Licensed Electrician's Theory (LET) Assessment Marking Guide

Sample Paper January 2026

AS/NZS 3000:2018 Electrical installations – Wiring Rules

Question 1

7 [2 marks]

Clause 3.12.2.2 (a) [2 marks]

Question 2

All active conductors. [2 marks]

Clause 4.7.1 [2 marks]

Question 3

4mm^2. [2 marks)

Clause 3.4.3 (a) [2 marks]

Question 4

National Building Codes. [2 marks]

Clause 3.9.3.1 [2 marks]

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

Question 5

Any external forces that may be exerted on the switchboard. [2 marks]

Clause 2.3.3 [2 marks]

Question 6

No. [2 marks]

Clause 2.5.7 [2 marks]

Electrical Safety (General) Regulations 2019

Question 7

No. [2 marks]

Regulation 239 (1) (a) [2 marks]

Electrical Shock Survival

Question 8

State any two of the following:

1. Duration of the shock (accept 'duration, time, etc),
2. Pathway through the body (accept 'pathway, path, etc),
3. Amount of current.

[2 + 2 = 4 marks]

Cable Selection

Question 9

Part (i)

	Answer		Answer			Mark(s)
Table 3 (___?)	3	**Item**	4			1
Table	14	**Column**	23		**Answer**	2
De/rating table: Spacing	25(2)	**Column**	4	**Factor**	0.84	1
De/rating table: Depth	28(1)	**Column**	2	**Factor**	0.94	1
Calculations: 3 cables in parallel 480 / 3 = 160 per cable 50mm^2 = 204A 204 x 0.84 x 0.94 = 161.08A maximum demand 161.08A x 3 = 483.23A						
Answer: 50mm^2						2

Part (ii)

	Answer		Answer		Answer	Mark(s)
De/rating table: Depth	28(1)	**Column**	2	**Factor**	0.87	
Calculations: 3 cables in parallel 480 / 3 = 160 per cable 70mm^2 = 251A 251 x 0.84 x 0.87 = 183.43A maximum demand 183.43 x 3 = 550.29A						
Answer: 70mm^2						1

Deduct 1 mark for no or incorrect units.

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

Ohms Law

Question 10

(i) Meter X = 1600W [2 marks]

(ii) Meter Y = 2A [2 marks]

(iii) Meter Z = 75Ω [2 marks]

Deduct 1 mark for no or incorrect units.

[2 + 2 + 2 = 6 marks]

Maximum Demand

Question 11

Table C2 Column 3

2 - 6kW electric vehicle charger

1 – 4.5kW Oven

18 - 12W LED downlights

1 - 15A socket outlet

4 - 10A double socket outlets

Single domestic

Table C2 Column 3 **[1 mark]**

Equipment	Load Group	Calculation	Maximum Demand
2 – 6kW electric vehicle chargers	(c) (ii)	Full connected load if highest rated + 75% of remainder (6000+(6000x0.75))/230 = 45.65A	45.65A **[2 mark]**
1 – 4.5kW oven	(c) (i)	Full connected load 4500/230 = 19.57A	19.57A **[1 mark]**
18 – 12W LED downlights	(a)	Full connected load (18x12)/230 = 0.94	0.94A **[1 mark]**
1 – 15A socket outlet	(b)(iii)	Full current rating of highest rated socket outlet 15 A	15A **[1 mark]**
4 – 10A double socket outlets	(b)(i)	1000W for first outlet + 750W for each additional outlet (1000+(750x7))/230 =	27.17A **[1 mark]**
		Total Maximum Demand	108.33A **[1 mark]**

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

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

Voltage Drop

Question 12

Cable	Table	Column	Vc	Calculation	Vd
Consumer's Mains	T 41	Col 10	1.25 **[1 mark]**	$Vd = \frac{11\ x\ 130\ x\ 1.25}{1000}$	1.79V **[1 mark]**
	[1 mark]				
Sub-Mains	T 41	Col 8	2.55 **[1 mark]**	$Vd = \frac{22\ x\ 48\ x\ 2.55}{1000}$	2.69V **[1 mark]**
	[1 mark]				
Final Sub-Circuit	T 42	Col 6	6.49 **[1 mark]**	$Vd = \frac{25\ x\ 22\ x\ 6.49}{1000}$	3.57V **[1 mark]**
	[1 mark]				
Answer Total Voltage Drop			1.79 + 2.69 + 3.57		8.05V **[1 mark]**

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

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

Overload and Short Circuit Calculations

Question 13

Overcurrent divided by MCB current rating:	2 **[1 mark]**		
Minimum Time:	Accept 22 – 27 seconds **[1 mark]**	**Maximum Time:**	110 – 120 seconds **[1 mark]**

Deduct 1 mark for no or incorrect time unit.

[1 + 1 + 1 = 3 marks]

Question 14

	Calculation	Answer
Transformer Impedance:	230 / 20000 **[2 mark]**	**0.01150Ω **[1 mark]**
Main switchboard:	230 / (0.0115 +0.00534) **[2 mark]**	13,658A **[1 mark]**
Distribution Board:	230 / (0.0115 +0.00534+ 0.08191) **[2 mark]**	2329A **[1 mark]**

**Answer should be to 5 decimal places, if the final number is zero, then 4 places is acceptable. 0.0115

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

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

Residual Current Devices

Question 15

22A [3 marks]

Motor and Starters

Question 16

d 9 [2 marks]

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

Question 17

After they have been provided evidence that the plant or equipment is safe to operate. [2 marks]

Clause number: 3.1.4.3.4 [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) Isolating switch labelled Main Switch not Isolating Switch 2.3.4.4
2) The 10A CB not labelled to identify the equipment it is protecting 2.10.5.2
3) 10A circuit is not protected by an RCD 2.6.3.2.3.3
4) The sump pump conductor undersized cables Clause 3.4.1
5) Neutral and active cables are not arranged to identify the corresponding circuit in the terminal bar. 2.10.5.4
6) Access to switchboard is blocked by other equipment 2.10.2.2.1 (a)
7) Minimum distance of 1 meter from all faces of a closed switchboard is not provided. 2.10.2.2.1 (b) (i)
8) MEN located at Main Switchboard, MEN installed in Distribution board not required Clause 5.3.5.1
9) Car charger does not have an earth conductor installed Clause 5.4.1.1 (a)

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