

Sample Questions A- C&G 2382 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 Where protection for persons and livestock against injury and against damage to property is required, which of the following need not be taken into account?

- a Overvoltage due to switching
- b Undervoltage and subsequent voltage recovery
- c Direct lightning strikes
- d Faults between live conductors supplied at different voltages

3 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

4 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.

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

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

6 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.

7 o/c4 - To meet the requirements of BS 7671, all fault current protective devices without back-up protection on the supply side must be capable of:

- a withstanding the maximum prospective fault current at that point where the device is installed.
- b not operating in the event of a fault.
- c operating at a current lower than their rated current.
- d operating at their rated current.

8 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.

9 o/c4 - A 230V 13A socket radial circuit is protected by a Type B 20A mcb to BS EN 60898. The maximum value of earth fault loop impedance to ensure compliance with shock constraints is:

- a 2.30 Ω .
- b 2.87 Ω .
- c 1.15 Ω .
- d 2.40 Ω .

10 o/c 4 In a TP&N installation servicing an office with IT equipment and a high harmonic disturbance. How would the harmonic influence be combated?

- 1 Surge protection.
- 2 Nothing because it can't be sorted.
- 3 Increase the size of the neutral
- 4 Install a RCD.

11 o/c4 **Additional protection against shock is provided by**

- a BS 3036 fuses
- b BS EN 60898 circuit breakers
- c time delayed 100 mARCDs
- d 30mARCDs.

12 o/c4 **In order to provide basic protection, a horizontal top surface of a barrier or enclosure that is readily accessible shall provide a minimum degree of protection of**

- a IPXXA or IP1X
- b IPXXB or IP2X
- c IPXXC or IP3X
- d IPXXD or IP4X.

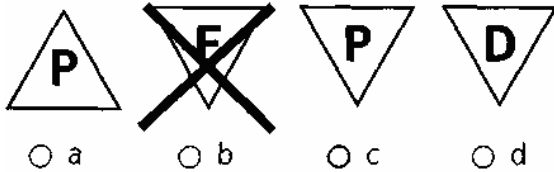
13 o/c4 What is the impulse category of equipment that is part of the fixed electrical installation and other equipment where a high degree of availability is expected?

- a I
- b II
- c III
- d IV

14 o/c 5 - As a means of isolation in a circuit it is NOT permissible to use a:

- a luminaire connection device.
- b semi-conductor switch.
- c fireman's switch.
- d plug and socket outlet.

15 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?



16 o/c 5 - The maximum height a firepersons switch may be situated above the ground is:

- a 2.5 m.
- b 2.75 m.
- c 3.25 m.
- d 3.5 m.

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

18 o/c5 Where an autotransformer is connected to a circuit having a neutral conductor, the common terminal of the winding shall be connected to the

- a neutral conductor
- b line conductor
- c protective conductor
- d bonding conductor.

- 19 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.
- 20 o/c6 **For SELV and PELV circuits the separation of live parts from those of other circuits must be confirmed by**
- a inspection
 - b measurement
 - c calculation
 - d enquiry.
- 21 o/c6 612.3.2 - The minimum insulation resistance between conductors for an extra-low voltage circuit is:
- a 0.25 M Ω .
 - b 0.5 M Ω .
 - c 1.0 M Ω .
 - d 2.0 M Ω .
- 22 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.
- 23 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.
- 24 12 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.

- 25 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.
- 26 24 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.
- 27 30 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.
- 28 36 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.
- 29 o/c8 The rating factor for a 70 °C thermoplastic cable installed in air in an ambient temperature of 40 °C is
- a 1.0
 - b 0.91
 - c 0.87
 - d 0.85.
- 30 o/c8 The maximum value of voltage drop for lighting in a low voltage installation supplied from a public distribution system is
- a 3%
 - b 4%
 - c 5%
 - d 6%.

Answers below

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

- a **equipment of aircraft**
- b photovoltaic systems
- c marinas
- d fairgrounds.

Answer a

See Part 1: Scope, Regulation 110.2.

2 o/c1 **Where protection for persons and livestock against injury and against damage to property is required, which of the following need not be taken into account?**

- a Overvoltage due to switching
- b Undervoltage and subsequent voltage recovery
- c **Direct lightning strikes**
- d Faults between live conductors supplied at different voltages

Answer c

See Part 1: Scope, Regulations 131.6.1 to 131.6.4.

3 o/c2 **Which of the following would be defined as a live part?**

- a Earthing conductor
- b Line conductor**
- c Exposed-conductive-part
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Answer b See Part 2: Definitions.

4 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.

5 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.

6 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.

7 o/c4 - To meet the requirements of BS 7671, all fault current protective devices without back-up protection on the supply side must be capable of:

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- c time delayed 100 mARCDs
- d 30mARCDs.

Answer d See Part 4: Protection for safety, Regulation 415.1.1.

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- a IPXXA or IPIX
- b IPXXB or IP2X
- c IPXXC or IPSX
- d **IPXXD or IP4X.**

416.2.2

13 o/c4 **What is the impulse category of equipment that is part of the fixed electrical installation and other equipment where a high degree of availability is expected?**

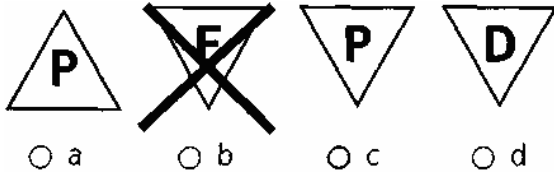
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table 44.4 section 443

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Answer c

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

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- a inspection
- b measurement**
- c calculation
- d enquiry.

Answer b

See Part 6: Inspection and testing, Regulations 612.4.1 and 612.4.2.

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- b 0.5 M Ω .**
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Answer c See Part 7: Special installations or locations, Regulation 705.411.1.

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Answer c See Appendices: Appendix 4, Table 4B1.

30 o/c8 The maximum value of voltage drop for lighting in a low voltage installation supplied from a public distribution system is

- a 3%**
- b 4%
- c 5%
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Answer a See Appendices: Appendix 12, Table 12A.