

Multiple Choice Questions

1. Which of the following is not correct about cardiac muscle?
 - a. They are involuntary muscle
 - b. They have striations
 - c. They contract rhythmically
 - d. They are joined together by desmosomes
2. How many general categories of cardiac muscle cells are there?
 - a. 1
 - b. 3
 - c. 4
 - d. 8
3. The ____ node generates the initial electrical impulse
 - a. Sinoatrial node
 - b. Atrioventricular node
 - c. Purkinje
 - d. Bundle branch
4. What junction allows cardiac cells to spread electrical impulses to each other?
 - a. Purkinje fibers
 - b. Fibrous connectors
 - c. Intercalated discs
 - d. Voltage gated magnesium channel

Free Response Questions

1. Although pacemaker cells make up only a small fraction of the cells in the heart, they are able to coordinate contractions throughout the entire organ. Explain the mechanisms that allow pacemaker cells to synchronize the activity of cardiac muscle cells.
2. Researchers experimentally destroy most of the pacemaker cells in a mammalian heart but leave the remaining cardiac muscle intact. Predict how this manipulation would affect heart function.
3. Depolarization of cardiac muscle cells is slightly different from that of other muscle types. Explain what channels these cells use to depolarize and in what order.