

Which of the following regulates the fine control of Arterial blood pressure?

Select one:

- a. Medulla oblongata.
- b. Midbrain.
- c. Hypothalamus.
- d. Pons.
- e. Thalamus.

Sounds of the heart?

Select one:

- a. Mainly produced by closure of valves.
- b. Opening of the valves produces inaudible sounds.
- c. Heard by phonocardiograph.
- d. Recorded by stethoscope.
- e. We have only two.

During exercise, cardiac output is augmented by?

Select one:

- a. Dilation of venous vessels.
- b. Sympathetic stimulation to the resistance vessels.
- c. Decreased end-diastolic volume.
- d. Decreased mean systemic arterial pressure.
- e. Decreased stroke volume.

The early filling of ventricles occurs in?

Select one:

- a. Reduced filling phase.
- b. Maximum filling phase.
- c. Atria systole.
- d. Both reduced and max. filling phases.
- e. Both max. filling and atrial contraction phases.

The component of cardiac tissue having the highest propagation velocity is?

Select one:

- a. Atrial muscle.
- b. Ventricular muscle.
- c. Purkinjefibres.
- d. A.V.N.
- e. Bundle of Hiss.

As regards phases of cardiac cycle?

Select one:

- a. The shortest phase of cardiac cycle is maximum ejection phase.
- b. Ventricular diastole is shorter than Ventricular systole.
- c. Increase H.R will shorten the duration of cardiac cycle.
- d. Cyclic pressure changes in the left side of the heart are of the same magnitude in right side.
- e. 4th heart sound occurs in maximum ejection phase.



Which of the following is the property of a cardiac cell to initiate an action potential on its own without external stimulation?

Select one:

- a. Selectivity.
- b. Spontaneity.
- c. Automaticity.
- d. Conductance.
- e. Excitability.

Total peripheral resistance is conserved mainly by?

Select one:

- a. venules
- b. small arteries
- c. capillaries
- d. arterioles
- e. Veins.

Cardiac reserve in heart failure equals?

Select one:

- a. 300-400 %.
- b. 500-700%.
- c. 0%.
- d. 100%.
- e. 200%.

A – V valves?

Select one:

- a. Opened during systole.
- b. Closed during diastole.
- c. Attached to papillary muscle.
- d. Their closure causes the 2nd heart sound.
- e. Their closure causes the 4th heart sound.

A – V valves?

Select one:

- a. Opened during systole.
- b. Closed during diastole.
- c. Attached to papillary muscle.
- d. Their closure causes the 2nd heart sound.
- e. Their closure causes the 4th heart sound.

Peripheral edema is seen in?

Select one:

- a. Heart failure.
- b. Normal young person.
- c. Hypovolemic shock.
- d. Young athletes.
- e. Sleeping.

Maximum coronary blood flow occurs in?

Select one:

- a. Isometric contraction phase.
- b. Isometric relaxation phase.
- c. Maximum filling phase.
- d. Reduced filling phase.
- e. protodiastolic phase.

Mary's law denotes relationship between heart?

Select one:

- a. Contraction and conductivity
- b. Rate and contraction
- c. Contraction and volume
- d. Rate and blood pressure
- e. Rate and volume.

Cardiac output is decreased physiologically in?

Select one:

- a. marked increase in HR
- b. marked decrease in HR
- c. low temperature
- d. sudden standing from lying down
- e. Exercise training.



Renin is released in the following conditions except?

Select one:

- a. renal Artery stenosis
- b. haemorrhage
- c. sympathetic stimulation
- d. excess NaCl intake
- e. Hypovolemia.

Which of the following is responsible for the plateau phase of cardiac action potential?

Select one:

- a. opening of  $K^+$  channel
- b. opening of  $Na^+$  channel
- c. closing of  $Na^+$  channel
- d. opening of slow  $Ca^{++}$  channel
- e. Closure of  $K^+$  channels.

With respect to first heart sound, all are true except?

Select one:

- a. It is of low pitch.
- b. Occurs in isometric relaxation phase.
- c. Occurs in isometric contraction and first part of maximum ejection phase.
- d. Longer in duration than second.
- e. It is of mitral and tricuspid components.



Which of the following does NOT show Rapid initial depolarization at the start of an action potential?

Select one:

- a. SA node.
- b. Atrial muscle.
- c. Purkinje fibers.
- d. Ventricular muscle.
- e. Bundle of His.

Ejection fraction is % ratio of?

Select one:

- a. SV and ESV
- b. CO and surface area
- c. ESV and CO
- d. SV and EDV
- e. CO and EDV.

Ventricular volume?

Select one:

- a. Reaches its maximum at end of isometric contraction phase.
- b. Reaches its minimum at end of isometric relaxation phase.
- c. Decreases during the protodiastolic phase.
- d. Reaches its maximum at end of atrial contraction phase.
- e. Reaches its maximum at end of maximum ejection phase.



When Blood Pressure increase in carotid sinus, there is?

Select one:

- a.  $\uparrow$  sympathetic discharge to heart
- b. Normal sympathetic discharge to heart
- c.  $\downarrow$  vagal tone
- d.  $\uparrow$  vagal tone
- e. Normal vagal tone.

Pulse pressure is?

Select one:

- a. The highest pressure measured in the arteries
- b. The lowest pressure measured in the arteries
- c. Measured during diastole
- d. Determined by stroke volume
- e. Equals Diastolic pr. multiplied by systolic pr.

Closure of the aortic valve occurs at the onset of which phase?

Select one:

- a. Reduced ejection.
- b. Isovolumetric relaxation.
- c. Isovolumetric contraction.
- d. Rapid filling.
- e. Maximum ejection

In Heterometric autoregulation?

Select one:

- a. End systolic volume decreases.
- b. End diastolic volume increases.
- c. Stroke volume is constant.
- d. Stroke volume is decreased.
- e. End diastolic volume decreases.



All valves of the heart are closed in?

Select one:

- a. Only in isometric contraction phase.
- b. Only in isometric relaxation phase.
- c. In maximum filling phase.
- d. In maximum ejection phase.
- e. In both isometric contraction and isometric relaxation phases.

With respect to cardiac cycle?

Select one:

- a. It reflects the electrical activity of the heart.
- b. Its duration equals 8 second.
- c. It consists of 8 phases.
- d. The longest phase is isometric contraction phase.
- e. It starts by ventricular systole.

Cardiac output in L/M divided by heart rate equals?

Select one:

- a. Cardiac efficiency.
- b. Cardiac index.
- c. Stroke volume.
- d. Mean arterial blood pressure.
- e. Cardiac work.



The arterioles are? The arterioles are?

Select one:

- a. Elastic vessels. Elastic vessels
- b. Exchange vessels. Exchange vessels
- c. Resistance vessels. Resistance vessels
- d. Capacitance vessels. Capacitance vessels
- e. Sites of reabsorption. Sites of reabsorption

Total peripheral assistance in increased in?

Select one:

- a. anaemia
- b. muscular exercise
- c. arteriolar dilatation
- d. hyperglycemia.
- e. Arteriolar constriction.

Which of the following is usually the dominant pacemaker and fires the fastest?

Select one:

- a. SA node.
- b. AV node
- c. Hiss bundle.
- d. Purkinje fibers.
- e. Ventricular muscle fibers.

The duration of cardiac muscle proper action potential is?

Select one:

- a. About 4 msecond.
- b. Around 10 msecond
- c. Less than 100 second
- d. 250- 300 msecond
- e. More than 250 second