



CONSTRUCTION  
INDUSTRY COUNCIL  
建造業議會

# Communication System Mechanic Intermediate Trade Test Mock Practical Test Paper

此文件關於電訊系統裝配工中級工藝測試考題。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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## Test Paper for Intermediate Trade Test

Job Title : Communication System Mechanic

Skill Level : Medium-skilled worker

Test P1 : Multiple-choice – Ethics and safety measures of the communications industry

Test objective:

To assess candidates' knowledge on the work ethics and safety measures of the communications industry

Test requirements:

Among the safety and ethics questions preset by the test center, the exam venue will draw one set of questions (10 questions), candidates must get 6 or more questions correct to pass.

Points to note:

- i) Questions are in multiple-choice format, candidate could pick one out of three answers for each question.
- ii) Candidates who do not read Chinese may request to attempt the questions orally.
- iii) The oral test is in Cantonese.
- iv) If candidates could not understand a question, that question could be repeated once only.
- v) To avoid verbal misunderstanding, the central will arrange recording for the oral tests.

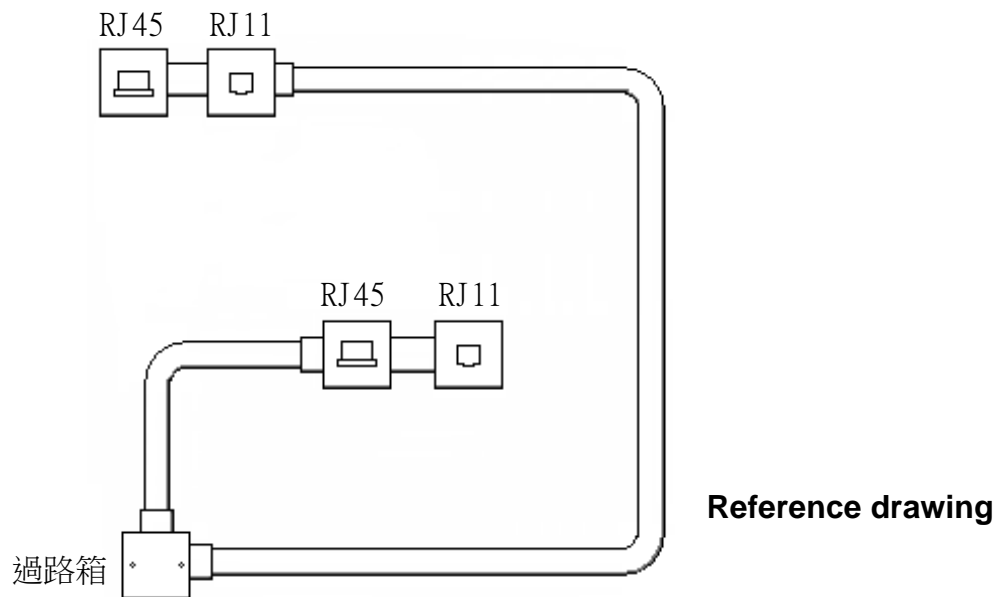
Test P2-1 : Conduit wiring and socket installation

Test objective:

To assess candidates' practical skills in "conduit wiring" and "socket installation".

Test requirements:

- (i) Wire two different types of "signal transmission cables" (cat.5 cable and 4-core cable) into the pipe preset by the "test center". (Reference drawing as below)
- (ii) Install a network socket and a telephone socket at the specified locations (Reference drawing as below)
  - Connect two American sockets (RJ11) with a wired signal transmission cable.
  - Connect two network sockets (RJ45) with a wired signal transmission cable according to T568B standard.



- Materials:
- ① RJ45 and Telephone Line Outlet
  - ② Tele-transmission cable (Cat.5 Cable)
  - ③ Telephone signal transmission cable (4-Core Tel Cable)

Test P2-2 : Color identification and handling of multi-core communication cable terminal

Test objectives:

To test candidates' ability in differentiating colors; and

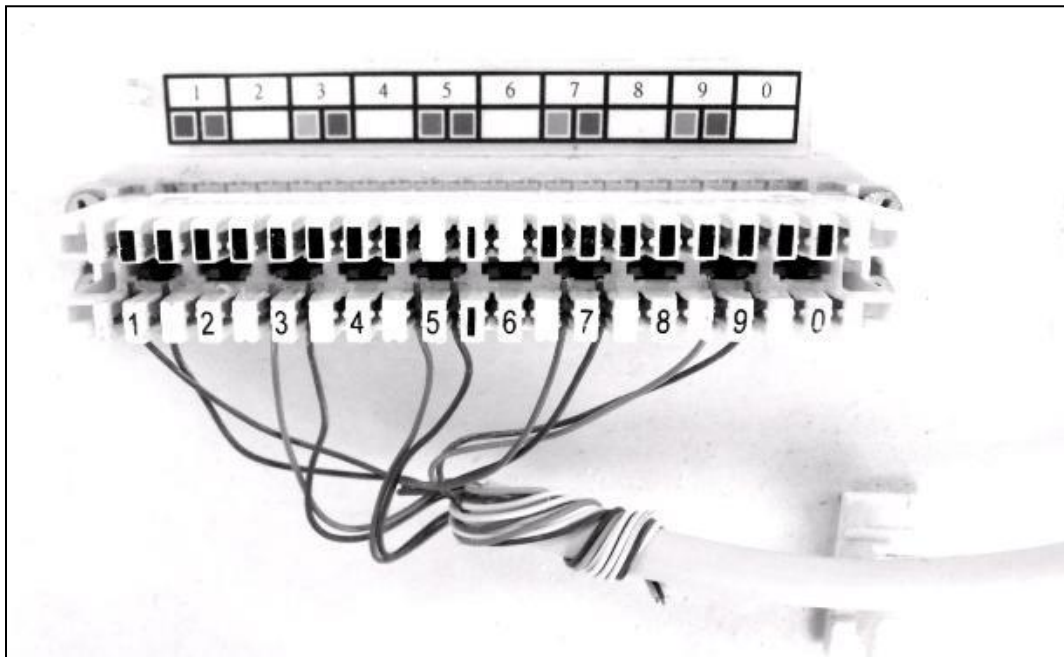
To test candidates' practical skills in installing multi-core connection cables.

Test requirements:

After removing appropriate length of the sheath, connect 10 wires of a 20-core telecommunication cable to sample wires of the same color at the locations specified on the couplet. (Reference drawing as below)

Note:

Location and color must be exactly the same as the sample picture below.



- Materials:
- ① “Multi-coupling socket” Krone block
  - ② 20-core communication cable

Test P2-3 : Connect cable terminal for “socket cables”

Test objective:

To assess candidates’ practical skills in different types of connecting cables.

Test requirements:

Produce five 0.2m connecting cables of different types (length of wire excluding the joint).

First wire: “Standard” broadband signal connecting cable (Cat.5 cable + RJ45 plug). Both ends must satisfy the EIA568B standard.

Second wire: broadband signal connecting cable (Cat.5 cable + RJ45 plug). One end must satisfy the EIA568A standard and the other end must satisfy the EIA568B standard.

Third wire: Telephone device with connecting cable (telephone cord +telephone plug). Both ends must meet the American RJ11 cable connection standard.

Fourth wire: Video signal connecting cable (RG59 cable + both ends should connect a welded BNC joint and a cramped BNC joint).

Fifth wire: 13A power connecting cable (one end connects to a BS1363 plug and the other end remains as it is).

Note:

- (i) All completed connecting cable should meet the test center’s requirements. Length error of a cable (excluding the joint) should not exceed 1cm.
- (ii) Candidates are required to test the connecting cables’ stability, and use a suitable meter to test whether the cable functions properly.

Materials: ① Broadband plugs (RJ45) x 4; broadband cable (Cat.5 Cable)

② Telephone device plugs: American (RJ11) x 2

③ Signal transmission cable (FCC68 Data Cable ”Telephone Cord”)

④ BNC joint (cramped) x 1 and (welded) x 1

⑤ RG59 RF Coaxial Cable

⑥ 13A power plug (BS1363) x 1; 3-core BS6500 cable

Test P2-4 : Install “in-building coaxial cable distribution system” (small-scale system)

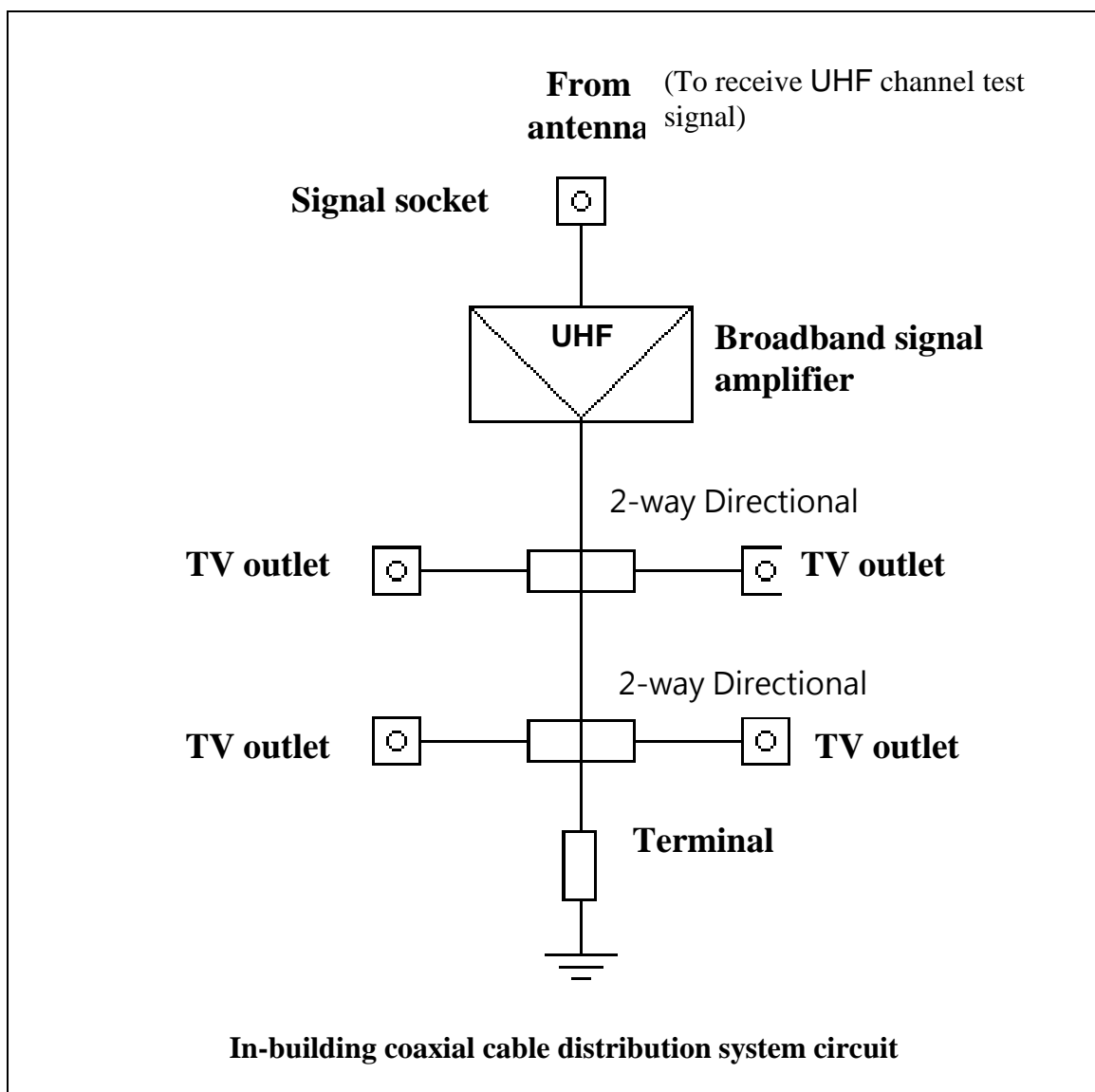
Test objective:

To assess candidates’ practical skills in installing, wiring and connecting a small scale “in-building coaxial cable distribution system” (IBCCDS) with four signal distribution outlets.

Test requirements:

Install, wire and connect a small-scale “in-building coaxial cable distribution system” with four signal distribution outlets according to the drawing, and use different meters to test whether all components / equipment function properly. Finally, use an electric field strength meter to measure the electrical level of the signals at all connection sockets.

(Reference drawing as below)



- Materials:
- ① TV Wide Band Amplifier x 1
  - ② 2-way Directional Coupler x 2
  - ③ TV Outlet x 4
  - ④ Terminator  $75\Omega$  x 4
  - ⑤ Coaxial Cable RG6 As appropriate
  - ⑥ TV plug (F-Plug & IEC Plug) As appropriate



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
  - j) 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**