

Multiple Choice Questions

Time: 48 hours

Class Code:DT A \_\_\_\_\_  
ID 16167 \_\_\_\_\_

Name :-islam bashah

Note:

- Attempt all questions from this section. Select the best answer from given choices.
- Use Blue / Black Ink only. Do not use red color.
- Tick or encircle only one option in each given question.

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*It's an open book Conceptual Assignment paper.  
Time to Use your brain now.*

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- A short Gap in the myelin sheath around a nerve fiber is called**
  - Dendrite
  - Axon terminal
  - Node of Ranvier**
  - None of these
- The maximum amount of carbon dioxide in the human body is transported as: \_\_\_\_\_**
  - Bicarbonate**
  - Carbide
  - Amylase
  - none of these
- The lungs are protected by \_\_\_\_\_**
  - Ribcage**
  - Sternum
  - Backbone
  - All of the above
- The three different cells found in the stomach**
  - Chief cells, renal cells, nephron
  - Renal cells, mucous cells, hepatic cells
  - Nephrons, hepatic cells, parietal cells
  - Chief cells, parietal cells, mucous cells**
- For action potential to occur,**
  - The stimulus should reach or exceed threshold
  - Na<sup>+</sup> influx must exceed K<sup>+</sup> efflux
  - Both A & B**
  - None of these
- During rising phase of action potential,**
  - Voltage gated Na<sup>+</sup> channels open**
  - Voltage gated K<sup>+</sup> channels open
  - Voltage gated Na<sup>+</sup> channels close
  - Voltage gated K<sup>+</sup> channel close
- The movement of an esophagus to help the food down the GI tract \_\_\_\_\_**
  - Mastication
  - Emulsification
  - Peristalses**
  - Ejection
- Simple diffusion is \_\_\_\_\_.**
  - Movement of molecules against the conc. gradient
  - Movement of molecules down the conc. gradient**
  - Both A & B
  - None of these
- 97% of Oxygen is carried in blood from lungs is \_\_\_\_\_**
  - Bound to Sulphate ion
  - Bound to Hemoglobin**
  - Dissolved in plasma
  - All of these
- Intrinsic factor secreted in stomach helps in**
  - Absorption of vitamin D
  - Absorption of vitamin K
  - Absorption of vitamin B12**
  - Removal of vitamin B12

**Midterm Assignment(2020)**  
**Course Title: Basic Physiology (DT- 2nd) Instructor: Dr. Irfan Ali Khan**

**Time: 72 Hours**

**Section 2**

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Name: .....islam bashah.....

Class/Roll.no .....16167.....

**Note:**

- **Attempt all questions from this section.**
  - **Use only Blue / Black Ink other than diagrams**
  - **Answer Briefly and to the point, avoid un-necessary details**
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**1. Draw and Label the Action Potential in a large myelinated nerve fiber. Which ion channels are involved in its different stages?**

**Key points:**

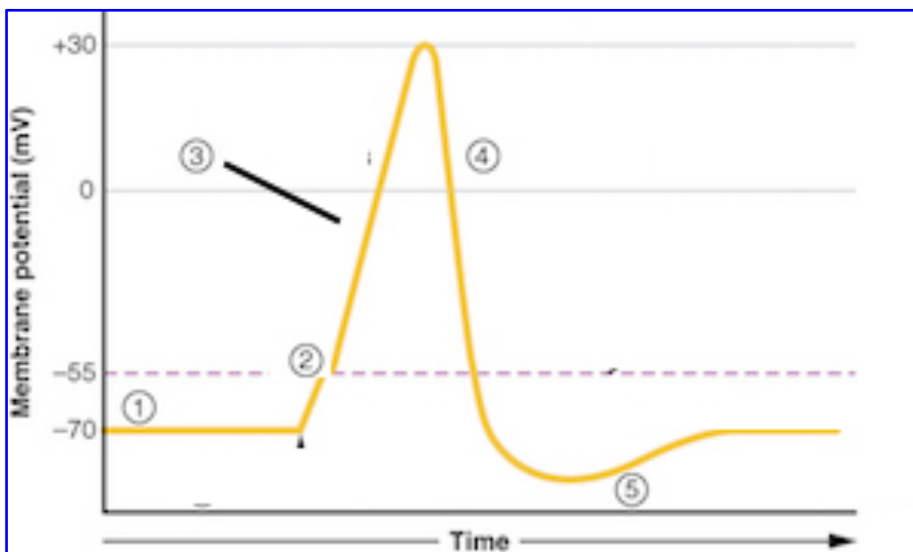
Draw

Label

Ion Channels

Depolarization

Repolarization



Ans.. channel in cell membrane causing action potential

1. voltage gated  $\text{Na}^+$  channels
  - . Activation gates
  - . Inactivation gates
2. voltage gated  $\text{K}^+$  channels

### 3 Slow Ca<sup>+</sup> Na<sup>+</sup> channel

Key point

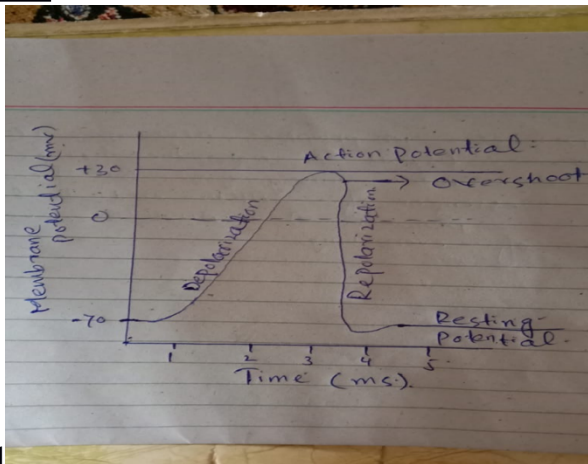
#### 1. **Depolarization**

Depolarization is a change within a cell during which the cell undergoes a shift of in electric charge distribution resulting in less negative charge inside the cell. Depolarization is essential to the function of many cell.

#### 2 **REPOLARIZATION...**

Repolarization refer to the change in membrane potential that return it to a negative value just the depolarization phase of a action potential which has the membrane potential to positive value

#### .....Diagram and label



- 1... Resting potential
- 2... Depolarization
- 3... Repolarization
- 4... ACTION SHOOT

### 2. What is the role of oxygen, carbon dioxide and hydrogen ions in control of respiration? Marks 10

**Ans.**

Role of oxygen...

Oxygen is important to every cell in your body. **oxygen** through a process called oxidation. chemically changes food and liquid into energy. Its this oxygen fire that contracts our muscle, repair our cells, feeds our brain and even calms our nerve. Not only that but breathing is our body chief cleaning tool. without oxygen your cell cannot make energy, and their metabolism is less effective. without sufficient oxygen, we perform less efficiently.

### Role of carbon dioxide...

During aerobic respiration, complete oxidation of carbohydrate take place. Glucose is broken down by oxygen to release energy, while carbon dioxide and water are the by product of the reaction. The release energy is used to make a special energy molecule called Adenosine triphosphate ATP

As the respiration takes place in the absence of oxygen, incomplete oxidation of food occur and much less energy is released. However carbon dioxide is still product. This is called anaerobic respiration and the process occurs in the CYTOPLASMA

## Role of Hydrogen...

Hydrogen respiration can be considered either the oxidation of  $H_2$  TO  $H^+$  with the electron release in channel into a membrane bound respiratory electron transport chain or as the reduction of  $H^+$  TO  $H_2$  in the terminal reaction of an anaerobic low potential electron transport chain system. In both cases, the redox reaction involving  $H_2$  IS catalyzed by a hydrogenase enzyme and electron transport to or from  $H_2$  is translocation of  $H^+$  across a membrane.

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