

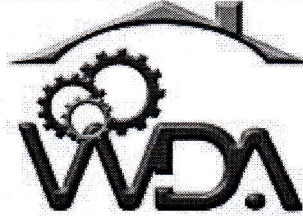
**PWO – Technical Drawing and
D.C.G**

T125

Thursday, 06/11/2014

8:30 - 11:30 AM

WORKFORCE DEVELOPMENT AUTHORITY



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**ADVANCED LEVEL NATIONAL EXAMINATIONS, 2014
TECHNICAL AND PROFESSIONAL TRADES**

EXAM TITLE: Technical Drawing and D.C.G

OPTION: Public Works (PWO)

DURATION: 3hours

INSTRUCTIONS:

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

Section I: Thirteen **(13)** questions, all **Compulsory**. **55marks**

Section II: Five **(5)** questions, **Choose any Three (3)**. **30marks**

Section III: Three **(3)** questions, **Choose any One (1)**. **15marks**

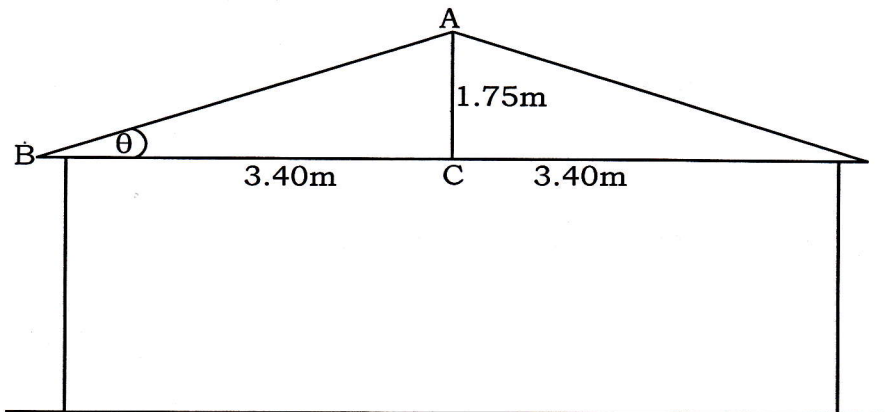
The use of calculator is allowed

SECTION I. THIRTEEN (13) COMPULSORY QUESTIONS.

01. Using a sketch, explain the establishing of a vertical centre line of a distance $AB = 12\text{cm}$. **5marks**
02. What are the three (3) considerations for good lettering? **3marks**
03. The length of a line drawn on drawing sheet is 25cm . Its real length is 350m .
Find the scale used to represent the line. **4marks**
04. Divide a circle of 15cm diameter into six equal parts to obtain a hexagon.
Indicate the procedure used. **5marks**
05. Explain the following terms in technical drawing:
a) Detail drawing **3marks**
b) Assembly drawing **3marks**
06. Mention and explain two (2) different methods used to indicate the dimensions on drawing, with examples. **6marks**
07. What is the unit of drawing a sheet? **2marks**
08. If the horizontal line of 125m length is represented by 1cm on drawing sheet, what is the scale used ? **2marks**
09. What are the three (3) characteristics of perspective? **3marks**
10. What are the six (6) principle views in drawing? **6marks**
11. Indicate with examples the three (3) standard scales. **3marks**
12. What are the various symbols used in topographic drawing? **4marks**
13. Give and explain three (3) types of drawing sheet. **6marks**

SECTION II: ATTEMPT ANY THREE (3) QUESTIONS

14. Describe the various types of sections. **10marks**
15. Inscribe an equilateral triangle in a circle. **10marks**
16. Using sketches (symbols) in section materials, shows : **10marks**
- a. Embankment
 - b. Thermal insulation
 - c. Sink
 - d. Mass concrete
 - e. Wood in longitudinal section.
17. Using sketches, show: **5marks**
- a) Masonry in section. **5marks**
 - b) Lintel in RC in cross section (square lintel).
18. Considering the roof represented by the following diagram:



- a) Find its slope AB and the inclination angle. **4marks**
- b) Selecting the right triangle ABC, indicate the slope AB on the figure correctly. **6marks**

SECTION III. ATTEMPT ANY ONE (1) QUESTION.

19. Bisect an angle of 45° into 2 equal parts. Explain the drawing procedure. **15marks**
20. Discuss any ten (10) basic instruments in technical drawing with their respective uses. **15marks**
21. Discuss the meaning of the title bloc and the items it contains. **15marks**