

## Unit Emergency Lighting Systems

An emergency lighting unit has passed initial inspection and tests indicate that the charger is within specifications for this specific unit. The emergency lighting system has been tested and passed the minimum illumination criteria of 30 minutes. The discharge parameters were well within the specifications for the pack. The AC power is restored to the emergency lighting pack but now the 'charge indicator' lamp does not appear to be on. Is the charger working? Which of the following methods should you use to determine if the charger is actually working?

- a. Measure battery current
- b. Monitor battery voltage
- c. **Perform both a and b**
- d. Turn up the charge control until the charge light comes on

A 360 Watt emergency light pack has a primary voltage of 120 VAC, secondary voltage of 12 VDC, what is the maximum number of 12 v 9 w double heads can be powered by this pack. (discounting voltage drop)

- a. 40
- b. 18
- c. **20**
- d. 36

## Commercial Kitchen Exhaust System Cleaning

(2 marks) What part of the system should be cleaned with great care so that the fire suppression system is not 'set off':

- a. Hood
- b. **Linkage wire or cable**
- c. Manual pull station
- d. **Fusible link**

(4 marks) Name four things you should ensure are done before you leave the job-site:

- a. **Ensure that pilot lights are lit**
- b. **Check that clean-up is done.**
- c. **Ensure fan is operating**
- d. **Leave inspection sticker on hood**
- e. **Leave inspection report.**

## Basic Electricity and Electronics

A capacitor is not:

- a. Able to hold an electric charge
- b. An electronic component
- c. Based on a Farad (F) as its unit of value
- d. **Used as an inductive resistor**

Four 6 V, 16 Ah batteries are connected in parallel, the result is a supply of:

- e. **6 V, 64 Ah**
- f. 6 V, 16 Ah
- g. 24 V, 63 Ah
- h. 24 V, 16 Ah

## Generator Systems

(2 marks) The BC Fire Code. Liquid fuel storage tanks shall be drained and refilled with fresh fuel at intervals not greater than what frequency? Provide BC Fire Code reference number(s) to support answer for full marks.

- a. 3 months
- b. 6 month
- c. **12 months** **BCFC 6.5.1.5.(1).**
- d. **Replenishment as part of the required routine test program** **BCFC A-6.5.1.5.(1)**

(5 marks) Name three (3) systems/equipment considered to be life safety equipment in accordance with the Building Code:

- a. **Fire alarm and emergency voice communication systems**
  - b. **Firefighters elevators**
  - c. **Fire protection water supply fire pumps,**
  - d. **emergency lighting**
  - e. **Smoke control systems**
  - f. **Fans required for smoke control**
  - g. **Exit signs that depend on electric power supplied to the building.**
- C282 4.1. (a) to (g)**

## Fire Alarm Systems

The battery voltage should not be less than what percentage of its rating after the tests or the batteries have to be replaced.

- a. 50%
- b. 75%
- c. **85%**
- d. 90%

How would you test the integrity of a monitored fire alarm system?

- a. Ask telephone service provider to check the line for monitoring signals
- b. Get a technician to call the monitored line on their 'cell-phone' to see if it rings
- c. This test outside the scope of fire alarm test and inspection requirements
- d. **Test for reception of the required signals at the remote monitoring location**

## Fire Pumps

The purpose of the circulation relief valve is to:

- a. Prevent over-pressurizing of the system at no flow condition
- b. A visual indicator that the pump is actually pumping
- c. **Prevent the fire pump from overheating at no flow condition**
- d. Flush out the pump each time it runs at no flow condition

An electric fire pump with the following specifications is being tested.

Capacity: 100 gpm @ 100 psi boost

Motor: 75hp, 1.15 service factor, 575Vac, 73A fla, 1750 rpm

- A. (2 marks) If during the annual test, peak current readings were 90 amps and the voltage readings were 580 volts, should the fire pump pass the annual test?

- a. Yes

- b. **No**

**$73 \times 1.15 = 83.95A$  Max (90 amps is too high)**

B. (2 marks) If during the annual test, voltage readings while running the pump were 530 volts, did the fire pump pass the annual test?

a. Yes

b. No  $575 \times .95 = 546.25V$  Min (530 volts is too low)

C. (2 marks) If during the annual test, voltage readings were 620 volts, did the fire pump pass the annual test?

a. Yes  $575 \times 1.10 = 632.5V$  Max (620V is okay)

b. No

## Fire Extinguishers

A Class B fires fire consists of:

- a. Ordinary combustible materials
- b. Energized electrical equipment
- c. **Flammable liquids**
- d. None of the above

**10-2007 5.2.2**

How often must an "inspection" be performed on an extinguisher?

- a. Quarterly
- b. Semi-annually
- c. ***Approximately 30 days intervals. NFPA-10 (2007) 7.2.1.1***
- d. Annually

## Special Fire Suppression Systems

(3 marks) Every 12 years, what wet chemical special fire suppression system components are to be hydrostatically tested?

**Wet chemical agent containers**

**Auxiliary pressure containers**

**Hose assemblies**

(2 marks) What is a “bag test”? After a “bag test” what must you do to the system piping before resetting the system?

**A dry chemical system discharge test through system piping into collection bags at discharge nozzles. After the test, the system piping must be blown out by air to remove dry chemical agent remaining in piping.**

## Water-Based Systems

(2 marks) A main drain test shall be conducted \_\_\_\_\_ at each water-based fire protection system riser to determine whether there has been a change in the condition of the water supply, piping and control valves. (chose all answers that apply)

- a. After the system water control valve has been closed and opened again**
- b. Quarterly
- c. Semi-annually
- d. Annually
- e. Annually, except quarterly when the system water supply is thru a backflow preventer**

Which type of sprinklers cannot be used on dry pipe sprinkler system:

- a. Upright sprinklers
- b. **Pendent sprinklers**
- c. Listed dry pendent
- d. Pendent sprinklers on return bends in heated areas

