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**Frage 1**

Richtig

Erreichte Punkte 1,00 von 1,00

Which of the following statements are TRUE regarding the phases of the cardiac cycle? (2 correct choices)

- a. Ventricular ejection begins when the mitral valve opens.
- b. Isovolumetric contraction occurs before the aortic valve opens. ✓
- c. The ventricles fill primarily during diastole. ✓
- d. The cardiac cycle typically lasts for 2-3 seconds.
- e. The atria contract during the latter part of systole.

**Frage 2**

Richtig

Erreichte Punkte 1,00 von 1,00

Which frequency of action potentials occurs in an alpha-motorneuron to drive a voluntary contraction of a skeletal muscle (1 correct answer).

- a. 0.3 Hz
- b. 3 Hz
- c. 30 Hz ✓
- d. 300 Hz

**Frage 3**

Teilweise richtig

Erreichte Punkte 0,67 von 1,00

Which of the following statements is FALSE? (3 correct answers)

- a. Undegraded proteins are always foreign material
- b. Undegraded proteins do not occur physiologically ✓
- c. Undegraded proteins can accumulate between cells ✗
- d. Undegraded proteins do not alter any function ✓
- e. Undegraded proteins can accumulate in cells

**Frage 4**

Richtig

Erreichte Punkte 1,00 von 1,00

Which of the following statements is TRUE? (2 correct answers)

- a. Radiation injury is dependent on the dose ✓
- b. All injury leads to cell death
- c. Reactive oxygen species are not involved in injury
- d. Any chemical substance can be a noxious agent ✓
- e. Chemical substances never cause injury

**Frage 5**

Richtig

Erreichte Punkte 1,00 von 1,00

Bring the parts of the nephron into correct order:  ✓ ,  ✓ ,  
 ✓ ,  ✓ ,  ✓ ,  ✓

**Frage 6**

Richtig

Erreichte Punkte 1,00 von 1,00

1. Which of the following describes the evolution of tissue replacement in the right order? (one answer correct)

- a. Tissue damage, inflammation, injury, scar, granulation tissue
- b. Granulation tissue, tissue damage, inflammation, injury, scar
- c. Injury, tissue damage, inflammation, granulation tissue, scar ✓
- d. Injury, granulation tissue, scar, inflammation, tissue damage
- e. Scar, inflammation, tissue damage, granulation tissue, injury

**Frage 7**

Richtig

Erreichte Punkte 1,00 von 1,00

Which type of heat transfer is primarily responsible for the body's heat loss when lying on a cold metal surface, and what additional heat transfer mechanism becomes significant when sweating occurs? (1 correct choice)

- a. Radiation for the initial heat loss, and conduction during sweating.
- b. Convection for the initial heat loss, and radiation during sweating.
- c. Conduction for the initial heat loss, and convection during sweating
- d. Conduction for the initial heat loss, and evaporation during sweating. ✓

**Frage 8**

Richtig

Erreichte Punkte 1,00 von 1,00

Which of the following is NOT a cardinal symptom of inflammation? (1 correct answer)

- a. Rubor
- b. Calor
- c. Tumor
- d. Dolor
- e. Odor ✓

**Frage 9**

Richtig

Erreichte Punkte 1,00 von 1,00

What can be a cause for a fracture of the femoral neck that necessitates a hip replacement? (3 correct answers)

- a. Malignant tumor ✓
- b. Nephrosis
- c. Trauma ✓
- d. Osteoporosis ✓
- e. Dermatitis

**Frage 10**

Richtig

Erreichte Punkte 1,00 von 1,00

Which are features of malignant tumors? (3 correct answers)

- a. Uniform appearance
- b. No mitoses
- c. Invasive growth ✓
- d. Genetic changes ✓
- e. Nuclear polymorphism ✓

**Frage 11**

Richtig

Erreichte Punkte 1,00 von 1,00

Which is the most important ion channel family for setting the resting membrane potential (1 correct answer)

- a. Potassium channels ✓
- b. Sodium channels
- c. Calcium channels
- d. Chloride channels

**Frage 12**

Richtig

Erreichte Punkte 1,00 von 1,00

The Tiffenau test (1 correct answer)

- a. quantifies the resistance during inspiration
- b. quantifies the residual volume
- c. includes a forced expiration ✓
- d. quantifies the vital capacity

**Frage 13**

Teilweise richtig

Erreichte Punkte 0,67 von 1,00

Which investigations are performed in clinical pathology at a pathology department? (3 correct answers)

- a. Diagnostic histopathology of cells and tissue ✓
- b. Forensic autopsy of accidental death
- c. Toxicological analyses of blood and tissue ✗
- d. Molecular diagnostics of tissue and cells ✓
- e. Clinical autopsy of patients in the hospital

**Frage 14**

Falsch

Erreichte Punkte 0,00 von 1,00

What is the source of the electromyogramm (EMG) signal? (1 correct answer)

- a. Voltage change of the muscle cell
- b. Voltage change of the alpha-motorneuron ✘
- c. Voltage change of the sarcoplasmatic reticulum of the muscle cell
- d. Calcium influx to the muscle cell
- e. Contraction of the muscle cell

**Frage 15**

Richtig

Erreichte Punkte 1,00 von 1,00

What fundamental physical phenomenon is utilized in MRI (Magnetic Resonance Imaging) for image formation? (1 correct choice)

- a. Resonant absorption of gamma rays by tissues.
- b. Emission of positrons and detection of annihilation photons.
- c. Precession of proton spins under radiofrequency excitation. ✔
- d. Absorption of X-rays by tissues for contrast imaging.

**Frage 16**

Richtig

Erreichte Punkte 1,00 von 1,00

What can be the cause of edema? (2 correct answers)

- a. Increased osmotic pressure
- b. Increased renal blood flow
- c. Increased capillary permeability ✔
- d. Increased plasma albumin
- e. Increased hydrostatic pressure ✔