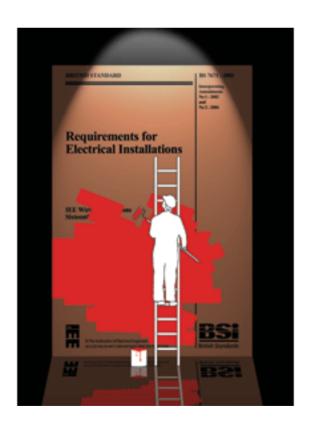


## 17<sup>th</sup> Edition Wiring Regulations BS7671:2008

# Sample Paper #1 (with answers)



1. BS7671 applies to 5. An extraneous-conductive-part may be defined as Systems for distribution of electricity a) to the public a) Conductive part of equipment which may be touched and which is not b) Railway traction equipment normally live, but which can become c) Equipment on board ships live when basic insulation fails d) Construction sites b) Conductive part liable to introduce a potential and not forming part of the electrical installation 2. The scope of BS7671 does not apply Equipment designed to be fastened to c) a support or otherwise secured in a a) Residential premises specific location Fixed offshore installations b) d) A room or location in which air is service. high heated. in to c) Commercial premises temperatures d) Photovoltaic systems Protection against 6. electric shock 3. For installations in places of public under single fault conditions is entertainment and on caravan parks, Basic protection a) requirements should special ascertained from the b) Fault protection a) Department for trade and Industry Additional protection c) b) Health and safety Executive d) Supplementary protection c) Local licensing authority d) **Energy Institute** 7. The symbol used to denote design current is  $I_h$ a) 4. It should be verified that any addition to an existing installation has b)  $I_n$ A supply separate from that of the a) c) It existing installation d) 12 A similar wiring system to that used in b) the existing installation 8. A nominal voltage of 120V ac would c) Been treated as being entirely be categorised as separate from the existing installation Band I a) d) Not impaired the safety of the existing installation b) Low voltage c) Extra-low voltage

d)

High voltage

In order to mitigate the effects of 9. 13. The top of an enclosure should have a minimum degree of protection of electromagnetic interferences (EMI) an installation should IPXXD or IP4X a) Be wired in pvc cable in conduit or a) IPXXB or IP2X b) trunking IP1X c) Have all b) magnetically controlled IP3X circuits connected to the same d) protective device Be divided into circuits c) A 6A BSEN60898 circuit breaker is 14. used to protect a circuit with a d) Have a notice stating 'EMI' present maximum earth fault loop impedance  $(Z_s)$  of 3.83 $\Omega$  would be type 10. An electrical installation has the Α a) following single-phase circuits В installed. usina multi-core b) thermoplastic non-armoured cables. C c) 2 x 6A lighting D d) 2 x 32A ring final 1 x 16A water heater 15. Which of the following will provide 1 x 32A cooker overload protection? If the circuits are contained within pvc a) Linked switch trunkina prior to enterina b) Residual current device consumer control unit (CCU), how c) Disconnector many live conductors would be present in the trunking? Circuit breaker d) 6 a) 8 b) 16. Where there is a danger of fire due to the nature of the stored material, a c) 16 100W spotlight shall be installed at a d) 24 minimum distance from combustible materials of 0.5m 11. How many types of earthing system a) are recognised by BS7671? 0.8m b) a) 3 1m c) 4 b) 2m d) c) 5 d) 6 17. Suitable precautions should be taken where either a reduction in voltage or a loss and subsequent restoration of 12. Protective device discrimination must

a)

b)

c)

d)

be considered with regard to

External influences

Continuity of service

Maintainability

Compatibility

a)

b)

c)

d)

voltage

Is a routine event

Could cause danger

Occurs infrequently

Will not cause danger

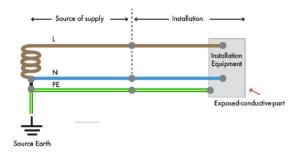
- 18. In the event of failure of the provision for basic protection, additional protection may be provided by
- a) Supplementary bonding
- b) The use of a time delayed 100mA RCD
- c) Use of a RCD not exceeding  $I_{\Delta n}$  of 30mA
- d) Electrical separation
- 19. The maximum permitted value of earth electrode and earthing conductor (RA) for a circuit protected by a 300mA RCD and forming part of a 230V ac TT system is
- a)  $500\Omega$
- b) 100Ω
- c) 167Ω
- d)  $1667\Omega$
- 20. Which one of the following would be used to determine the size of an overcurrent device?
- a) Cable size
- b) Grouping factor
- c) Design current
- d) Overload current
- 21. Fault protection may be provided by
- a) Barriers and enclosures to IPXXB or IP2X
- b) Insulation of live parts
- c) Protective earthing and protective equipotential bonding
- d) Placing out of reach

- 22. Where an RCD is used in an installation, the product of  $I_{\Delta n}$  and the earth fault loop impedance in a TT installation should not be greater than
- a) 2V
- b) 10V
- c) 40V
- d) 50V
- 23. Which of the following methods should be adopted where fixed equipment having a high surface temperature is likely to have an adverse effect on adjacent materials?
- a) Erection of warning notices advising high temperatures
- b) Mounting so as to allow safe dissipation of heat
- c) The use of non-combustible wiring materials
- d) The provision of suitable fire extinguishers
- 24. An overload current could arise
- a) During an earth fault
- b) During a short-circuit fault
- c) When a motor becomes jammed
- d) When a shower is switched on
- 25. To provide protection against electric shock, the protective measure of double reinforced insulation relies on basic insulation and
- a) Bonding
- b) Connection of exposed metalwork to the protective conductor
- c) Earthing in the fixed wiring of the installation
- d) Supplementary insulation

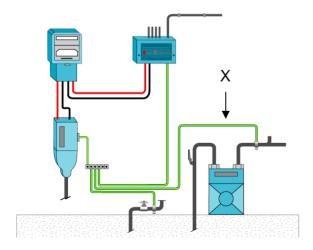
- 26. The earth fault loop impedance  $(Z_{\rm S})$  for a consumer's circuit is determined by
- a)  $R_1 + R_2 Z_e$
- b)  $R_1 + R_2 + Z_2$
- c)  $R_1 + R_2 + R_n$
- d)  $R_1 + R_2 \div Z_e$
- 27. A copper earthing conductor not mechanically protected and not protected against corrosion is buried in soil. The minimum size of earthing conductor is
- a)  $4mm^2$
- b) 16mm<sup>2</sup>
- c) 25mm<sup>2</sup>
- d) 50mm<sup>2</sup>
- 28. When selecting a cable for a single circuit installation, rating factors are to be used and applied to the
- a) Total current taken by the installation
- b) Current-carrying capacity of the cable
- c) Design current of the circuit
- d) Rated current of the protective device
- 29. A suitable supply for safety services is a
- a) Primary cell or cells
- b) Standard mains supply
- c) Non earthed transformer
- d) Mains operated generator
- 30. Non-sheathed cables for fixed wiring installations should be
- a) Thermosetting
- b) Thermoplastic
- c) Enclosed in conduit or trunking
- d) A minimum of 4mm<sup>2</sup> cross-sectional area

- 31. A permanent label with the words 'Safety Electrical Connection – Do Not Remove' shall be permanently fixed
- a) At the point of connection between the earthing conductor to an earth electrode
- At the main earthing terminal which is incorporated within the main switchgear
- At the point of connection between the earthing and PEN conductor of a TN-C-S system
- d) At the point of connection of to an exposed-conductive-part
- 32. A conduit or cable trunking system classified as non-flame propagating need not be internally sealed providing its maximum cross-sectional area does not exceed
- a) 625mm<sup>2</sup>
- b) 710mm<sup>2</sup>
- c) 1250mm<sup>2</sup>
- d) 2500mm<sup>2</sup>
- 33. Where practical, the main protective equipotential bonding to the gas service in a building should be made within
- a) 3m of the meter on the supply side
- b) 3m of the meter on the consumer side
- c) 600mm of the meter on the supply side
- d) 600mm of the meter on the consumer side
- 34. Every fire-fighter switch should be
- a) Coloured red with the off position at the top
- b) Coloured red with the off position at the bottom
- c) Installed in the high-voltage circuit
- d) Mounted at a minimum height of 3m

- 35. An RCD that is installed for protection against the risk of fire must be
- a) Integral to and socket-outlet
- b) Installed at the origin of the circuit
- c) Rated at 500mA
- d) Arranged to switch line conductors only
- 36. The diagram below illustrates which type of earthing system?



- a) TN-C-S
- b) TN-C
- c) TT
- d) TN-S
- 37. Referring to the diagram below the conductor marked 'X' is a
- a) Circuit protective conductor
- b) Earthing conductor
- c) Main protective bonding conductor
- d) Supplementary bonding conductor



- 38. Socket-outlets with a rated current not exceeding 20A and intended to be used by ordinary persons should be
- a) Protected by an RCD with an operating current not exceeding 30mA
- b) Protected by an RCD with an operating current not exceeding 100mA
- c) Protected by an RCD with an operating current not exceeding 300mA
- d) Protected by an RCD with an operating current not exceeding 500mA
- 39. A single-phase circuit using 2.5mm<sup>2</sup> single-core pvc cables in conduit supplies a design current of 20A. If the cables are 15m long and have a rated voltage drop of 18mV/A/m, the actual voltage drop will be
- a) 2.5V
- b) 5.4V
- c) 6V
- d) 16.6V
- 40. For reason of external influences, any outdoor lighting installation must have a degree of protection of at least
- a) IP22
- b) IP24
- c) IP33
- d) IP44
- 41. Which of the following is not allowed for use as a circuit protective conductor?
- a) Galvanised metallic conduit
- b) Lead sheath of cable
- c) Steel wire armouring of cable
- d) Metallic flexible conduit

- 42. Before issuing an Electrical Installation Certificate for a new installation, a recommendation must be made with regard to the inspection and test period. This recommendation is made by the person responsible for
- a) Providing the supply on behalf of the Electricity Supplier
- b) The construction and erection of the installation
- c) Carrying out the initial inspection and testing
- d) The design of the electrical installation
- 43. One item that should be included on charts and diagrams made available to the person carrying out the inspection and test is
- a) All isolation and switching arrangements
- b) The location details of portable equipment
- c) The total number of outlets in the installation
- d) The details of the original contract arrangements
- 44. Which of the following items must be included for checking during the initial verification of an installation?
- a) Site works orders and alterations
- b) Presence of diagrams and instructions
- c) Minutes of all site meetings
- d) All variations of contract
- 45. During the testing phase of an electrical installation which test would be carried out first?
- a) Continuity of protective conductors
- b) Insulation resistance
- c) Polarity
- d) Earth fault loop impedance

- 46. The minimum insulation resistance value for a 400V circuit is
- a) 1kΩ
- b)  $0.25M\Omega$
- c) 0.5MΩ
- d)  $1M\Omega$
- 47. Once complete a Periodic Inspection Report should be given to
- a) The originator of the request
- b) The supply distributor
- c) The contractor
- d) The occupier of the property
- 48. Which of the following is not permitted to be installed in zone 1 of a bathroom?
- a) Shower
- b) Towel rail
- c) Shaver socket
- d) Whirlpool unit
- 49. A ceiling heating system should incorporate means of limiting the temperature to
- a)  $50^{\circ}$ C
- b) 60°C
- c) 70°C
- d) 80°C
- 50. With reference to BS7671 the height to which zone 1 of a large swimming pool extends above a diving board is
- a) 1m
- b) 1.5m
- c) 2m
- d) 2.5m

51. Regional Electricity Companies are 56. A 30A BS1361 fuse subjected to a reluctant to provide which of the fault current of 200A should operate in following to construction sites? 0.2sa) PME supply a) 0.4s b) b) TT earthing system 1s c) c) Single-phase supply 5s d) d) Three-phase supply 57. BS7671 gives the classification of 52. Fire protection in a cattle shed may be external influences. Which one of the achieved by use of a following is described as being in the general category of external a) 30mA RCD influences? b) 6A type B MCB Utilisation a) 300mA RCD c) Installation b) d) 6A type C MCB Propagation c) Ionisation d) 53. Protection by obstacles in a bathroom 58. The tables listing current-carrying Allowed in all zones a) capacities of various cables Allowed in zones 1 and 2 b) appendix 4 of BS7671 are based on an ambient temperature of Allowed in zone 2 only c)  $30^{\circ}C$ a) d) Not allowed 50°C b) 70°C c) 54. Which is the preferred method of protection on the dc side of a 90°C d) photovoltaic power supply? Class II or equivalent insulation a) 59. A 230V circuit is protected by a 20A b) Placing out of reach type B BSEN60898 circuit breaker. If value of earth fault loop c) Non-conducting location impedance ( $Z_s$ ) for the circuit is 2.3 $\Omega$ , d) Earth-free local equipotential bonding disconnection under fault а negligible impedance will occur in 0.1sa) 55. maximum interval between periodic inspection of a touring b) 15s caravan is 20s c) a) 5 years 30s d) b) 3 years c) 1 year 60. The external influence having 3 months d) classification of AD7 indicates a) Humidity b) Immersion in water c) Dust in the atmosphere d) High levels of vibration

- 1. BS7671 applies to
- a) Systems for distribution of electricity to the public
- b) Railway traction equipment
- c) Equipment on board ships
- d) Construction sites

110.1 (P12)

- 2. The scope of BS7671 does not apply to
- a) Residential premises
- b) Fixed offshore installations
- c) Commercial premises
- d) Photovoltaic systems

110.2 (P13)

- 3. For installations in places of public entertainment and on caravan parks, special requirements should be ascertained from the
- a) Department for trade and Industry
- b) Health and safety Executive
- c) Local licensing authority
- d) Energy Institute

115.1 (P13)

- 4. It should be verified that any addition to an existing installation has
- a) A supply separate from that of the existing installation
- b) A similar wiring system to that used in the existing installation
- c) Been treated as being entirely separate from the existing installation
- d) Not impaired the safety of the existing installation

131.8 (P16)

- 5. An extraneous-conductive-part may be defined as
- a) Conductive part of equipment which may be touched and which is not normally live, but which can become live when basic insulation fails
- b) Conductive part liable to introduce a potential and not forming part of the electrical installation
- Equipment designed to be fastened to a support or otherwise secured in a specific location
- A room or location in which air is heated, in service, to high temperatures

Part 2 Definitions (P24)

- 6. Protection against electric shock under single fault conditions is
- a) Basic protection
- b) Fault protection
- c) Additional protection
- d) Supplementary protection

Part 2 Definitions (P24)

- The symbol used to denote design current is
- a) I<sub>b</sub>
- b)  $I_n$
- c) I<sub>t</sub>
- d)  $I_2$

Part 2 Definitions (P35)

- 8. A nominal voltage of 120V ac would be categorised as
- a) Band I
- b) Low voltage
- c) Extra-low voltage
- d) High voltage

Part 2 Definitions (P31)

- 9. In order to mitigate the effects of electromagnetic interferences (EMI) an installation should
- a) Be wired in pvc cable in conduit or trunking
- b) Have all magnetically controlled circuits connected to the same protective device
- c) Be divided into circuits
- d) Have a notice stating 'EMI' present

314.1 (v) (P39)

- 10. An electrical installation has the following single-phase circuits installed, using multi-core thermoplastic non-armoured cables.
  - 2 x 6A lighting
  - 2 x 32A ring final
  - 1 x 16A water heater
  - 1 x 32A cooker

If the circuits are contained within pvc trunking prior to entering the consumer control unit (CCU), how many live conductors would be present in the trunking?

- a) 6
- b) 8
- c) 16
- d) 24

Part 2 Definitions (P26)

- 11. How many types of earthing system are recognised by BS7671?
- a) 3
- b) 4
- c) 5
- d) 6

312.3.1 (P38)

- 12. Protective device discrimination must be considered with regard to
- a) External influences
- b) Continuity of service
- c) Maintainability
- d) Compatibility

361.1 (ii) (P41)

- 13. The top of an enclosure should have a minimum degree of protection of
- a) IPXXD or IP4X
- b) IPXXB or IP2X
- c) IP1X
- d) IP3X

416.2.2 (P60)

- 14. A 6A BSEN60898 circuit breaker is used to protect a circuit with a maximum earth fault loop impedance  $(Z_S)$  of  $3.83\Omega$  would be type
- a) A
- b) B
- c) C
- d) D

Table 41.3 (P49)

- 15. Which of the following will provide overload protection?
- a) Linked switch
- b) Residual current device
- c) Disconnector
- d) Circuit breaker

433.1.2 (P73)

- 16. Where there is a danger of fire due to the nature of the stored material, a 100W spotlight shall be installed at a minimum distance from combustible materials of
- a) 0.5m
- b) 0.8m
- c) 1m
- d) 2m

422.3.1 (P67)

- Suitable precautions should be taken where either a reduction in voltage or a loss and subsequent restoration of voltage
- a) Is a routine event
- b) Could cause danger
- c) Occurs infrequently
- d) Will not cause danger

445.1.1 (P85)

- 18. In the event of failure of the provision for basic protection, additional protection may be provided by
- a) Supplementary bonding
- b) The use of a time delayed 100mA RCD
- c) Use of a RCD not exceeding  $I_{\Delta_n}$  of 30mA
- d) Electrical separation

415.1.1 (P59)

- 19. The maximum permitted value of earth electrode and earthing conductor (RA) for a circuit protected by a 300mA RCD and forming part of a 230V ac TT system is
- a)  $500\Omega$
- b) 100Ω
- c) 167Ω
- d) 1667Ω

Table 41.5 (P50)

- 20. Which one of the following would be used to determine the size of an overcurrent device?
- a) Cable size
- b) Grouping factor
- c) Design current
- d) Overload current

433.1.1 (P73)

- 21. Fault protection may be provided by
- Barriers and enclosures to IPXXB or IP2X
- b) Insulation of live parts
- c) Protective earthing and protective equipotential bonding
- d) Placing out of reach

411.1 (P45) or see list on P340

- 22. Where an RCD is used in an installation, the product of  $I_{\Delta_n}$  and the earth fault loop impedance in a TT installation should not be greater than
- a) 2V
- b) 10V
- c) 40V
- d) 50V

411.5.3 (P50)

- 23. Which of the following methods should be adopted where fixed equipment having a high surface temperature is likely to have an adverse effect on adjacent materials?
- a) Erection of warning notices advising high temperatures
- Mounting so as to allow safe dissipation of heat
- c) The use of non-combustible wiring materials
- d) The provision of suitable fire extinguishers

421.1 (P65)

- 24. An overload current could arise
- a) During an earth fault
- b) During a short-circuit fault
- c) When a motor becomes jammed
- d) When a shower is switched on

Part 2 Definitions (P27)

- 25. To provide protection against electric shock, the protective measure of double reinforced insulation relies on basic insulation and
- a) Bonding
- b) Connection of exposed metalwork to the protective conductor
- c) Earthing in the fixed wiring of the installation
- d) Supplementary insulation

412.1.1 (P54)

- 26. The earth fault loop impedance  $(Z_S)$  for a consumer's circuit is determined by
- a)  $R_1 + R_2 Z_e$
- b)  $R_1 + R_2 + Z_0$
- c)  $R_1 + R_2 + R_n$
- d)  $R_1 + R_2 \div Z_e$

Part 2 Definitions (P23 & P36)

- 27. A copper earthing conductor not mechanically protected and not protected against corrosion is buried in soil. The minimum size of earthing conductor is
- a)  $4\text{mm}^2$
- b) 16mm<sup>2</sup>
- c) 25mm<sup>2</sup>
- d) 50mm<sup>2</sup>

Table 54.1 (P127)

- 28. When selecting a cable for a single circuit installation, rating factors are to be used and applied to the
- a) Total current taken by the installation
- b) Current-carrying capacity of the cable
- c) Design current of the circuit
- d) Rated current of the protective device

Appendix 4, 5.1.1 (P256)

- 29. A suitable supply for safety services is a
- a) Primary cell or cells
- b) Standard mains supply
- c) Non earthed transformer
- d) Mains operated generator

351.1 (P41)

- 30. Non-sheathed cables for fixed wiring installations should be
- a) Thermosetting
- b) Thermoplastic
- c) Enclosed in conduit or trunking
- d) A minimum of 4mm<sup>2</sup> cross-sectional area

521.10.1 (P98)

- 31. A permanent label with the words 'Safety Electrical Connection – Do Not Remove' shall be permanently fixed
- a) At the point of connection between the earthing conductor to an earth electrode
- At the main earthing terminal which is incorporated within the main switchgear
- At the point of connection between the earthing and PEN conductor of a TN-C-S system
- d) At the point of connection of to an exposed-conductive-part

514.13.1 (i) (P94)

- 32. A conduit or cable trunking system classified as non-flame propagating need not be internally sealed providing its maximum cross-sectional area does not exceed
- a) 625mm<sup>2</sup>
- b) 710mm<sup>2</sup>
- c) 1250mm<sup>2</sup>
- d) 2500mm<sup>2</sup>

527.2.6 (P108)

- 33. Where practical, the main protective equipotential bonding to the gas service in a building should be made within
- a) 3m of the meter on the supply side
- b) 3m of the meter on the consumer side
- c) 600mm of the meter on the supply side
- d) 600mm of the meter on the consumer side

544.1.2 (P135)

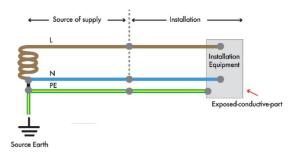
- 34. Every fire-fighter switch should be
- a) Coloured red with the off position at the top
- b) Coloured red with the off position at the bottom
- c) Installed in the high-voltage circuit
- d) Mounted at a minimum height of 3m

537.6.4 (I & ii) (P122)

- 35. An RCD that is installed for protection against the risk of fire must be
- a) Integral to and socket-outlet
- b) Installed at the origin of the circuit
- c) Rated at 500mA
- d) Arranged to switch line conductors only

532.1 (i) (P113)

36. The diagram below illustrates which type of earthing system?

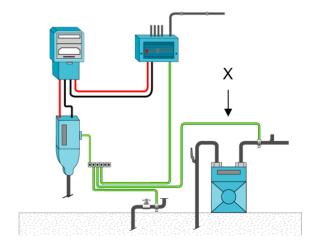


- a) TN-C-S
- b) TN-C
- c) TT
- d) TN-S

Part 2, Fig 2.3 (P33)

- 37. Referring to the diagram below the conductor marked 'X' is a
- a) Circuit protective conductor
- b) Earthing conductor
- Main protective bonding conductor
- d) Supplementary bonding conductor

Part 2, Fig 2.1 (P32)



- 38. Socket-outlets with a rated current not exceeding 20A and intended to be used by ordinary persons should be
- a) Protected by an RCD with an operating current not exceeding 30mA
- b) Protected by an RCD with an operating current not exceeding 100mA
- c) Protected by an RCD with an operating current not exceeding 300mA
- d) Protected by an RCD with an operating current not exceeding 500mA

411.3.3 (i) (P47)

- 39. A single-phase circuit using 2.5mm<sup>2</sup> single-core pvc cables in conduit supplies a design current of 20A. If the cables are 15m long and have a rated voltage drop of 18mV/A/m, the actual voltage drop will be
- a) 2.5V
- b) 5.4V
- c) 6V
- d) 16.6V

 $(18mV/A/m \times 20A \times 15m) \div 1000 = 5.4V$ 

- 40. For reason of external influences, any outdoor lighting installation must have a degree of protection of at least
- a) IP22
- b) IP24
- c) IP33
- d) IP44

559.10.5.2 (P148)

- 41. Which of the following is not allowed for use as a circuit protective conductor?
- a) Galvanised metallic conduit
- b) Lead sheath of cable
- c) Steel wire armouring of cable
- d) Metallic flexible conduit

543.2.1 (P131)

- 42. Before issuing an Electrical Installation Certificate for a new installation, a recommendation must be made with regard to the inspection and test period. This recommendation is made by the person responsible for
- a) Providing the supply on behalf of the Electricity Supplier
- b) The construction and erection of the installation
- c) Carrying out the initial inspection and testing
- d) The design of the electrical installation 134.2.2 (P19) or Appendix 6 (P332)
- 43. One item that should be included on charts and diagrams made available to the person carrying out the inspection and test is
- a) All isolation and switching arrangements
- b) The location details of portable equipment
- c) The total number of outlets in the installation
- d) The details of the original contract arrangements

514.9.1 (iii) (P93)

- 44. Which of the following items must be included for checking during the initial verification of an installation?
- a) Site works orders and alterations
- b) Presence of diagrams and instructions
- c) Minutes of all site meetings
- d) All variations of contract

611.3 (xv) (P157)

- 45. During the testing phase of an electrical installation which test would be carried out first?
- a) Continuity of protective conductors
- b) Insulation resistance
- c) Polarity
- d) Earth fault loop impedance

612.2.1 (P158)

- 46. The minimum insulation resistance value for a 400V circuit is
- a)  $1k\Omega$
- b)  $0.25M\Omega$
- c) 0.5MΩ
- d)  $1M\Omega$

Table 61 (P158)

- 47. Once complete a Periodic Inspection Report should be given to
- a) The originator of the request
- b) The supply distributor
- c) The contractor
- d) The occupier of the property

634.1 (163)

- 48. Which of the following is not permitted to be installed in zone 1 of a bathroom?
- a) Shower
- b) Towel rail
- c) Shaver socket
- d) Whirlpool unit

701.55 (P167)

- 49. A ceiling heating system should incorporate means of limiting the temperature to
- a) 50°C
- b) 60°C
- c) 70°C
- d) 80°C

753.424.1.1 (P224)

- 50. With reference to BS7671 the height to which zone 1 of a large swimming pool extends above a diving board is
- a) 1m
- b) 1.5m
- c) 2m
- d) 2.5m

Fig 702.1 (P175)

- 51. Regional Electricity Companies are reluctant to provide which of the following to construction sites?
- a) PME supply
- b) TT earthing system
- c) Single-phase supply
- d) Three-phase supply

704.411.3.1 (P181)

- 52. Fire protection in a cattle shed may be achieved by use of a
- a) 30mA RCD
- b) 6A type B MCB
- c) 300mA RCD
- d) 6A type C MCB

705.422.7 (P184)

- 53. Protection by obstacles in a bathroom is
- a) Allowed in all zones
- b) Allowed in zones 1 and 2
- c) Allowed in zone 2 only
- d) Not allowed

705.410.3.5 (P166)

- 54. Which is the preferred method of protection on the dc side of a photovoltaic power supply?
- a) Class II or equivalent insulation
- b) Placing out of reach
- c) Non-conducting location
- d) Earth-free local equipotential bonding

712.412 (P200)

- 55. The maximum interval between periodic inspection of a touring caravan is
- a) 5 years
- b) 3 years
- c) 1 year
- d) 3 months

Fig 721 (P211)

- 56. A 30A BS1361 fuse subjected to a fault current of 200A should operate in
- a) 0.2s
- b) 0.4s
- c) 1s
- d) 5s

Appendix 3, Fig 3.1 (P244)

- 57. BS7671 gives the classification of external influences. Which one of the following is described as being in the general category of external influences?
- a) Utilisation
- b) Installation
- c) Propagation
- d) Ionisation

Appendix 5 (P319)

- 58. The tables listing current-carrying capacities of various cables in appendix 4 of BS7671 are based on an ambient temperature of
- a) 30<sup>o</sup>C
- b) 50°C
- c) 70°C
- d) 90°C

Appendix 4, Tables 4D1A – 4J4A (P274-316)

- 59. A 230V circuit is protected by a 20A type B BSEN60898 circuit breaker. If the value of earth fault loop impedance ( $Z_{\rm S}$ ) for the circuit is 2.3 $\Omega$ , disconnection under a fault of negligible impedance will occur in
- a) 0.1s
- b) 15s
- c) 20s
- d) 30s

Appendix 3, Fig 3.4 (P249)

- 60. The external influence having a classification of AD7 indicates
- a) Humidity
- b) Immersion in water
- c) Dust in the atmosphere
- d) High levels of vibration

Appendix 5 (P319)

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