

GRADE : III

SERIES : DECEMBER 2025



NATIONAL TRADE TEST

ELECTRICAL WIREMAN

PRACTICAL PAPER

TIME: 6 HOURS

INSTRUCTIONS TO CANDIDATES

Read the instructions on the question paper carefully before performing the tasks.

1. This paper consists of **ONE (1) PROJECT**. Perform **ALL** the tasks.
2. This paper together with the answer sheet **MUST** be handed back to the assessor at the end of the test.
3. All dimensions are in millimeters (mm).
4. **DO NOT MAKE ANY MARK(S) ON THE QUESTION PAPER.**
5. Carefully remove all the accessories and wiring circuits from the working board after the project has been marked and clean your working area.

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PROJECT		
Figure1 shows the layout of power and lighting final circuits to be wired in a heavy gauge PVC conduit wiring system such that; i. Switches S1 and S2 controls lamps L1 and L2 independently. ii. Socket outlets S/O₁ and S/O₂ are wired in a ring while S/O₃ is a spur.		
No	TASKS	MAX. MARKS
TASK 1	Draw the wiring diagram for the circuits.	(13 Marks)
TASK 2	Estimate materials required for the project	(6 Marks)
TASK 3	Arrange, install and wire the circuits to comply with the relevant regulation requirements.	(50 Marks)
TASK 4	Carry out the following installation tests in the presence of the assessor	
	Continuity of ring circuit.	(3 Mark)
	Polarity test.	(3 Mark)
TASK 5	Power the circuits to test for correct operation in the presence of the assessor.	(15 Mark)

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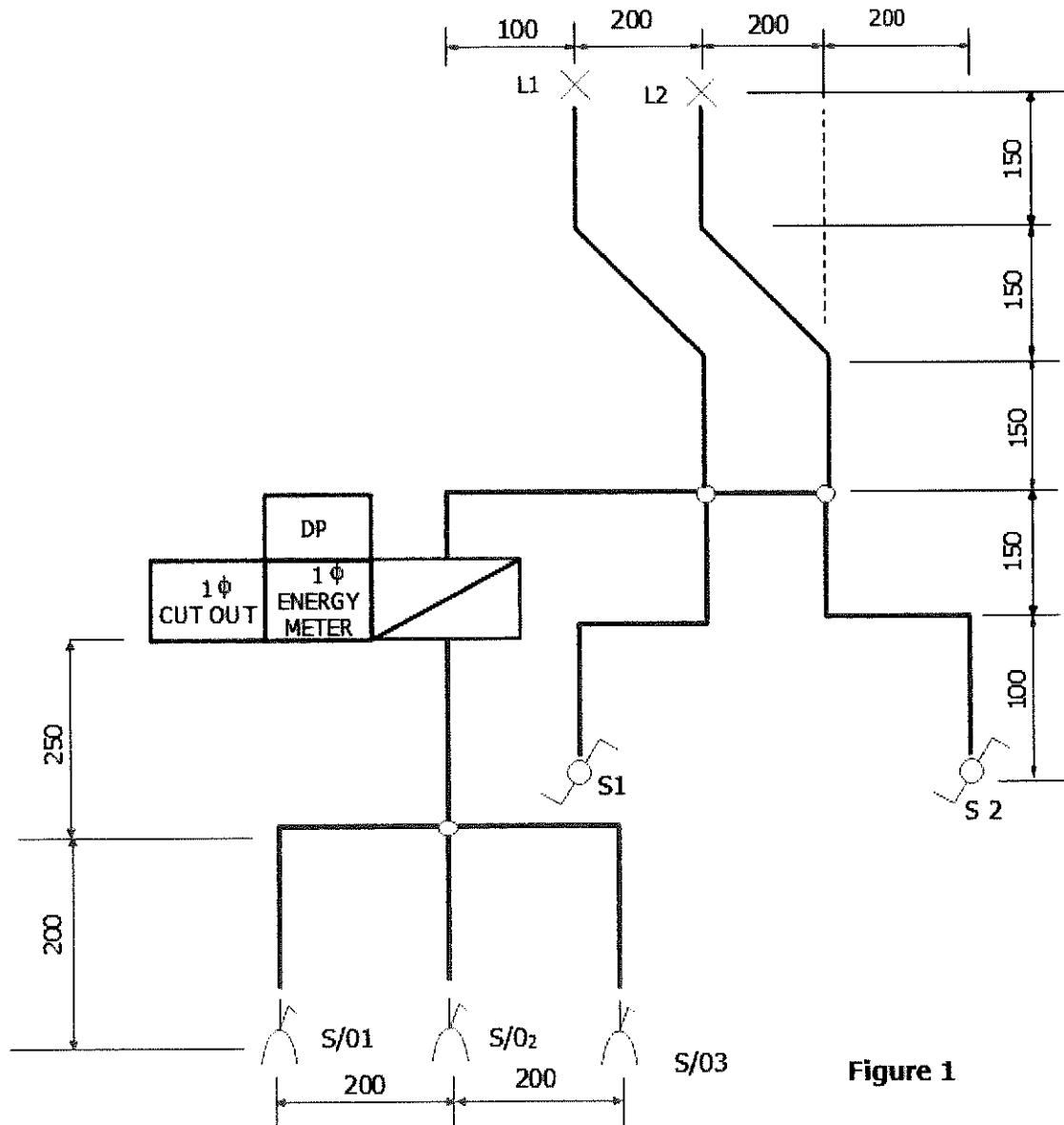


Figure 1

TRADE : ELECTRICAL WIREMAN
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 PAPER : PRACTICAL MARKING SCHEME

Name of Candidate.....T.T.No.

T.T.CentreName.....Centre Code.....

Name of Assessor.....Signature..... Date.....

NO.	AREA TO BE MARKED	MAX MARKS	AWARDED MARKS
	PROJECT 1		
No.	TASK 1		
1.	Correct wiring diagram:		
	a) Intake point	3	
	b) Lighting circuit	5	
	c) Power circuit - Ring	4	
	- Spur	1	
	Sub Total	13	
	TASK 2		
2.	Material estimate (Any 12 × ½)	6	
	Sub Total	6	
	TASK 3		
3.	Adherence to safety regulations.	2	
4.	Mounting of components		
	a) Leveling (Any 6 × ½)	3	
	b) Firmness (Any 6 × ½)	3	
5.	Dimensions ±5mm. (Any 8 × ½)	4	
6.	PVC conduit layout and fixing:		
	a) Horizontal (6 × ½)	3	
	b) Vertical (Any 6 × ½)	3	
	c) Uniform spacing of saddles.	3	
	d) Bends -90° (Any 6 × ½)	3	
	e) Bends -45° (4 × 1)	4	
	-Offsets (2×1)	2	
	f) Conduit terminations (Any 6 × ½)	3	

NO	AREAS TO EVALUATE	MAX MARKS	AWARDED MARKS
7.	Correct cable termination and connection (firm, folded and twisted) at:	3	
	a) Intake point (3x1)		
	b) Consumer control unit (2x1)	2	
	c) Switches (2x2)	4	
	d) Socket outlets -Ring (2x2)	4	
	-Spur (1x2)	2	
	e) Lamps (2x1)	2	
	Sub Total	50	
TASK 4			
8.	Performance of installation tests		
	a) Continuity of ring circuit.	3	
	b) Polarity test.	3	
	Sub Total	6	
TASK 5			
9.	Circuits operation		
	a) Intake point	3	
	b) Lighting circuit	6	
	d) Power circuit - Ring	3	
	- Spur	1	
10.	Dismantling the project and cleaning the working area	2	
	Sub total	15	
	PRACTICAL TOTAL	90	
	THEORY	10	
	GRAND TOTAL	100	

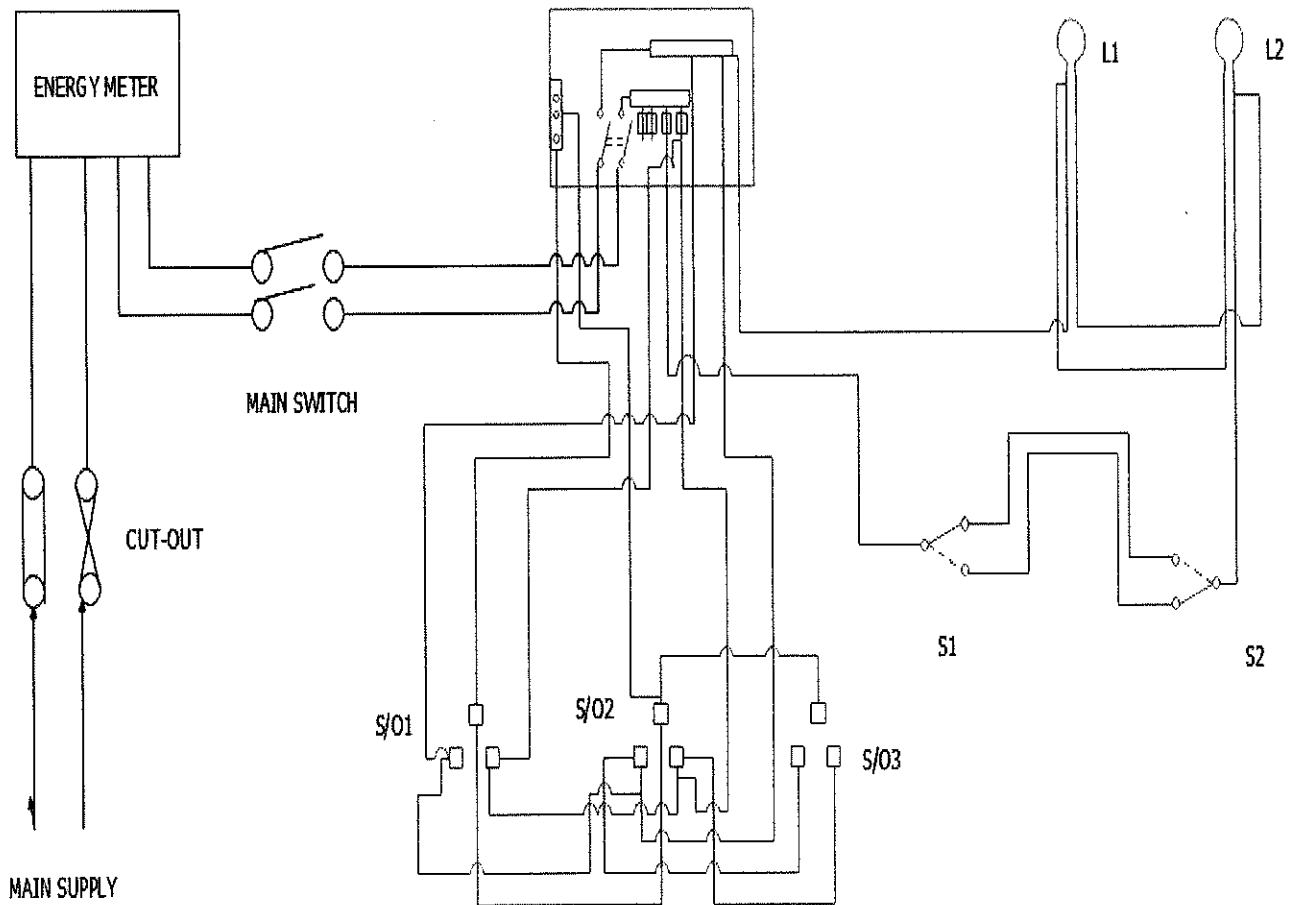
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PAPER : PRACTICAL SOLUTION.

WIRING DIAGRAM



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PAPER : PRACTICAL SOLUTION

MATERIALS ESTIMATE

NO	DESCRIPTION	UNIT	QUANTITY
1.	Four-way consumer's control unit complete	No.	1
2.	Single phase energy meter	No.	1
3.	Single phase cut-out	No.	1
4.	Double pole/Switch fuse	No.	1
5.	Single Switch boxes	No.	5
6.	20 mm PVC circular 3-way box	No.	1
7.	20 mm PVC circular 4-way box	No.	2
8.	20 mm PVC circular end box	No.	2
9.	13A switched sockets outlets.	No.	3
10.	Two-way one gang switch	No.	2
11.	20 mm PVC spacer bar and saddles	No.	11
12.	20 mm PVC male and female bushes.	No.	8
13.	Straight batten lamp holder, with a lamp	No.	2
14.	20 mm PVC heavy gauge conduit.	Length	1.5
15.	1.5 mm ² P.V.C insulated single core cables		
	a. Red	m	7.0
	b. black	m	3.0
16.	2.5 mm ² P.V.C. insulated single core cables	m	
	a. Red	m	3.0
	b. Black	m	3.0
	c. Green/yellow	m	3.0
17.	6.0 mm ² P.V.C. insulated single core cables		
	a. Red	m	3.0
	b. Black	m	0.5
	c. Green/yellow	m	3.0
18.	¾" Gypsum screws	No.	20

Any 12 items, correctly estimated (12 x ½ mark) = 6mark