

Sample Questions - C&G 2382 17th Edition paper E

1 o/c 1 - To which of the following electrical installations does the IEE Regulations not apply:

- a agricultural and horticultural premises.
- b construction sites.
- c systems for transmission of energy to the public .
- d caravan sites

2 oc1 **BS 7671 includes the requirements for**

- a fixed wiring for information and communication technology, signalling and control
- b radio interference suppression equipment
- c systems for the distribution of electricity to the public
- d equipment on board ships and aircraft.

3 o/c2 - The term 'line conductor' replaces the previous term:

- a live conductor.
- b phase conductor.
- c positive conductor.
- d line cable.

4 oc2 **An assembly of PV arrays is defined as a**

- a PVcell
- b PV array cable
- c PV generator
- d PV a.c. module.

5 oc3 **Every installation must be divided into circuits as necessary in order to**

- a reduce the cost of installation
- b make installation easier
- c install a cooker
- d facilitate safe inspection, testing and maintenance.

6 oc4 **Regulations 434.2 and 434.2.1 do not allow the fault current protective device to be placed on the load side of the reduction in current-carrying capacity of a conductor if**

- a the length of conductor is less than 3 m
- b the length of conductor exceeds 3 m
- c it is erected in such a manner as to reduce to a minimum the risk of fault current
- d it is erected in such a manner as to reduce to a minimum the risk of fire or danger to persons.

7 o/c4 Where arcs, sparks or particles at high temperature may be emitted by fixed equipment in normal service, the equipment shall be

- a totally enclosed in arc-resistant material
- b protected by a 30 mA RCD
- c enclosed to at least IP55
- d accessible only by use of a key or tool.

8 o/c4 The horizontal top surface of a barrier or enclosure which is readily accessible shall provide a degree of protection of at least

- a IP55 or IP66
- b IPX4 or IPXX7
- c IPXXB or IP2X
- d IPXXD or IP4X.

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

- a operating at their rated current.
- b operating at a current lower than their rated current.
- c withstanding the prospective short-circuit current at that point in the installation.
- d not operating during a short-circuit fault.

10 o/c 4 - A circuit is protected by a 32A Type circuit breaker. If the value of Z_e is 0.8 ohms what will be the maximum allowable value for $(R_1 + R_2)$:

- a 1.44 ohms.
- b 2.24 ohms.
- c 0.72 ohms.
- d 0.64 ohms.

11 o/c4 - Class II equipment is used as a measure of:

- a overvoltages.
- b indirect protection.
- c basic protection.
- d fault protection.

12 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.

13 o/c4 In the event of an earth fault on the HV side of a substation the LV installation may be affected by

- a V
- b U
- c I
- d I^2t .

14 oc5 When using the alternative method to Regulation 543.1.3 of sizing a copper protective conductor, the minimum size to be used when a copper line conductor has a csa of 50 mm^2 would be

- a 16 mm^2
- b 25 mm^2
- c 35 mm^2
- d 50 mm^2 .

15 oc5 A 70°C thermoplastic insulated and sheathed cable to BS 6004 is installed in an ambient temperature of 25°C for part of the run and then enters an area at 40°C . The effect on the cable will be to

- a require clips at greater intervals
- b reduce the voltage drop
- c increase the bending radius
- d decrease its current-carrying capacity.

16 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.

17 o/c 5 531.2.2 - The magnetic circuit of the transformer of an RCD shall enclose:

- a all line conductors of the protected circuit.
- b all live and earth conductors of the protected circuit.
- c neutral and earth conductors of the protected circuit.
- d all live conductors of the protected circuit.

18 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.

19 o/c 5 An industrial board supplies

4 x TP motors

2 x TP&N motors

4 x single phase ring circuits

2 x single phase lighting circuits

how many live conductors are there. (40)

20 o/c 6 - Methods of inspection and testing are described in Guidance Note:

a 1.

b 2.

c 3.

d 4.

21 oc6 Defects identified during an initial verification should be

a noted on the certificate, and the client should be informed

b pointed out to the main contractor when the certificate has been completed

c made good before the certificate is issued

d put on a snagging list to be rectified later.

22 oc7 In conducting locations with restricted movement, supplies to handlamps shall be protected by

a SELV,

b reduced low voltage supplies

c RCD or RCBO

d PELV.

23 oc7 Equipment on a pontoon in a marina that is subject to impact to level AG2 should have a mechanical protection code of

a IPX4

b IPX8

c IP55

d IK08.

24 o/c7 Enclosures used to protect electrical equipment vulnerable to external influences in a horticultural installation shall have a minimum degree of protection of

a IP22

b IP33

c IP44

d IP55.

25 o/c 7 - In agricultural premises an RCD may be used for protection against fire. The current rating should not exceed:

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

26 o/c 7 - Which of the following statements regarding Section 740 is incorrect:

- a RCDs not exceeding 300mA shall be provided at the origin of the installation.
- b The nominal supply voltage shall not exceed 230V/400V a.c.
- c RCDs are not required for circuits protected by electrical separation.
- d RCDs are required to protect socket-outlets rated greater than 32A.

27 o/c 7 Where an electric heating element is embedded in the floor of a bathroom it should be:

- a covered by an earthed metal grid.
- b buried to a depth not less than 50 mm.
- c double insulated.
- d supplied from an ELV source.

28 o/c7 **Additional protection for all lighting circuits within a sauna shall be provided by**

- a an insulation monitoring device
- b an RCD with a rated residual operating current not exceeding 30mA
- c barriers and enclosures having a degree of protection of at least IP54
- d ensuring the luminaires have a degree of protection of at least IPX3.

29 o/c 8 app 8 - For busbar trunking and powertrack systems, where protected against overload current by a BS 88 fuse, which of the following equations is correct:

- a I_Z less than or equal to I_n .
- b I_n less than or equal to I_Z .
- c I_Z less than or equal to I_b .
- d I_Z greater than or equal to I_b .

30 oc8 **External influences coded BE are classified as**

- a nature of processed or stored materials
- b conditions of evacuation in an emergency
- c movement of air
- d capability of persons.

Answers below

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Part 1 chap 11

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314.1

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- d it is erected in such a manner as to reduce to a minimum the risk

