1. The minimum value of insulation resistance for 230v domestic installation is

a) 0.5Ω
b) 1mΩ
c) 2MΩ
d) 1MΩ (Table61)

2. Metallic supply pipework can be used for an earth electrode if

a) It is water utility pipework
b) It is other than water utility pipework
c) It is an unused gas pipe that is less than 10 years old
d) It is other than utility pipework providing precautions have been made against its removal (542.2.4)

3. If supplementary bonding is required for a location containing a bath or a shower, what would not require bonding

a) Metallic pipes supplying water, gas etc
b) Metallic central heating pipes
c) Air conditioning systems
d) Metallic baths or shower basins (701.415.2)

4. Documentation for every electrical installation should include that required by regulation

a) 514.9
b) Part 6
c) Part 7 where applicable
d) All the above (132.13)

5. If running cables in permitted zones are used as protection against impact, what extra measure would be required if the installation was in a domestic premises

a) Run cables with capping fitted
b) All circuits protected with a 30mA RCBO
c) Cables to have additional protection by means of 30 mA RCD (522.6.7)
d) Cables to have additional protection by means of 100 mA RCD

6. When assessing circuits for any need of continuity of service, the following characteristic that does not need to be considered is

a) Multiple power supplies
b) Selection of earthing system
c) Lightning protection (361.1)
d) Number of circuits

7. Where equipment has a protective conductor current in excess of 10 mA it may be connected via a

a) BS EN 60309-2 32 A plug and a flexible cable with a 2.5 mm cpc
b) BS EN 60309-2 16 A plug and a flexible cable with a 2.5 mm cpc (543.7.2)
c) BS 1363 plug and socket
d) 2 pin cable coupler

8. Cable surrounded by thermal insulation for 400 mm or more has a derating factor of

a) 0.63
b) 0.51 (Table 52.2)
c) 0.55
d) 0.5

9. When automatic disconnection of supply is used as a measure of protection, additional protection by RCD shall be provided for

a) Mobile equipment having a rating of greater than 32A
b) Socket outlets in commercial and industrial locations
c) Only for sockets rated at 32A or less where it is reasonable to expect they may be used to supply equipment for use outdoors
d) Socket outlets rated at 20A or less in a domestic installation (411.3.3)

10. The maximum disconnection time for a lighting circuit in a commercial premises protected by a TT system is

- 0.07
- 0.4s
- 5.0s
- **0.2s (Table 41.1)**

11. Socket outlets are allowed in a location containing a bath, providing

- Located outside of zone 2
- Located outside of zone 3
- Located outside of zone 2 and protected by a 30 ma RCD
- **Located 3 metres from the edge of the bath and protected by 30ma RCD (701.512.3)**

12. All circuits in a location containing a bath or shower shall have

a) A disconnection time of 0.4s
b) Be installed at a depth of at least 50mm
c) Be installed using earthed conduit
d) Additional protection by a 30ma RCD (701.411.3.3)

13. When considering if supplementary bonding can be omitted from a location containing a bath or shower, the maximum resistance of extraneous conductive parts connected to the Main Earth Terminal is

a) 1.66 Ω (415.2.2)
b) 0.05Ω
c) 0.5Ω
d) 7.6Ω

14. The installation reference for multicore cables clipped direct is

a) 30
b) C (Table 4A2 number 20)
c) A
d) 13

15. The maximum voltage drop allowed for a lighting circuit in a consumer's installation, supplied by a public L.V system is

- **3% (App 12)**
- 6%
- 10%
- 5%

16. The maximum Zs for a BS EN 60898 32A B Type circuit breaker protecting a domestic ring circuit is

- **1.44Ω (Table 41.3)**
- 1.5Ω
- 1.2Ω
- 0.72

17. A generating set used as an additional source of supply in parallel with another source, and is installed on the load side of all the protective devices for a final circuit, the additional requirement not applicable is

- **A generating set shall be connected by means of a plug and socket (551.7.2)**
- An RCD providing additional protection in the final circuit
- The line and neutral conductors of the final circuit and of the generating set shall not be connected to earth
- Iz≥In+Ig

18. Automatic disconnection of supply is used as a method of protection for

- Indirect contact
- Basic protection
- **Fault protection (Definitions)**
- Direct contact

19. The circuit supplying dodgems at a fairground shall be

- Not exceed 55v a.c.
- Not exceed 150v d.c.
- **Electrically separated from the mains by means of a transformer (740.55.9)**
- Only be supplied by a generator set

20. At each amusement device situated at a fairground the electricity supply connection point shall be permanently marked to indicate

- The person who is responsible for the equipment
- **Rated frequency (740.55.8)**
- When equipment was last inspected
- Location of protective device

21. The number of socket outlets on a caravan pitch that can be protected by an RCD is

- **1 (708.553.13)**
- 4
- 2
- No limit

22. Every connection shall be accessible for inspection except for

- A joint that has been thoroughly inspected and tested
- **A joint designed to be buried in the ground (526.3)**
- A joint in a class 2 junction box
- A joint that cannot be reasonably be located to comply with that regulation

23 . The minimum height for mounting a socket supplying a house boat on a floating pontoon is

- 1.5 metre above the highest water level
- 1.2 metre above floating pontoon walk level
- **300mm above highest water level, providing additional measures are taken to prevent splashing (709.553.1.13)**
- 500mm above high tide level

24. The minimum insulation value when testing a FELV system is

- ≥0.5MΩ
- ≥0.75MΩ
- **≥1MΩ (Table 61)**
- ≥0.25MΩ

25. The maximum measured value for a BS EN 60898 16A B Type circuit breaker is

- **2.3Ω (41.3 & App 14)**
- 2.87Ω
- 1.44Ω
- 2.19Ω

26. The maximum Zs to ensure 30 ma RCD operation is

- **1667Ω (Table 41.5)**
- 500Ω
- 167Ω
- 300Ω

27. A BS EN 60898 circuit breaker can be used for

- Isolation
- Emergency switching
- Functional switching
- **All of the above (Table 53.2)**

28. The maximum measured Zs for a BS 3036 30A type fuse supplying a circuit for a cooker, not incorporating a socket outlet, and on a TN system is

- 1.09Ω
- 2.64Ω
- **0.87Ω (Table 41.2 & App 14)**
- 2.11Ω

29. All junction boxes fitted to solar photovoltaic systems (pv generator and PV array) shall carry a warning label indicating

- Voltage
- Visual inspection intervals
- **That parts may still be alive after isolation from PV converter (712.537.2.2.5.1)**
- IP rating

30 . On a mobile or transportable unit a permanent notice shall be fixed in a prominent position, what information is not required

- The voltage rating of the unit
- The type of supply which may be connected to the unit
- **The date of next inspection and test (717.514)**
- The on board earthing arrangements

31. Inspection and testing of a temporary exhibition stand or show should be carried out

- Every 3 months
- Before every show
- As required by the venue operator
- **After each assembly on site (711.6)**

32 Only the sauna heater and equipment belonging to the sauna heater shall be installed in

- Zone 2
- Zone A
- **Zone 1 (703.512.2)**
- Zone B

33. A sub main supplying a distribution board is protected by a 30A BS3036 type fuse, what is the maximum permissible design value Zs

- 1.59Ω
- **2.64Ω (Table 41.4)**
- 1.09Ω
- 2.80Ω

34. BS EN 60898 circuit breaker can be used for
    - Isolation
    - Emergency switching
    - Functional switching
    - **All of the above (Table53.2)**

35. A line conductor includes
    - All live conductors
    - All live conductors and c.p.c.
    - **All conductors except neutral, protective conductors and PEN** conductor (Definitions & App 7)
    - All conductors except PEN conductor

43. Equipment not likely to cause significant harmonics include
    - Variable speed motor drives
    - Fluorescent lighting banks
    - dc power supplies
    - **Underfloor heating supplies (Appendix 11)**

44. Zone 2 for a fountain is
    - The interior of the basin
    - Limited by a vertical plane 2m from the rim of the basin
    - Limited by the floor or surface expected to be occupied by persons
    - **None of the above (702.32)**

45. Where can you obtain the voltage drop for a busbar system
    - From the wholesaler
    - **From the manufacturer (Appendix 8)**
    - From Appendix 4
    - On Site Part 5 of BS7671

46. The scope of demolition sites does not include
    - **Canteens (704.1.1)**
    - Earthworks
    - Engineering works
    - Any of the above

47. Devices for protection against the risk of fire include
    - RCDs not exceeding 500 mA
    - **RCDs not exceeding 300 mA (532.1)**
    - Time delay RCDs
    - Type B circuit breakers

48.The following sources for safety services are recognised

- Storage batteries
- Primary cells
- Generator sets independent of the normal supply
- **All of the above (351.1)**

49. The load current in any part of a ring circuit should be unlikely to exceed for long periods the current capacity of the cable, this can be achieved by

- **Locating sockets to provide reasonable sharing of the load around the ring (Appendix 15)**
- Supplying immersion heaters etc from the ring circuit near to the distribution board.
- Connecting cooking appliances with a rated power exceeding 2Kw
- Limited number of unfused spurs

50. All lamps in shooting galleries shall

- Be glare free
- Adequately illuminate the target
- **Be suitably protected against damage from projectiles (740.55.1.3)**
- Be armour plated