

CST – Construction Surveying and
Site Management

T015

Wednesday, 16/11/2015
08:30 – 11:30

WORKFORCE DEVELOPMENT AUTHORITY



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**ADVANCED LEVEL NATIONAL EXAMINATIONS, 2016,
TECHNICAL AND PROFESSIONAL STUDIES**

EXAM TITLE: Construction Surveying and Site Management

OPTION: Construction (CST)

DURATION: 3hours

INSTRUCTIONS:

The paper is composed of **three (3) main Sections** as follows:

Section I: Ten (10) compulsory questions. **55 marks**

Section II: Attempt any three (3) out of five questions. **30 marks**

Section III: Attempt any one (1) out of three questions. **15 marks**

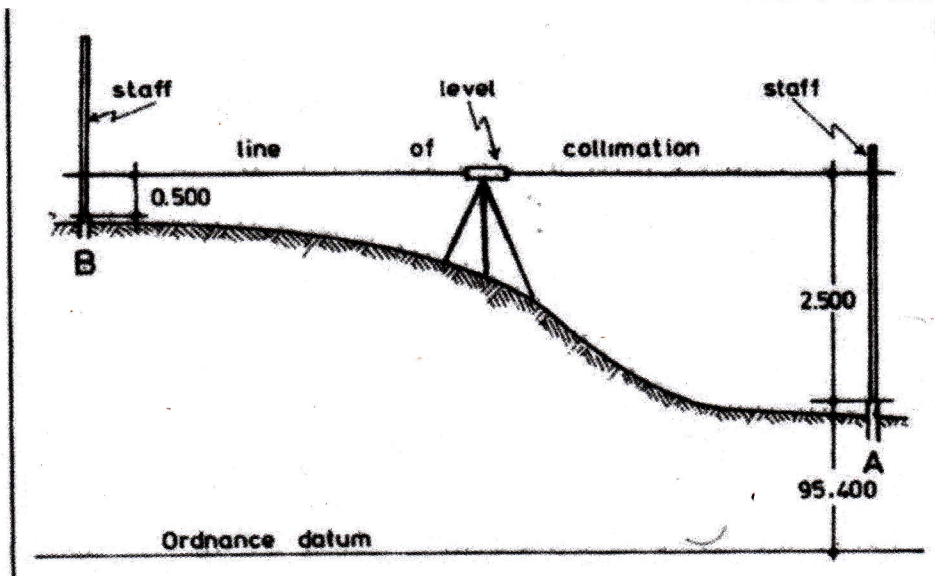
Note:

Every candidate is required to carefully comply with the above instructions. Penalty measures will be applied on their strict consideration.

Section I. Ten (10) Compulsory questions

55marks

- 01.** List any five protective clothing used in a Construction building site. **5marks**
- 02.** If a worker suffers from an electric shock on a building site, write any five important steps which can be followed to help him. **5marks**
- 03.** Mention any four possible contents of a First aid box in a construction site. **4marks**
- 04.** Highlight at least SIX things which are included in a completed site survey drawing (map). **6marks**
- 05.** Give a brief meaning of the following terms used in surveying:
i) Datum level mark iii) Building line
ii) Spot levels iv) Contours **6marks**
- 06.** Describe clearly any SIX steps of setting out a rectangular building. **9marks**
- 07.** (a) Mention the two Primary Classifications of Surveying. **2marks**
(b) Describe briefly each of the classes of surveying in question above. **4marks**
- 08.** Explain the simple meaning of the following terms as used in surveying:
a) Chain surveying d) Tacheometry
b) Traverse surveying e) Engineering surveying
c) Levelling **10marks**
- 09.** The figure hereafter shows the leveling of a peg A situated beside a manhole cover at the bottom of a slope and peg B on top of the slope, the reduced level of Peg A is 95.400m above ordinance datum (AOD). Record this information in field book and calculate the Reduced level of Peg B.



4marks

Section II. Choose and answer any three (3) questions.

30marks

10. Discuss on the technical terms below used in construction surveying:

- | | | |
|--------------------------|---------------------|------------|
| a) Differential leveling | e) Surveying datum | i) A run |
| b) Precise leveling. | f) An assumed datum | j) A close |
| c) A level surface. | g) A reduced level | |
| d) A level datum | h) A bench mark | |

10marks

11. Describe ten (10) precautions to take while handling a level.

10marks

12. If the reduced level of Bench Mark A is 50.000 m, the Reading on staff held at A is 2.435 m; the Reading on staff held at station point B is 1.650 m.

Find:

- Height of collimation.
- Reduced level of station point B.
- Rise/fall of B with respect to A.

10marks

13. With full description, talk on five comparisons between *height of collimation method* and *rise and fall method*.

10marks

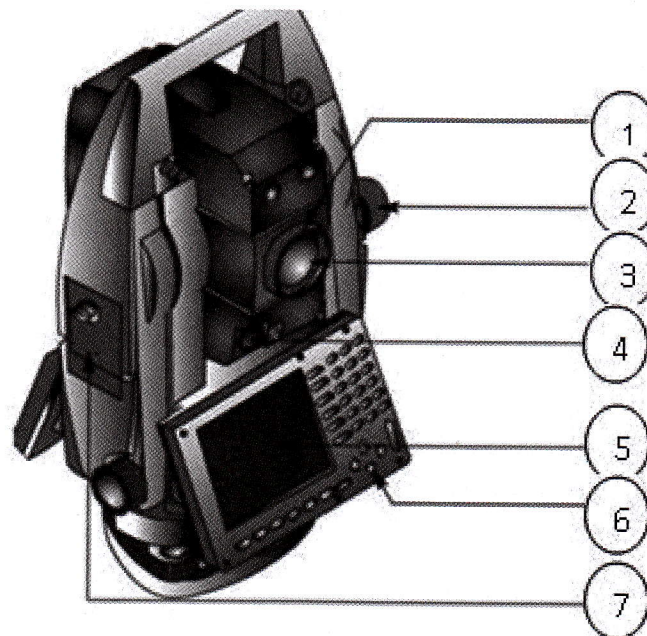
14. Explain with clear and complete descriptions any five sources of errors in leveling.

10marks

Section III. Choose and answer any one (1) question.

15marks

- 15.** Briefly discuss on the level's accuracy checking method. Use the sketch for more clarification.
- 16.** Name the parts of a digital Theodolite below:



- 17.** Shortly describe the FIVE important features of a total station as favorite equipment than level and Theodolite due to various reasons.