وزارة التعليم العالي و البحث العلمي

هيئة التعليم التقنـــــــــــــــــي

كلية التقنيات الصحية و الطبيـــــة

قسم تقنيات التحليلات المرضيـــــة

مفردات الدراسة

اسم المادة	لغة التدريس	السنة الدراسية	عدد الساعات الاسبوعيـــــــــة			
			نظري	عملي	المجموع	عدد الوحدات
الفسلجة البشرية	الانكليزية	الثانية	2	2	4	6
Human physiology						

اهداف المادة: تعريف الطالب بمكونات الخلايا الجسمية و مكونات الدم المختلفة لتمكين الطالب من التهيؤ لممارسة عمله في المستقبل.

Week	Topics (theory 2hrs – practical 4hrs)
1st	General Introduction to Physiology Cell Physiology: General Functions, Cell Membrane Transport
2nd	General Ideal about Body fluids: Types, Composition, and Functions. Unit of Measurement, Conversion and Conversion factor.
3ed	Blood: Composition, Specific Functions of each Compartment. Plasma and Serum Differences and Separation.
4th	RBCs: Definition, Stucture, and Normal Value; Hb Definition, Structure, and Normal Value; Blood Groups.
5th	Erythropoiesis, Homeostasis, Death and Disposal.

6th	White Blood Cells: Classification, Specific Function, Normal Value.
7th	Platelet: Definition, Function, Normal Value, Thrombopoiesis and Hemostasis.
8th	Heart Physiology: Conductive System, Cardiac Output (Mechanics and Control), and Factor Affecting.
9th & 10th	Vascular (Blood Vessels) Physiology: Mechanics and Control; Blood Pressure; and Factor Affecting.
11th	Lymphatic Physiology: Organs: Composition, Function of Each part. Lymph: Structure, Hemodynamic and Factor Affecting their Movement.
12th	Respiratory Physiology: Parts and Specific Functions; Ventilation: Mechanics and Control.
13th	External Respiration, Gas Blood Transport, Internal Respiration: Mechanics, Control and Factor affecting.
14th	Lung Volumes: Normal Values and Factor Affecting; Conscious and Un-Conscious Control of Respiration. Role of Pons and Medulla in Respiratory Transient.
15th	Acid-Base Balance: Definition, Buffer Systems, and Role of Body Systems in the Regulation.
16th	Digestive Physiology: GIT: Part General Function, Food Movement, and Control. Swallowing Reflex
17th	Digestive Physiology: GIT Chemical Digestion, Absorption, and Control. Defection Reflex
18th	Digestive Physiology: Accessory Organs: Secretion and Their Role in Digestion. Secretion Control.

19th	Urinary Physiology: General Functions of US. Urine: Definition and Normal Constitute. Physical and Chemical Property of Urine.
20th	Role of Kidney in Urine Formation and Maintenance of Body Fluids and The Role in Acid-Base Balance.
21	Urinary Tract: Parts and Function. Urine Hemodynamic and Control. Normal Urine Daily Volume and Factor Affecting.
22	Endocrine Physiology: Endocrine Glands Types and Secretion. Hormone: Types, Normal Value, Function and Control of Section.
23	Reproductive Physiology: Male Sex Physiology: Function of Genital Organs. Male Sex Hormones: Normal Value, Production, Control, and Their in Reproduction.
24	Female Sex Physiology: Function of Genital Organs. Normal Value of Female Sex Hormone, Production, and Control. Female Cycle, Pregnancy, Parturition, and Lactation: Hormonal Fluctuation and Control.
25	Muscles Physiology: Types and Functions. Generation of Action Potential, Contraction, and Sliding-Filament theory.
26	Nervous Physiology: Neuroglia: Definition, Types, and Function. Neurons: Definition, Types, and Function. CSP: Composition, Function, and Clinical Importance

مفردات المنهاج العملي

Week Topics Covered

1 Introduction: Characteristics of good technician.

How To avoid contamination of Specimen and Technician.

2 Specimen: Type, Collection, and Preparation.

Specimen identification

Lab Reports: Types and righting

3 Basic steps for drawing a blood specimen by venipuncture. Complications ofvenipuncture.

Blood collection by skin punctures (Capillary Blood).

Types of Syringes used in blood collection.

Patient care after blood collection.

4 Repeat: Blood drawing.

5 Blood sample Hemolysis: Reasons and how to avoid.

Blood Coagulants: Types and Uses. (EDTA, Citrate, Oxalate, Heparin, sodium fluoride).

6 Specimen rejection: Reason and How to avoid.

Type of anticoagulant used and their effect on Blood Cell Morphology.

7 Blood separation to Cells, plasma, and serum.

Transport, and storage blood sample

8 Blood Smear: Preparation and Importance.

9 PCV

10 Complete Blood Counts: RBCs. Manual and Electronic Method.

11 Complete Blood Counts: WBCs. Manual and Electronic Method.

12 Repeat: Blood Cells Count

13 Determination of Hemoglobin: Cyanmethemoglobin Method

14 Determination of Hemoglobin: Electronic Method

15 Repeat

16 Urine Sample: Importance, Method of Collection, Preparation, Transport and Storage

Physical Examination of Urine Sample.

17 Microscopic Examination of Urine: The identification of Epithelial Cells, Blood Cells, crystals, casts, …. etc.

18 Microscopic Examination of Urine: The identification of Bacteria, Yeast, Mucus, Casts, ……. Etc.

19 Repeat

20 Chemical Examination of Urine

21 Repeated

22 Semen Analysis: Type of Collection & Physical Examination

23 Semen Analysis: Cell Counting Technique.

24 Semen Analysis: Motility, Viability, &Morphology.

25 Repeat Semen Analysis.

26 Stethoscope and its uses.

27 Blood Pressure

28 Repeated

29 ESC

30 Body Temperature