ovarian follicles and 011012 lutea).
 A40.2- Describe the histological structure of the ovum.
 440.3- Describe the histological structure of the oviduct.

Lecture (40): Histology: Histology of Female reproductive system II

By the end of the lecture the students will be able to:

- 441.1- Describe the histological structures of uterus.
 441.2- Identify layers of the endometrium and their changes during the menstrual cycle.
 441.3- List the parts of the cervix and describe their histological structure.

Lecture (41): Histology: Histology of Female reproductive system III

By the end of the lecture the student will be able to:

- 442.1- Describe the histological structure of the vagina and external genitalia.
 442.2- Describe the histological structure of the / gland.
 442.3- Recognize breast development during puberty, pregnancy and lactation.

Lecture (42): Anatomy: Anatomy of the Pelvis

By the end of the lecture the student will be able to:

- 443.1- Describe the bony pelvis.
 443.2- Illustrate the differences between male and female pelvises.
 443.3- Describe the pelvic floor.
 443.4- Know the pelvic fascia.
 443.5- Describe 10110 pelvic 1101V65 and vasculature.

Lecture (43): Anatomy: Anatomy of the Perineum

By the end of the lecture the student will be able to:

- 444.1- Locate the perineum.
 444.2- Illustrate the divisions of the perineum.
 444.3- Differentiate between male and female urogenital triangles.
 444.4- Know blood and nerve supply of the perineum.

Lecture (44): Physiology: Physiology of Male reproductive system.

Androgens

By the end of the lecture the student will be able to:

- 445.1- Understand the functions of the male reproductive organs 2121105.
 445.2- Discuss factors affecting spermatogenesis.
 445.3- Identify the physiological functions of androgen.
 445.4- Understand how androgen secretion is controlled.



By the end of the lecture the student will be able to:

- 446.1- - Describe the biochemical nature of male sex hormones, their structures.
- 446.2- Define the role of hormones- in male reproduction.
- 446.3- Describe synthesis, transport, mechanism of action, metabolism and excretion of male steroid hormones

Lecture (45): Biochemistry: Male reproductive

By the end of the lecture the student will be able to:
Know the male sex hormonal assay

Lecture (46): Pathology: Male reproductive pathology 1

- By the end of the lecture the student will be able to:
- 447.1- Identify congenital anomalies of male genital systems including: definition & complications of Phimosis and definition, causes, sites & complications of Crypto orchidism.
 - 447.2- Identify and classify different types of inflammation male genital system: Describe pathology of Balanitis.
 - 447.3- Describe pathology of prostate inflammatory conditions.
 - 447.4- Describe pathology of epididymo-orchitis.
 - 447.5- Identify pathology of prostate: Describe Benign prostatic hyperplasia.

Lecture (47): Pathology: Male reproductive pathology II

- By the end of the lecture the student will be able to:
- 448.1- - Know Pathology of Prostatic adenocarcinoma
 - 448.2- Identify pathology of testis: Describe testicular tumors.
 - 448.3- Mention definition, causes & effects of hydrocele, / γ 21160610 & hematocele.
 - 448.4- List causes of male infertility.

Lecture (48): Pharmacology: Pharmacology of Male sex hormones

- By the end of the lecture the student will be able to:
- A49.1- Outline mechanism of action of testosterone.
 - 449.2- Identify therapeutic uses of synthetic androgens, their adverse effects and contraindications.
 - A49.3- Identify uses and adverse effects of antiandrogens.

Lecture (49): Biochemistry: Biochemistry of Female reproduction

- By the end of the lecture the student will be able to:
- 450.1- - Describe the biochemical nature of female sex hormones, their structures
 - 450.2- Describe synthesis, transport, mechanism of action, metabolism and excretion of female steroid hormones.
 - 450.3- Identify biochemical basis and interpretation of congenital adrenal hyperplasia.

Lecture (50): Physiology: Female reproductive Physiology-!. Physiology of female reproductive system. Ovarian cycle

- By the end of the lecture the students will be able to:
- A51.1- List the functions of the female reproductive system.
 - 451.2- Describe the pituitary ovarian axis and the changes that occur in the

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Lecture (51): Physiology: Female reproductive Physiology'-!. Menstrual cycle. Female reproductive hormones. Physiology of puberty and menopause.

By the end of the lecture the student will be able to:

- 452.1- Discuss the changes that occur in the endometrium during the menstrual cycle and how these changes are hormonally controlled.
- 452.2- List the hormones of female reproduction and describe their functions.
- 452.3- Describe the normal sequence of events of puberty in the female.
- 452.4- Describe the physiology of the menopause.

453- Lecture (52): Physiology: Female menstrual cycle and reproductive hormones, physiology of puberty

Lecture (53): Physiology: Physiology of pregnancy. Pregnancy and its physiological changes. Functions of placenta

By the end of the lecture the student will be able to:

- 453.1- Describe the function of placenta.
- 453.2- Describe the physiological changes of different body systems during pregnancy.

Lecture (54): Physiology: Physiology of Parturition

By the end of the lectures the student will be able to:

- 454.1- Discuss the factors currently thought to be involved in the initiation of.
- 454.2- Describe stages of Parturition.

Lecture (55): Physiology: Physiology of Lactation

By the end of the lecture the student will be able to:

- 454.2- Discuss the hormonal requirements for mammary gland development.
- 454.3- Define lactation and understand how lactation is initiated and maintained
- 454.4- Know hypothalamic control of prolactin secretion
- 454.5- Explain Mechanisms of milk formation and ejection "milk ejection reflex"

Lecture (56 & 57): Microbiology: Sexually transmitted diseases I & II

By the end of the lecture the student will be able to:

- 1 - Recall the causative microorganisms causing STDs.
- 2- Describe the important features of the organism causing STDs.
- 3- Recall the important mode of transmission of each microorganism.
- 4.- State the characteristic clinical manifestations of each infection.
- 5 List the important diagnostic laboratory tests for each infection.
- 5.1 List important prophylaxis of each STDs.
- 6 Interpret the clinical pictures and laboratory test results to identify

microorganisms causing STDs.

Lecture (58): Microbiology: Nonsexual female genital system disease

By the end of the lectures the students will be able to:

- Recall the microorganisms causing non venereal genital system disease, pelvic inflammatory disease and sepsis.

- 6.1 State the pathogenesis of bacterial vaginosis, staphylococcal toxic
- 6.2 Identify the important clinical picture and complication of each disease.
- 6.3 State the important microbiological diagnosis of each clinical situation.

858.1- Interpret the clinical pictures and test results to identify microorganisms causing non venereal genital system disease, pelvic inflammatory disease and puerperal sepsis.

Lecture (59 & 60): Microbiology: Congenital infections I & II

By the end of the lecture the students will be able to:

- 1- Define congenital infections..
- 2- List maternal infections that are transmitted to the fetus.
- 3- Recall the mode of maternal transmission of each microorganism.
- 4- State neonatal manifestations produced by each microorganism.
- 5- List the important diagnostic laboratory tests for each infection.



List the prophylaxis of each infection.

- 6- Interpret the clinical pictures and laboratory test results to identify microorganisms causing congenital infections and infections occurring around the time of birth.

Lecture (61): Pathology: Inflammatory lesions of female genital tract and tumors of vulva, vagina and cervix

By the end of the lecture the student will be able to:

- 461.1- Determine different types of inflammatory conditions affecting vulva, vagina, cervix, endometrium and tubes.
- 461.2- Classify hormones of the , vagina and cervix.
- 461.3- Describe gross, microscopic features and effects of cervical squamous cell carcinoma.

Lecture (62): Pathology: Pathology of the uterus

By the end of the lecture the student will be able to:

- 462.1- Define adenomyosis and endometriosis.
- 462.2- Describe pathologic features and complications of adenomyosis and endometriosis.
- 462.3- Mention causes, types, pathologic and complications of endometrial hyperplasia.
- 462.4- Classify tumors of the uterus.
- 462.5- Describe the gross and microscopic features of fibromyoma and adenocarcinoma.

Lecture (63): Pathology: Pathology of the ovary

By the end of the lecture the student will be able to:

- 463.1- Identify different types of ovarian cysts whether non neoplastic or neoplastic.
- 463.2- Mention the pathological features of non neoplastic cysts.
- 463.3- Mention classification of ovarian tumors.
- 463.4- Mention pathologic features of neoplastic cyst: serous cyst, mucinous cyst and dermoid cyst.

Lecture (64): Pathology: Trophoblastic diseases

By the end of the lecture the student will be able to:

A64.1- Mention types of trophoblastic diseases.

464.2- Describe the gross and microscopic features of molar pregnancy.

464.3- Describe the gross and microscopic features of choriocarcinoma.

464.4- Mention causes of abnormal uterine bleeding.

Lecture (65): Parasitology: Congenitally transmitted parasites

By the end of the lecture the student will be able to:

465.1- Demonstrate *Toxoplasma gondii*, *Plasmodium*, *Leishmania*, and *Trypanosoma* as medically important parasites causing congenital infections.

465.2- Recognize life cycle and the sources of parasitic infections of parasites causing congenital infections.

465.3- Define and differentiate the infective and diagnostic stages of parasites causing congenital infections.

465.4- Describe clinical features and complications associated with these parasitic infections.

465.5- Describe the methods of recovery of parasites as well as different diagnostic techniques used for diagnosis.

465.6- Define the principles of management for these parasitic diseases.

65.1- Interpret different clinical presentations and correlate them to suspected parasites.

65.2- Interpret similar stages of different parasites.

65.3- Interpret the most suitable diagnostic technique for each parasitic problem.

65.4- Interpret basic diagnostic features, general outline of prevention and control pathogenesis.

65.5- Interpret life-threatening conditions.

Lecture (66): Parasitology: Sexually transmitted parasites

By the end of the lecture the student will be able to:

A66.1- Demonstrate *Trichomonas vaginalis*, *Phthirus pubis* and *Sarcoptes scabiei* as medically important sexually transmitted parasites.

466.2- Demonstrate other parasitic infections with urogenital involvement including schistosomiasis, filariasis, onchocerciasis, and enterobiasis.

466.3- Recognize life cycle and the sources of parasitic infections of sexually transmitted parasites.

A66.1- Define and differentiate the infective and diagnostic stages of the selected parasites.

466.5- Describe clinical features and complications associated with these parasitic infections.

466.6- Describe the methods of recovery of parasites as well as different diagnostic techniques used for diagnosis of parasitic infections.

466.7- Define the principles of management for these parasitic diseases.

366.1- Interpret different clinical presentations and correlate them to suspected parasites.

366.2- Interpret similar stages of different parasites.

366.3- Interpret the most suitable diagnostic technique for each parasitic problem.



. control pathogenesis.

Lecture (67): Pathology: Pathology of Breast 1

By the end of the lecture the student will be able to:

- 467.1 - Define mastitis and identify pathological of acute mastitis, mastitis and Fat necrosis.
- 467.2 - Define fibrocystic disease of the breast, Identify the causes and describe the gross and microscopic picture.

673- Enumerate causes of breast mass.

Lecture (68): Pathology: Pathology of Breast 11

By the end of the lecture the student will be able to:

- 468.1 - Classify breast tumors and identify the gross and microscopic features of benign tumors of the breast: fibroadenoma, duct papilloma and Phylloids tumor.
- 468.2 - State the predisposing factors of breast cancer and describe the pathological features of ductal carcinoma in acini, invasive duct carcinoma and lobular carcinoma.

Lecture (69): Pharmacology: Pharmacology of Female sex hormones 1

By the end of the lecture the student will be able to:

- 469.1- - Enumerate different preparations of estrogens and progestins used in clinical practice.
- 469.2- Describe the molecular mechanisms of actions of estrogen and progestins.
- 469.3- Compare between synthetic and natural preparations of estrogen and progestins regarding their pharmacokinetics.
- 469.4- Recognize the precise mechanism of tamoxifen and related drugs.
- 469.5- List therapeutic uses and adverse effects of estrogens, progestins and their antagonists or modulators.

Lecture (70): Pharmacology: Pharmacology of Female sex hormones 11

By the end of the lecture the students will be able to:

- A70.1-List different preparations of estrogens and progestins used in hormonal contraceptives.
- 470.2- Classify hormonal contraceptives.
- 470.3- Define and describe emergency contraceptives.
- 470.4- Describe the mechanisms of actions of contraceptives.
- 470.5- Enumerate the serious adverse effects of contraceptives.

Outlines of the Practical Lessons:

Practical (1): Anatomy: **Anatomy of the pituitary' and thyroid glands**

- 1.1 - Display anatomical aspects of the hypothalamus and pituitary glands.
- C1.2- Evaluate the anatomy and embryology of the thyroid and parathyroid glands.

Practical (2): Biochemistry: **Lab investigation used in measuring hormone levels**

- 2.1 - List the different 12012011/ methods used to estimate hormone levels in body fluids.
- 2.2 - Mention the principle of immunoassay techniques used in hormonal analyses, list their types and mention advantages and disadvantages.
- 2.3 - Mention thyroid function tests (TSH, T3 and T4, total and free hormones) and mention their importance in the diagnosis of thyroid dysfunction.

Practical (3): **Histology of the pituitary and thyroid glands**

ILOs:

- 3.1- - Identify the microscopic appearance of pituitary and thyroid glands draw labeled diagrams of these glands.
- 3.2- Identify and label diagrams of pituitary, pineal thyroid and parathyroid glands.
- 3.3- Identify and label diagrams of neuroendocrine cells.

Practical (4): Anatomy: **Anatomy of the adrenal gland and pancreas**

ILOs:

- 4.1 - Discuss the anatomy and embryological basis of the adrenal gland.
- 4.2 - Discuss the embryogenesis and anatomy of the pancreas.

Practical (5): **" of the adrenal gland and endocrine pancreas**

ILOs:

- 5.1- - Identify the microscopic appearance of adrenal gland **ع** draw a labeled diagram of the gland.
- 5.2- Identify and label diagrams of adrenal gland and endocrine pancreas.
- 5.3- Identify and label diagrams of steroid secreting cells.

Practical (6): Pathology: **Pathology of endocrine glands 1**

ILOs:

- 6.1- - Identify the histopathological features of colloid goiter, toxic goiter, papillary carcinoma, thyroid.

Practical (7): Physiology: **Physiology of endocrine system**

ILOs:

- 6.2- - Know thyroid functions tests, then' normal values in order to be able to



i diagnose hypo & hyperfunction of thyroid gland.

6.3- Know tests for latent tetany.

6.4- Know Glucose tolerance test & glucometer & hemoglobin A1C (HBA1C).

6.5- Know Different type of adrenal function tests of adrenocortical gland.

Practical (8): Pathology: Pathology of endocrine glands II

115:

8.1. - Identify the gross appearance of colloid nodular goiter and colloid adenoma.

Practical (9): Pharmacology: Drug treatment of endocrinal disorders (clinical cases and drug samples)

115:

8.2. Become familiar with the clinical presentation of Grave's disease, thyrotoxicosis, hypothyroidism, hypo /and hyperparathyroidism, Cushing's syndrome, addisonian disease, diabetes mellitus.

8.3. Identify the side effects of thionamides, drugs affecting homostasis, glucocorticoids and mineralocorticoids, insulin and oral hypoglycemic.

8.4. Identify the contra-indications of thionamides, affecting calcium homostasis, glucocorticoids and mineralocorticoids and their antagonists, insulin and oral hypoglycemic according to the clinical situation of the patient.

8.5. Determine how dosing of these drugs takes place according to the patient's health state.

8.6. Mention the mechanism of action of these drugs.

8.7. Outline different samples of drug used in treatment of these patients and identify how to write an appropriate prescription for them.

Practical (10): Anatomy: Anatomy of male and female reproductive systems

10.1- Display the anatomy of the male genital system.

10.2- Illustrate the anatomy of the female genital system.

Practical (11): Histology: Histology of Male reproductive system

115:

11.1- Identify the microscopic appearance of different parts of male reproductive system.

11.2- Identify and label diagrams of different parts of male reproductive system.

Practical (12): Biochemistry: Sex hormone binding globulin

1105

12.1 - Describe role of sex hormone binding globulin in reproduction.

12.2 - Measurement of SHBG in blood

Practical (13): Anatomy: *Anatomy of pelvis and perineum*
1105

- 13.1- Display the anatomy of the pelvis.
- 13.2- Display the anatomy of the perineum.

Practical (14): Histology: *Histology of Female reproductive system*

ILOs:

- 14.1- Identify the microscopic appearance of different parts of female reproductive system.
- 14.2- Identify and label diagrams of different parts of female reproductive system.

Practical (15): Pathology: *Pathology of Male reproductive system*

ILOs:

- 15.1- Identify the microscopic features of benign prostatic hyperplasia and seminoma.
- 15.2- Identify the gross appearance of 1 of epididymis. Bilharziasis of seminal vesicles, benign prostatic hyperplasia, seminoma and hydrocele.

Practical (16): Physiology: *Physiology of Reproductive system*

ILOs:

- C16.1- Know the testicular function tests.
- 15.3- Know tests to determine ovulation.
- 15.4- Know different pregnancy tests.

Practical (17): Pathology: *Pathology of Female reproductive system*

ILOs:

- 17.1- Identify the microscopic features of endometrial hyperplasia, vesicular mole, serous cystadenoma of ovary and mucinous cystadenoma of ovary.
- 17.2- Identify the gross appearance of 01116121 sepsis, endometrial polyp, adenomyosis, fibromyomas of uterus, endometrial carcinoma, serous cystadenoma of ovary, mucinous cystadenoma of ovary, dermoid cyst of ovary and choriocarcinoma.

Practical (18): Microbiology: *Microbiological Examination of Urogenital Specimens (1)*

ILOs:

- 18.1 - Describe the specimens taken to diagnose sexually transmitted disease and puerperal sepsis.
- 18.2 - Recognize the microscopic slides of some pathogens causing STDs.

Practical (19): Pathology: *Pathology of Breast*

ILOs:

- 19.1 - Identify the microscopic features of fibrocystic disease of breast and duct carcinoma of breast.

Practical (20): Microbiology: *Microbiological Examination of Urogenital Specimens (11)*

- 20.1 - Demonstrate the culture media and biochemical reactions used for diagnosing STDs and puerperal sepsis.

Practical (21): Parasitology: *Parasitic Infection of Reproductive system*

ILOs:

- 21.1- Identify diagnostic stages of sexually transmitted parasites: Trichomonas vaginalis trophozoites and adults of pubis and Sarcoptes scabii.
- 21.2- Identify diagnostic stages of congenitally transmitted parasites: Toxoplasma gondii.

Practical (22): Pharmacology: *Drug treatment of male and female gonadal*



hormone disorders (clinical cases and drug samples)

ILOs:

- 22.1. Become familiar with the clinical presentation of amenorrhea, postmenopausal syndrome, infertility, male hypogonadism, prostatic hyperplasia and carcinoma.
- 22.2. Identify the different preparations of estrogens and progestins, hormonal contraceptives, testosterone and synthetic androgens.
- 22.3. Identify the different therapeutic uses and side effects of estrogens and progestins, their antagonists and modulators, hormonal contraceptives, testosterone and synthetic androgens.
- 22.4. Identify the contra-indications of estrogens and progestins, hormonal contraceptives, testosterone and synthetic androgens.
- (22.5. Determine how dosing of these takes place according to the patient's health state.
- (22.6. Mention the mechanism of action of these drugs.

student ' Resources

Lecture notes

2. Books:

- Oxford Handbook of Medical Sciences, 2nd ed., 2011.
- Lippincott Illustrated Reviews: Integrated Systems, ed., 2015
- First Aid for the Basic Sciences: Organ Systems, ed., 2017.
- The Human " in Health & Disease
- First Aid for the USMLE Step 1, 2019.

3. Websites:

General references, journals, periodicals, newspapers, web sites, which enrich the learning process as:

- Alta Vista Search <http://www.altavista.com/>
- Google <http://www.google.com/>
- Medline - Free from National Library of Medicine (US)
<http://www.ncbi.nlm.nih.gov/Pubmed>

Block ERD-209

Students' results
Students' feedback
Tutors' feedback

BLUEPRINT ERD-	List of Topics	Wt.	Midblock	Final
1.	Overview of the anatomy of endocrine glands & anatomy of the hypothalamus and the pituitary gland.	1.5 %	2	
2.	Overview of the histology of endocrine glands & histology of the pituitary gland.	1.5 %	1	1
3.	Signal transduction and mechanism of action of hormones (bio)	1.4 %	1	
4.	Introduction to endocrinology (physiology)	1.4%	1	
5.	Adeno-hypophyseal hormones(physiology)	1.5 %	2	
6.	Posterior pituitary hormones(physiology)	1.5 %	2	
7.	Pathology of pituitary gland I	1.5 %	1	1
8.	Pathology of pituitary gland II	1.4 %	1	
9.	Pituitary / Hypothalamic pharmacology	1.4 %	1	
10.	Anatomy and embryology of the thyroid and parathyroid glands	1.6 %	1	2
11.	Histology of thyroid and parathyroid glands	1.5 %	1	1
12.	Thyroid hormones (physiology)	1.5 %	1	1
13.	Hormonal control of calcium metabolism (physiology)	1.5 %	1	1
14.	Immunological basis of some endocrine disorders (micro)	1.5%	1	1
15.	Pathology of thyroid and parathyroid glands I	1.5 %	1	1
16.	Pathology of thyroid and parathyroid glands II	1.4 %	1	---
17.	Pathology of thyroid and parathyroid glands III	1.4 %	1	---
18.	Thyroid and parathyroid pharmacology I	1.5 %	2	
19.	Thyroid and Parathyroid Pharmacology II	1.4 %	1	
20.	Anatomy and embryology of the adrenal glands and endocrine pancreas	1.5		2
21.	Histology of the adrenal gland and endocrine pancreas	1.5 %	1	1
22.	Normal function of adrenal gland I	1.5 %	1	1
23.	Normal function of adrenal gland II	1.4 %		1
24.	Pathology of adrenal gland I	1.4 %	1	

25.Pathology of adrenal gland II	1.5%	1	1
26.Adrenocorticosteroids&AdrenocorticalAntagonists I (pharma)	1.5 %	1	1
27.Adrenocorticosteroids &Adrenocortical Antagonists II(pharma)	1.5 %	1	1
28.Normal function of endocrine pancreas I	1.6 %	1	1
29.Normal function of endocrine pancreas II	1.5 %	1	1
30.Biochemistry of endocrine pancreas	1.4 %		1
31&32.Pharmacotherapy of Diabetes Mellitus I& II	1.6%	1	2
33.Anatomy of Male reproductive system	1.5 %		2
34.Histology of Male reproductive systemI	1.5 %	-	2
35.Histology of Male reproductive system II	1.4 %	-	1
36.Anatomy of Female reproductive system	1.4 %		1
37.Embryology of Male genital system	1.4 %		1
38.Embryology of Female genital system	1.4 %		1
39.Histology of Female reproductive system I	1.4 %	-	1
40.Histology of Female reproductive system II	1.4 %	-	1
41.Histology of Female reproductive system III	1.4 %	-	1
42.Anatomyof the Pelvis	1.5 %		2
43.Anatomyof the Perineum	1.4 %		1
44.Physiology of Male reproductive system. Androgens	1.5 %		2
45.Biochemistry of Male reproduction	1.5 %		2
46.Male reproductive pathology I	1.5 %	1	1
47.Male reproductive pathology II	1.6%	1	2
48.Pharmacology of Male sex hormones	1.6 %	1	2
49.Biochemistry of Female reproduction	1.5 %	1	1

50.Female reproductive Physiology -I. Physiology of female reproductive system Ovarian cycle		1.4 %		1
51.Female reproductive Physiology -		1.4 %		1
52. Menstrual cycle Female reproductive hormones Physiology of Puberty and menopause		1.4%		1
53.Physiology of pregnancy and its physiological changes Functions of placenta		1.4 %		1
54.Physiology of Parturition		1.4 %		1
55.Physiology of Lactation		1.4 %		1
56&57. Sexually transmitted diseases I &II		1.6%		2
58.Nonsexual female genital system disease		1.4 %		1
59&60.Congenital infections I & II		1.5%		2
61.Inflammatory lesions of female genital tract and tumors of vulva, vagina and cervix		1.5%		1
62.Pathologyof the uterus		1.5 %		3
63.Pathology of the ovary		1.5 %		2
64.Trophoblastic diseases		1.4 %		1
65.Congenitally transmitted parasites		1.4 %		1
66.Sexually transmitted parasites		1.5 %	-	2
67.Pathology of Breast I		1.5 %	-	2
68.Pathology of Breast II		1.4 %	-	1
69.Pharmacology of Female sex hormones I		1.4 %		1
70.Pharmacology of Female sex hormones II		1.4 %		1
Total		100%	36 marks	marks 72

		Weight	marks
	B. Blueprint of Practical Exam		
1	Practical 1 Anatomy: Anatomy of the pituitary and thyroid glands	4.6	2.5
2	Practical 2 Biochemistry: Lab investigation used in measuring hormone levels	4.6	2.5
3	Practical 3 Histology: Histology of the pituitary and thyroid glands	4.6	2.5
4	Practical 4 Anatomy: Anatomy of the adrenal gland and pancreas	4.6	2.5
5	Practical 5 Histology: Histology of the adrenal gland and endocrine pancreas	4.6	2.5
6	Practical 6 Pathology: Pathology of endocrine glands I	4.6	2.5
7	Practical 7 Physiology: Physiology of endocrine system	4.6	2.5
8	Practical 8 Pathology: Pathology of endocrine glands II	4.5	2
9	Practical 9 Pharmacology: Drug treatment of endocrinal disorders (clinical cases and drug samples)	4.6	2.5
10	Practical 10 Anatomy: Anatomy of male and female reproductive systems	4.6	2.5
11.	Practical 11 Histology: Histology of Male reproductive system	4.6	2.5
12.	Practical 12 Biochemistry: Sex hormone binding globulin	4.6	2.5
13.	Practical 13 Anatomy: Anatomy of pelvis and perineum	4.6	2.5
14.	Practical 14 Histology: Histology of Female reproductive system	4.6	2.5
15.	Practical 15 Pathology: Pathology of Male reproductive system	4.6	2.5
16.	Practical 16 Physiology: Physiology of Reproductive system	4.6	2.5

17.	Practical 17 Pathology: Pathology of Female reproductive system	4.6	2.5
18.	Practical 18 Microbiology: Microbiological Examination of Urogenital Specimens	4.6	2.5
19.	Practical 19 Pathology: Pathology of Breast	4.6	2.5
20.	Practical 20 Microbiology: Microbiological Examination of Urogenital Specimens(II)	4.6	2.5
21.	Practical21Parasitology: Parasitic Infection of Reproductive system	4.5	2
22.	Practical 22 Pharmacology: Drug treatment of male and female gonadal hormone disorders (clinical cases and drug samples)	4.6	2.5
Total		100 %	54

Blueprint

Lecture	Anatomy	Physiology	Biochemistry	Histology	Pathology	Pharmacology	Parasitology	Microbiology	Total
Lecture (Hours)	9	15	4	8	16	10	2	6	70
Total Marks	15	24	6	12	25	16	3	7	108
Mid-Block	3	10	2	3	9	8		1	36
final Block	12	14	4	9	16	8	3	6	72
Final mcq	-	14	4	9	-	-	3	6	36
Final written	12	-	-	-	16	8	-	-	36
الدور الثاني									
Final mcq	--	24	6	12	2	-	3	7	54
Final written	15	-	-	-	23	16	-	-	54

Practical	Anatomy	physiology	Histology	Biochemistry	Microbiology	Parasitology	Pathology	Pharmacology	Total
Hours	8	4	8	4	4	2	10	4	44 hrs
Wt%	18.8%	9%	18.8%	9%	9%	4.4%	22%	9%	
Marks 30% دور أول	10	10	5	5	5	2	12	5	54 M
Marks 40% دور ثان	13.5	6.5	13.5	6.5	6.5	3	16	6.5	72M