**Chapter 1**

1. During the Babylonian period, laws that contained clauses dealing with injuries, allowable fees for physicians, and monetary damages were found in which of the following?

**Code of Hammurabi**

2. Who was noted for studying efficiency in manufacturing?

**Frederick Taylor**

3. What is the government's administration arm that conducts inspections, investigates problems, issues citations, provides a database of health and safety statistics, and many other safety and health functions?

**Occupational Safety and Health Administration**

4. A staff of health and safety professionals in a large company could include which of the following?

**Industrial Safety Engineer**

5. Which of the following is an early safety program based on the "Three E's of Safety"?

**Education, Enforcement, and Engineering**

1. The National Safety Council is a broad-based safety organization that has members only from industry.

**False**

2. The concern for health and safety began during the Industrial Revolution.

**False**

3. Organized labor has played an important part in the development of the safety movement in the United States.

**True**

4. Enforcement of a safety program involves procedures used to make sure that employees obey all rules and policies.

**True**

5. Today's largest organization devoted to health and safety practices is the Occupational Safety and Health Administration.

**False**

6. One of the most important contributions of organized labor to safety in the workplace was their work to overturn antilabor laws.

**True**

7. World War II had no impact on the development of health and safety in the workplace.

**False**

8. The integrated approach involves practitioners working together to predict, control, identify, and correct health and safety problems.

**True**

9. The Occupational Safety and Health Administration (OSHA) is a nongovernmental public service organization.

**False**

10. Today more large companies are employing health and safety professionals.

**True**

**Chapter 2**

1. What is the leading cause of deaths in the United States?

**Heart disease**

2. What is the most common cause of work injuries?

**Overexertion**

3. Which industrial category has the highest death rate?

**Mining/quarrying**

4. Which part(s) of the body is most frequently injured, according to the NSC (National Safety Council)?

**Back**

5. When do many chemical burn injuries (46%) to employees occur?

**While cleaning tools or equipment**

1. The contemporary view is that accidents are too costly and that accident prevention is less costly.

**True**

2. The cost of accidents in the workplace involves only medical expenses.

**False**

3. For people thirty-seven years of age and younger, accidents are the number one cause of death.

**True**

4. The leading cause of accidental deaths in the United States is motor vehicle accidents.

**True**

5. Work accidents have increased with less attention to health and safety standards in today’s workplace.

**False**

6. Deaths on the job have increased considerably over the years.

**False**

7. Lost time is not important when assessing the effect of accidents on industry.

**False**

8. Overexertion is the result of employees working beyond their physical limits.

**True**

9. Companies can have very little impact on preventing accidents in the workplace.

**False**

10. Carpal tunnel syndrome is an injury to the nerve inside the shoulder.

**False**

**Chapter 3**

1. Herbert W. Heinrich's study of the causes of industrial accidents in the 1920s concluded that most accidents are caused by:

**Unsafe acts committed by fellow workers**

2. Which three factors lead to human error in the human factors theory?

**Overload, inappropriate response, and inappropriate activities**

3. Ergonomic traps, overload, and/or a decision to err lead to human error according to the:

**Accident/incident theory**

4. The systems theory views a situation in which an accident might occur as a system comprised of:

**Person, machine, and environment**

5. Which of the following are warning signs of depression?

**All of the above**

1. Why accidents happen is a concern for health and safety decision-makers.

**True**

2. Theories of accident causation are used to predict and prevent accidents.

**True**

3. The domino theory of accident causation was one of the earliest theories developed.

**True**

4. According to Heinrich's Axioms on Industrial Safety, the plant manager is the key person concerning industrial accidents.

**False**

5. An accident program does not have to take all ten axioms into account to be effective.

**False**

6. The human factors theory of accident causation attributes accidents to a chain of events caused by human error.

**True**

7. The accident/incident theory is an extension of the human factors theory.

**True**

8. Epidemiological theory has focused on accidents caused by overload, inappropriate response, and inappropriate activities.

**False**

9. Clinical depression is an invisible problem in the workplace.

**True**

**Chapter 4**

1. The modern health and safety manager must understand the bottom line concerns of all the following EXCEPT:

**Vendors**

2. Productivity, quality, cost, and response time is:

**The key to productivity**

3. Which professional field is concerned with motion and the processes whereby other energy forms are converted into motion?

**Mechanical engineering**

4. The design process includes all the following steps EXCEPT:

**Cost**

5. Who are the most likely candidates to work as safety engineers?

**Industrial engineers**

1. It is reasonable to expect one person to be an expert regarding all health and safety issues.

**False**

2. The most important member of the health and safety team is the health nurse.

**False**

3. The job description of the health and safety manager is simple.

**False**

4. In some companies the health and safety manager might be a person who has other duties.

**True**

5. Colleges across the country have responded to the need for formal education for health and safety managers.

**True**

6. There are only a few agencies and organizations that provide updated training for health and safety managers.

**False**

7. Professional certification is an excellent way to establish one’s status in the field of health and safety.

**True**

8. The National Safety Council is a professional agency that focuses on health and safety issues.

**True**

9. Engineers can make a significant contribution to safety.

**True**

10. There are signs that engineering schools are becoming less sensitive to safety and health issues.

**False**

**Chapter 5**

1. Competitiveness is the ability to succeed and prosper in :

**All of the above**

2. Productivity is a measure of:

**Output/input**

3. Quality without \_\_\_\_ will result in costs that are too high to be competitive.

**Productivity**

4. The literacy level of the labor pool is actually declining in the United States. This will cause:

**All of the above**

5. Quality is essential to:

**Competitiveness**

1. It is critical that modern health and safety professionals understand the positive relationship between health/safety and competitiveness and that they are able to articulate it effectively.

**True**

2. Competing in the global marketplace is easy to do but difficult to understand.

**False**

3. Competitiveness is “the ability to consistently succeed and prosper in the marketplace whether it is local, regional, national, or global.”

**True**

4. What is considered world-class quality today will be considered mediocre tomorrow.

**True**

5. Of the various factors that influence a company’s competitiveness, the two most important are service and cost.

**False**

6. Productivity declines when (1) output is constant, but input decreases; or (2) output increases and input is constant.

**False**

7. Pressure to increase productivity often shows up in ways that are detrimental to the health and safety of workers.

**True**

8. Quality is a measure of the extent to which a product or service meets or exceeds customer expectations.

**True**

9. Committing to health and safety is the profitable thing to do in terms of competitiveness.

**True**

10. Companies that are careful about protecting the environment may find themselves the subject of protest demonstrations on the nightly news.

**False**

**Chapter 6**

1. Which of the following statements was the purpose of Congress passing the OSH Act in 1970?

**To promote safe and healthful working conditions for employees**

2. What are the three different types of action OSHA may utilize to maintain health and safety standards?

**Adopt, amend, or revise**

3. Once a standard is passed, an employer who is opposed to the standard must file an appeal in:

**60 days**

4. The record keeping and reporting requirements of the OSH Act apply to employers with:

**11 or more workers**

5. Under the OSH Act, employees have all the following rights EXCEPT:

**Refusal to wear safety equipment**

1. Since the early 1970s, the most significant legislation passed has been the Occupational Safety and Health Act (OSHA) of 1970.

**True**

2. OSHA has only one purpose: to encourage employers and employees to reduce workplace hazards.

**False**

3. The OSH Act covers all employees in all fifty states, Puerto Rico, and all other territories that fall under the jurisdiction of the U.S. government.

**False**

4. The general duty clause of the OSH Act requires that employers provide a workplace that is free from hazards that are likely to harm employees.

**True**

5. Ad hoc committees and standing committees deal with the same issues.

**False**

6. Once a standard has been passed, it becomes effective on the date prescribed.

**True**

7. A temporary variance may be issued to an employer when there is not enough time to comply with the standard.

**True**

8. OSHA is not required to post materials but is required to communicate orally about health and safety issues that concern employees.

**False**

9. OSHA can only make recommendations concerning penalties and citations when employers are found guilty of violations.

**False**

10. A standard is an operational principle, criterion, or requirement, or a combination.

**True**

**Chapter 7**

1. All of the following employees are covered under the workers' compensation laws EXCEPT:

**Agricultural employees**

2. Insurance rates are affected by all the factors listed below EXCEPT:

**Profit/loss of the company**

3. When the employer is classified by type, which one of the following methods is used to determine the premium rate?

**Experience rating**

4. In which of the following states can compensation for permanent total disability be awarded for life?

**California**

5. The following are all approaches used to settle a workers' compensation claim EXCEPT:

**Union arbitration**

1. Workers’ compensation was developed to allow injured employees to be compensated without the need for litigation.

**True**

2. Workers’ compensation laws are uniform from state to state.

**True**

3. All workers are covered under the workers’ compensation laws.

**False**

4. Today, all fifty states, the District of Columbia, Guam, and Puerto Rico have workers’ compensation laws.

**True**

5. If employers go out of business, they are not liable to injured employees.

**False**

6. Workers’ compensation applies when an injury can be categorized as arising out of employment or occurring in the course of employment.

**True**

7. A person who accepts a service contract to perform a specific task is considered an employee of the company.

**False**

8. Temporary disability is the state that exists when it is probable that an injured employee will be able to resume employment.

**True**

9. Permanent partial disability is the condition that exists when an injured employee is not expected to recover fully.

**True**

10. There are no serious problems with workers’ compensation in the U.S.

**False**

**Chapter 8**

1. Which of the following is the primary reason for accident investigation?

**To prevent future accidents**

2. What is the purpose of an accident investigation?

**To collect facts**

3. Select the correct sequence of steps in the accident investigation.

**Isolate the accident site, record all evidence, photograph or videotape the scene, identify witnesses, interview witnesses.**

4. When interviewing witnesses, what questions should be asked?

**All of the above**

5. Injuries/illnesses must be recorded if they result in:

**All of the above**

1. The primary purpose of accident investigation is to prevent future accidents.

**True**

2. The first thing to do when an accident takes place is to begin the accident investigation.

**False**

3. Only the supervisor can conduct the accident investigation.

**False**

4. The accident site should be isolated until all pertinent evidence has been collected or observed and recorded.

**True**

5. A record of all evidence is the final step in accident investigation.

**False**

6. Primary witnesses are witnesses who did not actually see the accident happen, but were in the vicinity.

**False**

7. Interviews should begin as soon as the witness list has been compiled at the accident site.

**True**

8. Accident investigation information being sought can be summarized as who, what, where, why, and how.

**True**

9. Accident reporting forms should meet the record-keeping specifications of OSHA Form 101.

**True**

10. One reason some people don’t report accidents is to avoid paperwork.

**True**

**Chapter 9**

1. When developing product literature, which of the following should be used whenever possible?

**Illustrations**

2. Together burns and scalding accounted for how many microwave-related injuries in 1989?

**5000**

3. When was the concept of nonliability established in the courts of England?

**1842**

4. Which concept requires warning labels on many consumer products?

**Duty to warn**

5. Which is a fundamental component of a PSM program?

**All of the above**

1. One of the fastest growing areas of the law is product liability.

**True**

2. Radiation leakage from microwave ovens is a major concern of public health and safety.

**False**

3. Today both consumers and employees use products and machines at their own risks.

**False**

4. Most product liability lawsuits involve one party seeking redress from another party in the form of monetary damages.

**True**

5. Ralph Nader is closely associated with the Consumer Product Safety Act.

**True**

6. In order to recover damages in a product liability case, a person must satisfy the burden of proof criteria.

**True**

7. The Community Right-to-Know Act applies only to large companies that make chemicals.

**False**

8. All companies must report their daily level of toxic chemical emissions to the EPA.

**False**

9. The purpose of a product safety management program is to limit as much as possible a company’s exposure to product liability litigation and related problems.

**True**

10. Poorly written instructions is a common cause of product liability exposure.

**True**

**Chapter 10**

1. Which of the following agencies has issued guidelines for reporting of occupational injuries and illnesses?

**Bureau of Labor Statistics**

2. Understanding the hazards associated with a job or process is provided by training and educating:

**All of the above**

3. What is one way to reduce stress among the employees within the workplace?

**Provide adjustable machines or work surfaces**

4. In the age of high technology, what is the key to the most significant and enduring productivity improvement?

**Human involvement**

5. OSHA’s current plan for reducing ergonomic hazards in the workplace includes:

**all of the above.**

1. Ergonomics is the science of conforming the workplace and all of its elements to the worker.

**True**

2. Standing for extended periods, particularly in one place, can produce unsafe levels of stress on the back, legs, and feet.

**True**

3. Jobs that are repetitive involve short-cycle motion that is repeated continually.

**True**

4. The meat packing industry has a low incidence of cumulative trauma disorders.

**False**

5. Worksite analysis programs are used to identify stressors in the workplace.

**True**

6. The final step in worksite analysis is records analysis and tracking.

**False**

7. Identification of ergonomic hazards is based on ergonomic risk factors.

**True**

8. Tools used within the workplace should be checked for excessive vibration.

**True**

9. The focus of an ergonomics program is to make the job fit the person; not to make the person fit the job.

**True**

10. The purpose of baseline health surveillance is to prevent people from performing work.

**False**

**Chapter 11**

1. A pathological, and therefore generally undesirable, human reaction to psychological, social, occupational, or environmental stimuli is:

**Stress**

2. Sources of on-the-job stress involve all of the following EXCEPT:

**Job enrichment**

3. M. Selye's three stages of the human stress response are:

**Alarm, resistance, and exhaustion**

4. The best policy regarding stress is to:

**Learn to adapt to being sick because of stress**

5. Which of the following is not a strategy for industrial stress reduction?

**Increasing employees' hourly pay rate**

1. Stress has been defined as the reaction of the human organism to a threatening situation.

**True**

2. Unions view stress as the result of excessive demands, poor supervision, or conflicting demands.

**True**

3. Industrial stress involves the physical state resulting from a perceived difference between the level of occupational demand and a person’s ability to cope with this demand.

**False**

4. A poll for Northwestern National Life Insurance Company showed an epidemic of industrial stress.

**True**

5. The study showed that stress may lead to increased productivity.

**False**

6. The human response to industrial stress may be likened to that of a rubber band being stretched.

**True**

7. Psychosocial questionnaires evaluate workers’ productivity on the job.

**False**

8. Shift work can require some employees to work when the majority of people are resting.

**True**

9. All sources of stress on the job can be eliminated, if precautions are taken.

**False**

10. One of the most important factors with stress is learning to recognize its symptoms and taking the symptoms seriously.

**True**

**Chapter 12**

1. Demonstration is the process in which the instructor:

**Shows students how to perform specific skills or task**

2. Learners retain most from which type of instruction?

**Doing**

3. In order to know if training has improved performance, what do health and safety professionals need to know?

**All of the above**

4. Illiteracy in the workplace will result in:

**Difficulty in filling high-skill jobs**

5. Select the agency where an Advance Safety Certificate may be earned by health and safety professionals.

**National Safety Council**

1. Workers who have not been trained how to perform their jobs safely are more likely to have accidents.

**True**

2. The Occupational Safety and Health Act of 1970 mandates that employers provide health and safety training.

**True**

3. OSHA and the Secretary of Labor are not responsible for health and safety training.

**False**

4. Labor unions have been very aggressive in the development of health and safety training programs.

**True**

5. Specific regulations have been established by OSHA that delineate safety and health training requirements by type of industry.

**True**

6. The four-step teaching method is a new approach to conducting training.

**False**

7. The trainer should be knowledgeable about the fundamental principles of learning.

**True**

8. The four-step teaching method involves preparation, presentation, application, and evaluation.

**True**

9. Lesson plans are an important part of the planning step.

**True**

10. The lecture/discussion method of teaching may be used in any situation.

**False**

**Chapter 13**

1. Which of the following defines workplace violence?

**Violent acts, behavior, or threats that occur in the workplace**

2. High-risk occupations in terms of workplace violence are:

**All of the above**

3. How many individuals are direct victims of some form of violent crime in the workplace every year?

**1 million**

4.Which of the following are strategies used by employers to reduce the risk of workplace violence?

**All of the above**

5. A management program relating to safety and health in the workplace has:

**A and B**

1. Preventing workplace violence is a natural extension of the responsibilities of safety and health professionals.

**True**

2. Approximately one million people are victims of workplace violence every year.

**True**

3. Almost 80% of all violent acts in the workplace are committed by males.

**True**

4. When dealing with violent incidents on the job, it is important to remember that even the perpetrator has rights.

**True**

5. A violent act cannot be considered an on-the-job incident when it is committed away from the workplace.

**False**

6. Employee rights are protected by employment contracts, collective bargaining agreements, and civil rights statutes.

**True**

7. Specific guidelines have been established by CRTED for determining whether a violent act can be classified as an on-the-job incident.

**False**

8. OSHA has produced voluntary advisory guidelines relating to workplace violence.

**True**

9. The majority of violent incidents reported each year are fistfights.

**True**

10. The voluntary advisory guidelines are aimed only for the retail industry.

**False**

**Chapter 14**

1. When a body part comes in contact with a sharp edge, which of the following occurs?

**Cutting**

2. Which type of guard shuts down the machine when the guard is not securely in place?

**Interlock**

3. An optical device that shuts down the machine any time the light field is broken is a(n):

**Photoelectric device**

4. The best guard used in a robot's work envelope is a(n):

**Physical barrier**

5. When a machine is being operated without the safeguard, which of the following actions should be taken?

**Stop the machine immediately.**

1. Concerns about mechanical hazards have only become important in recent years.

**False**

2. In an industrial setting, people interact with machines that are designed to drill, cut, stamp, punch, and shape such materials as metals, plastics, and elastomers.

**True**

3. The most common mechanical injuries are cutting, tearing, shearing, crushing, breaking, straining, spraining, and puncturing.

**True**

4. The National Safety Council defines safeguarding as minimizing the risk of accidents.

**True**

5.Guards are not effective when used at the point of operation.

**False**

6. Fixed guards provide a temporary barrier between workers and the point of operation.

**False**

7. Three types of point-of-operation guards are fixed, interlocked, and adjustable.

**True**

8. The best robot safeguard is roping the work area off.

**False**

9. OSHA’s standard for the control of hazardous energy is often referred to as the “Lockout/Tagout standard.”

**True**

10. Regardless of the type of problem, the key in responding is immediacy.

**True**

**Chapter 15**

1. Which of the following is not one of the primary causes of falls?

**Fall prevention component**

2. The method used for measuring surface traction is called:

**Coefficient of friction**

3. 40% of injuries occur in the first year of employment. In which of the following areas do most of these injuries occur?

**Back-related**

4. Hard hats are tested to withstand how many foot-pounds of impact?

**40**

5. The National Safety Council recommends all the following do's when using a ladder except:

**Do lean the ladder against a fragile, slippery, or unstable surface.**

1. A foreign object is any object that is out of place or in position to trip someone or to cause a slip.

**True**

2. Injuries from a fall are likely to be minimal if the victim strikes a bony body part.

**False**

3. A stable platform for walking has a high degree of traction and is free from obstructions.

**True**

4. A floor surface with a coefficient of friction of 0.2 or less is very slippery and hazardous.

**True**

5. In a slip and fall prevention program, the policy statement serves the purpose of conveying the employees’ commitment to safety.

**False**

6. Inspecting ladders before every use may prevent a fall.

**True**

7. The use of hard hats in industrial settings that might have falling objects has been mandated by federal law since 1981.

**False**

8. Approximately 40% of the population will experience lower back pain at some point in their lives.

**False**

9. A coefficient of friction of 0.4 or higher means the surface is very slippery and hazardous.

**False**

10. Most falls fit into one of four categories: trip and fall, stump and fall, step and fall, and slip and fall.

**True**

**Chapter 16**

1. When heat gain from any source or sources is more than the body can compensate for by sweating, the result is:

**Heat stress**

2. The severity of a burn depends on several factors. The most important of these is:

**Depth to which burn penetrates**

3. Critical burns are second-degree burns covering what percentage of body surface?

**30%**

4. Which of the following is not a factor contributing to cold injury?

**Convection**

5. Which of the following types of cold stress is not considered a less severe disorder?

**Hypothermia**

1. Convection is the transfer of heat between two bodies that are touching or from one location to another within a body.

**False**

2. Conduction is the transfer of heat from one location to another by way of a moving medium (gas or liquid).

**False**

3. Heat stroke is a type of heat stress that occurs as a result of a rapid rise in the body’s core temperature.

**True**

4. Heat exhaustion is a type of heat stress that occurs as a result of water and/or salt depletion.

**True**

5. The skin serves several important purposes, including the following: protection of body tissue, sensation, secretion, excretion, and respiration.

**True**

6. Third-degree burns are minor and result only in a mild inflammation of the skin known as erythema.

**False**

7. First-degree burns are classified as critical burns.

**False**

8. Windchill factor is the cooling effect produced by a combination of temperature, wind, velocity, and/or air movement.

**True**

9. Damage from frostbite affects only the outer layer of the skin.

**False**

10. Hypothermia is the condition that results when the body’s core temperature drops to dangerously low levels.

**True**

**Chapter 17**

1. All of the following are safety hazards associated with boilers and other pressurized vessels EXCEPT:

**Proper operator training**

2. Which of the following is not an inert gas?

**Oxygen**

3. Water vapor, although it is a gas, does not conform to:

**Dalton's law**

4. Which of the following situations may cause a vacuum?

**Pressures below the atmospheric level**

5. Atmospheric pressure is usually measured with a(n):

**Barometer**

1. Pressure is the force exerted against an opposing fluid or thrust distributed over a surface.

**True**

2. Boyle’s law states that the product of a given pressure and volume is constant with a constant temperature.

**True**

3. A boiler is an open vessel in which water is heated to form steam, hot water, or high-temperature water under pressure.

**False**

4. Compressed air tanks are an example of unfired pressure vessels.

**True**

5. The least effective preventive measure for overcoming potential pressure hazards is proper design.

**False**

6. Ultrasonic and X-ray waves are forms of destructive testing methods used to detect cracks or leaks.

**False**

7. To reduce pressure hazards, keep pressurized hoses as long as possible.

**False**

8. Water hammer may damage pipe fittings and valves in a pressure system by producing shock waves.

**True**

9. Approximately 79% of the atmosphere is oxygen, with the other 21% being nitrogen.

**False**

10. A swift return to the surface from diving or decompression during high-altitude flight may cause lung rupture.

**True**

**Chapter 18**

1. Ohm’s law is stated as \_\_\_\_\_, where V=volts, I=amps, and R=ohms.

**V = IR**

2. A tree is a common natural path for what type of electrical hazard?

**Lightning**

3. Power is measured in:

**Watts**

4. In the United States, a standard AC circuit cycles how many times per second?

**60**

5.Which safety device is used to detect the flow of current to the ground and open the circuit?

**Ground fault interrupter**

1. The path of flow of electrons is from a positive source to a negative point.

**False**

2. Most industrial and domestic use of electricity is supplied by direct current.

**False**

3. The NEC specifies industrial and domestic electrical safety precautions.

**True**

4. A circuit tester may be used to test 110-volt circuits only.

**False**

5. The current effect on the human body of 50–100 milliamps may result in death after 3 minutes of contact.

**True**

6. Grounding of electrical equipment is the primary method of reducing electrical hazards.

**True**

7. Television antenna towers do not require grounding.

**False**

8. When necessary, a fuse with greater capacity than was prescribed for the circuit may be used.

**False**

9. To reduce the risk of electrocution by lightning, do not use electrical equipment during a storm.

**True**

10. A continuity tester may be used to determine whether a conductor is properly grounded or has a break in the circuit.

**True**

**Chapter 19**

1. What three elements are required to start and sustain fire?

**Fuel, heat, and oxygen**

2. Fires are classified according to their properties, which relate to the nature of the fuel. What class of fire has a metal fuel?

**Class D**

3. Which of the following are products of combustion?

**Gases, flame, heat, and smoke**

4. The result of incomplete combustion of fuel is carbon monoxide, which is:

**All of the above**

5. The National Fire Protection Association has devised a system, NFPA 704, for quick identification of hazards presented when substances burn. Which color is used to identify reactivity?

**Yellow**

1. The three elements required to start and sustain a fire are oxygen, fuel, and heat.

**True**

2. Combustion and fire are endothermic reactions and can often generate large quantities of heat.

**False**

3. Carbon dioxide is produced when there is more oxygen than the fire needs.

**True**

4. Heat always flows from a higher temperature to a lower temperature.

**True**

5. Flash point is the highest temperature for a given fuel at which vapors are produced in sufficient concentrations to flash in the presence of a source of ignition.

**False**

6. Class B fires include flammable liquids and gases.

**True**

7. Most people die in fires from suffocation or from breathing smoke and toxic fumes.

**True**

8. The best way to reduce fires is to prevent their occurrence.

**True**

9. The trend in fire safety standards is toward specification-based standards and away from the traditional performance-based approach.

**False**

10. OSHA has mandated the monthly and annual inspection and recording of the condition of fire extinguishers in industrial settings.

**True**

**Chapter 20**

1. Toxic effects are a function of several factors. Which of the following is not a factor?

**Time of day**

2. Which of the following is associated with chronic effects/exposures of toxic substances?

**Little or no awareness of exposures on the part of affected workers**

3. Which industry has had a long history of dealing with industrial hygiene problems?

**Textile**

4. What are the key concepts in the Indoor Air Quality Standard?

**All of the above**

5. OSHA recommends a three-step process for investigating the possibility of the presence of toxic mold in the workplace. Which of the following are the three steps?

**All of the above**

1. The Environmental Protection Agency began measuring toxic substance emission in 1987.

**True**

2. A toxic substance is one that has a negative effect on the health of a person or animal.

**True**

3. The route of entry which health and safety professionals should be most concerned with is inhalation.

**True**

4. When dealing with toxic substances, the dose threshold is the maximum dose required to produce a measurable effect.

**False**

5. A lethal dose of a given substance is the dose that is highly likely to cause death.

**True**

6. Every workplace environment employs industrial hygiene specialists.

**False**

7. Physical hazards are related to the design and condition of the workplace.

**False**

8. The most common types of airborne contaminants are dust, fumes, smoke, aerosols, mists, gases, and vapors.

**True**

9. Medical research has clearly tied asbestos to respiratory cancer.

**True**

10. Asbestos removal is also known as asbestos abatement.

**True**

**Chapter 21**

1. How many rems per calendar quarter is the limit of exposure for the hands and forearms?

**18.74 rems**

2. Which agency assists OSHA in regulation radiation exposure?

**NRC**

3. Companies involved in producing, using, storing, handling, and/or transporting radioactive materials must inform how many employees of existing radiation hazards?

**All employees**

4. When must an incident be reported?

**All of the above**

5. If an incident occurs, employers are required to follow up with a written report within how many days?

**30 days**

1. Radiation hazards in the workplace fall into three categories: alpha, beta, and gamma.

**False**

2. A dose is the amount of ionizing radiation absorbed per unit of mass by part of the body or the whole body.

**True**

3. Rem is a measure of the dose of ionizing radiation to body tissue stated in terms of its estimated biological effect relative to a dose of one roentgen of X-rays.

**True**

4. During any calendar quarter the dose to the whole body must not exceed 3 rems.

**True**

5. The universal color scheme for caution signs and labels warning of radiation hazards is purple or magenta superimposed on a yellow background.

**True**

6. Companies that produce, use, store, and/or transport radioactive materials may have a signal-generating system that can warn of the need for evacuation if workers feel they need a system.

**False**

7. All employees must have ready access to the CFR 1910.96(i) and any related company operating procedures.

**True**

8. An incident is defined by OSHA as an exposure of the whole body of any individual to 25 rems or more of radiation; exposure of the skin of the whole body of any individual to 150 rems or more of radiation; or exposure of the feet, ankles, hands, or forearms of any individual to 375 rems or more of radiation.

**True**

9. The most common source of ultraviolet radiation is the sun.

**True**

10. The major concern about electromagnetic radiation is its relationship to cancer.

**False**

**Chapter 22**

1. Which of the following is nonrepetitive impulse noise?

**Jack hammer**

2. What is considered the maximum limit of continuous exposure to noise over eight-hour days without protection?

**90 dBA**

3. How many workers in the United States between the ages of 50 and 59 years of age are estimated to have compensable noise-induced hearing loss?

**1.7 million**

4. Which of the following factors distinguishes noise from sound?

**Unwanted sound**

5. What kind of information should be included on an audiometric form?

**All of the above**

1. Sound is any change in pressure that can be detected by the ear.

**True**

2. The unit of measurement for sound is the decibel (one-tenth of a bel).

**True**

3. The threshold of hearing is the maximum level of sound that can be perceived without experiencing pain.

**False**

4. The fundamental hazard associated with excessive noise is hearing loss.

**True**

5. To decrease the risk of hearing loss, exposure to noise should be limited to a maximum eight-hour time-weighted average of 90 dBA.

**True**

6. Federal regulations require that employees be protected from excessive noise in the workplace.

**True**

7. Medical professionals have not yet established a procedure for determining if there is a causal relationship between workplace noise and hearing loss.

**False**

8. Conducting noise surveys involves measuring noise levels at all locations in the workplace.

**False**

9. Overexposure to noise happens only on the job.

**False**

10. Noise can be eliminated at its source by enclosing the source.

**False**

**Chapter 23**

1. The feeling workers have when they are not able to control the work environment is:

**Powerlessness**

2. Variance control, boundary location, work group organization, management support, design process, and quality of work life are components:

**Sociotechnical system theory**

3. Which condition is most associated with robots in the workplace?

**Work envelope injuries**

4. Broad-based efforts at automating mechanical processes and systems began in the:

**1960s**

5. The advent of computers has brought about health and safety problems concerned with:

**Video display terminals**

1. Automation and integration have reduced the amount of mental work required in the workplace.

**False**

2. Work stress is a complex concept involving physiological, psychological, and social factors.

**True**

3. There is ample evidence that such problems as eye fatigue, blurred vision, eyestrain, and nervousness are associated with VDT use.

**True**

4. Power and speed of movement makes robots potentially more dangerous than other machines in the workplace.

**True**

5. Any time a worker enters a functioning robot’s work envelope the probability of an accident decreases.

**False**

6. In the teach mode, an operator is not within the operating range of the robot.

**False**

7. The highest degree of hazard involving robots exists in the teach mode.

**True**

8. Always apply lockout and proper test procedures before entering the work envelope of a robot.

**True**

9. Most legislation dealing with office automation concerns standards for VDT interaction.

**True**

10. Industrial medicine is a specialized field that is concerned with work-related health and safety issues.

**True**

**Chapter 24**

1. How many people are estimated to have been infected by the virus that causes AIDS?

**1½ million**

2. In what year was the AIDS virus first reported in the United States?

**Mid-1981**

3. A corporate AIDS policy should have which of the following components?

**All the above**

4. What actions should companies take with HIV-positive employees?

**Allow them to work/perform job**

5. From the following, select the method by which the AIDS virus may be transmitted.

**None of the above**

1. AIDS was first reported in the U.S. in mid-1971.

**False**

2. Since the first reported cases of AIDS, more than 170,000 people have died (as of 1991) of a disease that has rapidly become an epidemic.

**True**

3. Any act in which body fluids are exchanged can result in infection if either partner is infected.

**True**

4. The HIV virus may be transmitted by giving blood.

**False**

5. According to the Centers for Disease Control, there is no single test that can reliably diagnose AIDS.

**True**

6. Safety and health professionals should be familiar with the legal considerations relating to AIDS in the workplace.

**True**

7. The OSH Act of 1970 prohibits employers from retaliating against an employee who refuses to work in an environment he or she believes may be unhealthy.

**True**

8. AIDS testing is mandatory throughout today’s industry.

**False**

9. The purpose of an AIDS education program is to deal with the disease in a positive, proactive manner that is in the best interest of the company and its employees.

**True**

10. The employee who learns he or she has AIDS will be angry, frightened, and confused.

**True**

**Chapter 25**

1. From the following, select the most important component of emergency preparation.

**Planning**

2. Which of the following groups may respond to an emergency?

**All of the above**

3. From which of the following agencies would it be most appropriate to obtain first aid training materials?

**National Safety Council**

4. Which of the following should be used to keep employees up-to-date concerning first aid information?

**First aid fact sheet**

5. Emergency preparation involves:

**All of the above**

1. An emergency is a potentially life-threatening situation, usually occurring suddenly and unexpectedly.

**True**

2. The Emergency Planning and Community Right-to-Know Act is designed to prevent individuals from obtaining information about hazardous chemicals in their community.

**False**

3. Emergency notification is a major component of the emergency response plan.

**True**

4. The toxic chemical release report must go to the Environmental Protection Agency and the state-level environmental agency.

**True**

5. OSHA standards do not play a role in emergency prevention.

**False**

6. In certain cases, OSHA requires that companies have at least one employee on-site who has been trained in first aid.

**True**

7. A properly stocked first aid kit should contain rubber surgical gloves and a facemask or mouthpieces for CPR.

**True**

8. Step-by-step emergency response procedures are required for only some potential emergencies.

**False**

9. A first aid fact sheet is used by most employees to report accidents.

**True**

10. An emergency plan must be location-specific.

**True**

**Chapter 26**

1. Health and safety professionals may use which of the following approaches to handle ethical problems?

**Any of the above**

2. Select the guideline for determining ethical behavior which requires you to listen to your instincts.

**Common sense test**

3. The ethical dilemma faced by Camillo Garcia, Mil-Tech's health and safety manager, was brought about by top management's decision to use:

**New paint**

4. One of the most pervasive and complex problems facing business organizations today is managing:

**Ethical behavior**

5. Morality refers to:

**Values**

1. Ethics may be defined as an inquiry into the nature and grounds of morality, where morality is taken to mean moral judgements, standards, and rules of conduct.

**True**

2. Morality refers to the values that are subscribed to and fostered by society in general and individuals within society.

**True**

3. A person’s behavior can be well within the scope of the law and still be unethical.

**True**

4. Companies have no role to play in promoting ethical behavior among their employees.

**False**

5. Companies that take the “Do as I say, not as I do” approach to ethics will succeed.

**False**

6. No person will serve long as a health and safety professional without confronting an ethical dilemma.

**True**

7. Three personality characteristics that can influence an employee’s ethical behavior are ego strength, Machiavellianism, and locus of control.

**True**

8. Locus of control is the extent to which he or she will attempt to deceive and confuse others.

**False**

9. Ego strength is the ability to undertake self-directed tasks and to cope with tense situations.

**True**

10. Machiavellianism is the perspective of workers concerning who or what controls their behavior.

**False**

**Chapter 27**

1. For every hazard there are typically several different remedies. Which of the following is an important factor in corrective action regarding the corresponding benefit?

**Cost**

2. Select the best method of hazard analysis, which uses a graphic model to visually display the analysis process.

**Fault tree analysis**

3. Risk analysis is normally associated with:

**Insurance and investment**

4. When should human error analysis be used?

**Before hazards cause accidents**

5. Which of the following is a condition or combination of conditions that, if left uncorrected, might lead to an accident, illness, or property damage?

**Hazard**

1. The key to preventing accidents is the identification and elimination of hazards.

**True**

2. Primary and secondary are the two approaches used to develop hazards analysis.

**False**

3. Hazards are grouped together to determine their probability of causing an accident.

**False**

4. Experience and related expertise are important factors in conducting a preliminary review.

**True**

5. Failure mode and effects analysis (FMEA) is a method of detailed hazard analysis.

**True**

6. Human error analysis (HEA) is used to predict human error.

**True**

7. Technic of operation review (TOR) is a hazard analysis methodology where only the workers conduct the analysis.

**False**

8. The bottom box in a fault tree represents the accident/incident that either could occur or has occurred.

**False**

9. Risk is decreased by decreasing the frequency and severity of hazard-related events.

**True**

10. The first step toward implementing hazard control measures is selecting the method that will most likely produce the desired results.

**True**

**Chapter 28**

1. A benefit companies may gain from asking employees to sign a declaration of safety is:

**Personal commitment**

2. When developing safety rules and regulations:

**Minimize the number of rules to the extent possible.**

3. One of the best ways to promote safety in the workplace is:

**Through ongoing safety training programs**

4. A company's safety policy should make what clear?

**That safe work practices are expected of all employees**

5. One of the keys to successfully promoting safety is to:

**Involve employees**

1. The purpose of safety promotion is to keep employees focused on doing their work the safe way, every day.

**True**

2. Employers are not required to have rules that ensure a safe and healthy workplace.

**False**

3. Ongoing safety training will promote safety in the workplace.

**True**

4. Another way to promote safety through employee involvement is the safety committee.

**True**

5. Workplace safety is one of the least likely issues to create disagreement between union/management.

**True**

6. Incentives cannot promote safety within the modern workplace.

**False**

7. Asking employees to sign a declaration of safety does not improve a company’s safety policy.

**False**

8. Visual awareness is important in promoting safety within the workplace.

**True**

9. Suggestion programs promote safety by involving employees in a way that allows them to feel ownership in the safety program.

**True**

10. Personal commitment is not important in employee safety policy improvement.

**False**

**Chapter 29**

1. Congress initially became interested in cleaning up and protecting the environment during the:

**1960s**

2. By how much were carbon monoxide emissions reduced between 1970 and 1986?

**38%**

3. The ISO 14000 series contains two types of standards:

**Specification and guidance standards**

4. EMS is the component of an organization with primary responsibility for leading, planning, controlling, and organizing as they relate specifically to:

**All of the above**

5. The goal of the OSHA Hazardous Waste Standard is to:

**All of the above**

1. OSHA and the EPA are federal agencies involved in environmental health and safety.

**True**

2. The Clean Air Act is one of the most important pieces of federal environmental legislation.

**True**

3. The Clean Air Act as amended in 1977 contains approximately 350 pages detailing the requirements of seven titles.

**False**

4. The economics of health and safety is an issue that gains importance every year.

**True**

5. The natural environment is the only type of environment with which we interact within the workplace.

**False**

6. Legionnaires’ disease is caused by a bacterium carried in aerosol form and conveyed through ventilation systems.

**True**

7. ISO 9000 quality standards contain criteria for promoting effective quality management systems.

**True**

8. ISO 14000 standards promote effective environmental management systems.

**True**

9. Adoption of ISO 14000 is based on voluntary organizational commitment to environmental protection rather than government coercion.

**True**

10. ISO is the acronym for International Organization for Standardization, a worldwide organization of national standards bodies.

**True**

**Chapter 30**

1. A Total Quality approach can be used for managing safety even in traditional organizations that reject QM overall. What is this approach called?

**TSM**

2. Which of the following characteristics is developed in an organization to achieve the purpose of QM?

**All of the above**

3. QM is implemented using a \_\_\_\_ step process.

**20**

4. Which one of the following is a step in the planning and preparation phase in the TSM model?

**Develop the organization's safety and health**

5. What can employees do as their part to make the workplace safe and healthy?

**A and C**

1. QM is an excellent approach for maximizing the effectiveness of an organization’s safety and health programs.

**True**

2. QM is an approach to doing business that maximizes the competitiveness of an organization through continuous improvement of its products, services, people processes, and environments.

**True**

3. Total Quality organizations have unity of purpose from top to bottom.

**True**

4. Empowerment means involving only upper management in decisions that affect work processes.

**False**

5. QM has proven itself to be an effective way to maximize an organization’s long-term competitiveness.

**True**

6. The origin of TSM can be traced to before World War II.

**False**

7. There are three fundamental components through which the TSM philosophy is translated into action on a daily basis.

**True**

8. When we say that TSM is strategically based, we mean that an organization views a safe and healthy workplace as giving it a competitive advantage in the marketplace.

**True**

9. The model for implementation of TSM consists of 15 steps in three phases.

**True**

10. Gaining unity of purpose begins with the commitment of front-line employees.

**False**

**Chapter 31**

1. Which of the following defines a safety-friendly corporate culture?

**Beliefs, values, and attitudes shared and accepted**

2. Team charters are an excellent way for:

**Employees to see that safe and healthy work practices are expected**

3. Enhancements in which key areas continue to enable ever-increasing levels of globalization?

**All of the above**

4. The most fundamental reason for having a safety-friendly corporate culture is

**Competition**

5. Corporate cultures are established in organizations based on what is

**all of the above**

1. One of the worst mistakes supervisors and managers can make is to say to employees, "Do as I say, not as I do."

**True**

2. People in positions of authority could care less if employees work safely or not.

**False**

3. All organizations use team charters.

**False**

4. A planning goal would be to revise the organization's employee recognition and reward system to include safety and health criteria as part of the selection process.

**True**

5. It is safe to assume that an organization has a safety-friendly corporate culture.

**False**

6. Safety should never be expected by employees.

**False**

7. A plan for establishing a safety-friendly corporate culture is based on results of a comprehensive assessment.

**True**

8. It is common for management and employees to view things the same way.

**False**

9. Corporate cultures are established based only on what is taught by mentors.

**False**

10. The most fundamental reason for having a safety-friendly corporate culture is competition.

**True**