

Physiology MCQs Week 8

1. With regard to autonomic innervation of the heart:

- Answer A** The parasympathetic and sympathetic nerves are widely distributed throughout the atria and the ventricles
- Answer B** Parasympathetic stimulation is effected by increased permeability of K^+ thereby hyperpolarizing the tissue
- Answer C** Sympathetic stimulation is likely to be effected by a decrease in Na^+ and Ca^{++} permeability
- Answer D** Parasympathetic stimulation can markedly decrease the contractility of the heart
- Answer E** With strong vagal stimulation an atrial escape beat is required to set pace in absence of SA and AV node function

2. In cardiac cell action potential:

- Answer A** Repolarization is due to net K^+ influx
- Answer B** Rapid Na^+ influx causes phase 0 in SA node
- Answer C** Duration of the action potential of cells in the SA node is longer than in ventricular muscle cells
- Answer D** It develops slower in the SA node
- Answer E** The resting membrane potential of the SA node is $-80mV$

3. With regard to ECG tracing and myocardial contraction, which statement is TRUE?

- Answer A** Atrial systole begins at the start of the P wave
- Answer B** Ventricular systole begins at the start of the QRS complex
- Answer C** Ventricular systole ends just after the T wave
- Answer D** The ST segment represents ventricular diastole
- Answer E** All of the above

4. In a normally beating heart, what proportion of ventricular filling during diastole is PASSIVE?

- Answer A** 0%
- Answer B** 25%
- Answer C** 50%
- Answer D** 75%
- Answer E** 100%

5. With increasing heart rate, which of the following cardiac parameters decreases?

- Answer A** Duration of systole
- Answer B** Duration of diastole
- Answer C** Duration of cardiac action potential
- Answer D** Duration of absolute refractory period
- Answer E** All of the above

Answers Phys Week 8

1. B
2. D
3. C
4. D
5. E