

A/110

QUIZ I

Version #2

B

1. Homeostasis refers to

- ☒ A. The unwavering control of a physiological setpoint
- ☒ B. Maintaining a stable internal environment
- ☒ C. Maintaining a stable external environment
- ☒ D. Both the unwavering control of a physiological setpoint and maintaining a stable internal environment are correct
- ☒ E. Both the unwavering control of a physiological setpoint and maintaining a stable external environment are correct

B

2. An inhibitory postsynaptic potential

- ☒ A. Is produced by an increased permeability to both Na^+ and K^+
- ☒ B. Is produced by an increased permeability to Cl^- and/or K^+
- ☒ C. Is a small depolarization in a postsynaptic cell
- ☒ D. Can be summed with other IPSPs to trigger an action potential in the postsynaptic cell
- ☒ E. Both is produced by an increased permeability to both Na^+ and K^+ and can be summed with other IPSPs to trigger an action potential in the postsynaptic cell are correct

B X

Which of the following is responsible for the falling (repolarizing) phase of the action potential?

- ☒ A. Voltage-gated Na^+ channels are opened
- ☒ B. The Na^+ , K^+ pump restores the ions to their original locations inside and outside of the cell
- ☒ C. The permeability to Na^+ increases greatly
- ☒ D. ATP-ase destroys the energy supply that was maintaining the action potential at its peak
- ☒ E. The permeability to K^+ increases greatly while that to Na^+ decreases

C X

A given sensory receptor

- ☒ A. Responds to nonspecific physical or chemical changes in its environment
- ☒ B. Transduces several forms of energy to electrical impulses
- ☒ C. Is found at the peripheral endings of efferent neurons
- ☒ D. Is described by all of the choices
- ☒ E. Is described by none of the choices

A X

When an axon is stimulated to threshold, the voltage-gated

- ☒ A. K^+ channels open before the voltage-gated Na^+ channels
- ☒ B. Na^+ channels are activated and then inactivated
- ☒ C. K^+ channels open at the same time as the voltage-gated Na^+ channels
- ☒ D. K^+ channels are opened when Na^+ binds to the channel
- ☒ E. All of the choices are correct

- E 6. Which of the following statements regarding the precision of locating a somatic stimulus is true?
- A. The precision is greater in areas of the body that have small, overlapping receptive fields than in areas with large, nonoverlapping receptive fields
 - B. The precision is greater in the lips and fingers than on the back
 - C. The precision is greater for the skin than for the internal organs
 - D. Both the precision is greater in areas of the body that have small, overlapping receptive fields than in areas with large, nonoverlapping receptive fields and the precision is greater in the lips and fingers than on the back are true
 - ☒ E. All of the choices are true

- DX The neural code that signals stimulus strength is
- A. The size of action potentials
 - ☒ B. The frequency of action potentials
 - C. The duration of action potentials
 - D. Both the size of action potentials and the frequency of action potentials
 - E. All of the choices are correct

- D X The role of calcium ion at chemical synapses is to
- ~~A. Depolarize the axon terminal of the presynaptic cell~~
 - ~~B. Bind to neurotransmitter receptors on the postsynaptic cell~~
 - ☒ C. Cause fusion of synaptic vesicles with the plasma membrane of the axon terminal
 - ~~D. Interfere with IPSPs in the postsynaptic cell~~
 - E. All of the choices are correct

- E X The membrane potential of most neurons at rest is
- A. Equal to the equilibrium potential of potassium ion
 - B. Equal to the equilibrium potential of sodium ion
 - ☒ C. Slightly more negative than the equilibrium potential of potassium ion
 - D. Slightly more positive than the equilibrium potential of potassium ion
 - E. Both equal to the equilibrium potential of sodium ion and slightly more negative than the equilibrium potential of potassium ion

- C 10. Which one of the following is the correct sequence for a regulatory reflex arc?
- ~~A. Stimulus, effector, efferent pathway, integrating center, afferent pathway, receptor~~
 - ~~B. Stimulus, receptor, efferent pathway, integrating center, afferent pathway, effector~~
 - ☒ C. Stimulus, receptor, afferent pathway, integrating center, efferent pathway, effector
 - ~~D. Stimulus, effector, afferent pathway, integrating center, efferent pathway, receptor~~
 - ~~E. Effector, efferent pathway, integrating center, afferent pathway, receptor, stimulus~~