FORM TP 2012121

TEST CODE **01247031**

MAY/JUNE 2012

CARIBBEAN EXAMINATIONS COUNCIL

SECONDARY EDUCATION CERTIFICATE EXAMINATION

TECHNICAL DRAWING

OPTION – BUILDING DRAWING

Paper 031 – General Proficiency

PRACTICAL

3 hours 10 minutes

07 MAY 2012 (a.m.)

GENERAL INFORMATION

1. **Each candidate should have the following for this examination:**

   Traditional Drawing Method

   Two sheets of drawing paper (both sides may be used)
   Drawing instruments
   Drawing board and tee square
   Metric scale rule

   Computer-Aided Drafting Method

   A minimum of six sheets of size 8½" x 11" OR three sheets of size 11" x 17" paper
   Personal computer with monitor, keyboard, mouse and printer
   Computer-Aided Drafting software

   N.B. ALL solutions to questions attempted for this Option MUST be PRINTED for submission.

2. **All dimensions are given in millimetres unless otherwise stated.**

3. **When first-angle or third-angle is not specified, the choice of projection is left to the candidate's discretion, in which case the type of projection used MUST be clearly stated.**

4. **The candidate should use his/her own judgement to supply any dimensions or other details not directly shown on the drawings.**

5. **The number of each question answered MUST be written next to the solution.**

6. **Each candidate MUST enter his/her school code and registration number in the appropriate space at the bottom right-hand corner of the drawing paper.**

2121

DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO.

BUILDING DRAWING

This paper has TWO sections: Working Drawing, and Sketch and Design OR 3D Solid Model Design Drawing.

Answer ONE question from the Working Drawing and ONE question from Sketch and Design OR 3D Solid Model Design Drawing.

Candidates MAY use EITHER the Traditional Drawing Method OR the Computer-Aided Drafting Method.

Working Drawing

Answer ONE question from this section

Do NOT spend more than 2½ hours on this question.

1. **Figure 1**, on the enclosed sheet, shows the outline of a floor plan for a two-bedroom residence in a private housing project. The outline of the roof of the building is shown on the drawing to give an indication of the design of the roof to be used.

(a) Draw, to a scale of 1:50, the full sectional drawing of the building "A-A" to include:

(i) Foundation
(ii) Floor
(iii) Walls
(iv) Roof
(v) At least three vertical dimensions

(b) Draw, to a scale of 1:50, the front elevation of the building.

Show clearly ALL construction details.

Label ALL main construction members.

Print a suitable title and the scale used at the base of EACH drawing.

Dimensions not given are left to the candidates' discretion.

NOTE: Standard drawing practices and conventions for producing working drawings are to be followed.

Specifications:

Walls:	External – concrete blocks, 150 mm thick, plastered on both sides
	Internal – concrete blocks, 100 mm thick, plastered on both sides
Doors:	External – solid panel doors, 900 mm wide × 2000 mm high
	Internal – solid panel doors, 750 mm wide × 2000 mm high

GO ON TO THE NEXT PAGE

Windows: Casement type – 1200 mm wide × 1200 mm high

Bathroom window – awning type, 500 mm wide × 500 mm high

Roof: Fascia – 50 mm × 200 mm pitch pine

450 mm overhang

Minimum height of finished floor to top of ring beam = 2550 mm

(80 marks)

2. The outline of a floor plan layout for a three bedroom residence in a private housing project is shown in **Figure 2,** on the enclosed sheet.

(a) Draw, to a scale of 1:50, the completed floor plan to include:

(i) Internal and external walls
(ii) All windows and doors
(iii) Kitchen appliances, cupboards and cabinets
(iv) Bathroom fixtures
(v) Closets
(vi) Names of rooms
(vii) Eight main external dimensions

(b) Draw, to a scale of 1:50, the foundation plan for the building. The foundation for the building consists of simple strip footings beneath the foundation walls.

Show clearly ALL construction details.

Label ALL main construction members.

Print a suitable title and the scale used at the base of EACH drawing.

Dimensions not given are left to the candidates' discretion.

NOTE: Standard drawing practices and conventions for producing working drawings are to be followed.

Specifications

Walls: External – concrete blocks, 150 mm thick, plastered on both sides
Internal – concrete blocks, 100 mm thick, plastered on both sides

Doors: External – solid panel doors, 900 mm wide × 2000 mm high
Internal – solid panel doors, 750 mm wide × 2000 mm high

Windows: Casement type – 1200 mm wide × 1200 mm high
Bathroom window – awning type, 500 mm wide × 500 mm high

Foundation: Reinforced continuous strip footing – 200 mm thick × 600 mm wide
Foundation wall – 200 mm concrete block filled with concrete

(80 marks)

GO ON TO THE NEXT PAGE

Sketch and Design OR 3D Solid Model Design Drawing

Answer ONE question from this section.

3. Make neat, well-proportioned sketches to show the symbols for representing the following walls in section:

(a) Stone rubble

(b) Concrete block

(c) Brick

(d) Composite (with internal and external rendering)

(e) Reinforced concrete

(20 marks)

4. Make neat, well proportioned, 3-dimensional sketches to illustrate the following types of windows:

(a) Awning

(b) Casement

(c) Horizontal sliding **(20 marks)**

END OF TEST

IF YOUR FINISH BEFORE TIME IS CALLED, CHECK YOUR WORK ON THIS TEST.

FORM TP 2012121

TEST CODE 01247031

MAY/JUNE 2012

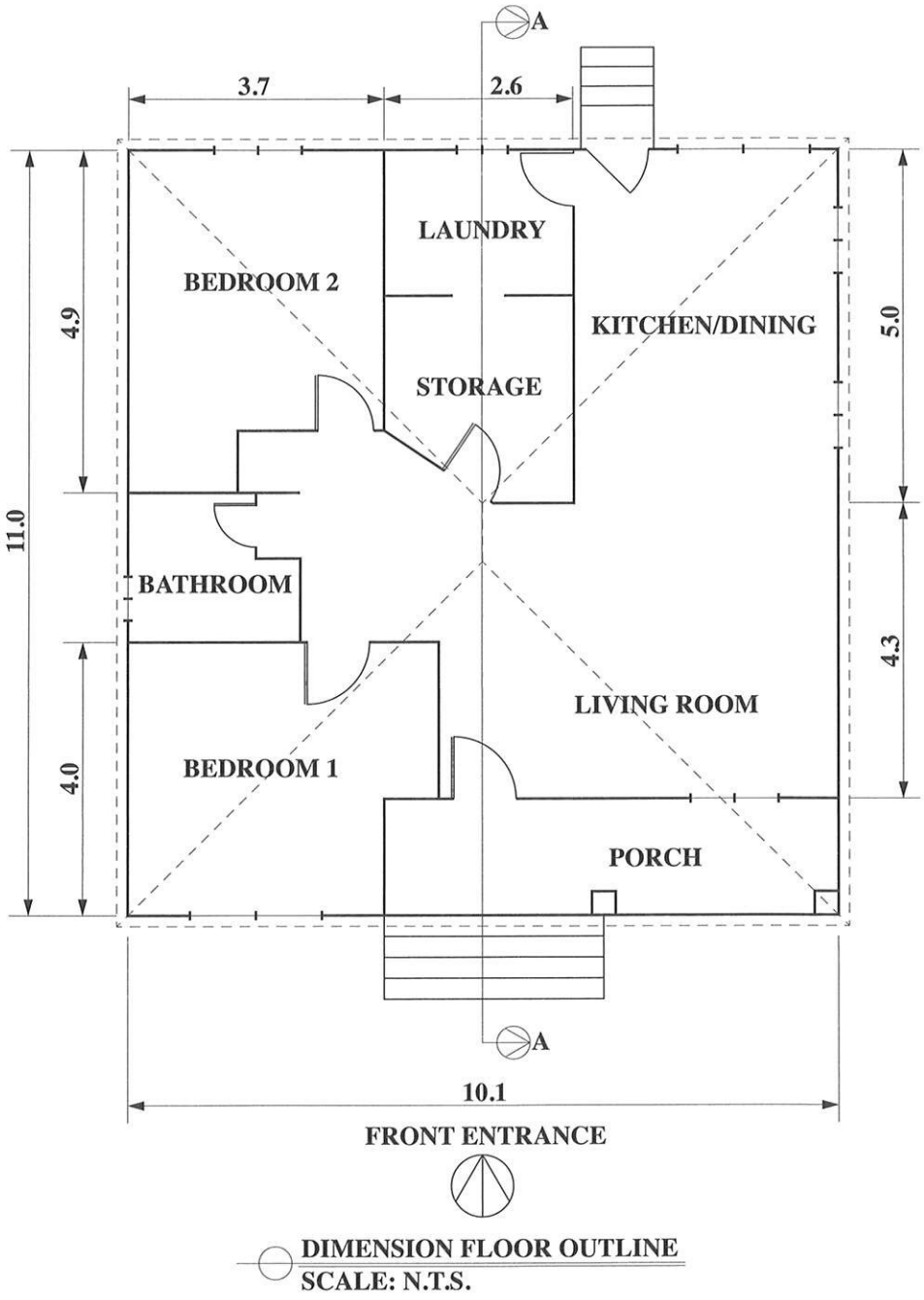
CARIBBEAN EXAMINATIONS COUNCIL

SECONDARY EDUCATION CERTIFICATE EXAMINATION

TECHNICAL DRAWING

OPTION – BUILDING DRAWING

Paper 031 – General Proficiency



DIMENSION FLOOR OUTLINE

SCALE: N.T.S.

Figure 1

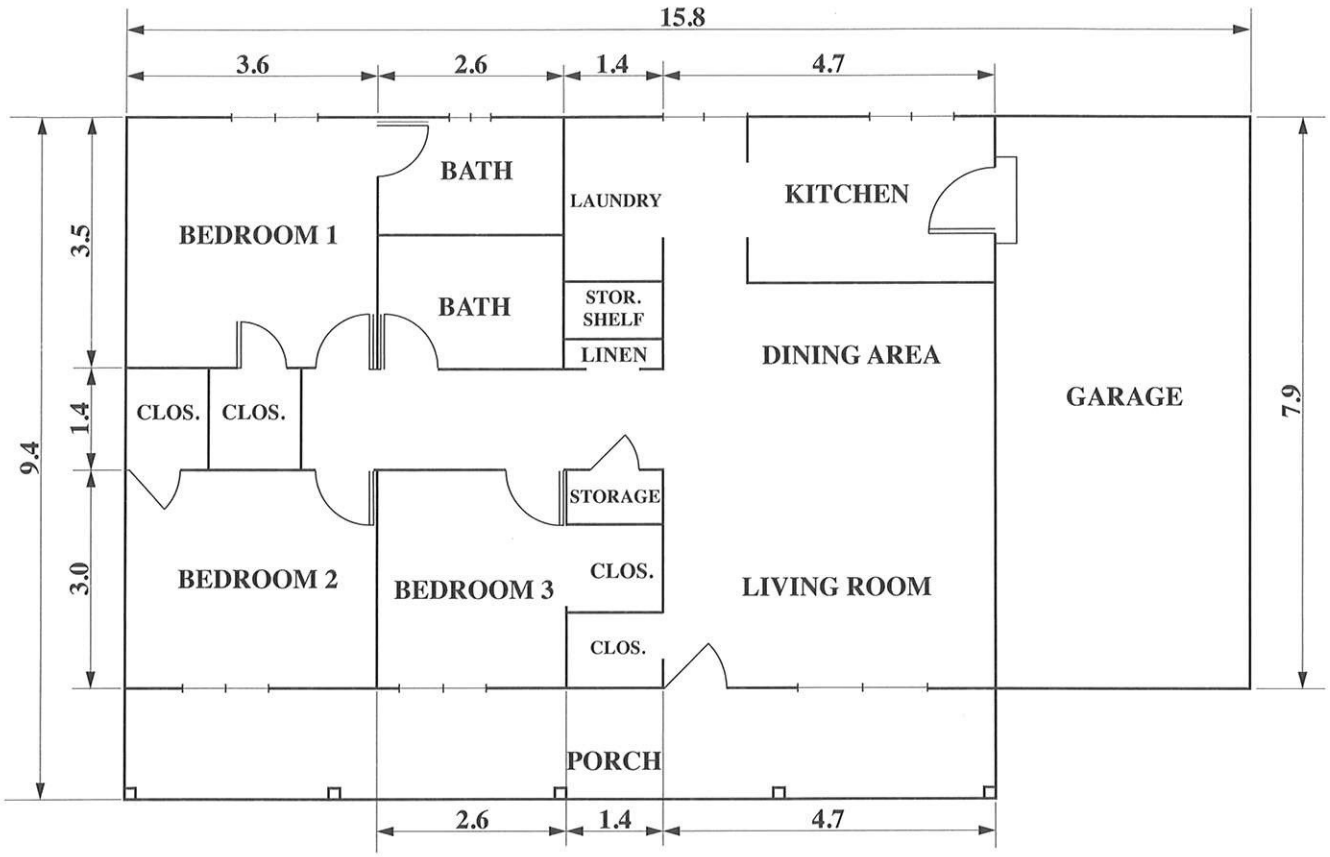
CARIBBEAN EXAMINATIONS COUNCIL

SECONDARY EDUCATION CERTIFICATE EXAMINATION

TECHNICAL DRAWING

OPTION – BUILDING DRAWING

Paper 031 – General Proficiency



FLOOR OUTLINE
SCALE: N.T.S

Figure 2