

Electrical Switchgear Worker's Licence (ESWL) Theory Assessment Sample Paper 2025

Candidate Surname	
Candidate Given Names	

Reference Material

- AS/NZS 3000:2018 Electrical installations – Wiring Rules
- AS/NZS 4836:2023 Safe working on or near low-voltage and extra-low voltage electrical installations and equipment
- AS/NZS 61439.1 Low-voltage switchgear and controlgear assemblies. General rules
- AS/NZS 61439.2 Low-voltage switchgear and controlgear assemblies. Power switchgear and controlgear assemblies
- AS/NZS 3439:1 Low-voltage switchgear and controlgear, Part 1: Type-tested and partially type-tested assemblies

Instructions

- Personal notepads and paper are not permitted.
- Permanent pens only must be used. Answers in pencil 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 must be shown to obtain full marks.

Working Time: 2 hours and 15 minutes

At the end of this time you will be asked to stop.

Results

You must 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.
- I have not attempted the Electrical Switchgear Worker's Licence Theory Assessment at any venue within the past 14 days.

Candidate	<input type="text"/>	<input type="text"/>	<input type="text"/>
	Print name	Signature	Date

Marking

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

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
Mark																			
Question	19	20	21	22	23	24	25	26	27	28	Total								
Mark																			

Final Percentage	Pass/Fail

Supervisor	<input type="text"/>	<input type="text"/>	<input type="text"/>
	Print name	Signature	Date
Assessor	<input type="text"/>	<input type="text"/>	<input type="text"/>
	Print name	Signature	Date
Reviewed by (If applicable)	<input type="text"/>	<input type="text"/>	<input type="text"/>
	Print name	Signature	Date

AS/NZS 3439.1 Low-voltage switchgear and controlgear Part 1: Type-tested and partially type-tested assemblies

In the following **two** AS/NZS 3439.1 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., 3.5.2(b)(i).

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

Question 1. State one of the stresses that materials used for insulation of live parts must be capable of durably withstanding.

.....
.....

Clause Number: [2 + 2 = 4 marks]

Question 2. What is the AC peak and DC test voltage required across the open contacts of equipment suitable for isolation where the rated impulse voltage is 6 kV at an altitude of 2000m?

.....
.....

Table Number: [2 + 2 = 4 marks]

AS/NZS 61439.2 Low-voltage switchgear and controlgear assemblies Power switchgear and controlgear assemblies

In the following AS/NZS 61439.2 question, 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., 3.5.2(b)(i).

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

Question 3. In the absence of an agreement between the assembly manufacturer and user concerning the actual load currents, what is the assumed loading of a distribution assembly that supplies the following circuits?

(Show calculations)

- Two 40A circuits
- One 50A circuit
- Three 20A circuits
- One 63A circuit
- One 125A circuit

.....
.....
.....

Table Number: [2 + 2 = 4 marks]

AS/NZS 61439.1 Low-voltage switchgear and controlgear assemblies General rules

In the following **eleven** AS/NZS 6439.1 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., 3.5.2(b)(i).

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

Question 4. What is the minimum terminal capacity for a protective earthing conductor if the corresponding phase conductors are 500mm²?

.....
.....

Table Number: [2 + 2 = 4 marks]

Question 5. Complete the following sentence:

An overvoltage at power frequency of relatively long duration is known as a:

.....
.....

Clause Number: [2 + 2 = 4 marks]

Question 6. Complete the following sentence:

When conducting an alternative power-frequency voltage test, the test voltage shall have a substantially sinusoidal waveform and a frequency between and

.....
.....

Clause Number: [2 + 2 = 4 marks]

Question 7. Complete the following sentence:

Protection against corrosion shall be ensured by the use of suitable materials or by to the exposed surface.

.....
.....

Clause Number: [2 + 2 = 4 marks]

Question 8. Complete the following sentence:

The effective earth continuity between the exposed conductive parts of the assembly and the protective circuit shall not exceed:

.....
.....

Clause Number: [2 + 2 = 4 marks]

Question 9. When testing power-frequency withstand voltage for main circuits, what is the minimum dielectric d.c. test voltage required for testing an assembly with a rated insulation voltage of 700 volts?

.....
.....

Table Number: [2 + 2 = 4 marks]

Question 10. Where protection is provided by electrical separation, the voltage of the electrically separated circuit shall not exceed:

.....
.....

Clause Number: [2 + 2 = 4 marks]

Question 11. The rated peak withstand current shall be equal to or higher than the values stated for the value of:

.....
.....

Clause Number: [2 + 2 = 4 marks]

Question 12. What is the temperature-rise limit for Accessible external enclosures and covers on a metal surface?

.....
.....

Table Number: [2 + 2 = 4 marks]

Question 13. Complete the following sentence:

An enclosed assembly, intended to be mounted on a vertical plane, is known as a:

.....
.....

Clause Number: [2 + 2 = 4 marks]

Question 14. When conducting the glow-wire test to verify the resistance of insulating materials to abnormal heat and fire, is the protective conductor (PE) considered a conductive part?

.....
.....

Clause Number: [2 + 2 = 4 marks]

AS/NZS 3000:2018 Electrical installations – Wiring Rules

In the following **eight** AS/NZS 3000:2018 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., 3.5.2(b)(i).

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

Question 15. Complete the following sentence:

Overcurrent protective devices provided on circuits supplying fire-pump motors shall be rated, or in the case of circuit breakers set to carry _____ of the full-load motor current continuously.

.....
.....

Clause Number: [2 + 2 = 4 marks]

Question 16. Complete the following sentence:

Switchboards shall be provided with sufficient exit paths to enable a person to:

.....
.....

Clause Number: [2 + 2 = 4 marks]

Question 17. Can a fuse or circuit-breaker be fixed on the back of a switchboard panel or escutcheon?

.....
.....

Clause Number: [2 + 2 = 4 marks]

Question 18. Where the opening of a main switch brings into operation or isolates an alternative supply, a notice shall be provided to indicate:

.....
.....

Clause Number: [2 + 2 = 4 marks]

Question 19. Where all circuit protection is being replaced in a domestic switchboard replacement, shall RCD protection be provided for all final subcircuits?

.....
.....

Clause Number: [2 + 2 = 4 marks]

Question 20. Terminals of bars, circuit-breakers, fuses and other electrical equipment mounted on a switchboard shall be marked or arranged to identify the corresponding:

.....
.....

Clause Number: [2 + 2 = 4 marks]

Question 21. Is it permissible to install a switchboard in a location within zone 3 of baths, showers and other fixed water containers?

.....
.....

Clause Number: [2 + 2 = 4 marks]

Question 22. Complete the following sentence:

Main switches shall be selected such that a fault on one safety service will not result in:

.....
.....

Clause Number: [2 + 2 = 4 marks]

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

In the following **five** AS/NZS 4836:2023 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., 3.5.2(b)(i).

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

Question 23. State one of the three components that shall be positively identified as part of the isolation process.

.....
.....

Clause Number: [2 + 2 = 4 marks]

Question 24. Monitoring and review should take place at which stage of the risk management process?

.....
.....

Clause Number: [2 + 2 = 4 marks]

Question 25. When fixing a danger tag to an isolation device, is it permissible to use PVC tape to secure the tag?

.....
.....

Clause Number: [2 + 2 = 4 marks]

Question 26. Complete the following sentence:

If any person is required to work within _____ of energized exposed conductors or parts, a competent person shall identify appropriate risk treatments.

.....
.....

Clause Number: [2 + 2 = 4 marks]

Question 27. Complete the following sentence:

Where the work risk assessment identifies the need for temporary bonding, the conductors shall be bonded together and connected to:

.....
.....

Clause Number: [2 + 2 = 4 marks]



SAMPLE

Prospective Short Circuit Calculations

Question 28.

The main switchboard of a 400/230V industrial installation is directly supplied from a 500KVA transformer which has a prospective fault current of 24,500A per phase.

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

The following information is known:

Impedance of the Consumer's Mains = 0.0019Ω

Impedance of the Sub-Mains cables = 0.0116Ω

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]