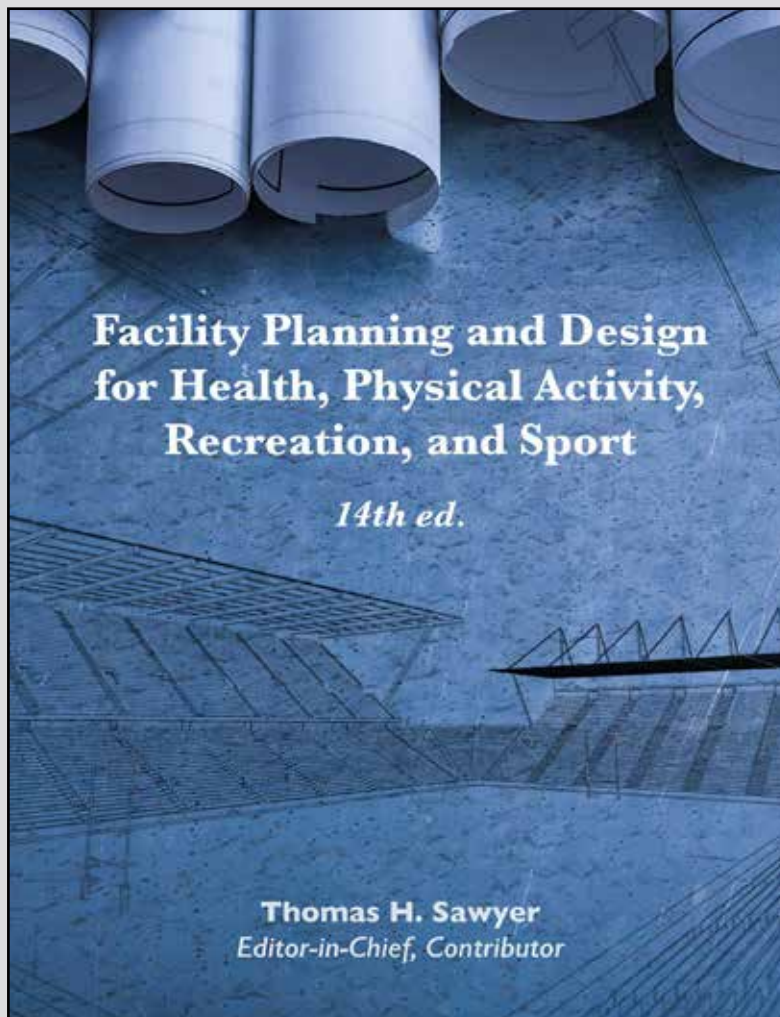


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Chapter 1: Planning Facilities: Master Plan, Site Selection, and Development Phases

1. Master planning is a decision-making process that promotes changes that will accommodate new needs and searches for ways to improve existing conditions.
 - *a. True
 - b. False

2. The master planning process does not require coordination and integration of program, financial, and physical planning.
 - a. True
 - *b. False

3. The master plan can be used to answer which of the following common questions?
 - a. Where do we want to go?
 - b. How do we get there?
 - c. Where are we?
 - *d. All of the above

4. An organization's ad hoc planning advisory committee should be composed of which of the following members?
 - a. End users and financial consultants
 - b. Program specialists and maintenance personnel
 - c. Management representatives and facility consultants
 - *d. All of the above

5. Roles of the planning advisory committee include the following: communicating with the various stakeholders about the work in progress, findings and results, and reviewing and overseeing the ongoing work.
 - *a. True
 - b. False

6. An organization's program statement should include which of the following elements?
 - a. Mission and goals and objectives
 - b. Critical issues and strategic responses and details about clientele
 - c. Outline of short-range and long-range planning, and history of organization
 - *d. All of the above

7. The following issues and opportunities that should surface during the synthesis and evaluation effort relate to the following:
 - a. Existing and new initiatives that may require new building(s) and infrastructure
 - b. Expansion of present facilities after a thorough evaluation
 - c. The organization's image
 - *d. All of the above

8. The master plan is not concerned with goals and objectives for transportation and circulation, utilities and services, and landscape design.
 - a. True
 - *b. False

9. Which of the following bids can be handled informally?
 - *a. Bid up to \$25,000
 - b. Bid over \$25,000
 - c. Bid over \$50,000
 - d. All of the above

10. Once the bond has been released on a project, which of the following is the contractor responsible for?
 - a. Leaking roof
 - b. Infiltration of ground water into the sewer lines
 - *c. All of the above
 - d. None of the above

11. Which of the following is not a question to be asked in master planning?
 - a. Where are we?
 - b. Where do we want to go?
 - *c. Why are we planning?
 - d. How do we get there?

12. The organization's ad hoc planning advisory committee is the same as the program committee.
 - *a. True
 - b. False

13. The master plan needs to consider generally accepted land use guidelines.
 - *a. True
 - b. False

14. The size of a space includes actual dimensions and required accessory space only.
 - a. True
 - *b. False

15. The typical construction approaches are
 - a. Lump-sum
 - b. Construction manager
 - c. Design and build
 - *d. All of the above

Chapter 2: Planning Facilities for Safety and Risk Management

1. Managers of sport and recreation programs and facilities have a number of legal responsibilities they are expected to perform in order to protect themselves from claims of negligence.
*a. True
b. False
2. Managers of sports facilities are expected to carry out which of the following duties?
 - a. Inspect the premises to discover obvious and hidden hazards
 - b. Anticipate foreseeable uses and activities by invitees and take reasonable precautions to protect the invitee from foreseeable dangers
 - c. Remove the hazards or warn of their presence
 - *d. All of the above
3. Common safety problems in sports facilities are usually not caused by poor facility planning and design and poor management
a. True
*b. False
4. When designing a facility, it is only necessary to address controlling access to the facility.
a. True
*b. False
5. What are some of the reasons it is necessary to deny access to a facility?
 - a. Legal liability
 - b. Theft and vandalism deterrence
 - c. Maintaining exclusivity
 - *d. All of the above
6. It is important to consider adequate buffer zone or safety zone when designing a facility.
*a. True
b. False
7. Typically, what is the first area to be cut when a project goes over budget?
 - a. Safety zones
 - b. Facility access controls
 - *c. Storage spaces
 - d. All of the above
8. Safety is not a factor when evaluating the materials used in the construction of the facility.
a. True
*b. False

9. Which is not an example of cost-efficient supervision in a facility?
- *a. Additional staff
 - b. Closed circuit television (CCTV)
 - c. High lockers
 - d. A long, central hallway
10. All facilities must be planned in compliance with all applicable codes including all OSHA, ADA, fire, safety, and health codes.
- *a. True
 - b. False
11. Most liability problems dealing with safe environment, however, stem from maintenance and operation of the premises, not their design and construction.
- *a. True
 - b. False
12. It is recommended that basketball courts be designed to have at least 15 ft of clear space on the sidelines and end of court.
- a. True
 - *b. False
13. A common safety problem with basketball courts is with the scorer's table and team benches.
- *a. True
 - b. False
14. Storage is rarely a problem.
- a. True
 - *b. False
15. All facilities should comply with all applicable codes.
- a. True
 - *b. False

Chapter 3: Sustainable Design, Construction, and Building Operations

1. Sustainability is defined by Merriam-Webster as a method of using a resource so that the resource is not depleted or permanently damaged.
*a. True
b. False
2. The modern sustainability movement has its roots in part as a response to the French Revolution.
a. True
*b. False
3. Which president, together with the United States Congress, established the Environmental Protection Agency (EPA) in 1970?
a. Reagan
*b. Nixon
c. Kennedy
d. Ford
4. What was the first sustainable building certification program in the world?
a. LEED
b. CASBEE
*c. BREEAM
d. HQE
5. Which of the following are not addressed in a site management plan?
a. Water management
b. Waste management
c. Indoor environmental quality
*d. Employee health care
6. Which of the following is not part of a water management plan?
a. Indoor water management
*b. Water bottling
c. Rainwater management
d. Outdoor water management
7. Which of the following organizations provides a commonly used energy audit?
*a. American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE)
b. Database of State Incentives for Renewables and Efficiency
c. U.S. General Services Administration
d. American Chemistry Council

8. Which of the following can have a negative effect on indoor environmental quality?
 - a. Acoustical panels
 - b. Large windows
 - *c. Cleaning product fumes
 - d. Efficient HVAC systems

9. The two parts of the waste management process are purchasing with limiting waste in mind and proper disposal of waste.
 - *a. True
 - b. False

10. A construction activity pollution prevention plan is used to reduce soil erosion, waterway sedimentation, air pollution and dust, and light and sound pollution during the construction of the building.
 - *a. True
 - b. False

11. An integrated design approach ensures that a building will be financially viable by only including people responsible for financing the project in the decision making process.
 - a. True
 - *b. False

12. Which of the following is an environmentally sensitive area that should be avoided for site selection?
 - a. Infill site
 - b. Brownfield
 - *c. Prime farmland
 - d. Priority site

13. When possible, new facilities should be constructed near environmentally friendly transportation options.
 - *a. True
 - b. False

14. The most commonly used and most recognizable method of building evaluation is life cycle assessment.
 - a. True
 - *b. False

15. That does LEED stand for?
 - *a. Leadership in Energy and Environmental Design
 - b. Local Energy Efficiency Department
 - c. London Environmental Equality Department
 - d. Loving Every Environment Deeply

16. What was the first professional sports stadium to achieve LEED Platinum Certification?
- a. American Airlines Arena
 - *b. Mercedes-Benz Stadium
 - c. Soldier Field
 - d. Nationals Park
17. What is not a part of the triple bottom line (TBL) of benefits of sustainable buildings?
- a. Environmental
 - *b. Emotional
 - c. Social
 - d. Economic
18. Which of the following is not a reported environmental benefit of sustainable buildings?
- a. 37% less animal activity
 - b. 23% less energy use
 - c. 28% less water use
 - d. 9% less landfill waste
19. LEED Platinum Certified facilities have shown a 40% reduction in life-cycle costs (20-years) from conventional buildings.
- *a. True
 - b. False
20. LEED certified facilities are on average 7.43% cheaper to build than conventional buildings.
- a. True
 - *b. False

Chapter 4: Universal and Accessible Design: Creating Facilities That Work for All People

1. When the Access Board publishes final rules, these are only guidelines until the Office of Management and Budget (OMB) reviews them and then the entities responsible for enforcement must approve them and only then do they become enforceable standards or regulations.
 - *a. True
 - b. False

2. Terminology is not an important consideration when discussing, writing about, and reporting on matters that involve people with disabilities.
 - a. True
 - *b. False

3. Universal design suggests something is made usable or available through some type of adaptation for individuals who have disabilities. Accessible design creates a broadly inclusive environment that effectively blends a variety of design concepts, including accessible, into a range of meaningful options for all users.
 - *a. True
 - b. False

4. Which of the following are primary agencies authorized by ABA of 1968, PL 90-480 to issue accessibility standards in accordance with its respective statutory authority?
 - a. HUD
 - *b. DOD
 - c. USPS
 - d. All of the above

5. The Access Board is composed of representatives from the four initial agencies, seven other governmental agencies, and 12 members appointed from the general public by the president of the United States.
 - *a. True
 - b. False

6. Which of the following are some of the changes created by the Americans with Disabilities Act Amendments Act of 2008 (“ADA Amendments Act” or “Act”)?
 - a. Directs the EEOC to revise the portion of the its regulations defining the term “substantially”
 - b. Expands the definition of “major life activities” by including two non exhaustive lists
 - c. Emphasizes that the definition of “disability” should be interpreted broadly
 - *d. All of the above

7. Guidelines covering newly constructed and altered recreation facilities in the areas of amusement rides, boating facilities, fishing piers and platforms, miniature golf courses, golf courses, exercise equipment, bowling lanes, shooting facilities, swimming pools, wading pools, and spas were published in a supplement to ADAAG.
 - *a. True
 - b. False

8. Which of the Five Titles of the 1990 Americans With Disabilities Act and Enforcement Responsibilities guarantees persons with disabilities access to all public businesses and the programs and services of private, commercial and not-for-profit agencies?
 - a. Title I
 - b. Title V
 - *c. Title III
 - d. Title IV

9. Telecommunications, employment, and public services are not covered in the Five Titles.
 - *a. True
 - b. False

10. Compliance with public accommodation accessibility regulations is required with all new construction, with most remodeling projects, and when offering programs and services to the public.
 - *a. True
 - b. False

11. When was the Americans With Disabilities Act passed?
 - a. 1968
 - b. 1987
 - c. 1988
 - *d. 1990

12. When was the first Architectural Barriers Act passed?
 - a. 1964
 - *b. 1968
 - c. 1988
 - d. 1990

13. The Access Board was established by Congress in
 - a. 1968
 - *b. 1973
 - c. 1978
 - d. 1990

14. In ____ Section 502 of the Rehabilitation Act Congress amended the act to provide Access Board functions.
 - a. 1973
 - *b. 1978
 - c. 1988
 - d. 1990

15. What year were the most recent amendments legislated?
 - a. 1992
 - b. 2000
 - *c. 2008
 - d. 2012

Chapter 5: Electrical, Mechanical, and Energy Management

1. The amount of light in any given area is more important than the quality of light.
 - a. True
 - *b. False

2. Which of the following is true of indirect lighting?
 - a. Faces in some direction other than the floor, such as sidewalls or ceiling, to reflect the beaming light in an effort to reduce glare
 - b. Faces directly down at the floor
 - c. More expensive to operate
 - *d. A and C

3. Natural lighting, outdoor lighting, exit lighting, and emergency lighting should all be taken into consideration when planning a facility.
 - *a. True
 - b. False

4. In strength-training spaces, the major sound considerations are:
 - a. Even distribution of sound
 - b. The ability to overcome background noise
 - c. Low-fatigue factors
 - *d. All of the above

5. Acoustical treatments must enhance sound so that we can hear easily and also absorb sound.
 - *a. True
 - b. False

6. Which is an example of internal treatments for sound?
 - *a. Air space
 - b. Trees
 - c. Double wall construction
 - d. All of the above

7. Air quality is a complex issue that affects occupant comfort, health, productivity, and acceptance of energy conservation measures.
 - *a. True
 - b. False

8. Sick building syndrome does not result from poor indoor air quality.
 - a. True
 - *b. False

9. The three major steps involved in energy management are: conducting an energy audit and analysis, implementing a strategy, and monitoring the results.
- *a. True
 - b. False
10. Reasons why a building operator or manager might want to incorporate an automated control system into a building include:
- a. Improve building operation
 - b. Increase building safety or security
 - c. Reduce operating costs, including energy costs
 - *d. All of the above
11. Which of the following terms is not part of the HVAC-R acronym?
- a. Heating
 - *b. Volume
 - c. Air Conditioning
 - d. Refrigeration
12. Illumination is measured by the foot-lambert.
- a. True
 - *b. False
13. Brightness is the illuminous intensity of any surface and is measured by the foot-candle.
- a. True
 - *b. False
14. What year was the Energy Independence and Security Act passed by Congress?
- a. 2001
 - b. 2004
 - c. 2005
 - *d. 2007
15. The optimal humidity range for indoor areas is
- a. 20-40%
 - *b. 40-60%
 - c. 60-80%
 - d. 50-70%

Chapter 6: Ancillary Areas

1. Ancillary space is defined as a space having a primary use.
 - *a. True
 - b. False

2. Educational facilities above the 12th grade are classified as:
 - a. Assembly group
 - b. Business group
 - *c. Educational group
 - d. Institutional group

3. The most basic of components for all locker rooms include: lockers, toilets, showers, and grooming stations.
 - *a. True
 - b. False

4. Selections of lockers should:
 - a. consider factors such as cost, durability, corrosion resistance, and locking systems
 - b. be selected late in the design process
 - c. take into account that at least 5% of each type of locker must be accessible to persons with disabilities
 - *d. A and C

5. The number of showers provided in the locker room and the corresponding capacity of the water heating system are not critical to the functionality of the locker room.
 - a. True
 - *b. False

6. Toilets and grooming stations are also important considerations when designing a facility.
 - *a. True
 - b. False

7. Additional types of locker rooms include:
 - a. Family locker rooms
 - b. Staff locker rooms
 - c. Express locker rooms
 - *d. All of the above

8. The following should be considered when designing work spaces:
 - a. Generational trends of the workforce
 - b. Ergonomics
 - c. Interaction and autonomy
 - *d. All of the above

9. Power, lighting, and adequate ventilation are the three basic utilities required in order for an office to function.
 - *a. True
 - b. False

10. Athletic facilities, physical education facilities, and fitness clubs have the same needs and design considerations.
 - *a. True
 - b. False

11. The locker room is not the largest and most complex of the ancillary spaces.
 - a. True
 - *b. False

12. Which of the following is not a design category for locker rooms?
 - a. Low end
 - b. Medium end
 - c. High End
 - *d. Combination of the above three

13. Which of the following are components of a locker room –
 - a. Storage/Locker Area
 - b. Rest room area
 - c. Showers
 - d. Drying area
 - *e. All of the above

14. A steam room is also known as a
 - a. Dry heat area
 - b. Sauna
 - *c. Turkish bath
 - d. Sweat room

15. There is no difference between commercial and residential equipment.
 - a. True
 - *b. False

16. Which of the following is classified as a specialty locker room?
 - a. Family locker room
 - b. Staff locker room
 - c. Express locker room
 - d. Officials' locker room
 - *e. All of the above

17. A high school building including classrooms, labs, and a gymnasium would be classified from an occupancy standpoint within a(n):
- Assembly group
 - Business group
 - *c. Educational group
 - Institutional group
18. The selection of lockers for the locker room should:
- Consider factors such as cost, durability, corrosion resistance, and locking systems
 - Be determined late or at the end of the design and planning process
 - Consider that at least 5% of each type of locker must be accessible to persons with disabilities
 - *d. Both a & c
19. A steam room is also known as a(n):
- *a. Turkish bath
 - Sauna
 - Jacuzzi
 - Arboreal plunge
20. The four most recent studies related to storage space recommendation in high schools and colleges call for total storage space to established at:
- 50% of all activity space in the facilities
 - Ranging from 18% to 30% of all activity space in the facility
 - 50% of all ancillary space in the facility
 - *d. Ranging from 18% to 30% of all ancillary space in the facility
21. The level of amenities within locker rooms is typically greatest in the ___ setting?
- Nonprofit community recreation center
 - *b. College or university recreation center
 - Private for-profit fitness center
 - Interscholastic physical education
22. Which locker room amenity utilizes dry heat (typically 150 to 190 degrees F) within an enclosed setting?
- Whirlpool
 - *b. Sauna
 - Steam Room
 - Hot Yoga
23. A janitorial or custodial closet should be located with ___ of primary restroom or locker room areas in a physical activity or sport setting.
- *a. 50 feet
 - 150 feet
 - 500 feet
 - 1500 feet

24. Which of the following is NOT one of the key questions to consider when planning an athletic laundry facility?
- a. Who will operate the equipment?
 - b. How much capacity is required?
 - c. What special construction details will this operation require?
 - *d. Will light and dark fabrics be separated or combined?
25. High tech and entertainment components of team rooms in the collegiate setting are often used make positive impressions upon_____.
- *a. Recruits and players
 - b. General students and fans
 - c. Coaches and Officials/Referees
 - d. None of the above
26. Team rooms are most common in competitive sport settings, and the sport of football is typically the most complex and comprehensive.
- *a. True
 - b. False
27. The auditorium is the largest capacity meeting room type according to the specifications of the Interior Graphic Standards.
- *a. True
 - b. False
28. The facility requirements for home-grade and commercial-grade laundry equipment is essentially the same
- a. True
 - *b. False
29. A single large and centralized storage area is most ideal because every team or program has close and immediate access related to their practice and competition venues.
- a. True
 - *b. False
30. The locker room is typically the largest allocation of space for ancillary areas for physical activity and sport facilities.
- *a. True
 - b. False
31. Commercial-grade washer/extractors and dryers are recommended for sport facility settings despite the additional elements of preparation for proper installation.
- *a. True
 - b. False

32. A gymnasium or swimming pool would be classified as ancillary space within a community recreation center.
- a. True
 - *b. False
33. Athletic facilities, physical education facilities, and fitness clubs have the same needs and design considerations for their ancillary spaces.
- a. True
 - *b. False
34. Educational facilities above the 12th grade would be classified as “business group” within the International Building Code (IBC) occupancy classifications.
- *a. True
 - b. False
35. Ancillary space is defined as a space having a primary use rather than a secondary use.
- a. True
 - *b. False

Chapter 7: Graphics and Signage

1. Clear, informative graphics and signs are essential for conveying directional, instructional, or general information to the public.
 - *a. True
 - b. False
2. There are guidelines for signage that include the character proportions, finish, and contrast of the characters, and minimum height mounted above the floor.
 - *a. True
 - b. False
3. Which is not a category of signs identified for use in facilities?
 - a. Directional signs
 - b. Warning, danger, caution, and emergency signs
 - *c. Team rules
 - d. Rules and regulations
4. A well-placed sign maximizes its effect in the facility user.
 - *a. True
 - b. False
5. Explicitly shaped signs, for specific information, can be used in facilities to impart information by using sign shape.
 - *a. True
 - b. False
6. A sign featuring graphics will alienate a facility's foreign clients more than a sign in English might.
 - *a. True
 - b. False
7. Signage is directed at facility users and is not vital for facility employees and emergency personnel.
 - a. True
 - *b. False
8. It is more cost efficient to figure your signage cost as part of your facility construction cost.
 - *a. True
 - b. False
9. Local, state, and federal regulations will never dictate signage requirements.
 - a. True
 - *b. False

10. Scoreboards and other signs are either purchased by the sponsor or rented by the sponsor so they can advertise on the sign.
 - *a. True
 - b. False

11. Signs are an integral part of a facility and should be an integral part of the planning process in a new or repurposed facility.
 - *a. True
 - b. False

12. ADA requires all signs in a facility to have raised lettering.
 - a. True
 - *b. False

13. The basic purpose of any sign is to impart information.
 - *a. True
 - b. False

14. Signs need to be detailed and understandable and they need to attract the facility user's attention.
 - a. True
 - *b. False

15. Signs must be square or rectangular in shape.
 - a. True
 - *b. False

Chapter 8: Indoor and Outdoor Surfaces

1. Indoor surface materials must be chosen carefully considering the nature of the facility and the activities that are planned.
 - *a. True
 - b. False

2. The distinct areas of consideration in facilities currently being built are:
 - a. The service/ancillary areas such as locker rooms, shower rooms, and bathrooms
 - b. The main arena or activity center of the facility
 - c. Offices, administrative areas, and classrooms
 - *d. All of the above

3. Vinyl tile floors have a life expectancy of approximately 10 to 15 years, but begin to show their wear after the first few years.
 - *a. True
 - b. False

4. Hardwood floors are generally designed with intricate subflooring to provide shock absorption and only last a few years.
 - a. True
 - *b. False

5. Some of the considerations when deciding upon a flooring choice are:
 - a. Resiliency
 - b. Traction
 - c. Age and ability of the intended users
 - *d. All of the above

6. Walls provide a divider, or perimeter, for specific activity areas and function as barriers to sound, heat, light, and moisture.
 - *a. True
 - b. False

7. Ceilings should be insulated to prevent condensation and be the appropriate height to accommodate all planned and future activities.
 - *a. True
 - b. False

8. The use and aesthetic value of windows are often overlooked in the planning of indoor facilities, as well as during the process of making surface choices.
 - *a. True
 - b. False

9. Lighting does not need be addressed in the planning phase of building construction.
 - a. True
 - *b. False

10. Precautions during the design process as well as the life span of the facility are important to minimize negative outcomes resulting from humidity, moisture, and microbe growth.
 - *a. True
 - b. False

11. Flooring choices should not be solely based on
 - a. Facility design
 - b. Function
 - *c. Safety
 - d. Budget

12. Which of the following is not a flooring standard ?
 - *a. Point-elastic
 - b. Mohns Scale
 - c. Brinel Test
 - d. DIN Standard

13. Which of the following is not a flooring term ?
 - a. Point-elastic
 - *b. Softness
 - c. Hardness
 - d. Combi-elastic

14. Resilience is the shock-absorption ability of a floor based on the amount of force applied to the surface area.
 - *a. True
 - b. False

15. Area deflection is the amount of impact that is felt in the vicinity around the points of contact.
 - *a. True
 - b. False

Chapter 9: Landscape Design, Sports Turf, and Parking Lots

1. When planning the outdoor spaces of sports and recreation facilities, adjacent “transitional” space, and/or sports fields, the process must include individuals who can lend their understanding and expertise to the process.
*a. True
b. False
2. A good landscape needs anchor plants: trees, shrubs, and perennials that keep providing color year after year.
*a. True
b. False
3. The way the implemented design reacts to natural and man made stresses is not indicative of the time and resources invested in the planning process.
a. True
*b. False
4. Site selection is an important part of function for an outdoor facility and should also include consideration of:
a. Topography
b. Orientation of play spaces with respect to the sun angle and predominant wind direction
c. The appropriate use of natural and man made barriers
*d. All of the above
5. It is not necessary that the planning process for safety results in a landscape design that manages the risk of all adjacent outdoor spaces so that all foreseeable user accidents or injuries can be avoided.
*a. True
b. False
6. An effective landscape design will consider the operation of surface and subsurface irrigation and drainage.
*a. True
b. False
7. Examples of turf grasses species most widely used in sports turf situations are:
a. Bermuda grass
b. Zoysiagrass
c. Kentucky bluegrass
*d. A and C
8. Appropriate to the review of grounds keeping management, maintenance, and equipment are three concepts related to success in these areas: time management, money and resource management, and machinery and equipment management.
*a. True
b. False

9. The level of maintenance, lighting, signage, and the perception of safety in the parking environment do not play a part in contributing a positive image to a facility.
 - a. True
 - *b. False

10. The safety and security of users is the most important characteristic of parking design.
 - *a. True
 - b. False

11. Most turfgrasses need at least 1" to 1.5" of water per day during the growing season to support turf growth.
 - a. True
 - *b. False

12. Typically the percentage of slope for a sports field runs between 1% to 1.5%.
 - a. True
 - *b. False

13. The most common type of crowned field is a football.
 - *a. True
 - b. False

14. Most flat fields need an installed parallel or grid drainage pattern, and crowned fields typically have a herringbone pattern.
 - *a. True
 - b. False

15. Which of the following is NOT a commonly used synthetic turf currently?
 - a. Astroplay
 - b. Fieldturf
 - c. Sofspot
 - *d. Astroturf

Chapter 10: Indoor and Outdoor Courts

1. Tennis courts are constructed of grass, clay, soft and hard composition, asphalt, concrete, and various synthetic materials.
*a. True
b. False
2. Planning of an indoor tennis court should include storage, parking, water fountains, electrical outlets, seating, concessions, officials' needs, videotaping, and locker and shower facilities.
*a. True
b. False
3. A paddle court does not need to be completely enclosed by back walls, sidewalls, and fencing on the remaining sideline areas.
*a. True
b. False
4. A badminton single court and doubles court are the same length and width.
a. True
*b. False
5. All glass and windows of a basketball gymnasium should be shatterproof safety glass.
*a. True
b. False
6. Which of the following guidelines should be kept in mind concerning the size and colors of the lines on a basketball court?
a. All lines must be two inches wide, except for the neutral zones
b. The color of the boundary lines should match the midcourt markings
c. The color of the lane space and neutral zone markings should contrast with the color of the boundary lines
*d. All of the above
7. Outdoor basketball courts should run lengthwise in approximately an east-west direction.
*a. True
b. False
8. For a volleyball court, it is not necessary to provide poles that are sunk directly below floor level in sleeves or that telescope up from below the floor.
*a. True
b. False
9. The dimensions of an outdoor sand court are much smaller than the dimensions of an indoor volleyball court.
*a. True
b. False

10. Other types of courts include:
 - a. Fencing course
 - b. Shuffleboard course
 - c. Croquet course
 - *d. All of the above

11. A shuffleboard court is 40' long and 8' wide.
 - a. True
 - *b. False

12. The most common forms of American croquet are six-wicket and nine-wicket croquet.
 - *a. True
 - b. False

13. The recommended four-wall racquetball/handball court is 40' long, 20' wide, and 10' high.
 - a. True
 - *b. False

14. There are two important considerations for a basketball floor – sliding characteristics and shock absorption.
 - *a. True
 - b. False

15. A platform tennis court is 44' long and 20' wide.
 - *a. True
 - b. False

Chapter 11: Field Spaces

1. Streets, railroad tracks, and water course should be no closer than 10 yards to a facility and should be fenced off.
*a. True
b. False
2. It is not important to carefully design the use of the field complex.
a. True
*b. False
3. The field complex design should provide gates for security and for service of different practice areas and game areas.
*a. True
b. False
4. The spectator seating should be configured to ensure the best viewing of the game as well as easy access and exit.
*a. True
b. False
5. When planning, it is not important to ensure that the turf (artificial or natural) is suitable for different weather conditions (i.e., hot, cold, dry, or wet).
a. True
*b. False
6. Warning tracks should be designed to provide advanced warning of perimeter barriers and ensure they are wide enough and of appropriate material to meet ASTM standards.
*a. True
b. False
7. The field area does not need to accommodate emergency vehicles for easy access during game time or other times.
a. True
*b. False
8. It is not common to see multifield complexes for baseball, softball, and combination baseball and softball.
a. True
*b. False
9. The height of the fence should be consistent with the ASTM standard (i.e., at least eight feet) for the type of activity and the fences should be flexible.
*a. True
b. False

10. Bioengineered surfaces can be the following except:
 - a. Rolled
 - b. Poured
 - c. Sprayed
 - *d. Segmented

11. Synthetic materials can be soft or firm.
 - *a. True
 - b. False

12. Which of the following are common field design errors ?
 - a. Incorrect field contours
 - b. Failure to isolate fields as drainage units
 - c. Failure to provide sufficient access
 - *d. All of the above

13. The optimal slope for grass sport fields is 1%-1.5%.
 - a. True
 - *b. False

14. The backstop is a key element of a field for safeguarding the players and spectators.
 - *a. True
 - b. False

Chapter 12: Bleachers

1. Bleachers are structures designed to provide tiered or stepped seating and are available in various sizes and configurations.
 - *a. True
 - b. False

2. Which of the following bleachers are typically found in gymnasiums where space is at a minimum?
 - a. Permanent or stationary
 - b. Portable
 - c. Temporary
 - *d. Telescopic

3. When planning bleachers, it is not important to consider any gaps or openings that will be in the final product.
 - a. True
 - *b. False

4. The power or automated bleacher system:
 - a. Omits and/or reduces maintenance costs and omits manual operation by unauthorized personnel.
 - b. Provides the ability to open and close bleacher systems quickly and correctly.
 - c. Reduces liability exposure on your gym bleacher equipment.
 - *d. All of the above

5. Several agencies/organizations have developed codes and/or standards for the construction of bleachers including IBC of ICC, SBC of SBCCI, and NFPA.
 - *a. True
 - b. False

6. Under Minnesota law, reviewing stands, grandstands, bleachers and folding/telescopic seating, whether indoors or out, must be designed, constructed, and installed in accordance with the applicable provisions contained in the Minnesota State Building Code.
 - *a. True
 - b. False

7. The requirements for guardrails openings are the same for all agencies (i.e., IBC of ICC, NFPA.)
 - a. True
 - *b. False

8. Minimum numbers of water closets and lavatories are to be provided for all buildings and structures including exterior assembly areas, such as bleachers and grandstands. Additionally, the ratio of water closets for women to the total of water closets and urinals provided for men must be at least 3:2 in accordance with the Minnesota Building Code (1300.3900.)
 - *a. True
 - b. False

9. Retrofitting materials and methods is not necessary to prevent the introduction of new hazards, such as bleacher tip-over, bleacher collapse, guardrail collapse, or contact/tripping hazards.
- *a. True
 - b. False
10. Bleachers should be inspected every five years by licensed professional engineer, registered architect, or company that is qualified to provide bleacher products and services; and written certification should be obtained that the bleachers are fit for use.
- *a. True
 - b. False
11. There are four common types of bleachers.
- *a. True
 - b. False
12. There are four elements in a bleacher system.
- *a. True
 - b. False
13. The distance between the footboard, seatboard, and riser should prevent passage of a 5" sphere.
- a. True
 - *b. False
14. Guardrails should extend 42" above the lowest surface of the leading edge of the bleacher component.
- *a. True
 - b. False
15. The Consumer Product Safety Commission released its "Guidelines for Retrofitting Bleachers" in
- a. 1994
 - b. 1995
 - c. 1998
 - *d. 2000

Chapter 13: Aquatic Facilities

1. Strong human interest in aquatic-related facilities is often traced back to the Roman Empire as the Roman society aquatic recreation and therapy were frequent and popular pastimes.
 - *a. True
 - b. False

2. Proper planning, design, and management of pools currently includes understanding the demands placed upon the facility's water and insuring that filtration, sanitation, and monitoring happen 24/7.
 - *a. True
 - b. False

3. The first step in planning the facility design includes answering questions such as:
 - a. What will the facility be used for?
 - b. What services and programs do you intend to offer?
 - c. What staff training must be conducted at the facility?
 - *d. All of the above

4. There are different types of aquatic facilities including those used for competition, recreation, health and fitness, and multipurpose facilities.
 - *a. True
 - b. False

5. Compliance with Americans with Disabilities Act (ADA) Accessibility Guidelines is recognized at non-aquatic facilities but frequently overlooked at aquatic facilities in the early stages of planning.
 - *a. True
 - b. False

6. Emergency management design considerations include:
 - a. Immediate emergency care for patrons
 - b. Medical emergencies
 - c. Fire emergencies
 - *d. All of the above

7. Poseidon is a computer-based drowning prevention system that uses a series of hand signals to evaluate swimmers and determine when someone might be in trouble.
 - *a. True
 - b. False

8. Physical security and safety as well as operational security considerations are important elements of a facility's design.
 - *a. True
 - b. False

9. Air quality and usable spaces don't need to be considered when designing a facility.
 - a. True
 - *b. False

10. Today, more than ever, people and facilities must consider "green" facilities.
 - *a. True
 - b. False

11. Diving wells include a variety of teaching tools which of the following would not be included?
 - a. Bubbler system
 - b. Trampolines
 - c. Rope and harness systems
 - *d. Hot tubs

12. The commonly accepted depth of water for a 1m springboard is 10'.
 - a. True
 - *b. False

13. Which one of the following organizations do not provide guidance for hot tubs/spas ?
 - a. NSPF
 - *b. WWA
 - c. YMCA
 - d. NRPA

14. In ___ a new federal law titled the Virginia Graeme Baker Pool and Spa Safety Act was passed requiring pools with main drains to have covers that comply with ASME/ANSI A112.19.8.
 - a. 1996
 - b. 1998
 - *c. 2008
 - d. 2010

15. For chain-link fencing, the mesh should not exceed ____.
 - a. 1 inch
 - *b. 1 ¼ inch
 - c. 1 ½ inch
 - d. 1 ¾ inch

Chapter 14: Playgrounds

1. The following elements must be considered to design safe playgrounds:
 - a. The placement of equipment and support structures to facilitate the supervision of children in the play area
 - b. Proper positioning of age-appropriate equipment to promote positive play behavior
 - c. Selection of appropriate surfacing that will absorb the impact of children falling from the equipment
 - d. Consideration of equipment and surface maintenance issues that contribute to the development of safe playground environments
 - *e. All of the above

2. Playgrounds do not need to be concerned with a child's physical, emotional, social, and intellectual development.
 - a. True
 - *b. False

3. It is important to divide the playground area into sections appropriate for different ages of the users.
 - *a. True
 - b. False

4. Important general playground design elements include:
 - a. Correct size of equipment
 - b. Physical layout of equipment
 - c. Proper surfacing
 - *d. All of the above

5. Environmental characteristics that should be considered during the site analysis includes soils and geology, drainage, topography, vegetation, and any other physical characteristics that may have an impact on the development process.
 - *a. True
 - b. False

6. Manufactured elements that must be considered include utilities, roads, buildings, adjacent land use, accessibility, and anything else that could affect or be affected by the playground.
 - *a. True
 - b. False

7. The four different experience opportunities that are usually present in the playground environment are basic ability, skill improvement, program participation, and unstructured participation.
 - *a. True
 - b. False

8. Prior to purchasing any equipment or surface materials, one should consider product liability insurance, compliance with standards, product warranty, age appropriateness, and public-use equipment.
 - *a. True
 - b. False

9. An agency should consider the following liability issues regarding the installation of playground equipment. Retrofitting materials and methods should prevent the introduction of new hazards, such as bleacher tip-over, bleacher collapse, guardrail collapse, or contact/tripping hazards.
 - a. Manufacturer's specifications and recommendations
 - b. The posting of manufacturer's warnings
 - c. The importance of following manufacturer's instructions
 - *d. All of the above

10. In the overall comprehensive program of playground maintenance, it is not necessary to document all inspections and maintenance procedures.
 - *a. True
 - b. False

11. The ASTM standard known as _____ provides technical specifications for playground equipment.
 - *a. F-1487-93
 - b. F-1277-47
 - c. F-1486-93
 - d. F-1488-95

12. The ASTM standard F-1292-91 dealing with surfacing standards was first revised in _____.
 - a. 1990
 - *b. 1993
 - c. 1995
 - d. 2007

13. Playgrounds should be designed according to the characteristics of the intended user.
 - *a. True
 - b. False

14. Having a composite structure for ages 2 to 12 is inappropriate and goes against the ASTM and CPSC standards.
 - a. True
 - *b. False

15. There is no perfect material for playground equipment.
 - *a. True
 - b. False

Chapter 15: Designing Facilities for Parks and Recreation

1. Facilities and open spaces must clearly be conceptualized and designed to accommodate the dramatic changes occurring in America.
*a. True
b. False
2. Which is the most important level in the planning process?
a. Concept plan
*b. Master plan
c. Planning stage
d. All of the above
3. In developing plans for new recreation, park, and open spaces and in proposing improvements to existing facilities and areas, all planning, as suggested within the master plan concept, must reflect the wants and needs of the community.
*a. True
b. False
4. Neighborhoods, quadrants, communities, and cities form the basic units for planning programs, activities, and facilities.
*a. True
b. False
5. Several agencies/organizations have developed codes and/or standards for the construction of bleachers including IBC of ICC, SBC of SBCCI, and NFPA.
*a. True
b. False
6. The facility that is perhaps closest to the grassroots service level is the Community Center.
*a. True
b. False
7. The supercenter represents the newest trend in the development of recreation centers and is designed to be a true one-stop recreation center.
*a. True
b. False
8. Many cities and communities provide recreation programs that require specialized facilities including art centers, preschool centers, senior citizens centers, and natatoriums.
*a. True
b. False

9. Examples of outdoor recreation areas include:
- a. Community and neighborhood parks
 - b. Dog parks
 - c. Hiking and cycling trails
 - *d. All of the above
10. The primary purpose of interpretive centers is to help visitors understand and appreciate the natural, historical, cultural, or archaeological features of the areas in which the centers are located.
- *a. True
 - b. False
11. The common size for a neighborhood center ranges from 10,000 – 25,000 sq ft.
- a. True
 - *b. False
12. The game room should be approximately _____ size.
- a. 20 ft x 40 ft
 - b. 25 ft x 50 ft
 - *c. 30 ft x 64 ft
 - d. 35 ft x 70 ft
13. The width of a walking trail should be between 2 and 4 ft.
- a. True
 - *b. False
14. A bocce court is 91 ft x 13 ft.
- *a. True
 - b. False
15. The primary purpose of interpretative centers is to help visitors understand and appreciate the natural, historical, cultural, and archaeological features of the areas in which the centers are located.
- *a. True
 - b. False

Chapter 16: Campus Recreational Sports Centers

1. The first step in comparing a campus with the accepted standards involves the location of existing and potential areas within the boundaries of the campus.
 - *a. True
 - b. False

2. After information has been gathered, supporting documents for requesting new facilities must be prepared in the form of a proposal which should contain 10 major parts.
 - *a. True
 - b. False

3. The first part of the proposal should:
 - a. Contain recommendations for immediate action and long-term improvements
 - b. Include brief historical developments of the sponsoring program from both a national and campus viewpoint
 - c. Be a statement of the problem
 - *d. State clearly the objectives of the study

4. The second part of the proposal should:
 - a. Contain recommendations for immediate action and long-term improvements
 - *b. Include brief historical developments of the sponsoring program from both a national and campus viewpoint
 - c. Be a statement of the problem
 - d. State clearly the objectives of the study

5. The third part of the proposal should:
 - a. Contain recommendations for immediate action and long-term improvements
 - b. Include brief historical developments of the sponsoring program from both a national and campus viewpoint
 - *c. Be a statement of the problem
 - d. State clearly the objectives of the study

6. The first part of the proposal should:
 - a. Contain recommendations for immediate action and long-term improvements
 - b. Include brief historical developments of the sponsoring program from both a national and campus viewpoint
 - *c. Be a statement of the problem
 - d. State clearly the objectives of the study

7. The planners need to consider providing adequate security, including appropriate outside lighting at all sites, security cameras, alarmed doors (silent and audible), pool alarms, spa alarms, valuable lockers, fire alarms, sprinkling systems, and appropriate signage.
 - *a. True
 - b. False

8. According to the NIRSA, there are at least ___ institutional factors to consider when planning a student recreation center.
 - a. 12
 - b. 10
 - *c. 14
 - d. 18

9. NIRSA recommends the minimum size for total indoor recreation facility space as ____ sq footage.
 - a. 12,000
 - b. 18,000
 - *c. 20,000
 - d. 30,000

10. NIRSA recommends the minimum size for total fitness equipment space as ____ sq footage.
 - *a. 3,000
 - b. 5,000
 - c. 8,000
 - d. 12,000

11. NIRSA recommends the minimum size for total group exercise space as ____ sq footage.
 - a. 800
 - *b. 1,200
 - c. 1,500
 - d. 1,800

12. NIRSA recommends the minimum size for total outdoor recreation (fields) space as ____ acres.
 - a. 4
 - b. 5
 - *c. 6
 - d. 8

13. The common height of a gymnasium and multi-purpose space is ____ feet.
 - a. 10
 - b. 12
 - c. 15
 - *d. 24

14. The divider nets in a gymnasium should be a combination of vinyl and mesh. The vinyl section should be ___ feet in height from the floor to the intersection with the mesh component.
 - a. 6
 - *b. 8
 - c. 10
 - d. 12

15. The common safety buffer zone between courts in a gymnasium and walls is ___ feet.
- a. 3
 - b. 5
 - c. 8
 - *d. 10

Chapter 17: Strength and Cardiovascular Training Facilities

1. The final step in planning a strength and cardiovascular training facility is evaluating the facility's membership goals.
 - *a. True
 - b. False

2. When choosing goals for the new or reinvented facility, questions should be asked and answered about:
 - a. Demographics
 - b. Activities
 - c. Limitations
 - *d. All of the above

3. A thriving facility planner will not involve him- or herself in the construction process with constant visits to the site, constant consultations with the project supervisor, and constant referrals to the programmatic objectives.
 - *a. True
 - b. False

4. The facility must be completely handicapped accessible; this includes doorways in and out of the facility, emergency exits, walkways, and ramps if necessary.
 - *a. True
 - b. False

5. The ceiling height is not an important factor when designing both a new facility and remodeling an existing facility.
 - a. True
 - *b. False

6. The selection of flooring is based on a number of factors including facility usage, facility location, and sound reduction.
 - *a. True
 - b. False

7. The walls of the strength training and cardiovascular fitness facility can serve as facility dividers, acoustic control, and aesthetic value if done properly.
 - *a. True
 - b. False

8. Electrical services, environmental factors, color, and noise don't have to be considered when planning a facility.
 - *a. True
 - b. False

9. Free weights and cardiovascular workouts should be included to allow members to achieve goals for strength, weight loss, endurance, and toning.
*a. True
b. False
10. An organization truly having a vested interest in the physical well being of its membership will have a state-of-the-art fitness assessment, consultation, and educational seminar room.
*a. True
b. False
11. Defining programmatic objectives is the first step to successfully planning a strength training facility.
*a. True
b. False
12. The visual appeal of a facility does not significantly impact the ability to attract and engage participants.
a. True
*b. False
13. The ceiling height for a strength training facility should range between ____ feet.
*a. 12-14
b. 10-12
c. 8-10
d. 14-16
14. Mirrors should be positioned on walls in various areas throughout the facility.
*a. True
b. False
15. Color is not a significant dimension that contributes to the psychological, emotional, and physical response of participants.
a. True
*b. False

Chapter 18: Adventure Programming Facilities

1. Adventure programs offer individual and group experiences that are intended to provide recreation, education, personal growth and enrichment, developmental, and/or therapeutic benefits.
 - *a. True
 - b. False

2. The initial step in planning is to establish clear program goals and determine what type of facility is needed to achieve these goals. In most cases, this will require a needs assessment of the populations to be served.
 - *a. True
 - b. False

3. Which of the following statements is true about climbing wall and challenge course designs:
 - a. Indoor climbing facilities may be as simple as holds bolted to an existing wall, as elaborate as pre-molded replicas of famous rock-climbing routes, or low bouldering faces that mostly involve lateral climbing.
 - b. Outdoors there are freestanding towers framed on telephone poles or steel structures and walls attached to trees.
 - c. Only indoor climbing facilities involve handholds, belay attachments, ropes, climbing hardware, and other safety equipment
 - *d. A and B

4. A challenge course is a set of elements and activities that help programs and participants achieve goals that fall within the recreation, growth/enrichment/learning, developmental, and therapeutic categories.
 - *a. True
 - b. False

5. Which of the following should be considered when planning a challenge course?
 - a. Course layout and program goals
 - b. Actions of facilitators
 - c. Actions of participants
 - d. The needs, desires, and past experience of the participants.
 - *e. All of the above

6. A low-challenge course incorporates elements that are normally about 10 to 15 feet above the ground and are generally designed to present individual challenges within a group context.
 - *a. True
 - b. False

7. High-challenge courses have administrative and financial factors to consider that are as important for team and low courses.
 - *a. True
 - b. False

8. When making decisions about how to make a challenge course experience accessible to participants with disabilities, it is important to understand that functioning levels and needs are the same across the board.
 - a. True
 - *b. False

9. It is not necessary for all challenge course staff to be certified, though it is recommended that programs have a minimum of one certified practitioner. Additionally, in large programs with numerous staff and extensive challenge course facilities, it may be necessary to have multiple certified staff and even a certified manager.
 - *a. True
 - b. False

10. Key points for challenge course administrative and staffing include:
 - a. Purchase and maintain liability insurance for the organization and the staff
 - b. Have a risk management plan that clearly indicates actions and responsibilities.
 - c. Keep accurate records of staff training, program operations and procedures, annual and periodic inspections, maintenance and repairs, liability forms, insurance, student training records, and accident reports.
 - *d. All of the above

11. Adventure activities involve a degree of physical, psychological, emotional, and/or social risks.
 - *a. True
 - b. False

12. Climbing towers are relatively simple walls made of framing lumber, plywood, paint, and handholds.
 - a. True
 - *b. False

13. Climbing walls are usually freestanding wooden towers built outside.
 - a. True
 - *b. False

14. Which one of the following is not a body that determines standards for climbing equipment.
 - a. UIAA
 - *b. ACSM
 - c. CEM
 - d. ASTM

15. Low ropes courses are also known as team courses.
 - *a. True
 - b. False

Chapter 19: Skateparks, Roller Skating Rinks, and Winter Sports Areas

1. Surfers created skateboarding in the 1950s to pass the time when the ocean was calm.
 - *a. True
 - b. False

2. The passage of numerous pieces of state legislation has allowed local public agencies to build unsupervised skateparks and post signs requiring safety equipment be worn while skating.
 - *a. True
 - b. False

3. When planning the design of a skatepark, it is important to keep in mind which of the following aspects? Choose the best answer.
 - a. Location
 - b. Safety
 - c. Location and safety
 - *d. Location, safety, adequate lighting, north and south orientation

4. Consulting services typically offer which of the following services?
 - a. Assisting in site selection
 - b. Acting as an intermediary between owners and local skaters
 - c. Prepare drawings for public venues
 - *d. All of the above

5. Skateparks are designed of either concrete, steel, or wood.
 - *a. True
 - b. False

6. Skateparks should include elements for all levels of skating ability, from beginner to advanced with sufficient variety to challenge and keep them coming back for more.
 - *a. True
 - b. False

7. What are the two main reasons lighting is provided throughout outdoor skate parks?
 - a. For day skating and safety
 - *b. For night skating and security when the park is not in use
 - c. For night skating and decoration
 - d. None of the above

8. When developing sledding areas, which of the following should be considered?
 - a. Avoid hills with trees, stumps, holes, fences, and rock walls
 - b. Allow for a sled return zone adjacent to the sledding course
 - c. Do not allow inflatable tube sleds, they can bounce and throw children
 - *d. All of the above

9. In ice hockey, dasher boards reflect sunlight and cause melting of ice, which is why they should be painted a light color.
- *a. True
 - b. False
10. When solving humidity problems in ice rinks, two commonly used styles of dehumidification systems are the mechanical dehumidifier and the desiccant dehumidifier.
- *a. True
 - b. False
11. Rollerblading and inline skating are the same activity.
- *a. True
 - b. False
12. There are five common types of artistic skating.
- a. True
 - *b. False
13. Which of the following would not be found in roller skating rink?
- a. Party rooms
 - b. Skate shop
 - c. Rock climbing wall
 - *d. Classroom
14. Wooden floors are less expensive than concrete floors.
- a. True
 - *b. False
15. The length of a sledding area should be between _____ yards.
- a. 75-150
 - *b. 50-150
 - c. 25-100
 - d. 100-200

Chapter 20: Camps

1. A day camp is an area and facility intended to provide a program similar to that of the resident camp except that campers sleep at home.
 - *a. True
 - b. False

2. Tent camping is the traditional form of camping, but the increase in motor homes, trailers, and pop-up trailers has changed the camping mix.
 - *a. True
 - b. False

3. Family resident camps do not offer complete meal and living accommodations.
 - a. True
 - *b. False

4. Which term provided below involves programs for acquainting the user with the water?
 - a. Instruction
 - b. Competition
 - *c. Familiarization
 - d. Recreation
 - e. None of the above

5. Which term provided below involves programs of teaching the user basic activities related to aquatics?
 - a. Competition
 - b. Recreation
 - c. Familiarization
 - *d. Instruction
 - e. None of the above

6. Which term provided below involves programs of training and competing in swimming and other aquatic activities?
 - a. Instruction
 - *b. Competition
 - c. Familiarization
 - d. Recreation
 - e. None of the above

7. The waterfront should be situated so that it can be protected by a fence or other controlled access, particularly in a camp, marina, or other small area.
 - *a. True
 - b. False

8. Waterfront lifeguard chairs should be a minimum of three feet to a maximum of 12 feet above grade.
 - a. True
 - *b. False

9. When constructing an artificial beach, the grade should be the same as that recommended for natural shores – six feet to 12 feet in 100 feet.
 - *a. True
 - b. False

10. In all swimming cribs, there should be a ladder at least two feet in width placed at the sides in order not to interfere with persons swimming the length of the simulated pool.
 - *a. True
 - b. False

11. To teach all phases of casting the activity area should be between _____ feet.
 - a. 75 X 150
 - b. 100 X 200
 - *c. 100 X 300
 - d. 50 X 100

12. Casting targets are ____ inches in diameter.
 - a. 20
 - *b. 30
 - c. 25
 - d. 40

13. The waterfront bottom should be unobstructed and clear of debris, rock, muck, mulch, peat, and mud.
 - *a. True
 - b. False

14. Decks should be made in sections of _____ feet.
 - *a. 10-20
 - b. 5-10
 - c. 15-25
 - d. 20-30

15. A canoe race course range from 100 yards to 1 mile.
 - *a. True
 - b. False

Chapter 21: Track and Field and Cross-Country Facilities

1. Picking a proper outdoor site is critical to the success of an outdoor track and field facility. A track will require a site no less than five acres, minimum of 600 feet long by 300 feet wide.
 - *a. True
 - b. False

2. A successful facility begins with assembling of qualified individuals. Which of the following individuals may be a good representation of individuals?
 - a. Athletic directors, facility planners, and contractors
 - b. College administration and financial backing individuals
 - *c. All of the above
 - d. None of the above

3. When considering strictly track and field purposes, it is not that important to organize all events and traffic flow to coexist without obstruction.
 - a. True
 - *b. False

4. In an outdoor jumping facility, it is recommended that the approach be an octagon or square with a surface of at least 21 m.
 - *a. True
 - b. False

5. The pole vault event requires two components that must be built-in fixtures of the track and field facility: the vaulting box and the runway.
 - *a. True
 - b. False

6. The long-jump and triple-jump events cannot be run on the same runway and landing pit.
 - a. True
 - *b. False

7. Which of the following are considered outdoor track and field events?
 - a. Shot put
 - b. Discus
 - c. Hammer
 - d. Javelin
 - *e. All of the above

8. The finish line is the control center for the running events. The finish line tower should be directly across from the finish line. There should be up to three towers on a track, one at either end of the straightaway, and another diagonally across from the main tower at the 200-meter start position.
- *a. True
 - b. False
9. The track and field should be lighted for security at a minimum and the entire facility should be fenced so it can be secured when not in use.
- *a. True
 - b. False
10. Properly measuring the cross-country course is paramount; the distance of the course should be measured along the longest possible route that a runner may take.
- *a. True
 - b. False
11. A track will require a site of no less than ___ acres.
- a. 9
 - b. 6
 - *c. 5
 - d. 10
12. There are two common layouts for tracks – American and European.
- *a. True
 - b. False
13. Outdoor jumping facilities include:
- a. High jump
 - b. Pole vault
 - c. Long jump/triple jump
 - *d. All of the above
14. Outdoor throwing facilities include:
- a. Shot put and discus
 - b. Hammer
 - c. Javelin
 - *d. All of the above
15. A cross country course should include women courses ranging from 3,000-5,000 m and men's courses ranging from 8,000 to 10,000 m.
- *a. True
 - b. False

Chapter 22: Designing Facilities for K-12 Health, Physical Education, and Driver Education

1. The term “teaching station” is used to identify any room or space where one teacher can instruct or supervise the learning experience of a class or group of students.
 - *a. True
 - b. False

2. In addition to segregating specific areas, what purposes do walls serve?
 - a. Barriers to sound
 - b. Barriers to light
 - c. Barriers to heat
 - *d. All of the above

3. All electrical service, wiring, and connections should be installed in accordance with the requirements of the National Electric Code of the National Board of Fire Underwriters as well as the state and local building codes and fire regulations.
 - *a. True
 - b. False

4. Gymnasiums, classrooms, corridors, and other specific areas all have the same lighting requirements.
 - a. True
 - *b. False

5. Electrical fire-alarm systems should be separate and distinct from all program-signal or other signal systems and should be designed to permit operation from convenient locations in corridors and from areas of unusual fire hazard.
 - *a. True
 - b. False

6. Playing areas do not need buffer/safety zones separating them from walls, bleachers, and adjacent playing areas.
 - a. True
 - *b. False

7. Spectator seating, specifically rollaway bleachers, most commonly allow 20-inch depths for seats.
 - a. True
 - *b. False

8. Which of the following should be considered when designing a health instruction facility?
 - a. Space for 35 square feet per pupil, maximum of 30 pupils
 - b. Hot and cold running water and gas outlet
 - c. Educational exhibit space
 - *d. All of the above

9. Which of the following rooms should be considered when designing a school?
- a. Waiting and examining rooms
 - b. Resting and restrooms
 - c. Storage closets and isolation rooms
 - d. Offices and counseling rooms
 - *e. All of the above
10. Driver education simulators are accepted as a means of providing the preliminary steps to behind-the-wheel instruction.
- *a. True
 - b. False
11. The term teaching station identifies any room or space where one teacher can instruct or supervise the learning experience of a class or group of students.
- *a. True
 - b. False
12. Flooring surfaces in the gymnasium should either be wood (preferable maple) or synthetic.
- *a. True
 - b. False
13. Storage areas should be at least between _____ square feet.
- a. 800-1,000
 - *b. 1,000-1,200
 - c. 1,500-2,000
 - d. 1250-1,500
14. The health instruction facility should provide ____ square foot per student up to a maximum of 30 students.
- a. 25
 - b. 30
 - *c. 35
 - d. 40
15. The driver education laboratory should be at least 24 ft X 30 ft.
- *a. True
 - b. False

Chapter 23: Developing Combative Areas for Boxing and Martial Arts

1. Which organization is considered to be an umbrella organization under the jurisdiction of USA Boxing that was organized to provide an opportunity for college students to participate in the sport of amateur boxing against other students enrolled in fully accredited institutions of higher education?
 - a. NCAA
 - *b. NCBA
 - c. NAIA
 - d. NACC
 - e. None of the above
2. Boxing is not widely accepted and utilized as a fitness activity.
 - a. True
 - *b. False
3. If a boxing ring is used, or if contact drills are used, the ring or floor area must be covered with a six-inch layer of Ensolite(r) AAC or AL closed-cell foam rubber (or a chemical equivalent).
 - *a. True
 - b. False
4. When boxing, handwraps are recommended for all types of striking drills, but need not be required. However, they are mandatory for competition.
 - *a. True
 - b. False
5. If a boxing ring is used, it should be equipped with four ropes that are wrapped in a soft material, and all turn-buckles must be covered with protective padding.
 - *a. True
 - b. False
6. When organizing a boxing facility, to utilize the space efficiently, center the ring in one end of the room, and place heavy and light striking bags on the opposite end, thus leaving the space between for drills, calisthenics, or plyometrics.
 - *a. True
 - b. False
7. Boxing gloves and headgear, for example, should be stored away in an area that is warm without air circulation.
 - a. True
 - *b. False

8. Which of the following guidelines has USA Boxing Inc. published for recognizing a possible head injury?
 - a. Dizziness or headache
 - b. Increasing drowsiness
 - c. Loss of consciousness
 - d. Unusual or strange behavior
 - *e. All of the above
 - f. None of the above

9. The term “martial art” comprises a wide range of fighting systems that are practiced for physical fitness, sport competition, and self-defense.
 - *a. True
 - b. False

10. The recommended lighting level for martial arts facilities is 20-foot candles.
 - *a. True
 - b. False

11. Minimum space needed for a boxing area is _____.
 - a. 60 ft X 30 ft
 - *b. 30 ft X 50 ft
 - c. 45 ft X 40 ft
 - d. 15 ft X 20 ft

12. Light striking bags are nice to have but not vital.
 - *a. True
 - b. False

13. Heavy bags are optional.
 - a. True
 - *b. False

14. A platform is recommend for competition.
 - *a. True
 - b. False

15. The term martial arts comprises a wide range of fighting systems.
 - *a. True
 - b. False

Chapter 24: Equestrian Spaces

1. Equestrian facilities may consist of which of the following areas?
 - a. Work areas
 - b. Barns
 - c. Turnout areas
 - d. Arenas
 - *e. All of the above
2. When considering a site for a horse barn, which of the following should be taken into consideration?
 - a. Sun
 - b. Shade
 - c. Wind
 - *d. All of the above
 - e. Both A and B
3. Adequate ventilation is an important aspect of any barn. Ventilation may be provided by doors, roof vents, or windows for example.
 - *a. True
 - b. False
4. Which of the following components are typical for a barn facility?
 - a. Feed room and hay storage
 - b. Tack room and stalls
 - c. Bedding and equipment storage
 - *d. All of the above
 - e. Both A and C
5. Which of the following are types of bedding for stalls?
 - a. Straw or pine sawdust
 - b. Pine shavings or shredded newspaper
 - c. Sand or hardwood chips
 - *d. All of the above
 - e. Both A and B
6. Which of the following are common grooming tools?
 - a. Brushes and scissors
 - b. Curry combs and sponges
 - c. Electric clippers and soft clothes
 - d. Both A and B
 - e. Both B and C
 - *f. A, B, and C

7. The manure disposal area should be positioned well away from the stalls but easily accessible.
 - *a. True
 - b. False

8. Turnout areas are designed to provide unlimited exercise space for the horse.
 - *a. True
 - b. False

9. Obstacles found in the hunt field may be chicken coop, brush, plank, or stone walls.
 - *a. True
 - b. False

10. Items stored in a tack room may consist of which of the following?
 - a. Bridles and crops
 - b. Ropes and saddles
 - c. Blankets and bell boots
 - d. Both A and B
 - *e. A, B, and C

11. There are four different components of an equestrian facilities.
 - *a. True
 - b. False

12. A common stall size is _____.
 - a. 12 X 12
 - b. 12 X 14
 - c. 12 X 16
 - d. 12 X 18
 - *e. All of the above

13. The hay storage area should be directly accessible from the feed room.
 - *a. True
 - b. False

14. The tack room should be separated from the stall area.
 - a. True
 - *b. False

15. There are eight types of jumps used in Hunter classes.
 - a. True
 - *b. False

Chapter 25: Athletic Training Facilities

1. What American organization is credited with the professionalization of the field of athletic training?
 - *a. The National Athletic Training Association (NATA)
 - b. The American Association of Trainers (AAT)
 - c. The Sports Medicine and Trainers Society (SMTS)
 - d. The Athletic Trainers' Union (ATU)
2. Which of the following is NOT one of the ten design considerations for athletic training facility components?
 - a. Flooring
 - b. Size
 - *c. Color
 - d. Line of sight
3. Which type of flooring is recommended within the hydrotherapy/wet areas of the AT facility?
 - a. Carpet
 - b. Wood
 - c. Laminate
 - *d. Concrete or tile
4. Which of the following is NOT one of the design recommendations for the office area of AT facilities?
 - a. Window with sight lines for the facility
 - b. Electrical outlets
 - c. Internet/network connection
 - *d. 12'-0" ceiling height
5. Which federal regulations impact the procedures for medical record storage in the athletic training setting?
 - *a. Health Insurance Portability and Accountability Act (HIPAA)
 - b. Family Medical Leave Act (FMLA)
 - c. Americans with Disabilities Act (ADA)
 - d. Title IX of the Educational Amendments Act
6. The treatment tables within the treatment and rehabilitation area of the AT facility should be spaced at least _____ apart to allow access for carts with therapy modalities and supplies.
 - a. 24"
 - *b. 30"
 - c. 48"
 - d. 60"
7. Which company was the first to create a self-contained, free-standing, and construction-free underwater treadmill therapy pool with a width of just under 36"?
 - a. Cramer
 - b. Jacuzzi
 - *c. HydroWorx
 - d. Mueller

8. Which AT equipment or supplies are most sensitive to temperature and humidity and should be stored in an area where these conditions are controlled?
 - a. Gators or motorized carts
 - *b. Athletic tape and bandages
 - c. Water bottles and coolers
 - d. Crutches and backboards

9. While early space recommendations from the 1970's called for a minimum AT facility size of 300 square feet, more recent studies of AT facilities in the college setting have found the mean size of AT facilities at NCAA Division 1 schools to be approximately ___ square feet.
 - a. 500
 - b. 1000
 - c. 1250
 - *d. 5600

10. Which level of athletic program at the NCAA Division I level has the greatest level of equipment resources within their athletic training facilities?
 - a. Football Championship Subdivision (FCS)
 - *b. Football Bowl Subdivision (FBS)
 - c. Non-Football Schools (NFS)
 - d. Historically Black Colleges and Universities (HBCU)

11. When examining specialty athletic training facilities at the collegiate level, Gallucci and Petersen (2017) found that the game day AT facility was more common than the satellite AT facility.
 - a. True
 - *b. False

12. When designing a single restroom/changing room for an athletic training facility, it is important that the design and dimension meet ADA standards for accessibility.
 - *a. True
 - b. False

13. One advantage of single-user stainless steel whirlpool systems is a greater level of control of thermal regulation/temperature of the whirlpool.
 - *a. True
 - b. False

14. Electrical outlets in the hydrotherapy/wet areas of the AT facility must be ground fault circuit interrupter (GFCI) to protect from potential electric shock.
 - *a. True
 - b. False

15. The AlterG® Treadmill is the most advanced underwater treadmill system that uses heated water and ice baths in an aquatic therapy pool setting.
 - a. True
 - *b. False

16. The treatment and rehabilitation areas should be designed to accommodate only passive treatment modalities.
 - a. True
 - *b. False

17. The minimum recommended amount of space for offices in an AT facility is 220 square feet.
 - *a. True
 - b. False

18. Taping stations within the team preparation area of the AT facility should have a minimum height of the taping surface of 24" from the ground along with electrical outlets available at least every 12'-0".
 - a. True
 - *b. False

19. Medical records for all recipients of treatment from the athletic trainer should be stored for at least seven years.
 - *a. True
 - b. False

20. All AT storage areas should be open access without locking systems for rapid availability of materials.
 - a. True
 - *b. False

Chapter 26: Shooting Facilities: Archery, Rifle, and Pistol

- Outdoor archery ranges are most effectively laid out on level turf, oriented
 - north to south
 - south to north
 - east to west
 - west to east
- The sanctioning agencies for Target Archery are the Federation Internationale de Tir a l'Arc (FITA) and the:
 - Target Archery Council (TAC)
 - National Archery Association (NAA)
 - American Federation for Target Archery (AFTA)
 - Archery Federation of America (AFA)
- The Occupational Safety and Health Administration (OSHA) established standards for safe amounts of lead exposure known as
 - Permissible Exposure to Lead (PEL)
 - Occupational Safety and Health Administration Lead Standards (OSHALS)
 - Occupational Lead Limits (OLL)
 - Safe Tolerance of Lead Exposure (STOLE)
- How far must a buffer zone be roped off behind the targets to keep spectators, competitors, and officials safe?
 - 25 yards
 - 25 meters
 - 50 yards
 - 100 yards
- What is the recommended ceiling height for indoor rifle and pistol ranges?
 - Not less than 8 feet
 - 10-12 feet
 - At least 14 feet
 - None of the above
- Target-specific lights need to be much brighter and have the ability to be moved to achieve a direct focus on a target.
 - True
 - False
- The latest development in high-tech, environmentally sound bullet traps is the:
 - Granular rubber trap
 - Steel escalator trap
 - Venetian blind trap
 - Plate and pit trap

8. Target retrieval systems allow the shooter to remain in front of the firing line.
*a. True
b. False
9. High school and collegiate ranges typically only require a basic system that is controlled at the shooting stall. These systems contain a forward and reverse toggle switch for target placement as well as a range master call intercom.
*a. True
b. False
10. Shooting facility design must include which of the following?
a. Rules and signage
b. Inspections and procedures
c. Staffing and training
d. Insurance and waivers
*e. All of the above
11. The minimum spacing between targets is ____.
*a. 8' 2"
b. 8'
c. 9' 6"
d. 10'
12. The safety buffer zone around a target archery range is ____.
a. 10 yards
b. 20 yards
*c. 50 yards
d. 30 yards
13. The height of a rifle or pistol range is between ____.
a. 8-10'
*b. 10-12'
c. 12-14'
d. 8-12'
14. Lead exposure is a minor concern in a shooting range.
a. True
*b. False
15. Air-space baffles are a critical safety buffer for indoor ranges.
*a. True
b. False

Chapter 27: Dance Spaces

1. Which of the following is not a criteria for determining dance facility needs?
 - a. Auxiliary space
 - b. Rehearsal space
 - c. Performance space
 - d. Research space
 - *e. Rest rooms
2. A minimum of 125 square feet per person is recommended for rehearsal space.
 - a. True
 - *b. False
3. An instructional dance area should be between 4,800 to 5,000 square feet.
 - *a. True
 - b. False
4. There are basically two types of instructional dance areas – ballet and modern dance, and ballroom (social), folk, and square dance.
 - *a. True
 - b. False
5. A typical floor for ballet and modern dance is a floating wooden floor with a stain finish covered with two to three coats of sealer.
 - a. True
 - *b. False
6. Which type of lighting should be used in a dance area?
 - a. Fluorescent
 - b. Mercury vapor
 - c. Sodium vapor
 - d. Incandescent
 - *e. Natural lighting
7. Which auxiliary area should not be planned for in a dance facility?
 - a. Offices
 - b. Locker/dressing rooms
 - c. Concession space
 - *d. Costume/make-up area
8. The performance space should be between 875 to 1200 square feet.
 - *a. True
 - b. False

9. The proscenium stage area should include performance space, seating for spectators, curtains, teasers, battens, lighting, sound equipment, concessions area, dressing room with make-up area, control booths, and live musicians.
- a. True
 - *b. False
10. It is acceptable to use a gymnasium/multipurpose space for a dance facility in an elementary school setting.
- *a. True
 - b. False
11. Heavy-duty wiring is essential for all dance facilities.
- *a. True
 - b. False
12. Incandescent light is the preferable lighting.
- a. True
 - *b. False
13. Dance activities do not require air space between floor and foundation.
- a. True
 - *b. False
14. The costume room should be a minimum of ____ square feet.
- a. 200
 - *b. 400
 - c. 600
 - d. 800
15. There are basic four types of dance found within a dance program.
- *a. True
 - b. False

Chapter 28: Design Trends in Stadiums and Arenas, 1975–2012

1. One of the most dynamic trends that has developed in the design of spectator sport facilities is the inclusion of luxury suites in professional as well as intercollegiate arenas and stadiums.
 - *a. True
 - b. False

2. Luxury suites are small, public rooms opening toward the court or field that are usually leased to individuals or companies who desire a semi-private lounge area, typically large enough to accommodate 12 to 20 guests.
 - *a. True
 - b. False

3. What is the term given to agreement deals made between stadium owners and large corporations that permit the sponsor to connect a brand name or logo to a stadium for a given period of time?
 - a. Rights
 - *b. Naming Rights
 - c. Promotional Rights
 - d. None of the Above

4. Personal seat licenses are to individuals what luxury suites are to corporations.
 - *a. True
 - b. False

5. Typically, PSLs (personal seating licenses) allow the purchaser the right to buy season tickets in special seating areas such as club seats.
 - *a. True
 - b. False

6. Many sport organizations have made a shift in their fundamental missions and have gone from primarily trying to put a winning team on the court/field to providing a great family entertainment experience.
 - *a. True
 - b. False

7. Which of the following are examples of building designs that have been successfully used to enclose large sport facilities?
 - a. Tension fabric structures
 - b. Air-supported fabric structures
 - c. Wooden domes
 - d. Cable domes
 - *e. All of the above

8. It has become evident that the FieldTurf and similar systems are becoming the preferred design choice for the National Football League and major league baseball.
 - *a. True
 - b. False

9. Which of the following conditions may be more favorable for tension structures?
- a. When free and open access from the sides is desirable or required
 - b. A unique design or aesthetics are of importance
 - c. The facility will be largely unattended or not monitored
 - d. Possible deflation of an air structure would constitute a severe operational or safety problem
 - *e. All of the above
10. Which of the following instances may be preferable for an air structure?
- a. When free and open access from the sides is desirable or required
 - b. A unique design or aesthetics are of importance
 - c. The facility will be largely unattended or not monitored
 - *d. When column-free spans of greater than 150 feet are desired
 - e. None of the Above
11. What is the average seating capacity of a MLB stadium currently?
- a. 36,677
 - b. 45,368
 - *c. 44,419
 - d. 54,678
12. What is the average seating capacity of a NBA arena currently?
- a. 10,000
 - *b. 19,159
 - c. 19,652
 - d. 14,879
13. What is the average seating capacity of a NFL stadium currently?
- a. 47,246
 - b. 71,162
 - *c. 70,563
 - d. 65,987
14. What is the average seating capacity of a NHL arena currently?
- a. 13,350
 - b. 18,244
 - c. 19,765
 - *d. 18,381
15. Naming rights deals are agreements made between owners and large corporations that permit the sponsor to connect a brand name or logo to a stadium for a given period of time.
- *a. True
 - b. False

Chapter 29: Trends in Equipment and Supplies

1. What does LED stand for?
 - a. Lighting Electrical Device
 - *b. Light Emitting Diode
 - c. Lens Encased Device
 - d. Liquid Enhanced Diode

2. What does AED stand for?
 - a. Automatic Encephalograph Device
 - b. Additional Electrical Diathermy
 - c. Automated EKG Device
 - *d. Automated External Defibrillator

3. Which of the following is NOT an advantage of using LED lighting in sport venues?
 - a. LED lamps last longer than metal halides
 - b. LED lamps use less electricity and produce brighter light
 - *c. LED lamps come only in “daylight” and “soft white” colors
 - d. LED lamps can turn on and off instantaneously allowing for special effects use

4. Which was the first use of a large-scale video display or Jumbotron within the sport stadium or arena setting?
 - *a. Dodger Stadium in Los Angeles for MLB in 1980
 - b. AT&T (Cowboy) Stadium in Arlington for the NFL in 2009
 - c. Madison Square Garden in New York for the NBA in 1990
 - d. Yankee Stadium in New York for MLB in 1990

5. Which was the first U.S. sport league to adopt a policy and implement the use of magnetometers for stadium or arena access screening?
 - *a. National Football League in 2008
 - b. Major League Baseball in 2010
 - c. National Basketball Association in 2006
 - d. National Hockey League in 2009

6. Which of the following is NOT one of the three levels of venue liability protection designation afforded under the Support Anti-Terrorism by Fostering Effective Technologies Act of 2002 or SAFETY Act?
 - a. Designated
 - b. Certified
 - c. Developmental Testing and Evaluation Designation (DTED)
 - *d. Qualified – Approved (QA)

7. According to data from the Outdoor Foundation (2017), the most heavily used cardio equipment in the United States was the _____.
 - a. Elliptical machine
 - b. Stationary bike
 - *c. Treadmill
 - d. Rowing machine

8. The AED was developed as a portable device in order to provide on-site treatment for which condition?
 - a. Stroke
 - *b. Sudden cardiac arrest
 - c. Epileptic seizures
 - d. All of the above

9. Which of the following is considered one of the early trend-setters in youth sportsplex development?
 - *a. Disney Wide World of Sports in Orlando
 - b. Jerry World in Dallas
 - c. IMG Academy in Bradenton
 - d. Spooky Nook Sports in Lancaster

10. Which of the following is NOT considered primary equipment needed to host esports competition?
 - a. Headsets and gaming chairs for participants
 - b. Individual and large-scale video monitors
 - c. Robust Local Area Network (LAN)
 - *d. G3 phone service

11. Technology use in cardio equipment has trended toward:
 - a. Tracking user workout progress
 - b. Providing user entertainment during exercise
 - c. Tracking equipment use for management purposes
 - *d. All of the above

12. Which is the most commonly offered type of strength/resistance training equipment within fitness facilities?
 - a. Kettlebells
 - *b. Resistance tubing or bands
 - c. Selectorized weight machines
 - d. Plate loaded weight machines

13. The increase in laws mandating AED availability have caused the cost of AEDs to increase greatly since the year 2000.
 - a. True
 - *b. False

14. It has become common to host esports championship events in major sport stadiums and arenas with typical seating capacities over 10,000.
- *a. True
 - b. False
15. On average, the cost per piece or type of strength training equipment is more for selectorized strength machines than for plate loaded strength machines.
- *a. True
 - b. False
16. Supplies are generally considered to have high price points and long life spans.
- a. True
 - *b. False
17. All of the colors on LED screens come from combinations of only three lights, red, blue, and green.
- *a. True
 - b. False
18. The first stadium or arena to install and use LED lighting for the playing area was the Heinz Field home of the Pittsburgh Steelers in 2002.
- a. True
 - *b. False
19. The state of Illinois was the first to enact a law requiring placements of AEDs in fitness centers in 2004.
- *a. True
 - b. False
20. The first NCAA Football Program to institute the use of magnetometer screening for stadium access was Boise State University in 2014.
- *a. True
 - b. False

Chapter 30: History of the Council on Facilities

1. What does the Council on Facilities and Equipment focus its concerns on regarding facilities and equipment in relationship to physical activity and sport?
 - a. Policies
 - b. Standards
 - c. Guidelines
 - d. Safety
 - *e. All of the above
2. What does AAHPERD represent?
 - a. Alliance of America for Health, Physical Education, Recreation, and Dance
 - *b. American Alliance for Health, Physical Education, Recreation, and Dance
 - c. Neither A or B
3. What does AAHPERD seek to do?
 - a. Encourage, guide, and support professional growth and development in health, leisure, and movement-related programs based on individual needs, interests, and capabilities
 - b. Communicate the importance of health, leisure, and movement-related activities as they contribute to human well-being
 - *c. Both A and B
 - d. Neither A or B
4. AAHPERD is composed of 10 national associations and the Research Consortium.
 - *a. True
 - b. False
5. The goal of AAPAR and its 11 councils is to promote active lifestyles and fitness for all populations through support of research, development of leaders, and dissemination of current information.
 - *a. True
 - b. False
6. What does CFE represent?
 - *a. Council on Facilities and Equipment
 - b. Council on Factories and Education
 - c. Council on Forms and Education
 - d. None of the Above
7. What is the purpose of the CFE?
 - a. To improve the quality of undergraduate and graduate instruction in facilities and equipment design and planning
 - b. To initiate and conduct state, district, and national conferences on facilities and equipment
 - *c. Both A and B
 - d. Neither A or B

8. AAPAR members are provided with information on professional development opportunities, career networking and contacts, as well as regional workshops/conferences.
 - *a. True
 - b. False

9. AAHPERD is not an educational organization.
 - a. True
 - *b. False

10. The purpose of the Council on Equipment and Supplies was to assist physical educators, athletic coaches, and recreation leaders in the selection, purchase, and care of equipment and supplies.
 - *a. True
 - b. False

11. AAPAR was formerly the General Division.
 - *a. True
 - b. False

12. There have been how many editions of the Facility Planning and Design book?
 - a. 7
 - b. 4
 - *c. 13
 - d. 11

13. The Athletic Institute was the initial publisher of the Facility Planning and Design book.
 - *a. True
 - b. False

14. The first edition of the book was published in ____?
 - a. 1950
 - *b. 1946
 - c. 1974
 - d. 1984

15. The first comprehensive report on gymnasium construction by Hartwell was published in ____.
 - a. 1923
 - b. 1927
 - c. 1885
 - *d. 1930

Chapter 31: Equipment and Facility Design Standards

1. Standards are always mandatory.
 - a. True
 - *b. False
2. A mandatory standard is developed by a federal agency such as the Environmental Protection Agency (EPA) and Occupational Safety and Health Administration (OSHA).
 - *a. True
 - b. False
3. Legal codes are developed by nonelected public officials.
 - *a. True
 - b. False
4. A standard of practice is a usual practice accepted by the national or local government regarding some aspect of equipment or facility design or usage.
 - *a. True
 - b. False
5. ANSI is a significant organization that develops standards.
 - *a. True
 - b. False
6. ASTM represents the American Society of Training and Materials.
 - *a. True
 - b. False
7. What is ASTM?
 - a. One of the largest voluntary standards development systems in the world
 - b. Nonprofit
 - *c. Both A and B
 - d. Neither A or B
8. How does someone initiate a new standards activity in ASTM?
 - a. Telephone call
 - *b. Written request
 - c. Both A and B
 - d. Neither A or B
9. OSHA has recently begun developing new standards through a negotiated rule-making process.
 - *a. True
 - b. False
10. CEN is the European standards organization that coordinates all European country standards organizations.
 - *a. True
 - b. False

Chapter 32: Facility Maintenance

1. Equipment safety is the main reason facility maintenance is significant.
*a. True
b. False
2. Risk-based maintenance provides a sensible maintenance strategy to increase the potential dangers produced by unanticipated malfunction of equipment.
a. True
*b. False
3. Preventive maintenance should be conducted at non-specific times using criteria that has been discussed and agreed upon.
a. True
*b. False
4. The rationale to conduct preventive maintenance is to decrease the likelihood that a piece of equipment will degrade to the point of failure.
*a. True
b. False
5. Preventive maintenance is the same as routine maintenance.
a. True
*b. False
6. In the facility life cycle stage of facility decommissioning occurs when the desires of the community may have shifted.
*a. True
b. False
7. A life cycle inventory analysis assesses the outcomes from the other phases and evaluates them relative to the goal and scope to ensure that suitable conclusions and recommendations are made.
a. True
*b. False
8. A facility condition assessment should review every facility from the roof to the basement on a regular basis.
*a. True
b. False
9. A capital improvement plan is a long-range plan, generally lasting more than 10 years.
a. True
*b. False

10. A good work order provides general directions to the maintenance personnel to complete the task.
 - a. True
 - *b. False

11. Job sequencing is employed to prioritize the work orders and ascertain where the request will fall in the processing schedule.
 - *a. True
 - b. False

12. Effectiveness indicates the ability to complete the task within a set time that allows a person to begin on other tasks.
 - a. True
 - *b. False

13. The preventative maintenance formula requires the number of days the task is scheduled divided by the number of days of the task.
 - a. True
 - *b. False

14. The lower the facility condition index, the worse condition the assets are.
 - a. True
 - *b. False

15. Which of the following best describes possibility that a system or equipment is accomplishing its prescribed purpose when maintained in recommended fashion
 - a. Reliability
 - *b. Availability
 - c. Maintainability
 - d. Cost

16. Which of the following best describes the likelihood that the equipment can be restored or repaired to a stipulated condition as long as maintenance is conducted regularly and appropriately?
 - a. Reliability
 - b. Availability
 - *c. Maintainability
 - d. Cost

17. Which of the following best describes the expenditures of hardware, software, and personnel training needed to apply the maintenance strategy?
 - a. Reliability
 - b. Availability
 - c. Maintainability
 - *d. Cost

18. Which of the following best describes an analysis of the impact of the facility or equipment from starting the process, through the end of its useful stages, to removal of all discarded items?
- *a. Cradle to grave
 - b. Cradle to cradle
 - c. Birth to death
 - d. Reactive maintenance
19. Which of the following maintenance strategies is best described as focusing on repairing the facility equipment once failure occurs?
- a. Preventative
 - b. Predictive
 - *c. Reactive
 - d. Deferred
20. Which of the following maintenance strategies identifies tasks that are specific to failures which are most needed to be addressed that may result in considerable reductions in scheduled workloads?
- *a. Reliability-centered maintenance
 - b. Predictive
 - c. Deferred
 - d. Preventative
21. Which facility life cycle stage relates to the identification of a location, potential site plans and design options?
- *a. Preconstruction
 - b. Facility decommissioning
 - c. Penultimate
 - d. Facility repair
22. Which phase of a life cycle assessment clarifies the inventory outcomes as they relate to possible impacts to the areas of protection?
- a. Goal and scope
 - b. Life cycle inventory analysis
 - *c. Life cycle impact assessment
 - d. Interpretation
23. Which phase of a life cycle assessment identifies the reasons for carrying out the study, the intended application, and the intended audience?
- *a. Goal and scope
 - b. Life cycle inventory analysis
 - c. Life cycle impact assessment
 - d. Interpretation

24. Which of the following describes a technique that connects the initial cost with future based costs associated with, operation, maintenance, replacement, alteration costs of the facility?
- a. Life cycle inventory analysis
 - b. Interpretation
 - *c. Life cycle impact assessment
 - d. Life cycle cost analysis
25. Which type of work order is used when a threat of personal injury, equipment damage, or serious disruption of service is posed?
- a. Emergency
 - *b. Urgent
 - c. Routine
 - d. Predictive
26. Which type of work order is used when immediate corrective action is not required and can be scheduled and completed within a specific time period
- a. Emergency
 - b. Urgent
 - *c. Routine
 - d. Preventative
27. Which of the following denotes the monetary value that needed to replace the current assets in the organization, including production and process equipment, utilities, support, and all related costs
- a. Required asset value
 - b. Effective asset value
 - c. Revenue approximation value
 - *d. Replacement asset value
28. What type of rating would a venue have if the facility condition index (FCI) is under .05?
- a. Poor condition
 - b. Fair condition
 - *c. Good condition
 - d. Excellent condition

Chapter 33: Planning for Security in Sport Facilities

1. The Department of Homeland Security recognizes sport-related facilities and events as soft target security risks because they:
 - a. are often easily recognizable icons
 - b. have large population densities
 - c. operate as open public access venues
 - *d. all of the above

2. Comprehensive security management should include proactive _____ planning, to protect stakeholders and support a safe environment before circumstances deteriorate.
 - *a. Crowd management
 - b. Crowd control
 - c. Emergency procedures
 - d. all of the above

3. Crowd managers should be trained to
 - *a. Recognize signs of distress among patrons
 - b. Understand how the layout of the venue affects vehicular traffic
 - c. Use force to apprehend unruly patrons
 - d. All of the above

4. A crowd crush can be attributed to a firecracker that is discharged in a large group of people, resulting in those individuals scrambling for safety.
 - a. True
 - *b. False

5. This example of sport violence describes an instance when spectators disrupt action by entering the playing field without authorization.
 - a. Assault
 - *b. Pitch invasion
 - c. Terrorism
 - d. Fighting

6. Ritualized fan-on-fan violence often associated with soccer is referred to as
 - a. Vandalism
 - b. Fighting
 - *c. Hooliganism
 - d. Assault

7. A prudent facility manager will create one comprehensive emergency action plan that will cover all events that take place within a facility.
 - a. True
 - *b. False

8. A _____ assessment should be administered for the purpose of recognizing and calculating important assets, infrastructure, and critical functions.
- *a. Criticality
 - b. Risk
 - c. Danger
 - d. Threat
9. This internal facility zone can be used for temporary safety if necessary.
- *a. Zone 1 – primary activity area
 - b. Zone 2 – spectator seating
 - c. Zone 3 – internal concourses
 - d. Zone 4 – circulation area
 - e. Zone 5 – open space
10. This facility zone should contain adequate spacing to accommodate large crowds in an emergency.
- a. Zone 1 – primary activity area
 - b. Zone 2 – spectator seating
 - *c. Zone 3 – internal concourses
 - d. Zone 4 – circulation area
 - e. Zone 5 – open space
11. This facility zone should be considered the zone of permanent safety.
- a. Zone 1 – primary activity area
 - b. Zone 2 – spectator seating
 - c. Zone 3 – internal concourses
 - d. Zone 4 – circulation area
 - *e. Zone 5 – open space
12. This type of access control will allow facility managers to limit entry to individuals with identifiable physical attributes.
- a. Security monitors
 - b. Smart hardware
 - c. Metal detectors
 - *d. Biometric equipment
13. In addition to contributing to the aesthetics of a facility, a statue or monument may also be considered an architectural barrier that may act as a deterrent for nefarious activity.
- *a. True
 - b. False

14. Which of the following entities would NOT be represented in a facility command center?
- a. Security personnel
 - b. Facility operations
 - c. Emergency medical services
 - *d. Visiting team administrator
 - e. Law enforcement
 - f. Weather professionals
15. The typical dimensions allowed under "Clear Bag" policies is
- a. 12x8x12
 - b. 8x12x8
 - *c. 12x6x12
 - d. 18x6x18
16. At a Major League Soccer match, alcohol sales cease in the ____ minute.
- a. 60th
 - b. 65th
 - c. 70th
 - *d. 75th
 - e. 80th
 - f. 85th
17. According to the Federal Aviation Administration, drones are prohibited in and around stadiums starting two hours before and ending two hours after scheduling times for National Football League games.
- a. True
 - *b. False
18. Emergency situations occur infrequently at sport facilities, thus public address messages should only be developed on the fly once the exact emergency situation is known.
- a. True
 - *b. False
19. According to the National Federation of State High School Associations (NFHS), in times of inclement weather, play/practice should be suspended for at least 30 minutes following each instance of thunder or lightning strike within ____ miles.
- a. 4
 - b. 6
 - c. 8
 - *d. 10
 - e. 12

20. This organization offers the Academy for Venue Safety and Security to train event managers, security professionals, and other personnel involved in venue safety and security.
- *a. IAVM
 - b. ICSS
 - c. CEFMA
 - d. NCS4
21. This certification offered by the National Center for Spectator Sports Safety and Security is designed for front-line venue and event staff to enhance safety and security efforts by increasing security awareness.
- a. Certified Sport Security Professional
 - *b. Certified Sport Venue Staff
 - c. Certified Venue Professional
 - d. Certified Venue Executive
 - e. Certified Sports Event Executive