## **Practice Exam**

As with the Chapter Review Tests and the Final Exam, the Practice Exam tests your understanding of the materials underlying the learning objectives. After you've reviewed your answers to the Chapter Review Tests, try your hand at this 50-question Practice Exam to become still more comfortable with taking a multiple-choice test. Remember, topics covered in this exam may likewise be covered in the Final Exam, but the wording of the questions will never be identical.

- 1. Team cleaning in a building reduces energy consumption because utilities are:
  - a. turned down longer.
  - b. turned off earlier.
  - c. monitored by the supervisor.
  - d. reported for waste.
- 2. All of the following are used to protect against environmental damage caused by a hydraulic elevator system **except**:
  - a. cylinder shields.
  - b. alternative fluids, such as vegetable oils.
  - c. salt water instead of petroleum-based fluids.
  - d. double wall construction.
- 3. All of the following are ways that CCTV systems support facility security **except**:
  - a. provide a crime deterrent.
  - b. replace security staff.
  - c. provide unobtrusive surveillance.
  - d. identify persons prior to entrance.
- 4. Betty is establishing a facility profile. Which element would likely **not** be included in it?
  - a. cost
  - b. function
  - c. occupants
  - d. structure
- 5. Elevator door operators, roller guides, door detector systems, and emergency lighting are examples of modernization to upgrade:
  - a. visual appeal.
  - b. peripheral equipment.
  - c. control equipment.
  - d. speed and performance.
- 6. The **most** common charge for after-hours utility use in a building is for:
  - a. heating and cooling.
  - b. IAQ ventilation.
  - c. lighting.
  - d. personal computers.
- 7. An anodized surface can be applied to aluminum:
  - a. many times over its life span.
  - b. by regular maintenance workers.
  - c. by contracted specialists.
  - d. only in the factory.

- 8. The type of waste container that is the **least** efficient at controlling pests is the:
  - a. roll-off container.
  - b. front-load container.
  - c. rear-load container.
  - d. compactor.
- 9. The key that removes the core of a lock from the housing and allows resetting of the lock combination is a:
  - a. grand master key.
  - b. submaster key.
  - c. master key.
  - d. control key.
- 10. Which is **true** concerning the property manager's role in an IPM (integrated pest management) program?
  - a. the pest management employees bear greater responsibility than the manager for implementing recommendations regarding structural change and sanitation
  - b. the pest management employees must decide on the level of communication they will have with building occupants
  - c. the property manager and not the pest control expert has the ultimate decision on the course of action to take to control a problem
  - d. the building occupant has a higher level of communication than the manager with the pest control expert regarding problems and solutions
- 11. Which is a structural barrier related to facility security?
  - a. bodies of water
  - b. bars
  - c. earth berms
  - d. plantings
- 12. When alterations or repairs are made to a water-based fire protection system, valves should:
  - a. remain open with sprinklers in service to the greatest extent possible.
  - b. be inspected both during and after the work is performed.
  - c. be closed throughout the system until repairs are completed.
  - d. be closed on either side of the work being performed.
- 13. Elevators in buildings that have more than seven stops and require faster operation are generally:
  - a. hole-less hydraulic.
  - b. dual service.
  - c. traction.
  - d. holed hydraulic.

- 14. Which is **true** concerning dual electrical service?
  - a. each line connects to switchgear that can transfer the load from one service to the other through a tie circuit breaker that is normally open
  - b. if one service fails, the other service fails as well
  - c. when using dual service, the building load only draws on one service at a time
  - d. it consists of two full-capacity lines from the utility company, originating from one distribution source
- 15. The ratio of the real power to the apparent power in an electrical circuit is:
  - a. frequency.
  - b. reactance.
  - c. power efficiency.
  - d. power factor.
- 16. In cold months, a building's lighting can cause:
  - a. thermostat overload.
  - b. reduced use of the heating system.
  - c. worker comfort complaints.
  - d. increased demand on the heating system.
- 17. Types of wastes that are regulated by federal standards include all of the following except:
  - a. blood.
  - b. disinfectants.
  - c. food.
  - d. solvents.
- 18. (Fill in the blank) Russell is measuring the light intensity of a ray of light at a specific angle to the light source. He is measuring \_\_\_.
  - a. candlepower
  - b. footcandles
  - c. lumens
  - d. wattage
- 19. Because of the special nature of skills and equipment required for cleaning exterior windows at high elevations, the window cleaning is typically:
  - a. handled by in-house staff.
  - b. scheduled every other year.
  - c. scheduled every other month.
  - d. contracted out.

- 20. All of the following are key principles in IPM (integrated pest management) **except**:
  - a. prevent rather than react.
  - b. manage use of pesticides if they become necessary.
  - c. establish action thresholds.
  - d. reduce building maintenance.
- 21. Stubborn particles and films such as paint can best be removed from glass using a:
  - a. brush.
  - b. squeegee.
  - c. chamois.
  - d. scraper.
- 22. Demand-side management is a utility company program that offers:
  - a. the chance for a customer to change rate selection weekly.
  - b. reduced power supply during nighttime hours.
  - c. free advice or subsidies for the purchase and installation of energy-conserving products.
  - d. pre-paid utility supply at a discount rate.
- 23. Fire-rated walls are intended to prevent:
  - a. the horizontal passage of fire.
  - b. fires from starting.
  - c. fires from burning longer than 10 minutes.
  - d. the vertical passage of fire.
- 24. Which is a common measurement of the color of a light source based on heat, and is measured in degrees Kelvin (K)?
  - a. lumen
  - b. candle power
  - c. chromaticity
  - d. footcandle
- 25. A disaster and emergency plan should be:
  - a. stored only on computer disk.
  - b. fully accessible to the general public.
  - c. as brief and general as possible.
  - d. written and well-documented.
- 26. In a new elevator installation, a form is signed at the completion of the installation by the party responsible under the contract agreement to indicate the:
  - a. guarantee.
  - b. free service.
  - c. break-in.
  - d. acceptance.

- 27. For custodial services, the customer provides his or her own personnel, equipment, and supplies under the:
  - a. fixed-price contract.
  - b. cost-plus-percentage-fee contract.
  - c. cost-plus-fixed-fee contract.
  - d. management-fee contract.
- 28. Plumbing in parking facilities primarily involves:
  - a. supplying water for power washers for floor maintenance.
  - b. supplying water for car wash facilities.
  - c. proper drainage.
  - d. drinking water.
- 29. NFPA classifies different occupancies in a building into hazard levels based on expected fire severity and:
  - a. number of occupants.
  - b. business workday hours.
  - c. space temperature.
  - d. fuel load.
- 30. All of the following are characteristics of fluorescent lamps **except**:
  - a. low overall cost.
  - b. high energy.
  - c. high efficiency.
  - d. long life.
- 31. The primary means of preventing parking facility claims is proper:
  - a. insurance coverage.
  - b. barriers.
  - c. claim checks.
  - d. employee training.
- 32. Using inks, ballpoint pens, and low-gloss paper instead of pencils and glossy paper is a technique to minimize:
  - a. shadows.
  - b. veiling reflections.
  - c. visual comfort probability.
  - d. eye adaptation.
- 33. Which is **true** concerning high-pressure sodium lamps?
  - a. they must be used where color is important
  - b. they are less efficient than the standard metal halide lamps
  - c. they are less efficient than the standard mercury vapor lamps
  - d. their efficiency does not drop drastically with lower-wattage sizes

- 34. Which form of organized cleaning requires workers to perform the widest range of cleaning tasks?
  - a. area assignments
  - b. job specialization
  - c. team cleaning
  - d. gang cleaning
- 35. Large electric motors for pumps and HVAC systems in commercial buildings typically operate using:
  - a. gas or diesel generators.
  - b. redundant power.
  - c. single-phase power.
  - d. three-phase power.
- 36. If Burton is to properly staff his incident response management team, who would be represented?
  - a. one representative for every ten occupants
  - b. each business function or building tenant
  - c. two representatives per building floor
  - d. five randomly selected individuals for the whole building
- 37. Once a baseline for a building's energy consumption has been established, the next step is to:
  - a. adjust rental rates.
  - b. review past energy performance.
  - c. set an energy performance goal.
  - d. review the effectiveness of new practices.
- 38. If David is to properly ground the electrical equipment, he **cannot** do this by attaching a grounding wire to:
  - a. a metal rod inserted into the earth.
  - b. the building's steel frame buried in the earth.
  - c. the building's plumbing system buried in the earth.
  - d. the building's water tower located on the rooftop.
- 39. Devices that interrupt electrical faults are:
  - a. relays.
  - b. capacitors.
  - c. surge arrestors.
  - d. transformers.

- 40. Generally, the most neglected area of cleaning supervision is:
  - a. inspecting.
  - b. disciplining.
  - c. assigning.
  - d. job description.
- 41. Max is having a UPS (uninterruptible power supply) system installed in the facility. The **main** reason for such a system is to:
  - a. supply generally clean AC.
  - b. supply generally clean DC.
  - c. maintain a constant voltage and frequency.
  - d. maintain power during power outages.
- 42. A waste audit is typically conducted periodically by a(n):
  - a. property manager and waste service company.
  - b. industrial hygiene team.
  - c. regulatory agency representative.
  - d. independent environmental consultant.
- 43. In general, which type of pest is **most** likely to be a problem in suburban properties?
  - a. rats
  - b. cockroaches
  - c. pigeons
  - d. ants
- 44. For a voice fire alarm system in a high-rise building, speakers are generally installed in all of the following areas **except**:
  - a. private offices.
  - b. elevators.
  - c. exit stairways.
  - d. elevator lobbies.
- 45. When an elevator stops between floors, the **best** procedure is to immediately:
  - a. contact the company attorney to determine liability.
  - b. direct the passengers to open the maintenance trap door.
  - c. summon a qualified elevator professional to discover the cause.
  - d. shut down the elevator system to preclude other stoppages.
- 46. An elevator controller that divides a building into areas and can program an elevator to park in each area during off-peak periods is operating under:
  - a. multiple zoning.
  - b. computerized dispatching.
  - c. manual dispatching.
  - d. terminal dispatching.

## The Design, Operation, and Maintenance of Building Systems, Part II Practice Exam

- 47. The key to successful landscape planting is:
  - a. the original watering and fertilizing.
  - b. preparation of the soil.
  - c. knowledge of the personnel doing the work.
  - d. investment in top-quality plants.
- 48. A milk-white glass or plastic panel over a light source is a:
  - a. troffer.
  - b. reflector.
  - c. louver.
  - d. diffuser.
- 49. The maintenance procedures for transformers are similar to those for switchgear **except** for:
  - a. inspecting on a regular basis.
  - b. testing the oil.
  - c. removing dirt.
  - d. preventing excessive temperatures.
- 50. Which lighting design can reduce electric energy usage while still providing adequate light for workers, but requires close attention to furniture layout?
  - a. ambient lighting
  - b. nonuniform lighting
  - c. uniform lighting
  - d. accent lighting

## **Practice Exam Answers**

- 1. B
- 2. C
- 3. B
- 4. A
- 5. B
- 6. A
- 7. D
- 8. A
- 9. D
- 10. C
- 11. B
- 12. A
- 13. C
- 14. A
- 15. D
- 16. B
- 17. C
- 18. A
- 19. D
- 20. D
- 21. D
- 22. C
- 23. A
- 24. C
- 25. D

- 26. D
- 27. D
- 28. C
- 29. D
- 30. B
- 31. D
- 32. B
- 33. D
- 34. C
- 35. D
- 36. B
- 37. C
- 38. D
- 20.
- 39. A
- 40. A
- 41. D
- 42. A
- 43. D
- 44. A
- 45. C
- 46. A
- 47. B
- 48. D
- 49. B
- 50. B