



قائمة الاسئلة

الامان والسلامة في الهندسة الطبية - كلية الهندسة - قسم الطبية الحيوية - المستوى الرابع - 3 ساعات - درجة هذا الاختبار (50)

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- 1) What is a workplace hazard?
 - 1) ☒ A situation with potential to cause injury or harm
 - 2) ☐ A machine used in a hospital
 - 3) ☐ A government regulation
 - 4) ☐ A type of job training
- 2) Which of the following is NOT a type of workplace hazard?
 - 1) ☐ Biological
 - 2) ☐ Psychological
 - 3) ☐ Economic
 - 4) ☒ Chemical
- 3) What is an example of an ergonomic hazard?
 - 1) ☒ Poor posture
 - 2) ☐ Chemical spills
 - 3) ☐ Exposure to ultraviolet rays
 - 4) ☐ High noise levels
- 4) The most dangerous period for electrical shock to the heart occurs during:
 - 1) ☐ The P wave
 - 2) ☐ The QRS complex
 - 3) ☒ The T wave
 - 4) ☐ The PR interval
- 5) What does the acronym R.A.C.E. stand for in fire safety?
 - 1) ☒ Rescue, Alarm, Contain, Extinguish
 - 2) ☐ Run, Activate, Close, Escape
 - 3) ☐ Respond, Assist, Call, Evacuate
 - 4) ☐ Rescue, Alert, Control, Exit
- 6) Which type of fire extinguisher is used for electrical fires?
 - 1) ☐ Class A
 - 2) ☐ Class B
 - 3) ☒ Class C
 - 4) ☐ Class D
- 7) What is the first step when using a fire extinguisher?
 - 1) ☐ Aim at the fire
 - 2) ☐ Sweep from side to side
 - 3) ☒ Pull the pin
 - 4) ☐ Squeeze the handle
- 8) Fire doors in hospitals are designed to:
 - 1) ☐ Let smoke escape
 - 2) ☐ Remain open during a fire
 - 3) ☒ Automatically close when alarms activate
 - 4) ☐ Only be used during drills
- 9) What is the SI unit for dose equivalent in radiation?
 - 1) ☐ Gray (Gy)
 - 2) ☒ Sievert (Sv)
 - 3) ☐ Becquerel (Bq)
 - 4) ☐ Roentgen (R)



- 10) Which organ is most sensitive to ionizing radiation?
- 1) - Kidneys
 - 2) ☒ Eyes
 - 3) - Lungs
 - 4) - Skin
- 11) What is the minimum safe distance from a mobile X-ray unit?
- 1) - 1 meter
 - 2) - 2 meters
 - 3) ☒ 3 meters
 - 4) - 5 meters
- 12) The preferred method for sterilization is:
- 1) - Alcohol
 - 2) ☒ Heat
 - 3) - Radiation
 - 4) - Chemical disinfectants
- 13) What should never be done in a laboratory?
- 1) - Wear protective clothing
 - 2) ☒ Use pipettes by mouth
 - 3) - Store chemicals properly
 - 4) - Use fume hoods
- 14) What is the difference between sterilization and disinfection?
- 1) ☒ Sterilization destroys all microbial life, while disinfection removes only some pathogens.
 - 2) - Sterilization is used only for medical tools, while disinfection is for hands.
 - 3) - Disinfection is a stronger process than sterilization.
 - 4) - They are the same process.
- 15) Which type of chemical disinfectant is commonly used in healthcare settings?
- 1) ☒ Alcohols
 - 2) - Lead compounds
 - 3) - Heavy metals
 - 4) - Pesticides
- 16) Which of the following statements about fire evacuation is TRUE?
- 1) - Evacuation should always be vertical (to a different floor).
 - 2) ☒ Patients should be evacuated horizontally first, if possible.
 - 3) - Elevators should be used during evacuation.
 - 4) - Only staff members need to evacuate; patients should stay in place.
- 17) Which of the following describes a macroshock?
- 1) - A small electrical current passing through the heart via an internal electrode
 - 2) ☒ A large external current passing through the body
 - 3) - A high-frequency shock that does not affect the heart
 - 4) - A static discharge from synthetic clothing
- 18) What is the purpose of the third (ground) wire in medical electrical devices?
- 1) - To prevent voltage fluctuations
 - 2) ☒ To provide an alternative low-resistance path for current in case of insulation failure
 - 3) - To increase the electrical power supply
 - 4) - To allow for better heat dissipation
- 19) Which of the following factors has the greatest influence on the threshold of perception for electrical shock?
- 1) - Voltage level
 - 2) ☒ Skin resistance
 - 3) - Frequency of the current



- 4) - Color of the electrode
- 20) Which of the following is the most effective protection against microshock in a hospital environment?
- 1) ☒ Use of isolated power distribution systems
 - 2) - Wearing rubber gloves
 - 3) - Using equipment rated for 240V instead of 120V
 - 4) - Reducing ambient temperature in the room
- 21) Workplace hazards are risks in a work environment that can harmfully affect or injure employees if not properly addressed.
- 1) ☒ True .
 - 2) - False.
- 22) Psychosocial hazards include exposure to hazardous chemicals that can cause long-term health effects.
- 1) - True .
 - 2) ☒ False.
- 23) Ergonomic hazards result from exposure to radiation and high noise levels.
- 1) - True .
 - 2) ☒ False.
- 24) What causes the physiological effect of electricity is voltage, not current.
- 1) - True .
 - 2) ☒ False.
- 25) If catheters are used, the natural protection provided by the skin is bypassed, greatly reducing the amount of current required to cause fibrillation.
- 1) ☒ True .
 - 2) - False.
- 26) Fire doors shut automatically when smoke alarms are activated and help to contain fire.
- 1) ☒ True .
 - 2) - False.
- 27) Class C fire extinguishers are used for gas and grease fires.
- 1) - True .
 - 2) ☒ False.
- 28) Lymphatic system nodes would be the last affected by a heavy dose of radiation.
- 1) - True .
 - 2) ☒ False.
- 29) Acid should always be added to water, not the other way around.
- 1) ☒ True .
 - 2) - False.
- 30) Fire drills should be treated like the real thing, and all procedures should be followed as if an actual fire occurred.
- 1) ☒ True .
 - 2) - False.