

Course No: PHRM 2213  
Course Title: Anatomy & Physiology II  
Date:09/01/2018  
No. of Questions: (7)  
Time: 2 hours  
Using Calculator (No)

University of Palestine



Final Exam  
First Term 2017/2018  
Total Grade: 50 Marks

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Using Dictionary (No)

**Question one: Put the sign (✓) against the right sentences and the sign (X) against the wrong sentences:** (10 Marks)

- 1- ( ) The urethra contains an internal sphincter of smooth muscle.
- 2- ( ) In response to increased levels of aldosterone, the kidneys produce urine with a lower concentration of sodium ions.
- 3- ( ) Urea transport into the medullary collecting duct is enhanced by aldosterone.
- 4- ( ) The ascending limb of the loop of Henle is impermeable to sodium chloride and actively transports water into the surrounding interstitial fluids.
- 5- ( ) Tubular reabsorption by active mechanisms usually involves movement with an electrical and/or chemical gradient.
- 6- ( ) Granular cells of the juxtaglomerular apparatus (JGA) regulate GFR indirectly through renin-angiotensin mechanism.
- 7- ( ) Parietal cells of stomach secrete hydrochloric acid.
- 8- ( ) The prominent ridges in the lining of the empty stomach are called villi .
- 9- ( ) The gastric phase of gastric secretion is triggered by the sight, thought, or smell of food.
- 10- ( ) The human liver is composed of two lobes.
- 11- ( ) Hydrochloric acid from the stomach is neutralized in the small intestine by bicarbonate from the pancreas.
- 12- ( ) At the hepatic flexure, the colon becomes transverse colon.
- 13- ( ) The enzyme that digests starch into disaccharides and trisaccharides is lipase.
- 14- ( ) Tidal volume is air exchanged during normal breathing .
- 15- ( ) Respiratory control centers are located in the midbrain and medulla.
- 16- ( ) More CO<sub>2</sub> dissolves in the blood plasma than is carried in the RBCs .
- 17- ( ) The auditory tube drains into the nasopharynx.
- 18- ( ) Oxygen and carbon dioxide are exchanged in the lungs and through all cell membranes by osmosis.
- 19- ( ) The zona glomerulosa of the suprarenal cortex produces glucocorticoids.
- 20- ( ) When blood glucose levels rise, insulin is released. .

**Question Two: Select and circle the correct answer from the following alternatives for each sentence:** (10 Marks)

- 1- Which of the choices below determines the direction of respiratory gas movement?
  - A) solubility in water
  - B) partial pressure gradient
  - C) the temperature
  - D) molecular weight and size of the gas molecule
- 2- The most powerful respiratory stimulus for breathing in a healthy person is \_\_\_\_\_.
  - A) loss of oxygen in tissues
  - B) increase of carbon dioxide
  - C) pH (acidosis)
  - D) pH (alkalosis)

- 3- For gas exchange to be efficient, the respiratory membrane must be \_\_\_\_\_.
- A) at least 3 micrometers thick
  - B) 0.5 to 1 micrometer thick
  - C) between 5 and 6 micrometers thick
  - D) The thickness of the respiratory membrane is not important in the efficiency of gas exchange
- 4- The relationship between the pressure and volume of gases is given by \_\_\_\_\_.
- A) Boyle's law
  - B) Henry's law
  - C) Charles' law
  - D) Dalton's law
- 5- The loudness of a person's voice depends on the \_\_\_\_\_.
- A) thickness of vestibular folds
  - B) length of the vocal folds
  - C) strength of the intrinsic laryngeal muscles
  - D) force with which air rushes across the vocal folds
- 6- Nerve impulses from \_\_\_\_\_ will result in inspiration.
- A) the ventral respiratory group
  - B) the chemoreceptor center
  - C) Broca's center
  - D) the preoptic nucleus of the hypothalamus.
- 7- The chemical and mechanical processes of food breakdown are called \_\_\_\_\_.
- A) digestion
  - B) absorption
  - C) ingestion
  - D) secretion
- 8- Which hormone causes an increased output of enzyme-rich pancreatic juice and stimulates gallbladder contraction to release bile?
- A) gastrin
  - B) secretin
  - C) cholecystokinin CCK
  - D) gastric inhibitor peptide
- 9- Which of the following is not true of saliva?
- A) cleanses the mouth
  - B) contains enzymes that begin the breakdown of proteins
  - C) moistens food and aids in compacting of the bolus
  - D) dissolves food chemicals so they can be tasted
- 10- Peristaltic waves are \_\_\_\_\_.
- A) segmental regions of the gastrointestinal tract
  - B) churning movements of the gastrointestinal tract
  - C) pendular movements of the gastrointestinal tract
  - D) waves of muscular contractions that propel contents from one point to another
- 11- Gastrin is a digestive hormone that is responsible for the stimulation of acid secretions in the stomach. These secretions are stimulated by the presence of \_\_\_\_\_.
- A) starches and complex carbohydrates
  - B) protein and peptide fragments
  - C) simple carbohydrates and alcohols
  - D) fatty acids

- 12- Hepatocytes do not \_\_\_\_\_.
- A) produce digestive enzymes
  - B) process nutrients
  - C) store fat-soluble vitamins
  - D) detoxify
- 13- Which vitamin requires intrinsic factor in order to be absorbed?
- A) B12
  - B) K
  - C) A
  - D) C
- 14- Which of the following substances is not normally found in filtrate?
- A) ions, such as sodium and potassium
  - B) blood cells and large particles
  - C) nitrogenous waste particles, such as urea
  - D) water and small solutes
- 15- Which organ secretes most of the plasma proteins?
- A) pancreas
  - B) heart
  - C) kidney
  - D) brain
  - E) liver
- 16- \_\_\_\_\_ is a condition in which the oxygen-carrying capacity of the blood is reduced.
- A) Polycythemia
  - B) Leukemia
  - C) Anemia
  - D) Leukopenia
  - E) Thrombocytopenia
- 17- Endocrine cells
- A) are a type of nerve cell.
  - B) release their secretions onto an epithelial surface.
  - C) release their secretions directly into body fluids.
  - D) contain few vesicles.
  - E) are modified connective-tissue cells.
- 18- Approximately \_\_\_\_\_ liters of glomerular filtrate enter glomerular capsules each day.
- A) 18
  - B) 480
  - C) 1.8
  - D) 180
  - E) 125
- 19- In response to increased levels of aldosterone, the kidneys produce
- A) a larger volume of urine.
  - B) urine with less glucose.
  - C) urine with a higher concentration of sodium ions.
  - D) urine with a lower concentration of potassium ions.
  - E) urine with a lower concentration of sodium ions.
- 20- Increased levels of the hormone \_\_\_\_\_ will lead to increased levels of calcium ion in the blood.
- A) thymosin
  - B) calcitonin
  - C) PTH
  - D) aldosterone
  - E) cortisol

**Question Three: Write the scientific term against the following phrases:** (5 Marks)

- 1- ( ) Hormones from kidney, increases production of red blood cells.
- 2- ( ) Excess secretion of growth hormone during early development
- 3- ( ) The portion of the pharynx that receives both air and food is the .
- 4- ( ) diffusion of gases between the alveoli and the circulating blood. .
- 5- ( ) injury that permits air to leak into the intrapleural space.
- 6- ( ) The double-layer sheets of serous membrane that support the viscera
- 7- ( ) The part of a tooth that contains blood vessels and nerves.
- 8- ( ) The prominent indentation on the medial surface of the kidney.
- 9- ( ) Triangular or conical structures located in the renal medulla.
- 10-( ) The main force that causes filtration in a nephron .

**Question Four: Define the following scientific terms:** (5 Marks)

- 1- **Juxtamedullary Nephron:**-----  
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- 2- **Renal threshold:**-----  
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- 3- **Taenia coli:**-----  
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- 4- **Erythropoiesis:**-----  
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- 5- **Respiratory membrane:**-----  
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**Question Five: Enumerate the following:** (5 Marks)

- 1- **Types of lung cancer:**
  - a)-----
  - b)-----
  - c)-----
- 2- **Actions of Glucocorticoids :**
  - a) -----
  - b) -----
  - c) -----
  - d) -----
  - e) -----
  - f) -----
- 3- **Types of vaccinations according to their components:**
  - a) -----
  - b) -----
  - c) -----
  - d) -----
  - e) -----
- 4- **Starling forces that control filtration in nephron:**
  - a)-----
  - b)-----
  - c)-----

**5- Antibodies' actions against antigens:**

- a)-----
- b)-----
- c)-----
- d)-----

**Question Six: Justify the following sentences:** (5 Marks)

**1- Inspiration is an active process while the expiration is passive.**

**Justification:**-----  
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**Sympathetic input to the kidneys is most important with hemorrhage.**

**Justification:**-----  
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**Question Seven: Writ short account about the following:** (10 Marks)

**1- Hormones of Duodenal Enteroendocrine Cells and their Functions:**

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**2- Structure of Hemoglobin ,Saturation Curve and Factors Influencing Hemoglobin Saturation:**

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**3- The Countercurrent Mechanism in the Nephron:**

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**End of Questions**  
*Good Luck*