

**Course No: DNTS2309**  
**Course Title: Physiology**  
**Date: 16/11/2013**  
**No. of Questions:**  
**Time: 1 hour**  
**Using Calculator (No)**

**University of Palestine**



**Midterm Exam**  
**2013/2014**  
**Total Grade:**

**Instructor Name:** \_\_\_\_\_  
**Student No.:** \_\_\_\_\_  
**Student Name:** \_\_\_\_\_  
**College Name:** \_\_\_\_\_  
**Dep. / Specialist:** \_\_\_\_\_  
**Using Dictionary (No)**

**1- Activation of Parasympathetic nervous system in GIT leads to which one of the following changes?**

- 1- Decrease Blood flow
- 2- increase in glandular secretion
- 3- decrease in secretion flow
- 4- has no effect on muscle layer contraction
- 5- direct enzyme activation

**2- Production of which of the following blood cells is stimulated by a hormone secreted by the kidneys?**

- 1- lymphocytes
- 2- monocytes
- 3- erythrocytes
- 4- neutrophils
- 5- thrombocytes

**3- Which one of the following is the functions of the Myenteric plexus ?**

- 1- increase rhythmical contraction
- 2- decrease in in tonic contraction
- 3- decrease rate of contraction
- 4- has the main effect on intestinal secretion and absorption
- 5- stimulation of pyloric sphincter

**4- As the strength of a depolarizing stimulus to an axon is increased,**

- 1- the amplitude of action potentials increases.
- 2- the duration of action potentials increases.
- 3- the speed with which action potentials are conducted increases.
- 4- the frequency with which action potentials are produced increases.

**5- Which of the following factors dose not depolarize the membrane?**

- 1- Ach( acetylcholyn)
- 2- Stretching of muscle
- 3- parasympathetic nerves
- 4- sympathetic nerves

**6- What is the normal pH value for body fluid?**

- 1- 7.15-7.25
- 2- 7.35-7.45
- 3- 7.55- 7.65
- 4- 7.00-7.35
- 5- 6.5-7.5

**7- The junction between one neuron and the next or between a neuron and an effector is called:**

- 1- synapse
- 2- dendrite
- 3- neurotransmitter
- 4- ventricle
- 5- none of the above

**8- A hematocrit measures percentage of:**

- 1- white blood cells
- 2- plasma
- 3- platelets
- 4- red blood cells

**9- To prevent blood loss after a tissue injury, blood vessels first**

- 1- form a platelet plug
- 2- form a clot

- 3- initiate the coagulation cascade
- 4- constrict and form barriers

**10- Which of these statements about plasmin is true?**

- 1- It is involved in the intrinsic clotting system.
- 2- It is involved in the extrinsic clotting system.
- 3- It functions in fibrinolysis.
- 4- It promotes the formation of emboli

**11- The center of Sympathetic nervous system control of GIT is located in?**

- 1- vagus nerve
- 2- 2nd , 3rd, 4th sacral segments of spinal cord
- 3- T5- L2
- 4- L4-5
- 5- Trigeminal nerve

**12- Which of these is not a characteristic of synaptic potentials?**

- 1- They are all-or-none in amplitude.
- 2- They decrease in amplitude with distance.
- 3- They are produced in dendrites and cell bodies.
- 4- They are produced by chemically regulated gates.

**13- Which of the following is true regarding Gastrin?**

- 1- Secreted by I cells of the antrum of the stomach
- 2- inhibited by distention and gastrin releasing peptide
- 3- stimulation of gastric acid secretion
- 4- inhibits the growth of gastric mucosa
- 5- stimulates Pancreatic secretion

**14- Solution A has a pH of 2, and solution B has a pH of 10. Which of these statements about these solutions is true?**

- 1- Solution A has a higher  $H^+$  concentration than solution B.
- 2- Solution B is basic.
- 3- Solution A is acidic.
- 4- All of these are true.

**15- Which of the following is not true regarding CCK( cholecystokinin)**

- 1- strongly contracted gallbladder
- 2- Secreted by I cells in mucosa of duodenum & jejunum
- 3- Stimulated by: digestive products of fat
- 4- inhibit stomach contraction
- 5- delay gallbladder emptying

**16- The activation of factor X occurs in**

- 1- the intrinsic pathway only.
- 2- the extrinsic pathway only.
- 3- both the intrinsic and extrinsic pathways.
- 4- neither the intrinsic nor extrinsic pathway

**17- Which of the following is not true regarding Secretin:**

- 1- promote pancreatic secretion of  $HCO_3$
- 2- strongly stimulate GIT motility
- 3- Secreted by S cells in the mucosa of duodenum
- 4- Stimulated by acidic gastric juice
- 5- strongly stimulate gallbladder contraction

**18- Suppose that gated ion channels for  $Na^+$  or  $Ca^{2+}$  opened in the plasma membrane of a muscle cell. The membrane potential of that cell would**

- 1- move toward the equilibrium potential for that ion.
- 2- become less negative than the resting membrane potential.
- 3- move farther away from the potassium equilibrium potential.
- 4- all of these.

**19- which of the following factors inhibits the intestinal motility?**

- 1- gastrin,
- 2-CCK,
- 3- motilin,
- 4-serotonin
- 5- glucagon

**20- The absolute refractory period of a neuron**

- 1- is due to the high negative polarity of the inside of the neuron.
- 2- occurs only during the repolarization phase.
- 3- occurs only during the depolarization phase.
- 4- occurs during depolarization and the first part of the repolarization phase.

**21- Which one of the following is not true regarding the chewing?**

- 1- most of chewing muscles innervated by facial nerve
- 2- chewing breaks the indigestible cellulose membrane
- 3- chewing increases the total surface area exposed to digestive enzymes
- 4- softening of food to facilitate swallowing
- 5- lubricates the food by saliva

**22- The resting membrane potential of a neuron or muscle cell is**

- 1- equal to the potassium equilibrium potential.
- 2- equal to the sodium equilibrium potential.
- 3- somewhat less negative than the potassium equilibrium potential.
- 4- somewhat more positive than the sodium equilibrium potential.
- 5- not changed by stimulation.

**23- Pharyngeal stage of swallowing includes?**

- 1- soft palate pulled upward to close the posterior nares

- 2- larynx pulled upward
- 3- enlargement in the opening of esophagus
- 4-upper esophageal sphincter relax
- 5- All of the above

#### **24- Platelets**

- 1- form a plug by sticking to each other.
- 2- release chemicals that stimulate vasoconstriction.
- 3- provide phospholipids needed for the intrinsic pathway.
- 4- serve all of these functions

#### **25- Antibodies against both type A and type B antigens are found in the plasma of a person who is**

- 1- type A.
- 2- type B.
- 3- type AB.
- 4- type O.
- 5- any of these types.

#### **26- Effects of the entrogastic reflexes on motility includes?**

- 1- it is strongly inhibit the pyloric pump
- 2- decreases the tone of pyloric sphincter
- 3- increases gastric emptying
- 4- stimulates HCL secretion
- 5- has no effect on stomach

#### **27- Causes of EC edema includes ?**

- 1- lymphatic blockage
- 2- plasma protein
- 3- capillary pressure
- 4- capillary permeability
- 5- All of the above

**28- Factors that dose not affect the entrogastric reflexes?**

- 1- degree of duodenal distention
- 2- duodenal irritation
- 3- acidity and osmolality of duodenal chyme
- 4- Stomach acidity (pH)
- 5- presence of fat and protein in duodenal chyme

**29- In resting potential**

- 1- excess positive ions accumulate inside the plasma membrane
- 2- excess negative ions accumulate inside the plasma membrane
- 3- excess positive ions accumulate outside the plasma membrane
- 4- both b & c
- 5- both a & b

**Mark the following statements with true or false?**

- 30- **Trypsin and chemotrypsin digest proteins into peptides**
- 31- **Carboxypolypeptidase digest proteins into peptides**
- 32- **Pancreatic amylase hydrolyzes starches**
- 33- **Pancreatic lipase has little role in hydrolyzes of the fat**
- 34- **Lipase hydrolyze cholesterol ester**
- 35- **Phospholipase hydrolyze phospholipid**
- 36- **pancreatic amylase digests Starches to maltose and glucose polymers**
- 37- **Lactase digests Lactose to fructose and glucose**

38- sucrase in small intestine digests Sucrose to Lactose and glucose

39- Pepsin initiate the process of digestion of protein collagen

40- CCK is Secreted in response to fat

41- secretin: Secreted in response to gastric acid

42- List the Anatomical types of glands in the GIT system?

**Fill the gaps about body fluid compartments.**

43- Total body water (TBW ) =.....of Total Body( TB) weight

44- Intracellular fluid (ICF) =.....of total body water (TBW)

45- ..... = 40% of TBW (20% of TB weight)

46- The total number of particles in a solution is measured by .....

47- The mediator of of Parasympathetic nervous system is .....

48- Define Chyme

49-- Define Osmosis?

50- Define syncytium of intestinal muscle