#### Sample Questions - C&G 2382-20 full 17th Edition paper A

#### 1 o/c1 BS 7671 does not apply to

- a equipment of aircraft
- b photovoltaic systems
- c marinas
- d fairgrounds.
- 2 o/c1 Which of the following electrical installations is not covered by BS 7671:
- a photovoltaic systems.
- b agricultural and horticultural.
- c low voltage generating sets.
- d public electricity distribution.

#### 3 o/c1 BS 7671 applies to

- a equipmentpn board ships
- b lightning protection of buildings
- c lift installations
- d prefabricated buildings.

### 4 oc1 BS 7671 requires protection against electric shock to be provided , by basic and fault protection. One method common to both is

- a the use of RCDs
- b the use of Class H equipment
- c preventing current from passing through any person or livestock
- d the use and implementation of equipotential bonding.

#### 5 o/c2 Which of the following would be defined as a live part?

- a Earthing conductor
- b Line conductor
- c Exposed-conductive-part
- d PEN conductor

### 6 o/c 2 - A protective conductor connecting exposed conductive parts of equipment to the main earth terminal is a:

- a equipotential bonding conductor.
- b main bonding conductor.
- c earthing conductor.
- d circuit protective conductor

### 7 o/c2 Protection against electric shock under single-fault conditions is defined as

- a overload protection
- b fault protection
- c basic protection
- d undervoltage protection.

# 8 o/c3 The effectiveness of protective measures should be considered with regard to

- a external influences
- b safety services
- c maintainability
- d compatibility.

9 o/c 3 - When assessing the frequency and quality of maintenance of an installation the person responsible for the operation and/or maintenance of the installation shall be:

- a consulted.
- b informed.
- c invoiced.
- d named.

# $10\,Oc3$ With reference to the nature of the supply, which one of the following can be determined by calculation, enquiry or measurement?

- a The maximum demand of the installation
- b The rating of the circuit protective device
- c The prospective short-circuit current at the origin of the installation
- d The csa of the tails

### $11\,\mathrm{oc}3$ To ensure continuity of supply to one part of the installation in the event of failure of another part, one approach is

- a for a separate circuit to be installed for each part
- b to use protective equipotential bonding
- c to install larger fuses
- d to install a 100 mA 5 type RCD.

### $12\,\mathrm{oc}3$ When making an assessment of the frequency and quality of maintenance, a factor to be considered is that

- a power factor is monitored
- b protective measures for safety remain effective
- c starting currents are at a minimum
- d unbalanced loads need to be checked more frequently.

### 13 o/c4 Where the measure of automatic disconnection of supply is employed, fault protection may be provided by

- a protective earthing only
- b protective equipotential bonding only
- c protective earthing and protective equipotential bonding
- d electrical separation.

14 o/c 4 Which of these is not is not suitable for a SELV system a Engine driven generator

b Auto step up transformer c BS 3535 safety transformer

d Lead - acid battery

15 10 o/c 4 - Which of the following items does not offer 'basic' protection:

- a a circuit protective conductor.
- b a socket outlet.
- c a lampholder.
- d equipotential bonding conductors.

16 o/c 4 - A 230V circuit is protected by a 20A Type B circuit-breaker to BS EN 60898. The minimum value of fault current to ensure compliance with maximum disconnection times:

- a 80A.
- b 100A.
- c 125A.
- d 150A.

17 o/c 4 Max Zs for a TT system with a 300mA RCD

1667 ohms

500 ohms

167 ohms

100 ohms

18 o/c 4 When protecting against burns a metallic part intended to be touched but not hand held shall be limited to a maximum temperature of:

- a 70°C.
- b 75 °C.
- c 80 °C.
- d 85°C.

19 o/c 4- Correct co-ordination between circuit conductors and an overcurrent protection device is achieved when:

- a In exceeds the lowest current carrying capacity Iz.
- b In is less than the design current Ib.
- c Ib is less than Iz.
- d Iz is lower than or equal to Ib.

20 o/c4 - Correct co-ordination between conductors and the circuit overcurrent protective device is achieved when:

- a In is less than Ib.
- b In does not exceed Iz.
- c Ib > 1.45 IZ.
- d Ib exceeds IZ.

21 o/c 4 Except for equipment for which an appropriate product standard specifies requirements, a luminaire shall be kept at an adequate distance from combustible materials. Unless otherwise recommended by the manufacturer, a small spotlight or a projector rated at over 100 W and up to 300 W shall be installed at the following minimum distances from combustible materials.

a 0.3M

b 0.5M.

c 0.8M. (422.3.1)

d 1.1M

# 22 o/c4 A 6A BS EN 61009 RCBO with a maximum value of earth fault loop impedance of 1.92 is type

- a A
- ь в
- c C
- d D.

# 23 Oc4 An undervoltage device has operated and restoring the supply may cause danger. The reclosure of this device should be

- a automatic when under the supervision of a competent person
- b manually operated
- c possible only with the use of a key or tool
- d automatic with time delay.

#### 24 o/c4 A SELV source can be derived from which one of the following?

- a Double-wound transformer
- b Autotransformer
- c Safety isolating transformer
- d Step-up transformer

# 25 o/c4 In locations with increased risks of fire, motors which are automatically or remotely controlled, or which are nolt continuously supervised, shall be protected against excessive temperature by

- a a protective device that is automatically reset
- b a protective device with manual reset
- c electronic monitoring equipment that resets
- d electronic monitoring equipment that restarts the motor.

### 26 oc4 A BS 88-6 32 A fuse with $U_0$ of 230 V has a maximum tabulated $Z_s$ for 5 seconds disconnection of

- a 0.36 ohm
- b 1.04ohm
- c 1.44ohm
- d 1.84ohm

27 o/c5 - When cables are placed directly in the ground they should be buried at a depth:

- a sufficient to avoid damage.
- b of not less than 1.0 m.
- c sufficient to allow easy access.
- d of not less than 1.5m.

28 o/c 5 Which of the following may be used to provide emergency switching for a motor:

- a a plug and socket.
- b a luminaire connection device.
- c a device which latches in the OFF position.
- d a key switch.

29 o/c 5 - BS 5839 deals with the system design, installation and servicing of:

- a low power supply sources.
- b emergency escape lighting.
- c fire alarms.
- d generator supply sources.

30 o/c 5 An industrial board supplies

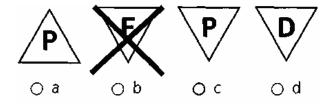
- 4 x TP motors
- 2 x TP&N motors
- $4 \times \text{single phase ring circuits}$
- 2 x single phase lighting circuits

how many live conductors are there.

### 31 o/c5 A cable concealed in a wall outside the prescribed zones at a depth of less than 50 mm must

- a not be installed
- b be enclosed in unearthed conduit
- c be enclosed in earthed metallic conduit
- d be protected by a 500 mARCD.

# 32 o/c5 Which of the following is the symbol for a "class P" thermally protected independent lamp ballast permitted for mounting on a flammable surface?



33 o/c5- A permanent warning notice must be fixed at or near the point of connection of every earthing conductor to an earth electrode bearing the words:

- a Safety Electrical Connection Do Not Remove.
- b Earth Bonding Danger.
- c Safety Electrical Earth Do Not Remove.
- d Electrical Connection Danger.

**34** o/c5 - Cables and equipment in circuits feeding motors shall be suitable for a current of at least:

- a the full-load current rating of the motor.
- b half the full-load current rating of the motor.
- c twice the full-load current rating of the motor.
- d four times the full-load current rating of the motor.

35 o/c5 - Accessible street furniture enclosures containing live parts shall only be opened using a:

- a key or tool.
- b ladder.
- c insulated screwdriver.
- d harness.

### 36 o/c5 An RCD that is installed for protection against the risk of fire where combustible materials are stored shall be

- a installed at the farthest point of the circuit
- b installed at the origin of the circuit
- c arranged to switch line conductors
- d rated at 500mA.

# 37 o/c5 A firefighter's switch shall be provided in the low voltage circuit supplying exterior electrical installations and interior discharge lighting operating at

- a voltage exceeding low voltage
- b low voltage
- c voltage band II
- d medium voltage.

# 38 Where a 3-core cable, with cores coloured brown, black and grey, • is used as a switch wire for two-way or intermediate control, the terminations of the conductors shall be identified using

- a red, blue and yellow tape
- b black tape only on each core
- c brown tape on the black and grey cores
- d self-colour tape only.

39 o/c5 A radial final circuit feeding socket-outlets supplying several items of data processing equipment has a total protective conductor current in normal service of 18 mA. This circuit must have a high integrity protective conductor

- 7 Paper 1
- a of cross-sectional area less than 1 mm<sup>2</sup>
- b connected as a ring
- c controlled by an isolator
- d enclosed in insulated conduit only.

## 40 oc5 When selecting equipment for an installation, the person who makes the final decision over its safety would be the

- a representative of a regional supply company
- b representative of a national inspection body
- c designer or other person responsible
- d inspector and tester.

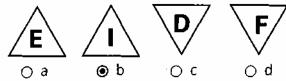
### 41 oc 5 The minimum information contained on a periodjc inspection and testing notice would be the

- a date of inspection and inspector's name
- b date of next inspection and client's name
- c date of last inspection and date of next inspection
- d company's address and date of next inspection.
- **42** o/c6 612.3.2 The minimum insulation resistance between conductors for an extra-low voltage circuit is:
- a  $0.25 M\Omega$ .
- b  $0.5 M\Omega$ .
- c 1.0 M $\Omega$ .
- d 2.0 M $\Omega$ .
- **43** o/c 6 With regard to determining the frequency of periodic inspection and testing of an installation, which of the following does not need to be considered:
- a results of previous reports.
- b the installation use.
- c the frequency of maintenance.
- d the quality of the test instruments.
- **44** o/c 6 Which of the following statements is incorrect:
- a periodic inspection is carried out to check for heat arising from an installation defect.
- b a schedule of inspections and test results must accompany a periodic inspection report.
- c periodic inspection and testing must be carried out by a fully qualified electrician.
- d where possible, results from previous inspection and testing must be taken into.
- **45** o/c6 BS 7671 recommends that continuity testers shall be capable of having a no-load voltage between:
- a 4V and 24V d.c. or a.c.
- b 4V and 24V d.c.

- c 24V and 250V a.c.
- d 24V and 250V d.c. or a.c.

#### Section 6

46 13 Which of the following is the designated symbol for a high pressure sodium lamp with an internal starting device?



47 oc6 When carrying out an inspection of a new installation, it is <u>not</u> necessary to verify the

- a total earth fault loop impedance for each circuit
- b connection of conductors
- c methods of protection against electric shock
- d presence of diagrams, instructions and similar information.

**48** o/c7 - In a location containing a bath or shower supplementary bonding may be omitted, amongst other conditions, where:

- a all final circuits have additional RCD protection.
- b main equipotential bonding is not required.
- c automatic disconnection of most final circuits of the location comply with Regulation 411.3.2.
- d luminaires are situated outside the Zones.

49 o/c7 For an agricultural location, in order to provide automatic disconnection of supply in circuits other than socket-outlet circuits, a disconnection device shall be installed having a maximum rated residual operating current of

- a 30mA
- b 100mA
- c 300mA
- d 500mA.

50 o/c 7 - On caravan sites, overhead conductors in areas subject to vehicle movement shall be placed at a minimum height above ground of:

- a 2.5 m.
- b 3.5 m.
- c 6.0m.
- d 8.0m.

51 o/c 7 - A PV convertor shall have a switch-disconnector provided on:

- a the a.c. side.
- b the d.c. side.
- c the a.c. and d.c. sides.
- d neither the a.c. nor the d.c. sides.

9	Paper 1
---	---------

52 o/c 7 - Which of the following systems shall not be used to supply equipment used in repair and alteration work on construction sites:

- a TN-S.
- b TN-C-S.
- c TT.
- d separate earth and neutral supplies.

53 o/c 7 - In a sauna which one of the zones has no special requirements concerning the heat resistance of the equipment:

- a 1.
- b 2.
- c 3.
- d 4.

54 o/c 7 - Electrical equipment installed outside in caravan parks shall be protected against mechanical stresses to a minimum of:

- a AG3.
- b AD4
- c AE2.
- d AD3.

55 o/c7 The maximum length of a flexible cord or cable for a caravan connection is

- a 1.8m
- **6m**
- c 10m
- d 25m.

56 oc7 In a swimming pool or other basin, the metallic covering or sheath of a wiring system in zones 0.1 or 2 shall

- a not be used
- b not be earthed
- c be connected to the supplementary bonding
- d have reinforced insulation.

57 oc7 Electric dodgems shall only be operated at voltages not exceeding

- a 120Va.c.or50Vd.c.
- b 50Va.c.or120Vd.c.
- c 110 V a.c. reduced low voltage
- d 1000Va.c.oM500Vd.c.

 $58\ 7\ o/c\ 8\ app7$  - In the new colouring system the neutral in a three-phase a.c. system will be:

- a brown
- b red

- c black
- d blue

#### 59 oc8 $I_2$ can be greater than 1.45 $I_z$ when the overcurrent device

- a is providing overload protection -\*
- b is a circuit-breaker
- c is rated at over 100 A
- d is providing fault current protection only.

#### 60 20 A final circuit is the wiring between

- A. supply company's fuse and the energy meter
- B. main switch and the distribution board
- C. distribution board and current using equipment
- D. supply company's fuse and the remotest outlet point

#### Answers below

#### 1 o/c1 BS 7671 does not apply to

#### a equipment of aircraft

- b photovoltaic systems
- c marinas
- d fairgrounds.

#### Answer a

11

See Part 1: Scope, Regulation 110.2.

- 2 o/c1 Which of the following electrical installations is not covered by BS 7671:
- a photovoltaic systems.
- b agricultural and horticultural.
- c low voltage generating sets.
- d public electricity distribution.

#### 3 o/c1 BS 7671 applies to

- a equipmentpn board ships
- b lightning protection of buildings
- c lift installations

#### d prefabricated buildings.

Answer dSee Part 1, Chapter 11, Scope. Option d, prefabricated buildings, is listed in Regulation 110.1,

### 4 oc 1 BS 7671 requires protection against electric shock to be provided , by basic and fault protection. One method common to both is

- a the use of RCDs
- b the use of Class H equipment
- c preventing current from passing through any person or livestock
- d the use and implementation of equipotential bonding.

Chap 13 131.2.2

#### 5 o/c2 Which of the following would be defined as a live part?

- a Earthing conductor
- b Line conductor
- c Exposed-conductive-part
- d PEN conductor

Answer b See Part 2: Definitions.

- 6 o/c 2 A protective conductor connecting exposed conductive parts of equipment to the main earth terminal is a:
- a equipotential bonding conductor.
- b main bonding conductor.
- c earthing conductor.
- d circuit protective conductor

### 7 o/c2 Protection against electric shock under single-fault conditions is defined as

a overload protection

#### b fault protection

- c basic protection
- d undervoltage protection.

#### Answer b

See Part 2: Definitions.

# $8\,\text{o/c3}$ The effectiveness of protective measures should be considered with regard to

- a external influences
- b safety services

#### c maintainability

d compatibility.

Answer c See Part 3: Assessment of general characteristics, Regulation 341.1.

9 o/c 3 - When assessing the frequency and quality of maintenance of an installation the person responsible for the operation and/or maintenance of the installation shall be:

#### a consulted.

- b informed.
- c invoiced.
- d named.

# $10\,Oc3$ With reference to the nature of the supply, which one of the following can be determined by calculation, enquiry or measurement?

- a The maximum demand of the installation
- b The rating of the circuit protective device

#### c The prospective short-circuit current at the origin of the installation

d The csa of the tails

reg 313.1

# $11\,\mathrm{oc}3$ To ensure continuity of supply to one part of the installation in the event of failure of another part, one approach is

#### a for a separate circuit to be installed for each part

- b to use protective equipotential bonding
- c to install larger fuses
- d to install a 100 mA S type RCD.

314.2

### $12\,\mathrm{oc}3$ When making an assessment of the frequency and quality of maintenance, a factor to be considered is that

a power factor is monitored

#### b protective measures for safety remain effective

c starting currents are at a minimum

d unbalanced loads need to be checked more frequently.

# 13 o/c4 Where the measure of automatic disconnection of supply is employed, fault protection may be provided by

- a protective earthing only
- b protective equipotential bonding only
- c protective earthing and protective equipotential bonding

#### d electrical separation.

Answer d See Part 4: Protection for safety, Regulation 411.1.

14 o/c 4 Which of these is not is not suitable for a SELV system

- a Engine driven generator
- b Auto step up transformer
- c BS 3535 safety transformer
- d Lead acid battery
- 15 10 o/c 4 Which of the following items does not offer 'basic' protection:
- a a circuit protective conductor.
- b a socket outlet.
- c a lampholder.
- d equipotential bonding conductors.

16 o/c 4 - A 230V circuit is protected by a 20A Type B circuit-breaker to BS EN 60898. The minimum value of fault current to ensure compliance with maximum disconnection times:

- a 80A.
- b 100A.
- c 125A.
- d 150A.

17 o/c 4 Max Zs for a TT system with a 300mA RCD

1667 ohms

500 ohms

167 ohms

100 ohms

18 o/c 4 When protecting against burns a metallic part intended to be touched but not hand held shall be limited to a maximum temperature of:

- a 70°C.
- b 75 °C.
- c 80 °C.
- d 85 °C.

19 o/c 4- Correct co-ordination between circuit conductors and an overcurrent protection device is achieved when:

- a In exceeds the lowest current carrying capacity Iz.
- b In is less than the design current Ib.
- c Ib is less than Iz.
- d Iz is lower than or equal to Ib.
- 20 o/c4 Correct co-ordination between conductors and the circuit overcurrent protective device is achieved when:
- a In is less than Ib.
- b In does not exceed Iz.
- c Ib > 1.45 IZ.
- d Ib exceeds IZ.
- 21 o/c 4 Except for equipment for which an appropriate product standard specifies requirements, a luminaire shall be kept at an adequate distance from combustible materials. Unless otherwise recommended by the manufacturer, a small spotlight or a projector rated at over 100 W and up to 300 W shall be installed at the following minimum distances from combustible materials.

a 0.3M

b 0.5M.

c 0.8M. (422.3.1)

d 1.1M

- 22 o/c4 A 6A BS EN 61009 RCBO with a maximum value of earth fault loop impedance of 1.92 is type
- $\alpha A$
- b B
- c C
- d D.

#### Answer d

See Part 4: Protection for safety, Regulation 411.4.7, Table 41.3.

- $23\ Oc4$  An undervoltage device has operated and restoring the supply may cause danger. The reclosure of this device should be
- a automatic when under the supervision of a competent person
- b manually operated
- c possible only with the use of a key or tool
- d automatic with time delay.

Answer bSee Part 4: Protection for safety, Regulation 445.1.5.

- 24 o/c4 A SELV source can be derived from which one of the following?
- a Double-wound transformer
- b Autotransformer
- c Safety isolating transformer
- d Step-up transformer

414.3

25 o/c4 In locations with increased risks of fire, motors which are automatically or remotely controlled, or which are nolt continuously supervised, shall be protected against excessive temperature by

- a a protective device that is automatically reset
- b a protective device with manual reset
- c electronic monitoring equipment that resets
- d electronic monitoring equipment that restarts the motor.

422.3.7

- 26 oc4 A BS 88-6 32 A fuse with  $U_0$  of 230 V has a maximum tabulated  $Z_s$  for 5 seconds disconnection of
- a 0.36 ohm
- b 1.04ohm
- c 1.440hm
- d 1.84Qohm

table 41.4

- 27 o/c5 When cables are placed directly in the ground they should be buried at a depth:
- a sufficient to avoid damage.
- b of not less than 1.0 m.
- c sufficient to allow easy access.
- d of not less than 1.5m.
- 28 o/c 5 Which of the following may be used to provide emergency switching for a motor:
- a a plug and socket.
- b a luminaire connection device.
- c a device which latches in the OFF position.
- d a key switch.
- 29 o/c 5 BS 5839 deals with the system design, installation and servicing of:
- a low power supply sources.
- b emergency escape lighting.
- c fire alarms.
- d generator supply sources.
- 30 o/c 5 An industrial board supplies
- 4 x TP motors
- 2 x TP&N motors
- $4 \times \text{single phase ring circuits}$
- 2 x single phase lighting circuits

how many live conductors are there.



### 31 o/c5 A cable concealed in a wall outside the prescribed zones at a depth of less than 50 mm must

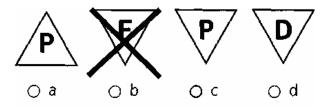
- a not be installed
- b be enclosed in unearthed conduit

#### c be enclosed in earthed metallic conduit

d be protected by a 500 mARCD.

Answer c See Part5: Selection and erection of equipment, Regulation 522.6.6.

32 o/c5 Which of the following is the symbol for a "class P" thermally protected independent lamp ballast permitted for mounting on a flammable surface?



#### Answer c

See Part 5: Selection and erection of equipment, Regulation 559.7 and Table 55.2.

33 o/c5- A permanent warning notice must be fixed at or near the point of connection of every earthing conductor to an earth electrode bearing the words:

#### Safety Electrical Connection - Do Not Remove.

- b Earth Bonding Danger.
- c Safety Electrical Earth Do Not Remove.
- d Electrical Connection Danger.

**34** o/c5 - Cables and equipment in circuits feeding motors shall be suitable for a current of at least:

#### a the full-load current rating of the motor.

- b half the full-load current rating of the motor.
- c twice the full-load current rating of the motor.
- d four times the full-load current rating of the motor.

35 o/c5 - Accessible street furniture enclosures containing live parts shall only be opened using a:

#### a key or tool.

- b ladder.
- c insulated screwdriver.
- d harness.

# 36 o/c5 An RCD that is installed for protection against the risk of fire where combustible materials are stored shall be

- a installed at the farthest point of the circuit
- b installed at the origin of the circuit

- c arranged to switch line conductors
- d rated at 500mA.

Answer b

See PartS: Selection and erection of equipment, Regulation 532.1.

Where a 30 mA RCD is installed upstream of a residual current monitor (RCM), the rating of the RCM shall not exceed

#### Answer b

See Part 5: Selection and erection of equipment, Regulation 559.4 and Table 55.2.

37 o/c5 A firefighter's switch shall be provided in the low voltage circuit supplying exterior electrical installations and interior discharge lighting operating at

#### a voltage exceeding low voltage

- b low voltage
- c voltage band II
- d medium voltage.

537.6.1

38 Where a 3-core cable, with cores coloured brown, black and grey, • is used as a switch wire for two-way or intermediate control, the terminations of the conductors shall be identified using

- a red, blue and yellow tape
- b black tape only on each core
- c brown tape on the black and grey cores
- d self-colour tape only.

514.4.4

39 o/c5 A radial final circuit feeding socket-outlets supplying several items of data processing equipment has a total protective conductor current in normal service of 18 mA. This circuit must have a high integrity protective conductor

a of cross-sectional area less than 1 mm<sup>2</sup>

#### b connected as a ring

- c controlled by an isolator
- d enclosed in insulated conduit only.

543.7.2.1

40 oc5 When selecting equipment for an installation, the person who makes the final decision over its safety would be the

- a representative of a regional supply company
- b representative of a national inspection body
- c designer or other person responsible
- d inspector and tester.

Sec511 511.2

### 41 oc 5 The minimum information contained on a periodjc inspection and testing notice would be the

- a date of inspection and inspector's name
- b date of next inspection and client's name
- c date of last inspection and date of next inspection
- d company's address and date of next inspection.

514.12.1

- **42** o/c6 612.3.2 The minimum insulation resistance between conductors for an extra-low voltage circuit is:
- a  $0.25 M\Omega$ .
- b  $0.5 \,\mathrm{M}\Omega$ .
- c 1.0 M $\Omega$ .
- d 2.0 M $\Omega$ .
- 43 o/c 6 With regard to determining the frequency of periodic inspection and testing of an installation, which of the following does not need to be considered:
- a results of previous reports.
- b the installation use.
- c the frequency of maintenance.
- d the quality of the test instruments
- 44 o/c 6 Which of the following statements is incorrect:
- a periodic inspection is carried out to check for heat arising from an installation defect.
- b a schedule of inspections and test results must accompany a periodic inspection report.
- c periodic inspection and testing must be carried out by a fully qualified electrician.
- d where possible, results from previous inspection and testing must be taken into.
- **45** o/c6 BS 7671 recommends that continuity testers shall be capable of having a no-load voltage between:
- a 4V and 24V d.c. or a.c.
- b 4V and 24V d.c.
- c 24V and 250V a.c.
- d 24V and 250V d.c. or a.c.

#### Section 6

46 13 Which of the following is the designated symbol for a high pressure sodium lamp with an internal starting device?









47 oc6 When carrying out an inspection of a new installation, it is <u>not</u> necessary to verify the

#### a total earth fault loop impedance for each circuit

- b connection of conductors
- c methods of protection against electric shock
- d presence of diagrams, instructions and similar information.

611.3

**48** o/c7 - In a location containing a bath or shower supplementary bonding may be omitted, amongst other conditions, where:

#### a all final circuits have additional RCD protection.

- b main equipotential bonding is not required.
- c automatic disconnection of most final circuits of the location comply with Regulation 411.3.2.
- d luminaires are situated outside the Zones.

49 o/c7 For an agricultural location, in order to provide automatic disconnection of supply in circuits other than socket-outlet circuits, a disconnection device shall be installed having a maximum rated residual operating current of

- a 30mA
- b 100mA
- c 300mA
- d 500mA.

Answer cSee Part 7: Special installations or locations, Regulation 705.411.1.

50 o/c 7 - On caravan sites, overhead conductors in areas subject to vehicle movement shall be placed at a minimum height above ground of:

- a 2.5 m.
- b 3.5 m.
- c 6.0m.
- d 8.0m.

51 o/c 7 - A PV convertor shall have a switch-disconnector provided on:

- a the a.c. side.
- b the d.c. side.
- c the a.c. and d.c. sides.
- d neither the a.c. nor the d.c. sides.

52 o/c 7 - Which of the following systems shall not be used to supply equipment used in repair and alteration work on construction sites:

- a TN-S.
- b TN-C-S
- c TT.
- d separate earth and neutral supplies.

53 o/c 7 - In a sauna which one of the zones has no special requirements concerning the heat resistance of the equipment:

a 1.

b 2.

c 3.

d 4.

**54** o/c 7 - Electrical equipment installed outside in caravan parks shall be protected against mechanical stresses to a minimum of:

#### a *AG*3.

b AD4.

c AE2.

d AD3.

55 o/c7 The maximum length of a flexible cord or cable for a caravan connection is

a 1.8m

**6m** 

c 10m

#### d 25m.

#### Answer d

See Part 7: Special installations or locations, Section 708, Fig 708, or Regulation 721.55.2.6

56 oc7 In a swimming pool or other basin, the metallic covering or sheath of a wiring system in zones 0,1 or 2 shall

a not be used

b not be earthed

#### c be connected to the supplementary bonding

d have reinforced insulation.

702.52 702.522.21

#### 57 oc7 Electric dodgems shall only be operated at voltages not exceeding

a 120Va.c.or50Vd.c.

#### b 50Va.c.or120Vd.c.

c 110 V a.c. reduced low voltage

d 1000Va.c.oM500Vd.c.

740.55.9

 $58\ 7\ \text{o/c}\ 8\ \text{app7}$  - In the new colouring system the neutral in a three-phase a.c. system will be:

- a brown
- b red
- c black
- d blue

#### 59 oc8 $I_2$ can be greater than 1.45 $I_z$ when the overcurrent device

- a is providing overload protection
- b is a circuit-breaker
- c is rated at over 100 A

#### d is providing fault current protection only.

App4 sec 3 (434.5.2)

#### 60 20 A final circuit is the wiring between

- E. supply company's fuse and the energy meter
- F. main switch and the distribution board
- G. distribution board and current using equipment
- H. supply company's fuse and the remotest outlet point

App15