BMED Systems Physiology, Quiz 3, September 19, 2013 Name: _____KEY_____

1) The brain and spinal cord together compose the ___**A**_
A) central nervous system.
B) autonomic division system.
C) somatic motor division of the nervous system.
D) peripheral nervous system.
E) visceral nervous system.

2) Interneurons are found ___**C, D (autonomic ganglia contain "intrinsic neurons"**_
A) only in the brain.
B) only in the spinal cord.
C) only in the CNS.
D) throughout the nervous system.
E) only in spinal nerves.

3) The collection of axons that carries information between the central nervous system and the peripheral effectors is called the ___**E**_
A) axon hillock.
B) varicosity.
C) axon.
D) dendrite.
E) nerve.

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4) The Nernst equation predicts ___**D**_
A) intracellular ion concentrations.
B) extracellular ion concentrations
C) the membrane potential resulting from all permeable ions.
D) the membrane potential resulting from permeability to a single ion.
E) the threshold membrane potential.

5) The rising phase of the action potential is due to ___**A**_
A) Na^+ flow into the cell only.
B) Na^+ flow out of the cell only.
C) K^+ flow out of the cell only.
D) K^+ flow into the cell only.
E) Na^+ flow out of the cell and K^+ flow into the cell.

6) The ion necessary to initiate the release of acetylcholine into the synaptic cleft is ___**C**
A) sodium.
B) potassium.
C) calcium.
D) chloride.
E) zinc.

7) If a hyperpolarizing graded potential and a depolarizing graded potential of similar magnitudes arrive at the trigger zone at the same time, what is most likely to occur? **B**

A) An action potential is fired off more quickly than usual.
B) Nothing. They will cancel each other out.
C) The cell becomes hyperpolarized.
D) The cell becomes easier to excite.
E) The cell dies.

8) The brain consumes about half of the _____ circulating in the body. **B**

A) oxygen
B) glucose
C) sodium
D) potassium
E) fatty acids

9) Cell bodies of sensory neurons are located in **E**

A) propriospinal tracts.
B) ventral root ganglia.
C) ventral horns.
D) dorsal horns.
E) dorsal root ganglia.

10) The structure that connects the two cerebral hemispheres is the **C**

A) basal nuclei.
B) suprachiasmatic nucleus.
C) corpus callosum.
D) hippocampus.
E) gray "H."

11) Which brain area is considered to be a key integrating center for homeostasis? **A**

A) hypothalamus
B) thalamus
C) pituitary gland
D) brain stem
E) medulla

12) An important structure in both learning and memory is the **D**

A) cerebellum.
B) pons.
C) medulla.
D) hippocampus.
E) hypothalamus.