SPARKS AUTUMN 2023 ANSWERS

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SAFE ISOLATION ANSWERS

1. The company should have undertaken a risk assessment of the cabling activity that should have identified the hazard from the electrical wires.

2. The company should have taken action to warn the contractor of the presence of electrical wires near where the work was being carried out.

3. The company should have taken steps to only allow work when the electrical power had been turned off and to ensure that power remained off for the duration of the work.

PAGE 16 & 17
SAFE ISOLATION ANSWERS

1. Which of the following is NOT a part of the Safe Isolation procedure?
Answer: b) Reconnecting the supply

2. The process of Safe Isolation is primarily performed to:
Answer: b) Ensure safety

3. What is the most common error made during Safe Isolation procedures?
Answer: b) Incorrect verification tests

4. Which tool is NOT essential during Safe Isolation procedures?
Answer: c) Hammer

5. The approved document that gives guidance for electrical safety in dwellings is:
Answer: a) Document P

6. In the Safe Isolation procedure, the last step should be:
Answer: b) Verification of de-energisation

7. Which of the following should be used to confirm that equipment is de-energised during Safe Isolation?
Answer: a) An approved voltage tester

8. According to the Electricity at Work Regulations 1989, who is responsible for Safe Isolation during electrical work?
Answer: a) The person undertaking the work

9. After the Safe Isolation process, it is crucial to:
Answer: a) Keep checking the isolation throughout the work

10. Which of the following is NOT a correct procedure for Safe Isolation?
Answer: b) Leaving the circuit breaker in the on position to check for remaining current

11. What is the minimum number of steps recommended for safe isolation procedures when working in a domestic property according to the IET Wiring Regulations?
Answer: c) 5

12. As little as 50 volts can block the electrical signals between the brain and the muscles, causing various effects, such as:
Answer: d) All of the above

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CABLE CALCULATIONS ANSWERS

1) The IET Wiring Regulations in relation to cable selection give tables on which of the following?
b Current carrying capacity

2) If the voltage drop in an installation exceeds the permissible value it may be corrected by which of the following?
c Increasing the cable size

3) If a ring main circuit has a 32A fuse 230V supply the maximum power available at any one time is which of the following:
c 7360W

4) An immersion type water heater is to be installed. If the water heater is rated at 3kW, 230V it should be installed as which of the following?
b A dedicated 16 A radial circuit

5) The rating of a cable depends on its ability to lose heat produced in it by which of the following?
a) Current it carries

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HEALTH & SAFETY ANSWERS

1. A) Rubber gloves and safety glasses
2. C) Refer to the manufacturer's instructions
3. B) To prevent electric shock
4. C) Report it to a supervisor
5. A) Only qualified persons can undertake electrical work
6. C) Wear a metal watch or bracelet
7. B) Every six months
8. B) Falling objects
9. D) Water
10. B) Isolate the system and prove dead
11. C) Disconnect the electricity, if it's safe to do so
12. C) Hearing loss
13. B) Ingress Protection
14. C) Both the employer and the employee

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HEALTH & SAFETY ANSWERS

3. BS 7671
4. IET Guidance
12. Codes of Practices

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MIX & MATCH ANSWERS

A. RCDs (Residual Current Devices)
B. Electrical Resistance
C. Capacitors
D. Conduit
E. Transformer
F. Three-phase Systems
G. Electrical Induction
H. Motor Control Circuit
I. Power Factor