



Department of physiology  
Time allowed: Three hours  
Total marks: 30

Physiology  
MSC Orthopedic

Tanta University  
Faculty of Medicine  
Code: Orth  
Date: 22 /8/2021

**All the questions must be answered:**

- 1- **Discuss** : Mechanism of irreversible shock . (5marks)
- 2- **Mention**: Manifestations of lower motor neuron lesion. (5 marks)
- 3- **State**: Control of secretion of calcitonin hormone. (5 marks)

**All the following must be answered by only one choice (15 marks)**

- 1- **Which of the following is function of glucocorticoids:**
  - a. Decrease blood glucose level.
  - b. Decrease plasma level of fatty acids.
  - c. Increase number of RBCs.
  - d. Decrease blood volume .
- 2- **Which of the following is somatic reaction to pain:**
  - a. Increase heart rate.
  - b. hyperalgesia.
  - c. Flexion withdrawal reflex.
  - d. Decrease arterial blood pressure.
- 3- **Which of the following could induce hypoxic hypoxia:**
  - a. Alcohol poisoning.
  - b. CO poisoning.
  - c. Alveo-capillary block.
  - d. Cyanide poisoning.
- 4- **Which of the following contain nicotinic receptors :**
  - a. Heart.
  - b. Lung.
  - c. Adrenal medulla.
  - d. Salivary glands.
- 5- **Stimulation of muscarinic receptors induce:**
  - a. Increase heart rate.
  - b. Increase gastric evacuation.
  - c. Coronary vasodilatation.
  - d. Bronchodilatation.
- 6- **Which of the following stimulate secretion of erythropoietin:**
  - a. Acidosis.
  - b. Alkalosis.
  - c. Estrogen.
  - d. Increase arterial  $PO_2$ .
- 7- **Which of the following could increase venous return:**
  - a. Venodilatation.
  - b. Arteriolar dilatation.
  - c. Positive intrapleural pressure.
  - d. Vasoconstriction to arterioles.

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- 8- Which of the following induced by stimulation of alpha 1 adrenergic receptors :
- Increase heart rate .
  - Bronchoconstriction.
  - Vasoconstriction to blood vessels.
  - Bronchodilatation.
- 9- Which of the following could stimulate aldosterone secretion:
- Hypervolemia.
  - Hypoproteinemia.
  - Increase blood potassium level.
  - Decrease blood potassium level.
- 10- Which of the following is function of heparin :
- Antiprothrombin.
  - Activate prothrombin.
  - Inhibit activity of platelets.
  - Inhibit activity of vitamin K.
- 11- Which of the following could increase capillary permeability:
- Acidity of blood.
  - Alkalinity of blood.
  - Increase plasma protein level.
  - Increase blood calcium level.
- 12- Increase arterial blood pressure could induce which of the following.
- Increase end diastolic volume.
  - Increase heart rate.
  - Increase secretion of aldosterone.
  - Increase secretion of antidiuretic hormone.
- 13- Which of the following could increase peripheral vascular resistance :
- Anemia.
  - Vasodilatation of arterioles.
  - Increase heart rate.
  - Increase blood viscosity.
- 14- Which of the following could induce metabolic acidosis:
- Restrictive lung disease.
  - Hyperventilation.
  - Hypoventilation.
  - Renal failure.
- 15- Which of the following is CORRECT as regard blood PH:
- Inversely proportionate with arterial  $\text{HCO}_3$ .
  - Directly proportionate with arterial  $\text{PCO}_2$ .
  - Normally equal 7.1 for arterial blood.
  - Directly proportionate with arterial  $\text{HCO}_3$ .