

Sample Questions - C&G 2382 17th Edition 2382-10 full

1 o/c 1 - BS 7671 relates to permanent and temporary installations for equipment on:

- a marinas.
- b ships.
- c equipment on aircraft.
- d railway traction equipment.

2 Which of the following is listed with the exclusions from the scope at the Regulations:

- a. Swimming pools
- b. Saunas
- c. Highway power supplies and street furniture
- d. Suppliers works

3 o/c1 **Which one of the following is not a statutory regulation?**

- a Electricity at Work Regulations 1989 as amended
- b The Supply of Machinery (Safety) Regulations 1992 as amended
- c Requirements for Electrical Installations (BS 7671)
- d Agricultural (Stationary Machinery) Regulations

4 oc1 **The selection of the type of wiring and method of installation is not influenced by**

- a the nature of the location
- b the load current
- c the value of the prospective short-circuit current
- d the nature of the structure supporting the wiring.

5 o/c 2 An area or temporary structure used for display, marketing or sales is defined as

- a a booth
- b a stand
- c an exhibition
- d a show.

6 o/c 2 - gM is a category of BS 88 fuses used in:

- a motor circuit applications.
- b general circuit applications.
- c heating circuit applications.
- d mixed circuit applications.

7 o/c2 **A corridor containing supporting structures for cables and joints and/or other elements of wiring systems, the dimensions of which allow persons to pass freely throughout the entire length, is known as**

- a an access pathway
- b a cable tunnel
- c an access throughway
- d cable ducting.

8 o/c 3 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

9 o/c3 - The requirements for overload current protection are met when:

- a  $I_b = 15A, I_n = 20A, I_z = 18A.$
- b  $I_b = 20A, I_n = 15A, I_z = 20A.$
- c  $I_b = 8A, I_n = 15A, I_z = 16A.$
- d  $I_b = 2.5A, I_n = 10A, I_z = 9A.$

10 o/c3 Diversity may be taken into account when considering

- a maximum demand of the installation
- b a TN-C-S system
- c the prospective short-circuit fault current
- d the number of final circuits.

11 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.

12 oc3 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 Which of the following need not be tested under fire conditions to ensure compliance with non-flame propagating requirements?

- a Cables
- b Protective devices
- c Conduit systems
- d Trunking systems

14 o/c4 - Protection against overvoltages of atmospheric origin is set out in Section:

- a 422.
- b 443.
- c 445.
- d 514.

15 o/c 4 - table 41.1 What will be the operating time for a 60A BS 3036 protective device when the value of fault current is 205A:

- a 0.2 seconds.
- b 0.4 seconds.
- c 0.8 seconds.
- d 5.0 seconds.

16 o/c 4 - The current rating of a BS 3036 fuse should not exceed that of the lowest rated conductor in the circuit multiplied by:

- a 2.0.
- b 1.5.
- c 1.45.
- d 0.725.

17 o/c4 - Prevention of a shock by touching a metallic part not normally live but made live under fault conditions is called:

- a fault protection.
- b basic protection.
- c indirect contact.
- d direct contact.

18 o/c 4 In a 230V TN system, for final circuits exceeding 32A the disconnection time is limited to:

- a 0.2s.
- b 0.4s.
- c 1.0s.
- d 5.0s.

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

- a  $I_n$  exceeds the lowest current carrying capacity  $I_z$ .
- b  $I_n$  is less than the design current  $I_b$ .
- c  $I_b$  is less than  $I_z$ .
- d  $I_z$  is lower than or equal to  $I_b$ .

20 o/c4 table 41.1 - All final circuits supplied at 230V and not exceeding 32A shall have a maximum disconnection time not exceeding:

- a 0.2s.
- b 0.4s.
- c 0.8s.
- d 5.0s.

21 o/c 4 Which is a method of fault protection

- 1 out of reach
- 2 Reinforced insulation
- 3 Obstacles
- 4 Insulation of live parts

22 o/c4 The maximum disconnection time for a circuit supplied by a reduced low voltage system using a 110 V midpoint earthed transformer is

- a 0.2 second
- b 0.4 second
- c 1 second
- d 5 seconds.

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 32 A type B circuit-breaker is used to give a disconnection time of 5 seconds in a reduced low voltage system with a nominal voltage to Earth ( $U_0$ ) of 55 V. What is the maximum value of earth fault loop impedance ( $Z_s$ )?

- a  $0.44 \Omega$
- b  $0.34 \Omega$
- c  $0.17 \Omega$
- d  $0.09 \Omega$

25 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.

27 o/c4 Where particular risks of fire exist, the classification for high density occupation areas with easy conditions of evacuation is

- a BD1
- b BD2
- c BD3
- d BD4.

28 o/c 5 A factory requires repairs to a machine. The type of switching to allow this work to go ahead would be switching for:

- a mechanical cleaning.
- b emergency switching.
- c mechanical maintenance.
- d functional switching.

29 o/c 5 Barriers and enclosures shall, during erection, be protected against ingress to a minimum of:

- a IP1X.
- b IP2X.
- c IP3X.
- d IP4X.

30 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.

31 o/c 5 - Where electrical conduit is required to be distinguished from a pipeline or another service the colour used to identify it would be:

- a red.
- b orange.
- c blue.
- d black.

32 o/c5 **The equipment, design, installation and testing of an electric surface heating system shall be in accordance with**

- a BS EN 60898
- b BS6217
- c BS6351
- d BS EN 60417.

33 o/c 5 - In the expression  $s = \sqrt{I^2 t} / k$  the symbol 'k' represents:

- a the fault current.
- b a factor applied to conductor materials.
- c the minimum size of the cpc.
- d the time the fault current exists.

34 o/c5 - Every firepersons switch should be:

- a coloured RED with the OFF position at the top.
- b coloured BLUE with the OFF position at the top.
- c coloured RED with the ON position at the top.
- d coloured BLUE with the OFF position at the top.

35 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.

36 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.

37 o/c5 **A permanent label to BS 951 bearing the words 'Safety Electrical Connection-Do Not Remove' is not required at**

- a the connection of every earthing conductor to an earth electrode
- b the point of connection of every bonding conductor to an extraneous-conductive-part
- c the main earth terminal, where separate from the main switchgear
- d a main earthing bar contained within switchgear.

38 o/c5 **If an area within an installation undergoes a 10 °C rise in ambient temperature, the effect on the current-carrying capacity of cables will be to**

- a decrease the value of  $I_z$
- b increase the value of  $I_z$
- c leave  $I_z$  unchanged
- d increase the fault current by 10 per cent.

39 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.

40 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.

41 oc 5 Which one of the following devices would not be suitable to provide overcurrent protection?

- a Residual current device to BS 4293
- b Cartridge fuse to BS 1362
- c Cartridge fuse to BS 88-6
- d Rewirable fuse to BS 3036

42 oc5 Which of the following is not a BS 7671 requirement when installing a heating cable laid directly in soil?

- a It is completely embedded in the soil
- b It does not suffer damage in the event of normal movement
- c It complies with the manufacturer's instructions
- d It is protected by a 500 mARCD

43 o/c6 The test voltage and minimum insulation resistance value for a PELV circuit is

- a 250 V, 1 M $\Omega$
- b 500V, 0.5 M $\Omega$
- c 230V, 1 M $\Omega$
- d 250V, 0.5 M $\Omega$ .

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

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

45 o/c 6 - The minimum allowed test value of insulation resistance for a circuit supplied at 230 V is:

- a 0.25 M $\Omega$ .
- b 0.5 M $\Omega$ .
- c 1.0 M $\Omega$ .
- d 2.0 M $\Omega$ .

46 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.

**44 oc6 Certain information must be made available to persons carrying out inspection and testing of an installation before the testing commences. One such item of information would be**

- a the name of the client
- b the name of the person who designed the installation
- c the length of cable runs in the installation
- d any circuit or equipment vulnerable to a typical test.

**47 oc6 When an addition is made to an existing installation, the contractor shall record on the Electrical Installation Certificate or the Minor Electrical Installation Works Certificate any**

- a changes in ownership
- b records of repair over the last five years
- c defects in the existing installation
- d voltage drop in the longest circuit.

**48 o/c 7 - On a construction site a final circuit exceeding 32A and supplied by a TT system shall have a disconnection time not exceeding:**

- a 0.2 seconds.
- b 0.3 seconds.
- c 0.8 seconds.
- d 1.0 seconds.

**49 /c7 Equipment installed on a pontoon located in a marina, which is likely to be subjected to splashes, shall have a degree of protection at least**

- a IPX3
- b IPX4
- c IPX5
- d IPX6.

**50 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.





























