Q1 Which one of these electrical installations does BS 7671:2008 not apply to:

- Temporary Construction sites
- Distributor’s Equipment
- Caravans
- Public Premises

Q2 Which one of the following for electrical supplies may not be determined by calculation

- ELZ
- Type of overcurrent device at the origin of the installation
- Nature of current
- Suitability for installation including Maximum Demand

Q3 With regard to Electrical systems a LIVE PART is defined as one of the following

- A conductor connected to earth
- A conductive part liable to introduce a potential, generally at earth potential, and not forming part of the electrical installation
- A conductive part of equipment which can be touched which is not a live that may become live under fault conditions
- A conductor or conductive part which forms part of the installation, and intended to be energised in normal use

Q4 A Residual Current Device is designed to operate under the event of one of the following

- Overload
- Earth fault
- Lightning strike on the supply
- Short circuit
Q5 The lowest level of electricity that can harm a human being is measured in (Answer D)

- microamps
- kiloamps
- amps
- milliamps

Q6 The reason that installations are divided into circuits is:

- To keep the cables smaller
- to facilitate safe operation, inspection, testing and maintenance
- To make it easier to do cable schedules
- To make cable calculations easier

Q7 What is the colour of cable carrying conduit to distinguish it from other services is:

- Black
- Green
- Orange
- Yellow

Q8 It should be verified before adding to an existing installation that:

- The supply must be separate from the original installation
- Be a similar wiring system to the original installation
- Should not be a similar wiring system to the original wiring system
- Should not impair the safety of other equipment or impair the supply
Q9 Which of the following could not be provided by enquiry:

- The nature of the current and frequency
- The PSC
- The suitability for the requirements of the installation
- Live working

Q10 Test instruments for working on electrical systems should

- Be Yellow in colour
- Be less than 10 years old
- Have non insulated test probes to GS36
- Have insulated test probes to GS38

Q11 The Electricity at Work Regulations apply to

- Only low voltage systems
- Only extra low voltage systems
- All voltage systems
- Only on high voltage systems

Q12 Omission for circuit protection against overload may not be given to which of the following:

- Fire Panel supplies
- Control circuit for fire extinguishing equipment
- Exciter circuits for rotating machines
- Supply circuits for lifting magnets
Q13  Miniature Circuit Breaker (MCB) must operate within 1.45 times the:

- [ ] Design Current
- [ ] Current Carrying Capacity of conductors
- [ ] Overcurrent device
- [ ] Short Circuit Current

Q14  Which must not be used for emergency switching

- [ ] Push button on a contactor
- [ ] Manual operated switch
- [ ] Miniature circuit breaker
- [ ] Plug and socket

Q15  Overcurrent protection is provided by

- [ ] Link switch
- [ ] Residual Current Device
- [ ] Disconnector
- [ ] Circuit Breaker

Q16  Where mains voltage is to be supplied for portable equipment, what extra protection is recommended?

- [ ] A step down transformer
- [ ] A step down generator
- [ ] An electrical separation supply transformer
- [ ] An Residual Current Device
Q17 By which method is both Fault and Basic protection given

- SELV
- ELV
- Insulation
- Placing out of reach

Q18 On a construction site movable equipment, the protective device is a 20amp type 1361 fuse the Max Zs allowed is:

- 1.2
- 1.33
- 1.55
- 1.92

Q19 A supply that is not MIMS or busbar feeding a paper mill must be provided with an RCD not exceeding:

- 30mA
- 300mA
- 500mA
- 150mA

Q20 In zone A of a sauna the electrical equipment allowed is:

- A ceiling rose
- A shaving socket
- A thermostat and thermal cutout
- Any IP2X equipment
Q21  Which of the following complies with BS7671: (OSG:Table8A)

○ A 20 amp radial in 4.00mm² with a maximum of 100m²
○ A 30 amp radial in 2.5mm² with a maximum area of 75m²
○ A 30 amp radial in 2.5mm² with a maximum area of 50m²
○ A 30 amp radial in 4.00mm² with a maximum area of 75m²

Q22  What is the preferred wiring system to be used in a fire alarm system (OSG Table7.4)

○ 70 degree multiple thermosetting rubber
○ 90 degree single thermosetting rubber
○ 70 degree single thermosetting rubber
○ Mineral Insulated Cable

Q23  With regards to CONTROL, which of the following could be seen to effect a large motor

○ Undervoltage
○ Direct current feedback
○ High frequency oscillators
○ Overvoltage

Q24  In what chapter would you find the fundamental principles of the protection against overcurrent

○ 40
○ 13
○ 53
○ appenedix 3
Q25  If protection is provided by an RCD the following must be fulfilled

- \( R_a I_a \leq 50V \)
- \( Z_s \leq \frac{0.866 U_s}{I_a} \)
- \( Z_s I_a \Delta n \leq 50V \)
- \( R = 50 \times I_a \)

Q26  Maximum disconnection times maybe increased to afford protection for portable equipment when

- It supplies Class I equipment
- Where there is no supplementary bonding
- Where \( Z_s \leq \frac{U_o}{I_a} \)
- Where 3036 fuses are used

Q27  Find the minimum size of protective conductor for a fuse carrying a fault current of 250A which will disconnect at 0.2 sec if the value for \( k = 115 \).

- \( 150mm^2 \)
- \( 1.00mm^2 \)
- \( 0.5mm^2 \)
- \( 185mm^2 \)

Q28  Source of supply for safety services shall be provided by

- A storage battery
- MIMMS
- The supply authority
- A skilled person
Q29 Which zone is the space under the bath tub if it can only be accessible with a tool

- Zone 1
- Zone 0
- Outside zones
- Outside zones 1 + 2 inside Zones 0 + 4

Q29 What is the maximum Zs for a BS88-2.1 16 amp fuse for a single phase supply to a construction site for portable appliances at 220 v

- 3.00Ω
- 4.36Ω
- 0.83Ω
- 2.53Ω

Q30 A radiant heater mounted in an area where livestock may be present must be:

- Protected by a 30mA rcd
- Allow clearance as by manufacturers instruction
- Not allowed under any circumstances
- Only if building fabric allows

Q31 Equipment having a flexible protective conductor current exceeding 3.5 mA for plugs rated at 16 A must have a CSA of not less than

- 4.00mm$^2$
- 1.5mm$^2$
- 2.5mm$^2$
- Disconnected from supply
Q32 On caravan parks the minimum height of an overhead conductor shall be

- Not more than 1.8 meters above ground
- 2 meters above ground
- 6 meters above ground in vehicle movement areas
- Buried and covered with steel protector

Q33 Where protection against indirect contact is afforded to Class I equipment is by EEBAD fences and grids not forming part of the structure must be

- Connected to the main earthing terminal
- Shall not be connected to the main earthing terminal
- Be connected by a conductor of not less than 4.00mm²
- Be connected by a conductor of not less than 2.5 mm²

Q34 Before an edition to an installation it shall been verified

- That the voltage is 230 and the frequency is 50 Hz
- Does not impair the safety of the existing installation
- Complies to the On Site Guide
- The meter board has enough spare ways

Q35 Who determines the frequency of inspections after the initial inspection has taken place:

- The Client?
- The Duty Holder?
- The Designer?
- The designer, installer, and other relevant parties?
Q36 At what point of an inspection may items that may be harmed during certain test be found

○ Before insulation resistance test?
○ Before ELZ tests?
○ During initial verification?
○ Polarity test?

Q37 A 15 A. BS 3036 (se) with a fault current of 90 A will disconnect the power in how many seconds?

○ 0.1s
○ 0.4 s
○ 5 s
○ 0.2s

Q38 A straight piece of conduit from a distribution board has ten 1.5mm² and four 2.5 mm² solid copper pvc insulated cables. Calculate the conduit size. (OSG Table 5B)

○ 25mm
○ 20mm
○ 15mm
○ 32mm

Q39 A length of trunking has to carry eight 10mm², sixteen 6mm², twelve 4mm², and ten 2.5mm² stranded single cables to BS7211. Calculate the size required(OSG Table 5E)

○ 50 x 50
○ 50 x 75
○ 100 x 100
○ 75 x 75

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