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**QUIZ 2**

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E 1. ATP is necessary for each of the following mechanisms or functions in skeletal muscle *except*
A. Sequestration of Ca2+ into the sarcoplasmic reticulum
B. Dissociation of actin from myosin
C. Release of Ca2+ from the sarcoplasmic reticulum
C D. Movement of myosin cross bridges
E. Maintenance of the polarized state of the skeletal-muscle membrane

E 2. Comparing excitation-contraction coupling in cardiac muscle with that in skeletal muscle:
A. Extracellular calcium plays a major role in cardiac but not skeletal muscle
B. The stimulus for calcium release from the sarcoplasmic reticulum is the same in both muscles
C. Troponin sites are always saturated immediately after calcium release in both muscles
A D. There is no net change in total intracellular calcium concentration in either muscle
E. Both A and B.

D 3. During isovolumetric ventricular contraction,
A. Rapid filling of the ventricles occurs
B. No blood enters or leaves the ventricles
B C. The maximum volume of blood is ejected
D. Ventricular pressure is at a maximum
E. None of these things would occur

E 4. A major difference between smooth muscle and skeletal muscle is that
A. Myosin is the regulatory protein in smooth muscle
B. Myosin is the regulatory protein in skeletal muscle
C. Skeletal muscle may exhibit spontaneous activity
A D. Only skeletal muscle requires increased calcium ion concentration in the cytosol for contraction
E. None of the choices are correct

D 5. Which of the following criteria must be met for the heart to function efficiently?
A. Excitation and the consequent contraction of the cardiac muscle fibers of each heart chamber should be coordinated to assure efficient pumping
B. The atria should be excited and contract before the onset of ventricular contraction to assure that ventricular filling is complete
C. The right side of the heart should contract first to assure that oxygenated blood is delivered to the heart before the left side contracts
D. Both A and B.
E. All of the choices are correct

C 6. Each of the following statements regarding vision is true. Which statement best explains why we cannot see colors in dim light?
A. The human eye has three kinds of cone photoreceptors
B. There are six types of opponent-color cells in the lateral geniculate nucleus
C. The human eye has only one kind of rod photoreceptor
D. All photoreceptors contain the same chromophore
E. Cone photoreceptors are concentrated in the fovea

A 7. The plateau of the action potential in cardiac ventricular cells results from the opening of voltage-gated slow _____ channels in the plasma membrane of the cell.
A. Sodium
B. Potassium
C. Calcium
C D. Chloride
E. Glucose

A 8. Which of the following choices gives the correct sequence of events following the depolarization of transverse tubules in excitation-contraction coupling in cardiac muscle?
A. Calcium release into sarcoplasm, calcium ion influx through sarcolemma, actin and myosin attach, thin myofilaments slide toward the middle of sarcomeres
B. Actin and myosin attach, thin myofilaments slide toward the middle of sarcomeres, calcium release into sarcoplasm
E C. Calcium release into sarcoplasm, actin and myosin attach, calcium ion influx through sarcolemma, thin myofilaments slide toward the middle of sarcomeres
D. Calcium release into sarcoplasm, actin and myosin attach, thin myofilaments slide toward the middle of sarcomeres, calcium ion influx through sarcolemma
E. Calcium ion influx through sarcolemma, calcium release into sarcoplasm, actin and myosin attach, thin myofilaments slide toward the middle of sarcomeres

C 9. Which of the following statements regarding the shortening of a skeletal-muscle fiber is *not* true? When a skeletal-muscle fiber shortens, the
A. Sarcomeres shorten
B. Distance between Z lines decreases
C. Myofilaments shorten.
D. Myofilaments slide past each other
E. Length of the A bands remains the same

A 10. Which of the following statements regarding vision is false?
A. The cornea plays a larger role than the lens in focusing light on the retina
B. Presbyopia is a condition in which the lens cannot accommodate adequately for near vision
C. Myopia is a condition in which the lens focuses light from distant objects behind the retina
C D. Cataract results from an increase in opacity (clouding) of the lens
E. The image of an object that is focused on the retina is upside down relative to the object's actual position in space