



CONSTRUCTION
INDUSTRY COUNCIL
建造業議會

Electrical Wireman Trade Test Mock Practical Test Paper

此文件關於電氣佈線工工藝測試考題。如有需要索取此文件的中文版本，
請致電 2100 9000 與香港建造業工藝測試中心聯絡。

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Enquiries

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Practical Test Paper for Trade Test (EEW)

Job Title : Electrical Wireman

Skill Level : Skilled worker

Time Limit : 3 hours

Complete the following two topics of practical test in the designated test place.

Topic No.1: Installation of conduit and wiring

Time allowed: 2 hours & 30 minutes. (Marks are counted for 80 of total marks 100, passing mark is 48)

Topic No.2: Wiring-up of a Glow switch start fluorescent lamp circuit

Time allowed: 30 minutes. (Marks are counted for 20 of total marks 100, passing mark is 12)

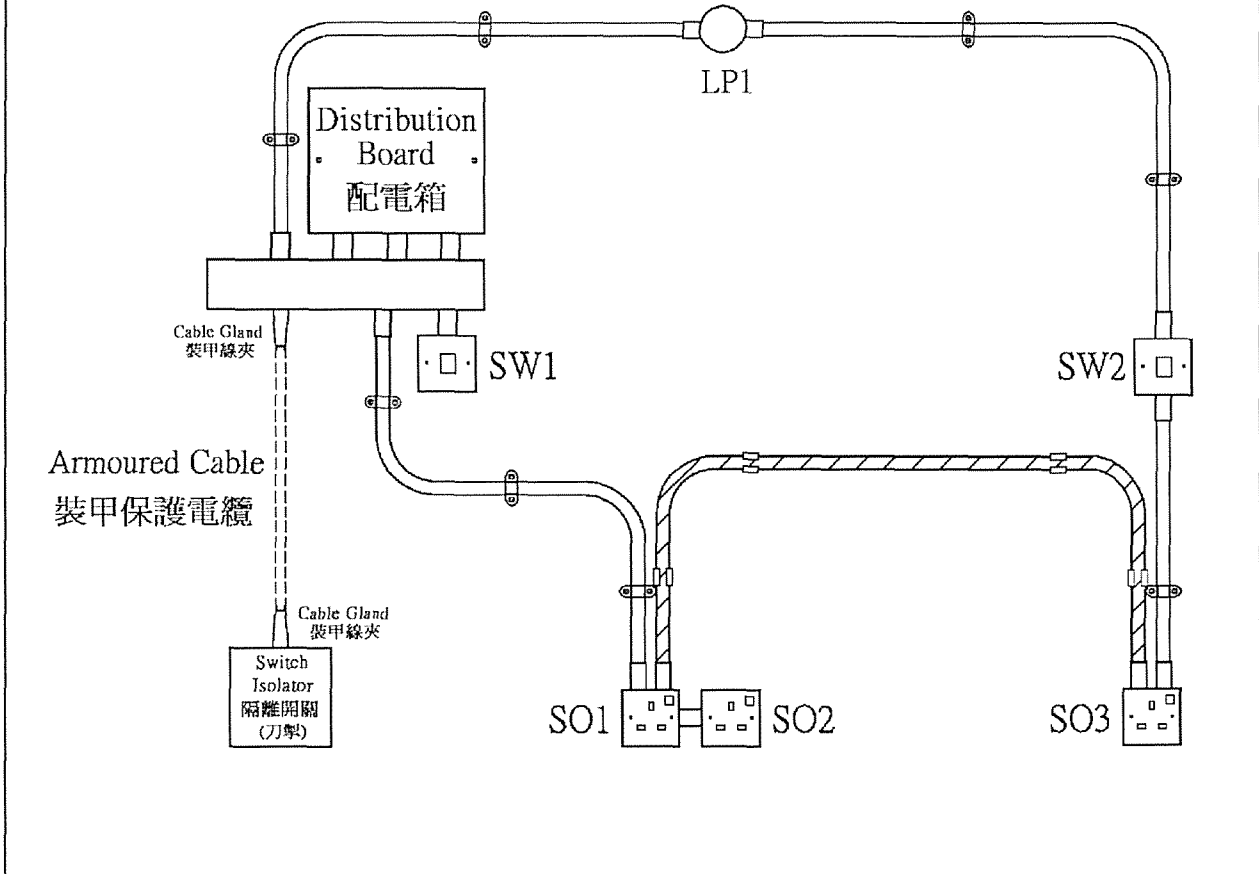
- ◆ There are two topics of this test and total marks are 100. The requirement of pass this test is that Candidate should get the passing marks for both topics.
- ◆ The test will be assessed as fail if incorrect cable colour codes have been occurred at the connection of supply source made by candidate during the functional test.

Topic No.1: Installation of conduit and wiring

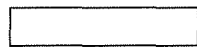
1. Use the skills of cutting, bending and connection of PVC / Steel conduit in safe manner and complete the installation work of conduits according to Drawing No.1 in good workmanship.
2. Select the suitable electric cables, accessories, types of circuit wiring and the related knowledge of installation to complete : -
 - ◆ Final circuit of two-way switching control (lighting).
 - ◆ Ring final circuit of 13A socket outlet.
 - ◆ Cable connection in Distribution Board c/w MCB and RCCB.
3. Correctly handle the ending of armoured cable. Install armoured cable gland on both side, and connect the wires to the switch isolator and the main switch of Distribution board.
4. When finish all the conduit wiring and cable connection works and before the input of supply source for functional test, candidate should ensure the works are in good conditions by visual inspection and use the qualified instrument for the test listed bellow. All testing results including range selection, reading and the unit should be written in the list: -

Remark: If short circuit, direct or indirect electric shock occurred in any functional test, it will be assessed as incorrect.

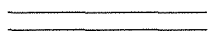
Drawing No.1



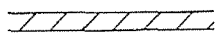
Description:



= Steel Trunking



= Steel conduit



= PVC conduit



= Armoured Cable

SW1, SW2 = Two-way lighting switch, one-gang

LP1 = Lamp holder, Edison Screw type

SO1, SO2, SO3 = 13A Switched Socket outlet

Remark: No circuit diagram would be provided for this test.

6. Materials, Tools and Instruments:

Item	Materials	Quantity
1	Wiring Board	1
2	Steel conduit, $\Phi 20\text{mm}$	1
3	Socket coupler and bush set, $\Phi 20\text{mm}$	2
4	PVC conduit, $\Phi 20\text{mm}$	
5	PVC socket coupler and bush set, $\Phi 20\text{mm}$	2
7	Two-way lighting switch, one-gang	2
8	Lamp holder, Edison Screw type with box	1
9	13A Switched Socket outlet	3
10	Cable, I/C, PVC insulation, Brown , Blue and Yellow/Green colour, 1mm^2	3
11	Cable, I/C, PVC insulation, Brown , Blue and Yellow/Green colour, 2.5mm^2	3
12	2/C, Armoured Cable, 1.5mm^2	1
13	Cable, I/C, PVC insulation, Yellow/Green colour, 1.5mm^2	1
13	Cable, I/C, PVC insulation, Brown , Blue and Yellow/Green colour, 2.5mm^2	1
14	Armoured Cable Gland	2
Item	Tools	Quantity
1	Rule, tape, 3.6m	1
2	Screwdriver, flat head, 50mm	1
3	Screwdriver, flat head, 100mm	1
4	Screwdriver, Philips head, 100mm	1
5	Pliers for electrician, 200mm	1
6	Pliers , long nose, 150mm	1
7	Pliers , diagonal cutting, 150mm	1
8	Cable stripper	1
9	Pliers, slip-joint	1
10	Pliers for plumber	1
11	Adjustable Wrench Spanner, 300mm	2
12	Hacksaw	1
13	Cutter	1
14	Conduit bending machine	1
15	Threading oil pot	1
16	Wrench	1
17	Conduit reamer	1
18	Hand operated threading machine	1
Item	Instruments	Quantity
1	Insulation and continuity tester	1
2	Multi-tester	1

Topic No.2: Wiring-up of a Glow switch start fluorescent lamp circuit

1. Use the suitable components as follows to wiring up of a complete glow switch start fluorescent lamp circuit on the wiring board with electric power supplied by 13A socket outlet.
 - Capacitor
 - Choke (Ballast)
 - Lamp holders
 - Socket for glow switch starter
 - 13A plug and 3 core flexible cord (the outside dimension of the cable sheath is 200mm long)
 - Use the cable to connect the accessories
2. After finished the connection works and inspection, candidate should bring along the wiring board to the designated test location and fit the glow switch starter & fluorescent lamp tube for test.
3. Complete the following functional test with the connection supply source to the wiring board by invigilator. Fill in the result and sign under the instruction of the invigilator.

Remarks:

- i. No circuit diagram would be provided for this test.
- ii. If short circuit, direct or indirect electric shock occurred in any functional test, it will be assessed as incorrect.

4. Materials, Tools and Instruments:

Item	Materials	Quantity
1	Wiring board for fluorescent lamp circuit	1
2	Cable, I/C, PVC insulation, Brown , Blue and Yellow/Green colour,	3
5	13A Plug	1
6	3 core flexible cord · 1 mm ²	1
Item	Tools	Quantity
1	Rule, tape, 3.6m	1
2	Screwdriver, flat head, 50mm	1
3	Screwdriver, flat head, 100mm	1
4	Screwdriver, Philips head, 100mm	1
5	Pliers for electrician, 200mm	1
6	Pliers , long nose, 150mm	1
7	Pliers , diagonal cutting, 150mm	1
8	Cable stripper	1
Item	Instrument	Quantity
1	Multi-tester	1

Remarks: Candidate should return all the borrowed tools & test papers after finished the test and departure with the indication of the invigilator.

Notes to Candidates:

1. Candidates should read the test papers carefully and ask the invigilator for any queries.
2. Candidates should study the drawings and specifications attached to test papers, if any, before the test begins.
3. Candidates should carry out the test according to test papers, working drawings and specifications provided.
4. Candidates shall bring their own safety shoes, other safety equipment will be provided by trade testing centre. Candidates must take all necessary safety precautions to ensure work safety.
5. All tools and materials required by the test will be provided by trade testing centre, candidates should check and ensure their adequacy and quality. Candidates shall use the tools and materials properly based on trade practice. All the tools must be returned to trade testing centre after the test. The candidates may ask the invigilator for any problems.
6. Candidates are required to handle and move the tools and materials for use in the test, and to carry out associated works.
7. Invigilator will take record photos periodically during the test.
8. Candidates are not allowed to take any photo or video with cameras or mobile phones.
9. Candidates are not allowed to use their mobile phones during the trade tests, except for emergency situation.
10. The marking scheme is based on the following criteria :
 - a) Understanding of drawing and specification
 - b) Preparation works before commencement of test

- c) Working procedures
- d) Accuracy and quality of works
- e) Progress of works
- f) Proper handling and use of materials
- g) Proper use of tools and equipment
- h) Safety precautions
- i) Considerate of other trades
- h) Housekeeping after completion of test

11. All candidates must stop when time is up.
12. Candidates are required to return the test paper to invigilator after the test.
13. Offering bribe to invigilator is an offence in law and trade testing centre will report to the ICAC for any such case.

In the event that the candidate fails to take any necessary safety precautions and / or works in any dangerous situations, he / she will be assessed failed