

Leveller (Site Surveying) Trade Test Practical Test Mock Paper

(Version : TLS(B)-PM-EN-01)



此文件關於平水工(建造工地測量) 技能測試實務測試模擬試題。如需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

Enquiries on this material may be made to Hong Kong Construction Industry Trade Testing Centre (HKCITTC) at:

Address: 95 Yue Kwong Road, Aberdeen, Hong Kong

Tel: (852) 2100 9000

Fax: (852) 2100 9090

Email: hkcittc@cic.hk

Website: www.cic.hk

Leveller (Site Surveying) Trade Test Practical Test Mock Paper

Trade: Leveller (Site Surveying)

Grade: Skilled Worker

Test Content: Complete the following items at designated location:

a) Setting out:

(Include setting out cross line, reference line, marking and writing of descriptions)

i. 35-floor slab (35/F) has completed concreting works. Please carry out setting out according to “Drawing 1”.

Note: Setting out all elements in “Drawing 1”. Please note that using total station for this task is not allowable.

ii. Setting out of the “dotted line area” on the wall according to “Drawing 2” which includes landing, lower flight stair, beam and abutment. A level line of +25.850 is provided as the level datum.

Note: Setting out all treads and risers of the stairs. For staircase, only two steps of treads and risers have to be marked at both ends of staircase.

b) Use of Instrument:

The test venue provides total station (Model: TOPCOM ES-102/ LEICA TS-03 or equivalent model) and auto level (Model: TOPCOM AT-B4A/ LEICA NA2 or equivalent model) to complete the following tasks.

i. Five survey nails are established on the floor at the test venue, forming a pentagon. Measure the internal angles of the pentagon by using a total station, the results should be recorded in “Form 1” in degrees, minutes and seconds (° ’ ”) format (see Reference Form 1). All measurements should be measured by “face left” and “face right”.

ii. Setting out a perpendicular line (90°) on a designated line by a total station. The length of the line should be around 2-3 meters.

Note: Use of “method of 3,4,5”, the method of intersecting arcs, Pythagoras Theorem or tape for setting out and checking are not allowed.

iii. There are eight levelling points (P1 to P8) at the test venue, and the reduced level (RL) of P1 given to be +10.000. Measure the reduced levels (RL) for each of the points P2 to P8 by using an auto level and a levelling staff. All measurement and calculations should be recorded in “Form 2” provided at the test venue (see Reference Form 2).

Note: The survey is continual surveying. Candidate is not required to proceed in the P2-P3-P4 sequence. A turning plate should be used for turning points.

- iv. A yellow triangle mark is painted on the wall. Use an auto level to setting out a level line, which should be same height with the top of yellow triangle mark.

Note: Use of spirit level for setting out or checking in this task is not allowed.

- c) Surveying calculations at construction sites:

- i. Perform circular curve coordinates and level calculations. The “Form 3” provided at the test venue must be used for performing the calculations (see Reference Form 3).

Note: Candidates are not allowed to using their own calculator in this test, they must use the calculator provided by the test venue (Model: CASIO FX-50FH II/ CASIO FX-3650P II / CASIO FX-5800P).

Duration: 6 hours

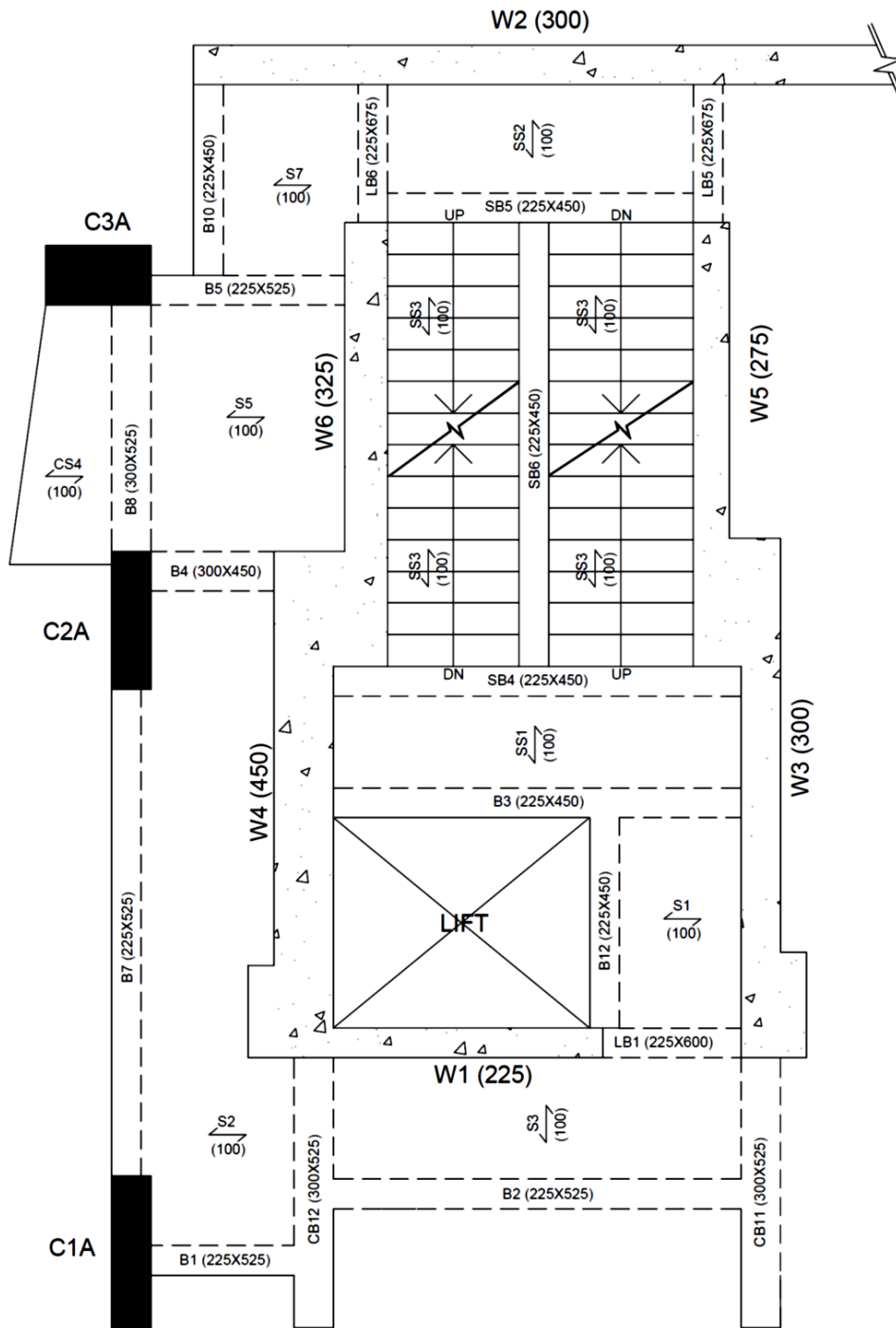
- Notes:**
- (1) Candidate should read the attached “Notes to Candidate” before commencement of work and comply with all test related rules and requirements.
 - (2) To achieve overall “Pass” grade in practical test of trade test, candidates should satisfy ALL testing requirements as stated below:
 - obtain “Pass” grade in technical skill section (i.e. achieve minimum 60 marks out of 100 marks, and no serious mistakes made in technical aspect and at works during the test,
 - meet the specific requirement(s) in specified item(s) of assessment criteria, and
 - obtain “Pass” grade in safety assessment (remarks: candidates will be deemed as candidates will be deemed as “Fail” if he/she fails to carry out necessary safety precautionary actions during the test).
 - (3) For the details of assessment criteria for practical test, please refer to “Introductory booklet for Leveller (Site Surveying) Trade Test”.

Precautions

This document is provided as reference for test preparation only. Under all circumstances all content in the official test papers, including but not limited to the terms and conditions therein, prevails. There are different versions of the test paper, content include but not limited to tools, materials, equipment, drawing, construction details or procedures and different simulated site environments. Candidates should refer to the official test documents during testing.

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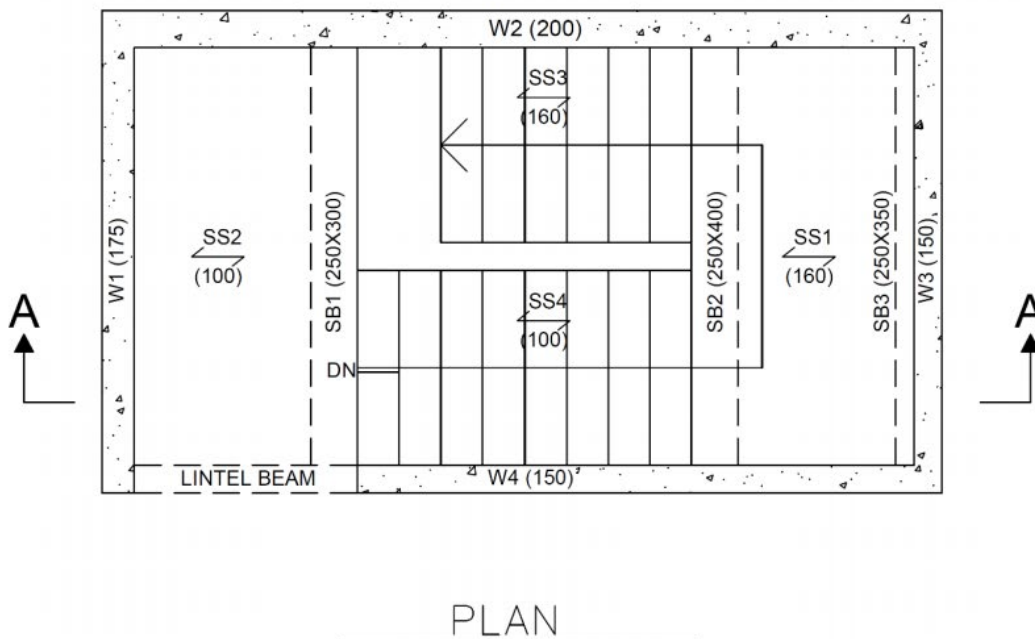
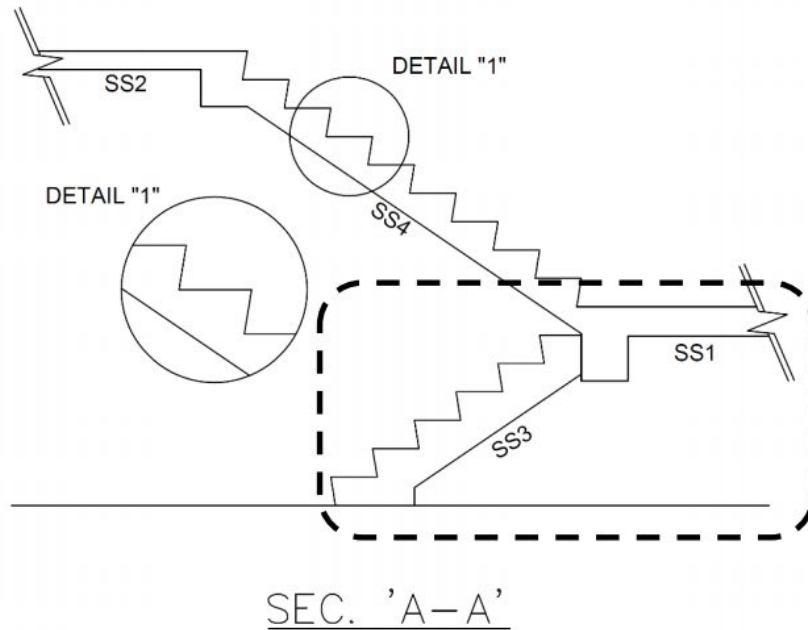
Drawing 1 for Leveller (Site Surveying) Trade Test



5/F TO 70/F FRAMING PLAN

Drawing not to scale
All dimensions are in mm

Drawing 2 for Leveller (Site Surveying) Trade Test



Drawing not to scale
All dimensions are in mm

Reference Form 1: Horizontal Angle Surveying Record Sheet

Instrument At 測站	To Station 測點	Face left 正鏡	Face right 倒鏡	Mean 平均方向值	Included Angle 角值	Remarks 備註

Remarks: All answers must be filled in the "Included Angle" column, otherwise will be regarded as data only.

Reference Form 2: Levelling Survey Record Sheet

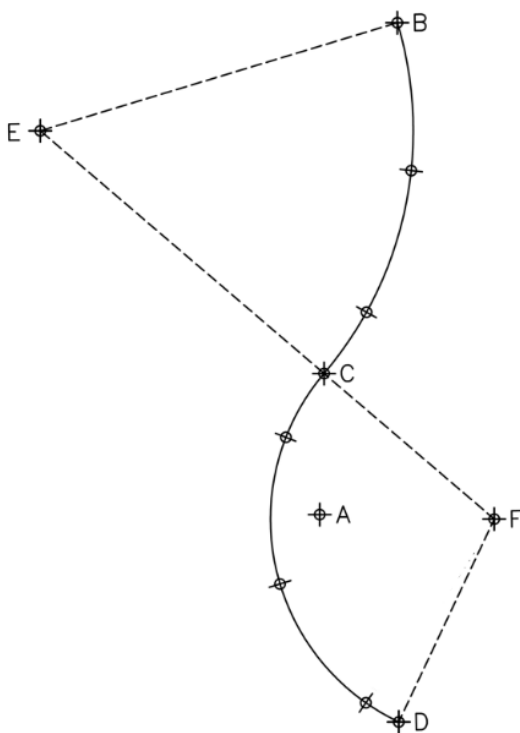
Back Sight 後視	Intermediate Sight 中視	Fore Sight 前視	Height of Instrument 儀器高	Reduced Level (R.L.) 平水值	Remarks 備註

Remarks: All answers must be filled in the “Reduced Level” column, otherwise will be regarded as data only.

Reference Form 3: Circular Curve Coordinates and Level Calculations

Assume a total station was set up at point A, please calculate the setting out data from point A to each point, and fill in the following form, using the attached scratch sheet if necessary. The reduced level must be calculate according to the chainage.

At 測站	To Chainage (m) 里程 (米)	Bearing 方位角 (°'")	Horizontal Distance (m) 水平距離 (米)	Northing (m) 北 (米)	Easting (m) 東 (米)	Reduced Level (m) 高程 (米)
A						



Known Data 已知數據 :			
Point 測點	Northing (m) 北 (米)	Easting (m) 東 (米)	Reduced Level (m) 高程 (米)
A			
B			
C			
D			
E			
F			

Notes to Candidate

1. Candidates should read the test papers carefully and ask the invigilator for any queries.
2. Practical test making scheme is based on the following criteria:
 - a. Understanding of drawing and specification
 - b. Preparation works before commencement of test
 - c. Working procedures, accuracy and quality of works
 - d. Proper handling and use of materials
 - e. Proper use of tools and equipment
 - f. Housekeeping after completion of test
 - g. Safety precautions
3. Candidates should study the drawings and specifications attached to the test paper, if any, before the test begins.
4. Candidates should carry out the test according to test papers, working drawings and specifications provided.
5. Candidates shall bring their own safety shoes and appropriate workwear, other safety equipment will be provided by HKCITTC. Candidates must take all necessary safety precautions to ensure work safety.
6. All tools and materials required by the test will be provided by HKCITTC, candidates should check and ensure their adequacy and quality. All the tools must be returned to HKCITTC after the test. The candidates may ask the invigilator for any problems.
7. Candidates are required to handle and move the tools and materials for use in the test, and to carry out associated works.
8. All candidates must stop when time is up.
9. Candidates are required to return the test paper to invigilator after the test.
10. Invigilator will take record photos periodically during the test.
11. Candidates are not allowed to take any photo or video with cameras or mobile phones.
12. Candidates are not allowed to use their mobile phones during the trade tests, except for emergency situation.
13. Offering bribe to invigilator is an offence in law and HKCITTC will report to the ICAC for any such case.
14. Subject to certain situations and/or conditions of the date of event, trade tests/courses could be at any moment suspended or postponed at discretion of the invigilators. Examples of such situation/condition could be, but not limited to, (a) sudden operation disruptions to classrooms, test venues, test equipment or tools etc. due to unforeseeable mishaps; (b) sickness or injury of candidates, students or elated staff of the HKCITTC; (c) adverse weather condition. The HKCITTC will rearrange another appointment, for free, with the candidates/students affected. Whilst every effort is made to ensure the smooth running of trade test/courses, the HKCITTC will not resume any liability any loss/damage directly or indirectly related to such arrangement.

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.