Pretest Electric Heaters Information Section

1. What is the difference between standard watt-density and low watt-density heaters? Longer heater and more even heat.

2. Where are low watt-density heaters used? For decorative purposes or where a wide heat dispersal is required.

3. How do baseboard heaters transfer heat? Convection

4. What is the result of restricted air flow for baseboard heaters? Overheating

5. How is over-temperature protection provided for baseboard heaters? Linear thermal cutout.

6. What is the first choice location for installing baseboard heaters? Other locations? Under window. Outside wall near window or door.

7. What is the most likely cause of a ticking noise when a heater heats and cools? Mounting Screws too tight.

8. What is the minimum clearance for drapes above electric baseboard heaters? 100mm

9. What is the minimum clearance in front of electric baseboard heaters for the nearest fold of drapes? 50mm

10. What are some advantages of radiant heating? Disadvantages? No interference with drapes or furniture. Uniform heat. Disadvantages-No concentration of heat on outside walls where most loss occurs. May not be enough ceiling space to get enough heat in areas with a lot of glass or heat loss.

11. What is a cable set? Thermoplastic wires having a maximum output of 9w/m².

12. What is the maximum rating for cable sets? 9w/m²
13. Can heating cable sets be cut to length? No

14. How is over-heating protection provided for cable sets? Not required as they are such low wattage units.

15. What is the minimum spacing between heating cable sets and walls? Light fixtures? 150mm 200mm

16. What is the minimum spacing between cables for heating cable sets? 50mm

17. What test is conducted on heating cable sets before and after plastering?
   Insulation test to find out if there is a problem as soon as possible.

18. What is the minimum resistance for heating cable sets (measured between the cable set and the plaster) before and after plastering? 100,000Ω

19. What is the response time for radiant heating cables compared to cable sets?
   Faster

20. What are the four main types of forced-air convection heaters? Wall-insert, floor drop-in, ceiling-mounted, and kick-space.

21. What is the result of the fan not operating in a forced-air convection heater?
   Overheating and thermal cutout cycles.

22. What type of over temperature protection is provided on forced-air convection heaters? Thermal snap-disc.

23. What precaution must be taken when installing wall-insert heaters in outside walls? Room for adequate insulation behind the heater.

24. Which type of heater is available with a single or double grill? Insert unit-heaters

25. What are the wattage ratings for the “OAC” type heater? 1,500-12,000W
26. What type of over heating protection is provided for the insert unit heater?

    Thermal snap-disc

27. What type of area is best suited to a large suspended unit heater? Plants and warehouses where large machinery or stock piles would affect other types of heating.

28. Which type of heater is available as either a vertical or horizontal discharge type?

    Suspension unit heaters.

29. Which suspension unit delivers more airflow, vertical or horizontal? Vertical

30. What are the four control options for suspension unit heaters? No control (requires external), built-in thermostat (up to 10KW), built-in contactor controlled by built-in thermostat (up to 30KW), and built-in magnetic contactor only (up to 60KW) requires separate temperature control.

31. Where are cabinet unit heaters typically used? Lobbies, entryways, stairs, corridors, waiting rooms, and passenger terminals.

32. What voltages are available in cabinet heaters? 208, 240, 347, 600

33. How is over temperature protection provided in cabinet heaters? Thermal linear cutout.

34. What is the main difference between a cabinet heater and a convection heater?

    Convection heaters have no fan and circulate the air naturally. They are more efficient and quieter.

35. What ratings of explosion-proof heaters are available? 200-3000W

36. When are narrow beam radiant heaters most effective? High mounting heights.

37. When are wide beam radiant heaters most effective? Low mounting heights.
38. What type of heating is best suited to an arena? Radiant. It heats the objects and not the air.

39. Are thermostats for radiant heaters different from thermostats for convection heaters? Yes they must be sensitive to radiant heat. (typically hydraulic bulb)

40. What are the three most common radiant heating element types? Quartz-lamp, quartz-tube, and metal-sheath.

41. Which radiant heating element is the most durable? Metal-sheath

42. What is the advantage of the quartz tube over the metal-sheath tube? Quicker response time.

43. Which radiant heating tube type must be horizontal to operate? Quartz-lamp

44. Which radiant heating type has the fastest response time? Quartz-lamp

45. Which type of radiant heating element is not intended to be installed in the line of sight? Quartz-lamp

46. What are some of the applications for infrared heating lamps? Food warmers, dry paint, brood lamps.

47. Which lamp is typically used for brooding applications? PS

48. What type of lampholder should be used for infrared lamps? Porcelain

49. What type of glass should be used for radiant heating lamps where persons may come in contact with it? How is it identified? Red-colored, heat-resistant.

50. What is different about the “PS” type of infrared lamp? Internal reflector.

51. How is the “G” series infrared lamp made effective as heat source? Auxiliary reflectors.