**بسم الله الرحمن الرحيم**

**10.** Which one of the following muscle proteins plays an important role in

contraction of both smooth and striated muscle?

a. Calmodulin

b. Troponin

c. Tropomyosin

d. Actin

e. Myosin light chains

**11.** During the process of excitation-contraction coupling in skeletal muscle,

calcium is released from the sarcoplasmic reticulum by

a. Inositol triphosphate (IP3)

b. Protein kinase A

c. An increase in intracellular calcium concentration

d. Membrane depolarization

e. An increase in intracellular sodium concentration

**12.** Which of the following words or phrases is most closely associated

with an end-plate potential at the neuromuscular junction?

a. “All-or-none response”

b. Depolarization

c. Hyperpolarization

d. Action potential

e. Electrically excitable gates

**16.** Which of the following statements about synaptic transmission at the

neuromuscular junction is true?

a. It is enhanced by high levels of cholinesterase

b. It is caused by an influx of potassium ions through the muscle membrane

c. It is depressed by abnormally low levels of magnesium

d. It is depressed by increased parasympathetic nerve activity

e. It is produced by the release of acetylcholine from the alpha motoneuron

**17.** When comparing the contractile responses in smooth and skeletal

muscle, which of the following is most different?

a. The source of activator calcium

b. The role of calcium in initiating contraction

c. The mechanism of force generation

d. The source of energy used during contraction

e. The nature of the contractile proteins

**18.** The amount of force produced by a skeletal muscle can be increased

by

a. Increasing extracellular Mg2

b. Decreasing extracellular Ca2

c. Increasing the activity of acetylcholine esterase

d. Decreasing the interval between contractions

e. Increasing the preload beyond 2.2 m

**38.** When skeletal muscle is in its resting state, myosin cross-bridges are

prevented from binding to actin molecules by

a. Calmodulin

b. Troponin

c. Tropomyosin

d. Titin

e. Phospholamban

**461.** Repetitive stimulation of a skeletal muscle fiber will cause an increase

in contractile strength because repetitive stimulation causes an increase in

a. The duration of cross-bridge cycling

b. The concentration of calcium in the myoplasm

c. The magnitude of the end-plate potential

d. The number of muscle myofibrils generating tension

e. The velocity of muscle contraction