Licensed Electrician's Theory (LET) Assessment

Sample Paper January 2026

Candidate Surname:	
Candidate Given Names:	

Instructions

- Mobile phone and smart devices are to be switched off, placed in the location designated by the assessor and not used.
- Personal notepads and paper are not permitted.
- Permanent ink pens only must be used. Answers in pencil and/or erasable pens may not be marked.
- Do not remove any sheets from this assessment paper or the room.
- Papers with no name or signature will not be marked.
- Units and table numbers (where required) must be shown to obtain full marks.
- Reference material listed on the following page. Do not mark, fold, or write on the reference material.
- The assessment may be audio/visually recorded for safety and integrity purposes.
- Speak to the assessor if you require assistance or have a query.

Working Time: 2 hours and 15 minutes (including reading time)
At the end of this time you will be asked to stop.

Results

Candidates need to obtain 75% or more to pass this assessment. If a mark of 74% or less is achieved, a minimum of 14 days is required before you are permitted to re attempt the assessment.

I, the above-named candidate confirm:

- I understand the instructions provided to me,
- I do not have any unauthorised materials in my possession, and
- I have not attempted the Licensed Electrician's Theory Assessment at any venue within the past 14 days.

Candidate			
	Print name	Signature	Date

Reference Material

- Electrical Safety (General) Regulations 2019
- AS/NZS 3000:2018 Electrical installations – Wiring Rules
- AS/NZS 3012:2019 Electrical installations – Construction and demolition sites
- AS/NZS 3008.1.1:2017 Electrical installations – Selection of cables, Part 1.1: Cables for alternating voltages up to and including 0.6/1 kV - Typical Australian installation conditions
- AS/NZS 4836:2023 Safe working on or near low-voltage and extra-low voltage electrical installations and equipment.

Marking

Assessors to enter the candidate's results in the table below.

Question	1	2	3	4	5	6	7	8	9
Mark									
Question	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**
Mark									

Total

Final Percentage	Pass/Fail

I have conducted this assessment and certify that I am independent of the candidate.

Supervisor			
	Print name	Signature	Date
Assessor			
	Print name	Signature	Date
Reviewed by (If applicable)			
	Print name	Signature	Date

AS/NZS 3000:2018 Electrical installations – Wiring Rules

In the following **four** Wiring Rules questions, you are required to:

- Answer the question; and
- Write the Clause number and/or Table number in the space provided. The complete Clause and Sub-Clause number must be given e.g., 3.5.2(b)(i).

The correct answer to both parts must be given to obtain full marks.

Question 1. What is the minimum number of strands allowable in a copper aerial wiring conductor?

.....

.....

Clause Number: ..... [2 + 2 = 4 marks]

Question 2. A switching device that is installed to control a hard wired deep fat fryer must operate in which conductors?

.....

.....

Clause Number: ..... [2 + 2 = 4 marks]

Question 3. Multicore cables that are to be installed in parallel shall not be less than what size?

.....

.....

Clause Number: ..... [2 + 2 = 4 marks]

Question 4. When drilling holes in frames to install wiring systems, the positioning and size of the hole shall not reduce the structural strength of the frame below the level required by what standard?

.....

.....

Clause Number: ..... [2 + 2 = 4 marks]

AS/NZS 3012:2019 Electrical installations - Construction and demolition sites

In the following **two** AS/NZS 3012:2019 questions, you are required to:

- Answer the question; and
- Write the Clause number and/or Table number in the space provided. The complete Clause number and Sub-Clause number must be given e.g., 2.10.2 (f).

The correct answer to both parts must be given to obtain full marks.

Question 5. Complete the following sentence.

Switchboards shall be securely attached to a pole, post, wall, floor or other structure of a stable, freestanding design that takes into account _____

Clause Number: _____ [2 + 2 = 4 marks]

Question 6. Is it permissible to install a non-insulated aerial conductor on a construction site?

Clause Number: _____ [2 + 2 = 4 marks]

Electricity Safety (General) Regulations 2019

In the following Regulation question, you are required to:

- Answer the question; and
- Write the Regulation number in the space provided. The compete Regulation number and Sub-Regulation number must be given e.g., 401(e)(3).

The correct answer to both parts must be given to obtain full marks.

Question 7. Is it permissible to support a low voltage conductor (other than a low voltage insulated conductor) along the facade of a building?

Regulation Number: _____ [2 + 2 = 4 marks]

Electric Shock Survival

Question 8.

State **TWO** of the three factors that affect the severity of an electric shock on the human body.

.....

.....

[2 + 2 = 4 marks]

Cable Selection

Question 9.

THREE groups of three-core X-90 insulated and sheathed copper cables, including earthing conductors, are connected in parallel to supply a three-phase distribution board with a total maximum demand of 480A. The cables are protected by a circuit breaker and each conductor is installed buried direct in the ground, spaced apart at 0.3 metres, at a depth of 1.25 meters.

(i) Neglecting voltage drop, what is the minimum cable size that can be installed for this circuit?

(ii) If the cables were buried at a depth of 2 meters, what is the minimum cable size that can be installed for this circuit?

All calculations including the final answer must be completed to a maximum of **two decimal places.**

Table details and units must be shown below to obtain full marks. Part (ii) is over the page.

Part (i)

	Answer		Answer		
Table 3 (_____?)		Item			
Table		Column			Answer
Derate/rating table		Column		Factor	
Derate/rating table		Column		Factor	

Calculation:

Part (i) Answer:	

Question 9 Part (ii)

	Answer		Answer		Answer
Derate/rating table		Column		Factor	

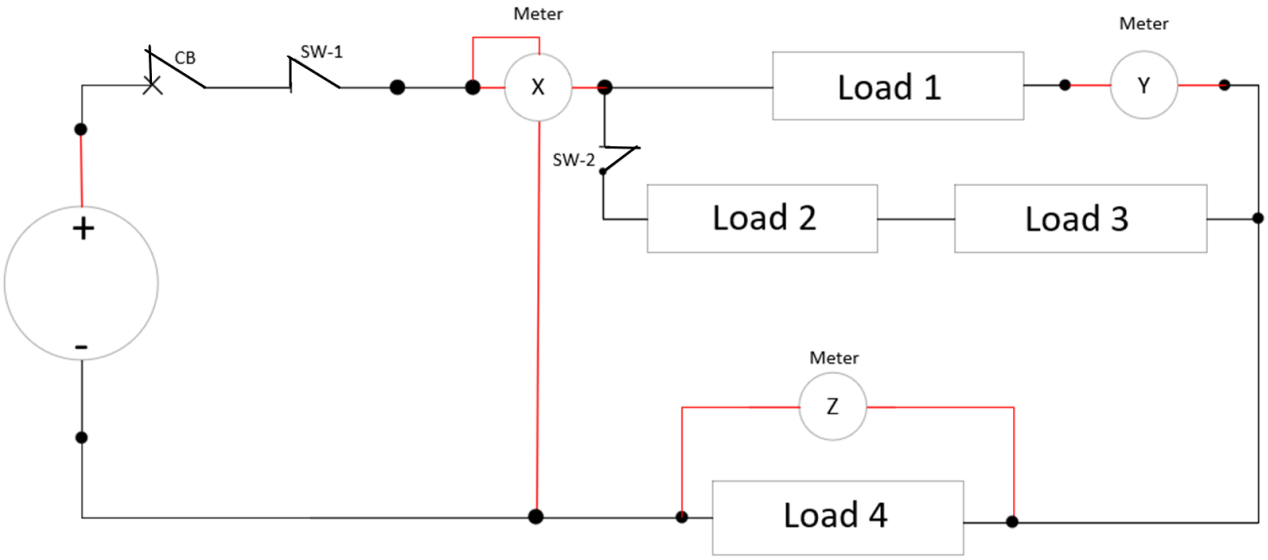
Calculation:

Part (ii) Answer:	

[1 + 2 + 1 + 1 + 2 + 1 = 8 marks]

Ohms Law

Question 10.



For the circuit shown above, you have taken some measurements with **switch one and two closed** and recorded the following:

- Supply Voltage – 400V
- Total current – 4A
- Voltage Load 4 – 300V
- Resistance of load 2 – 40Ω
- Resistance of load 3 – 10Ω

Using these measurements, calculate the meter readings with **switch 1 and 2 closed**:

(i) meter X

(ii) meter Y

Using these measurements, calculate the reading for the following when **switch 1 is open**:

(iii) meter Z

All calculations including the final answer must be completed to a maximum of **two decimal places.**

Calculation:

(i) Meter X:		(ii) Meter Y:		(iii) Meter Z:	

[2 + 2 + 2 = 6 marks]

Maximum Demand

Question 11.

Calculate the Maximum Demand of the consumer's mains of a single phase 230V non-airconditioned shop.

The load connected to the switchboard is:

- 2 - 6kW Electric vehicle chargers
- 1 - 4.5kW Oven
- 18 - 12W LED downlights
- 1 - 15A socket outlet
- 4 - 10A double socket outlets

All calculations including the final answer must be completed to a maximum of **two decimal places.**

All relevant table details, including table, column and load groups used.
Calculations and units must be shown to obtain full marks.

Table	Column

Equipment	Load Group	Calculation	Maximum Demand
		Total Maximum Demand:	

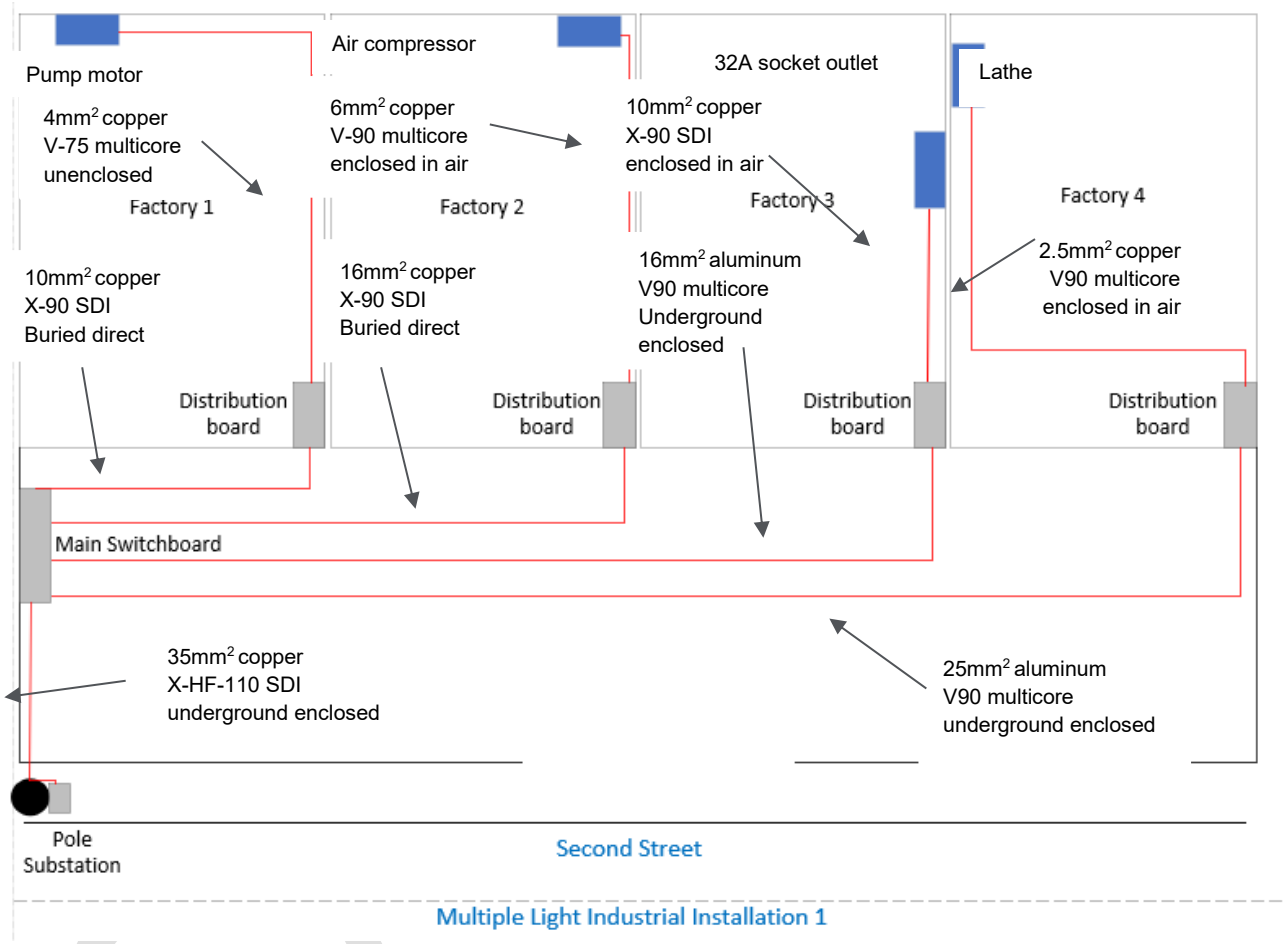
[1+ 1 + 1 + 1 + 1 + 2 + 1 = 8 marks]

Voltage Drop

Question 12.

In a 400/230V, three-phase factory installation, a three-phase 22A air compressor is supplied from a sub-circuit originating at a distribution board in factory 2. The air compressor is installed 25 meters away from the distribution board.

A site plan of the three-phase domestic installation is shown below, all the circuits are operating under normal conditions.



Client: Darren Wall	**Location**	**Cable**	**Distance**	**Maximum Demand**	**Voltage**
Drawing title: Site plan	Main Switchboard	Consumer Mains	11m	130A	400/230V
Date: 5 November 2024	Factory 1 Distribution board	Sub Mains	14m	57A	400/230V
Location: 65 Imagine St, Carlton	Factory 2 Distribution board	Sub Mains	22m	48A	400/230V
	Factory 3 Distribution board	Sub Mains	34m	60A	400/230V
	Factory 4 Distribution board	Sub Mains	50m	55A	400/230V

Using the information provided above, calculate the total voltage drop from the point of supply to the air compressor terminals.

All calculations including the final answer must be completed to a maximum of **two decimal places.**

All relevant table details, calculations and units must be shown to obtain full marks.

Cable	Table	Column	Vc	Calculation	Vd
Consumer's Mains					
Sub-Mains					
Final Sub-Circuit					

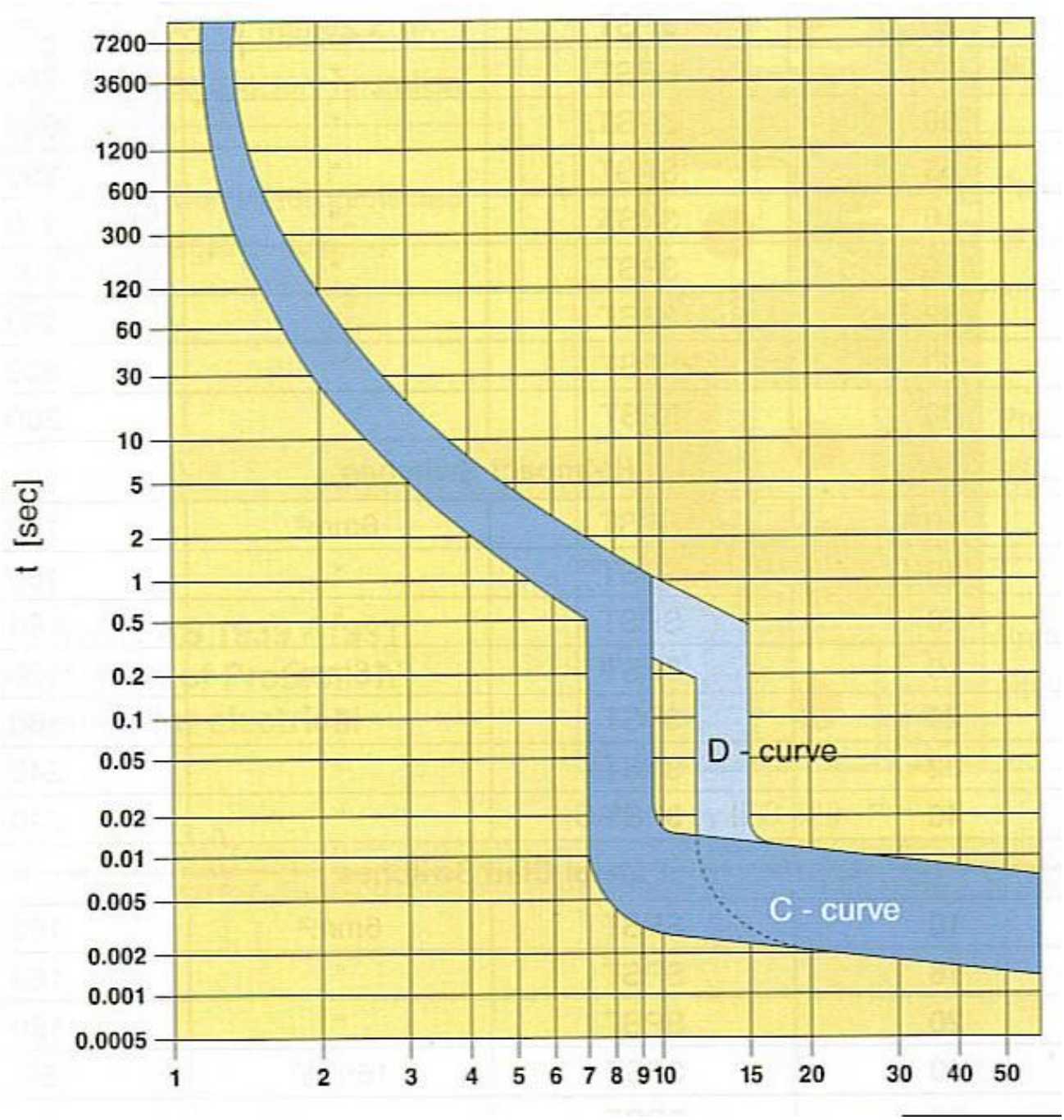
Answer Total Voltage Drop:	

[1+1+1+1+1+1+1+1+1+1 = 10 marks]

Overload and Short Circuit Calculations

Question 13.

What are the minimum and maximum tripping times for a 50A Type C miniature over-current circuit breaker which is subjected to an over-current of 100A?



Overcurrent divided by MCB Current Rating

Overcurrent divided by MCB current rating:			
Minimum Time:		**Maximum Time:**	

[1 + 1 + 1 = 3 marks]

Overload and Short Circuit Calculations

Question 14.

The main switchboard of a 400/230V industrial installation is directly supplied from a 700KVA transformer which has a prospective fault current of 20,000A per phase.

Sub-Mains supply a distribution board from the main switchboard.

The following information is known:

- Impedance of the Consumer's Mains = 0.00534Ω
- Impedance of the Sub-Mains cables = 0.08191Ω

Determine the prospective fault current at:

(i) The main switchboard.
(ii) The distribution board.

Work impedances to 5 decimal places.

All calculations must be shown to obtain full marks.

Calculation:

Transformer Impedance:	
Main Switchboard:	
Distribution Board:	

[(2+1) + (2+1) + (2+1) = 9 marks]

Residual Current Devices

Question 15

A 30mA Residual Current Device (RCD) is to be installed to protect three (3) circuits of 10A socket outlets with a total maximum demand of 22A.

Each circuit is protected by a 16A circuit breaker.

State the minimum current rating of the Residual Current Device.

Answer	

[3 marks]

Motors and Starters

Question 16.

CIRCLE the letter in front of the correct statement below.

If a three-phase induction motor loses one phase of its supply, the motor will

a) have a starting torque of 58% of DOL rating.
b) run in reverse.
c) run at 66% of rated rpm.
d) lose starting torque and will not start if loaded.

[2 marks]

AS/NZS 4836:2023 Safe working on or near low-voltage and extra-low voltage electrical installations and equipment

Question 17.

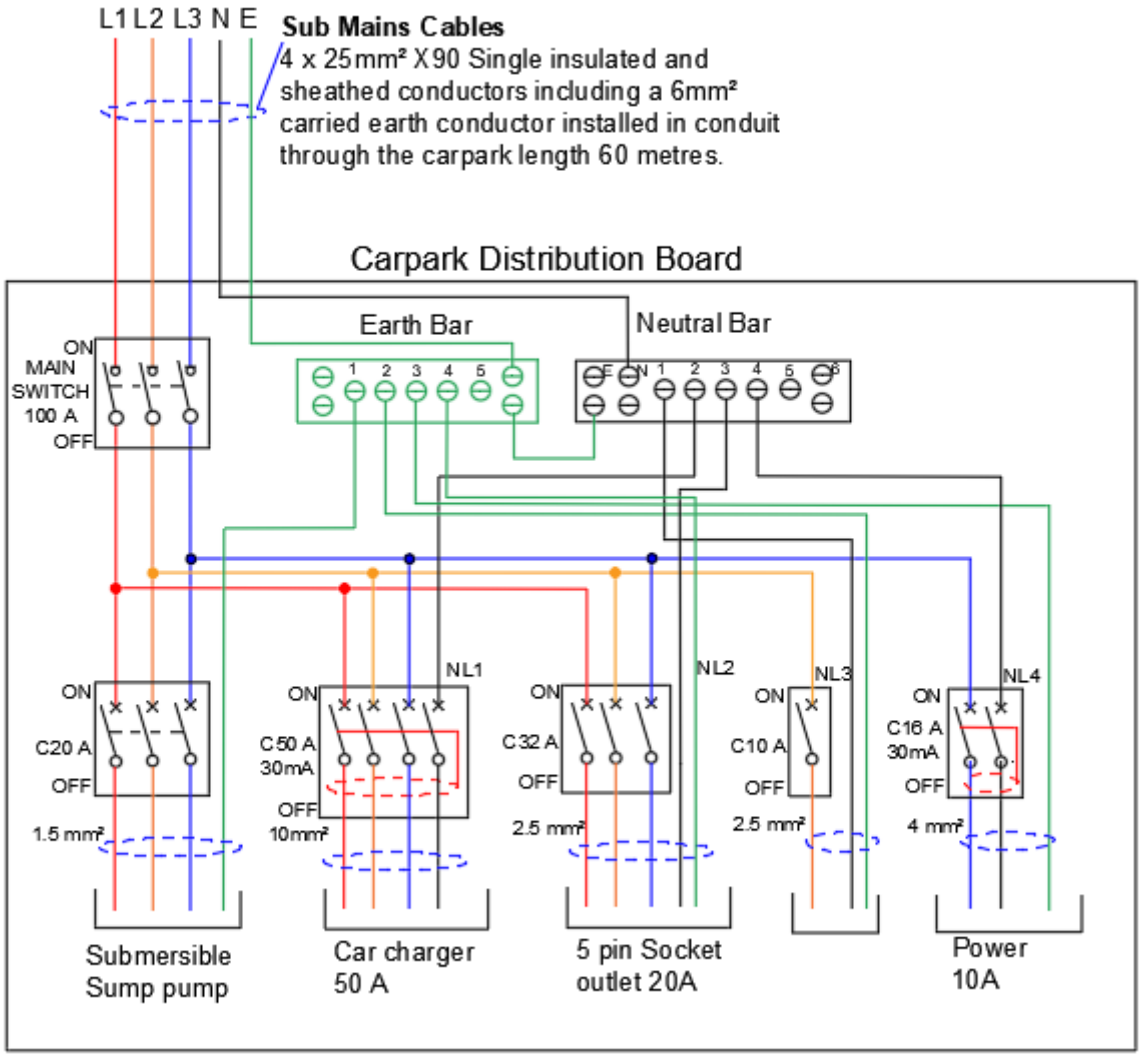
This question relates to AS/NZS 4836:2023.

Under what condition may a competent person remove a warning or out of service tag from a circuit supplying electrical equipment?

Clause Number: ---------- [2 + 2 = 4 marks]

Installation Defects - Non-Domestic

Question 18.



The drawing above shows a distribution board for the public light and power in a two-level carpark of a primary school.

The submains length and installation conditions are within Volt drop limits calculated by the designer. The MEN is located at the main switchboard, and the submains are protected by a 100A Circuit Breaker at the main Switch board.

The distribution board is located in a storeroom accessible from the car park in the car park that provides 750mm clearance between the face of the switchboard and the opposite wall. Access is blocked by another storage cupboard in the storeroom.

The stormwater submersible pump has a full load current of 26.7A. It is not a safety service, however, is a critical piece of equipment to ensure the car park does not flood when raining.

All screws in bars or links are 50% of the tunnel diameter.

Complete the table below, using the diagram and information supplied on the previous page.

List **FIVE different defects** together with the contravened Wiring Rules Clause/Table number in the table provided below.

Note: Only the first five defects will be considered.

DEFECT DETAILS	WIRING RULE CLAUSE/TABLE No.

[5 x (2 + 1) = 15 marks]