

# Electrical installation

Learner name:

Learner ID:

Date:

We certify that the above named candidate has satisfied all of the performance and knowledge requirements of the NOS and that the evidence presented was valid, current and authentic

## ELTP/001 - Health & safety

R1 R2 R4

1.1	Identify & work to workplace H&S procedures	R			1
1.2	Produce a r/assess & meth statement	R			2
1.3	Work within the requirements of:				
	Risk assessments	R		R	4
ALL	Method statements	S		D	5
	Safe systems of work	R		D	6
2.1	Spot unsafe situations & take remedial action	D			7
2.2	Revise work practices vs hazards when handling:				
	Materials	D		D	9
ALL	Tools	D		D	10
	Equipment	R		D	11
2.3	Report high risk hazards to relevant persons	D			12
2.4	Control hazards in line with own responsibility	D			13
2.5	Select/use correct PPE & protection measures	R			14
3.1	Use safe personal conduct and behaviour	D			15
3.2	Safe & correct maintenance & storage of tools etc.	R			16
3.3	Comply with all hazard/warning notices	R			17
3.4	Ensure safety by use of guards and notices	R			18
3.5	Use access equipment correctly	R			19
4.1	Follow procedures in event of injury incl.				
	Reporting of incidents	R		D	21
ALL	Notification of emergency services	R		D	22
	Applying basic first aid procedures	R			23

## ELTP/002 - Environmental

R1 R2 R4

1.1	Use hazardous materials & products to the:				
	Environmental Protection Act	D			25
	The Hazardous Waste Regulations	D		D	26
	Pollution Prevention and Control Act	D			27
ALL	Control of Pollution Act	D			28
	Control of Noise at Work Regulations	D			29
	Packaging (Essential Requirements) Regs	D			30
	Environment Act	D			31
	The WEEE Regulations	D			32
1.2	Work to the Bldg Regs & Sustainable Homes	D			33
1.3	Report procedures for environmental hazards	D			34
2.1	Installation reduces material wastage	D			35
2.2	Use environmentally friendly materials etc.	D			36
3.1	Provide information on the following:				
	Solar photovoltaic	D		D	38
	Wind energy	D			39
	Micro hydro	D			40
ALL	Heat pumps	D			41
	Grey water recycling	D			42
	Rainwater harvesting	D			43
	Biomass heating	D			44
	Solar thermal hot water heating	D			45
	Combined heat and power incl micro CHP	D			46

## ELTP/003 - Overseeing work

R1 R2 R4

1.1	Who needs technical & functional information	R			47
1.2	Identify additional information required such as:				
	Health and safety information	D		D	49
ALL	Isolation procedures for products/equipment	D			50
	Contact details for further advice or help	R		D	51
1.3	Liaise to determine information required by people	D			52
1.4	Identify information required for the work activity	D			53
1.5	Provide information (timely, professionally)	D			54
2.1	Produce risk assessments and method statements	S			55
2.2	Work is to H&S legislation and industry standards	D			56
3.1	Co-ordinate work with other workers/contractors	P			57
3.2/5.2	Use clear, accurate & appropriate communication	D			58
4.1	Allocate operative duties and responsibilities	D			59
4.2	Monitor the work of operatives to ensure it meets:				
	The programme of work	S		D	61
ALL	Cost effectiveness	D			62
	Industry working practices	D			63
	Health and safety requirements	D		D	64
4.3	Procedure for non-compliance during work activities	D			65
5.1	Produce a programme of work including:				
ALL	Liaison with other trades where necessary	D			68
	Estimation of time required to complete the work	D			69
5.3	Know when to liaise with others to resolve issues	D			70
6.1	Demonstrate procedures to organise provision of:				
	Materials, tools and equipment/components	D			274
	Plant	D			275
	Measuring & test instruments	D			276
	Labour	D			277
6.2	Know procedures to confirm available materials are:				
	Of the right type and quantity	D			279
	Fit for purpose to allow cost effective working	D			280
6.3	Materials delivered on time and undamaged	D			281
6.4	Materials etc. stored effectively, safely and securely	R			282

## ELTP/005 - Terminate & connect

R1 R2 R4

1.1	Safe isolation of circuits/whole installations	R			139
1.2	Ensure the health and safety in terms of:				
	Selection and use of tools	P		D	141
	Personal protective equipment	R		D	142
ALL	Risk assessment	S			143
	Reporting of unsafe situations	D			144
	Adherence to relevant regulations	D		D	145
1.3	Check safety of systems & equipment in terms of:				
ALL	Presence of supply	R			147
	Mechanical soundness	R			148
2.1	Terminate and connect the following:				
	PVC/PVC flat profile cable (T/E)	W		O	150
	SWA cables (Any insulation type)	W		W	151
	Data cables	R		W	152
	Fibre optic cable				153
7	Fire resistant cable	P			154
	MICC and MICV	P			155
	Thermosetting insulated cables including flexes	W		P	156
	Braided armour flexible cables and cords (SY)				157
	Single & multicore (PVC) or thermosetting cables	P		P	158
2.2	Connect following types of electrical equipment:				
	Isolators and switches	D		P	160
	Socket-outlets	W		P	161
	Distribution-boards	W			162
	Consumer units	R			163
ALL	Luminaires	P		P	164
	Circuit breakers	P		P	165
	Earthing terminals			P	166
	Control panels	W		P	167
	Electric motors & their control equipment	W		P	168
	Aux equipment (e.g. heating system components)	W		P	169
	Data socket outlets	R			170
2.3	Terminate & connect using the following techniques:				
	Screwing	P		P	172
ALL	Crimping	P		P	173
	Soldering			R	174
	Non-screw compression			P	175
3.1	Check terminations & connections are E&M sound	D			176
3.2	Identify cables, conductors and flexible cords	D			177
3.3	Dispose of unwanted material and equipment	D			178

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## ELTP/004 - Plan, prepare &amp; install

R1 R2 R4

1.1	Ensure health and safety within the work location	R			71
1.2	Uses suitable PPE throughout the work activities	R			72
1.3	Complete preparatory work for the installation inc:				
	Produce material and equipment requisites	D		D	74
	Identify/select material, equipment & components	D		D	75
	Identify suitable methods, procedures & practices	D		D	76
ALL	Confirm site ready for installation work to begin	D		D	77
	Confirming secure site storage facilities	R		D	78
	Confirms requ'd safe isolation has been carried out	R			79
	Completion of a risk assessment	S			80
2.1	Use correct information/documentation incl:				
	Installation specifications	D		D	82
	Work schedules	S			83
ALL	Work programmes	S		D	84
	Method statements	S		D	85
	Manufacturer's instructions	D		D	86
	Regulatory documents (incl BS.7671)	D		D	87
2.2	Confirm materials & equipment are free from damage	D			88
3.1	Use appropriate procedures to record:				
	Contract variations	D		D	90
ALL	Site instructions	D		D	91
	Site events/diary	D		D	92
3.2	Authorisation obtained prior to starting work, incl:				
	Other workers	D		D	94
ALL	Customers/clients	D			95
	Public (If appropriate)	D			96
3.3	Record/report any pre work damage/defects	D			97
4.1	Verify the compatibility of the electrical supply	D			98
4.2	Identify the earthing arrangements	D			99
5.1	Checks compatibility with other site services	D			100
5.2	Uses correct measuring & marking out techniques	D			101
5.3	Locations are visually acceptable & to spec.	O			102
6.1	Produce a programme of work	S			103
6.2	Install the following cables:				
	PVC/PVC flat profile cable (T/E)	R		P	105
	SWA cables (any insulation type)	W		W	106
	Data cables	R		W	107
7	Fibre optic cable				108
	Fire resistant cable			P	109
	MICC and MICV cable	P			110
	Thermosetting insulated cables including flexes	W		P	111
	Braided armour flexible cables and cords (SY)				112
	Single & multicore (PVC) or thermosetting cables	W		P	113
6.3	Install the following wiring enclosures:				
	Steel conduit			P	115
	PVC conduit	W		P	116
	Steel trunking	W		P	117
	PVC trunking	W		P	118
7	Cable Tray	W		P	119
	Cable Basket	W		W	120
	Ladder systems				121
	Ducting				122
	Modular wiring systems				123
	Busbar systems and Powertrack				124
6.4	Calc cable capacity of conduit, trunking & ducting				125
6.5	Install electrical equipment & accessories				
	Isolators and switches	W		P	127
	Socket-outlets	W		P	128
	Distribution-boards	P			129
	Consumer units	P			130
ALL	Control equipment	W		P	131
	Luminaires	W		P	132
	Aux equipment (e.g. heating system components)	R		P	133
	Earthing fault and overcurrent protective devices	R		P	134
	Data socket outlets	D			135
6.6	Dispose of unwanted material and equipment	D			136
7.1	Where variations identified, action taken	D			137
7.2	Completed system to spec and IET Regs.	D			138

## ELTP/006 - Inspection &amp; testing

R1 R2 R4

1.1	Correctly carry out safe isolation procedures	R		D	179
1.2	Ensure health & safety of self and others	D			180
1.3	Check safety of systems prior to starting testing	D			181
2.1	Is safe system of work suited to the work activity	D			182
2.2	Carry out visual inspection to BS.7671 & GN3 incl:				
	Isolation	R			184
	Presence of means of earthing	D			185
	Installation methods of wiring systems & equipment	P			186
ALL	The selection of conductors, cables and cords	D			187
	The selection of protective and isolation devices	R			188
	Presence of protective conductors and bonding	D			189
	Type and rating of overcurrent protective devices	R			190
	Routing/identification/labelling of cables/flexes	R			191
2.3	Complete Schedule of Inspections to BS.7671/GN3	R			192

## ELTP/006 - Inspection &amp; testing (cont.)

R1 R2 R4

3.1 &	Select correct test instruments and carry out:				
3.2	Continuity	R			194
	Insulation resistance	R			195
	Polarity	R			196
ALL	Earth fault loop impedance	R		O	197
	Prospective fault current	R			198
	RCD operation	R			199
	Phase sequence	R			200
	Functional testing	R			201
3.3	Verify test results and report all findings to:				
ALL	Representatives of other services/colleagues	D			203
	Customers/clients	D			204
3.4	Complete in accordance with BS.7671 & GN3:				
	Electrical Installation Certificates	D			206
ALL	Schedule of Inspections	D			207
	Schedule of Test Results	R			208
	Minor Electrical Installation Works Certificates				209
3.5	Follow procedures to record/retain completed:				
	Electrical Installation Certificates	D			211
ALL	Schedule of inspections	D			212
	Schedule of test results				213
	Minor Electrical Installation Works Certificates				214
4.1	Clarify commissioning procedures with:				
ALL	Representatives of other services/colleagues	D			216
	Customers/clients	R			217
4.2	Carry out commissioning in accordance with:				
	The installation specification	R			219
	BS.7671	D			220
ALL	Manufacturer's instructions	D			221
	Maintenance schedules	D			222
	Health and Safety requirements	D			223
4.3	Demonstrate circuit/equipment to the customer	R			224
4.4	Handover installation to relevant persons	R			225

## ELTP/007 - Fault finding

R1 R2 R4

1.1	Correctly carry out safe isolation procedures				226
1.2	Ensure health & safety of self and others				227
1.3	Select/use warning notices and barriers				228
1.4	Check safety of electrical system before work				229
2.1	Use clear, accurate & appropriate communication				230
2.2	Identify/use relative documents				231
2.3	Report potential disruption from fault finding to:				
ALL	Other workers/colleagues				233
	Customers/clients				234
2.4	Confirm it is safe for fault work to take place				235
2.5	Perform tests to find the following faults:				
	Loss of supply				237
	Overload				238
	Short-circuit and earth fault				239
ALL	Transient voltage				240
	Loss of phase/line				241
	Incorrect phase rotation				242
	High resistance joints				243
	Component, accessory or equipment faults				244
2.6	Use correct methods for locating faults, incl:				
	Interpretation of data				246
ALL	Safe working practices				247
	Procedures and sequences - logical approach				248
2.7	Use tools/instruments correctly, including:				
	Voltage indicator				250
	Low resistance ohm meter				251
ALL	Insulation resistance testers				252
	EFLI and PFC tester				253
	RCD tester				254
	Tong tester/clamp on ammeter				255
	Phase sequence tester				256
2.8	Confirm test instruments are correct & calibrated				257
3.1	Confirm any repairs etc. and their implications with:				
ALL	Other workers/colleagues				259
	Customers/clients				260
3.2	Correct faults correctly and safely				261
3.3	Remove & replace components/equipment & ensure:				
	Ease of access for future maintenance				263
ALL	Accordance with relevant regulations				264
	Accordance with manufacturer's instructions				265
	Accordance with organisational procedures				266
3.4	Everything left safe if fault cannot be corrected				267
3.5	Inspect/test after completion of work				268
3.6	Record test results & report to relevant people inc:				
	Other workers/colleagues				270
ALL	Customers/clients				271
	Representatives of other services				272