Licensed Electrician's Theory (LET) Assessment Marking Guide

Sample Paper 2025

AS/NZS 3000:2018 Electrical installations – Wiring Rules

Question 1

No (2 marks)

Clause 4.4.4.2 (2 marks)

Question 2

Yes (2 marks)

Clause 5.4.6.1 (2 marks)

Question 3

the highest voltage likely to occur in normal operation (2 marks)

Clause 2.7.3 (b) (2 marks)

Question 4

Yes (2 marks)

Clause 4.6 (2 marks)

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

Question 5

A qualified person (2 marks)

Clause 3.3.2 (2 marks)

Question 6

No (2 marks)

Clause 2.6.12 (2 marks)

Electrical Safety (General) Regulations 2019

Question 7

Yes (2 marks)

Regulation 249 (1) (c) (2 marks)

Electrical Shock Survival

Question 8

Look, listen and feel. (2 marks)

When the patient is unresponsive and not breathing normally. (2 marks)

Cable Selection

Question 9

Part (i)

Table 3(3) Item 4 (1 mark - item number is optional do not deduct marks)
Table 14 Col 23 (2 marks)
Table 25(2) Col 6 Derating for Distance 3 circuits = 0.9 (1 mark)
Table 28(1) Col 2 Derating for Depth 0.8m = 0.97

3 cables in parallel 450 / 3 = 150A per cable
35mm2 = 172A
172 x 0.9 x 0.97 = 150.16A
Answer 50mm2

Part (ii)
Table 25(2) Col 3 Derating for spacing of 0.15 m = 0.78

50mm^2 = 204A
204 x 0.78 x 0.97 = 154.35A
Answer = 50mm^2 (1 mark for all)

Deduct 1 mark for no or incorrect units.

Ohms Law

Question 10

Meter X = 160W (2 marks)

Meter Y = 0.67A (2 marks)

Meter Z = 60.15Ω (2 marks)

Deduct 1 mark for no or incorrect units.

Maximum Demand

Question 11

Table C2 Column 2 (1 mark)

1 - 4.5kW Instantaneous hot water service
1 - 4kW Oven
40 - 10W LED lighting points
2 - 15A socket outlets
5 - 10A double socket outlets

School

Table C2 Column 3

Equipment	Load Group	Calculation	Maximum Demand
1 – 4.5kW Instantaneous hot water service	(c)(i)	Full connected load 21.74A 4500/230 = 19.56A	19.57A (1 mark)
1 – 4kW Oven	(c)(i)	75% connected load 4000/230 x 75% = 13.04A	13.04A (1 mark)
40 – 10W LED lighting points	(a)	Full connected load 400/230 = 1.74A	1.74A (1 mark)
2 – 15A socket outlets	(b)(iii)	Full current rating of highest rated 75% of FLC of remainder 15 + (15 x 0.75) = 26.25A	26.25A (2 mark)
5 – 10A double socket outlets **10 Points total**	(b)(i)	1000W + (750 x 9) = 7750 7750/230 = 33.70A	33.70A (1 mark)
		Total Maximum Demand	94.30A (1 mark)

Deduct 1 mark for no or incorrect units on total. Deduct 1 mark for no or incorrect load groups.

Voltage Drop

Question 12

Consumer's Mains

Table 41 Column 10 (1 mark)

Vc 1.25 (1 mark)

Vd = 130 x 11 x 1.25/1000

Vd 1.79V (1 mark)

Sub-mains

Table 45 Column 6 (1 mark)

Vc 2.54 (1 mark)

Vd = 50 x 55 x 2.54/1000

Vd 6.99V (1 mark)

Final Sub-circuit

Table 42 Column 6 (1 mark)

Vc 15.6 (1 mark)

Vd = 19 x 35 x 15.6/1000

Vd 10.37V (1 mark)

Total Voltage Drop = 1.79 + 6.99 + 10.37 = 19.15 V (1 mark)

Deduct 1 mark for no or incorrect units on total. Deduct 1 mark for no or incorrect table number/s.

Overload and Short Circuit Calculations

Question 13

Overcurrent divided by MCB current rating = 4 (1 mark)

Minimum Time = Accept 2 – 2.2 seconds (1 mark)

Maximum Time = Accept 7 - 9 seconds (1 mark)

Deduct 1 mark for no or incorrect time unit.

Question 14

Transformer impedance

230/22000 (2 marks)

0.01045Ω (1 mark) Answer must be to **5 decimal places.**

Main switchboard prospective fault

230/ (0.01045 +0.0019) (2 marks)

18,623A (1 mark)

Distribution board prospective fault

230/ (0.01045 +0.0019+ 0.0087) (2 marks)

10,926A (1 mark)

Deduct 1 mark for no or incorrect units in final answer.

Residual Current Devices

Question 15

24A (2 marks)

Motor and Starters

Question 16

B (2 marks)

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

Question 17

Before and after each use. (2 marks)

Clause number: 8.5.2 (2 marks)

Installation Defects – Non-Domestic

Question 18

2 marks for correct defect, 1 mark for the correct clause.

Only some of the defects have been listed below, there are more than 10 defects in the diagram. All correct defects and clauses will be awarded marks.

Only accept the first 5 defects a candidate has listed.

1. Consumer's mains not installed in a manner that can maintain supply if exposed to fire - 7.2.2.1
2. No short circuit protection has been provided at the origin of the consumer's mains - 2.5.1.2 (b)
3. Main Earthing conductor is not provided with insulation - 5.3.2.4
4. The telecommunications earthing conductor is undersized, - 5.6.2.7 (iv)
5. Overcurrent protective device is not rated to carry 125% of the full load current of the fire pump - 7.2.5.6.2 (b) (i)
6. Distribution isolator not marked 'ON' or 'OFF' 2.3.2.2.1 (c)
7. The cable to the distribution board is undersized - 3.4.1
8. Main switch distribution board not labelled 'Main Switch' - 2.3.3.5(a)
9. Main switch fire pump not labelled 'IN THE EVENT OF FIRE DO NOT SWITCH OFF' - 7.2.4.4(b)
10. Strip earth electrode not at minimum horizontal length - 5.3.6.3(i)