S6082 June
W.A.S.S.C.E. 2001
TECHNICAL
DRAWING 2
2½ hours

2

Name .....

Identification Number .....

THE WEST AFRICAN EXAMINATIONS COUNCIL

West African Senior School Certificate Examination

June 2001 — TECHNICAL DRAWING 2 — 2½ hours

PRACTICAL DRAWING

The first ten minutes of this test is for you to read through the questions. During this time, you are **not** *allowed to start writing.*

Answer **all** *questions in Section A and* ***one*** *question from Section B* **either Building Drawing or Mechanical Drawing.**

At the end of this test, detach Section A and attach it securely to the Drawing sheets used for Section B.

Accuracy and good draughtsmanship are essential. Careful layout is important. The drawings must be clearly lined in pencil. Where dimensions are ommited, you should use your discretion to determine the dimensions to be used.

Two A2 (594mm X 420mm) sheets of drawing papers are provided. ***Except*** *where otherwise stated, you may use any drawing aids, including French curves.*

All *dimensions on the diagrams and specifications are given in millimetres.*

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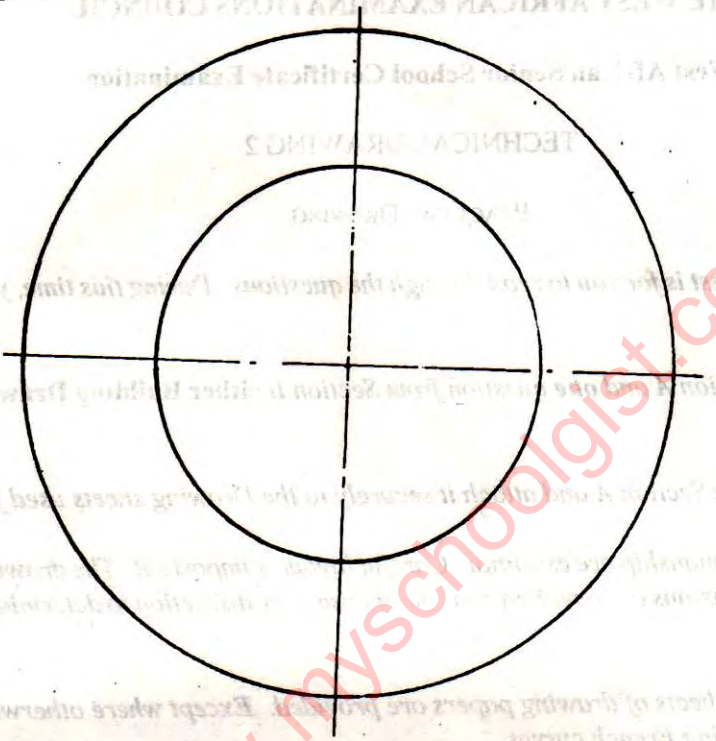
SECTION A

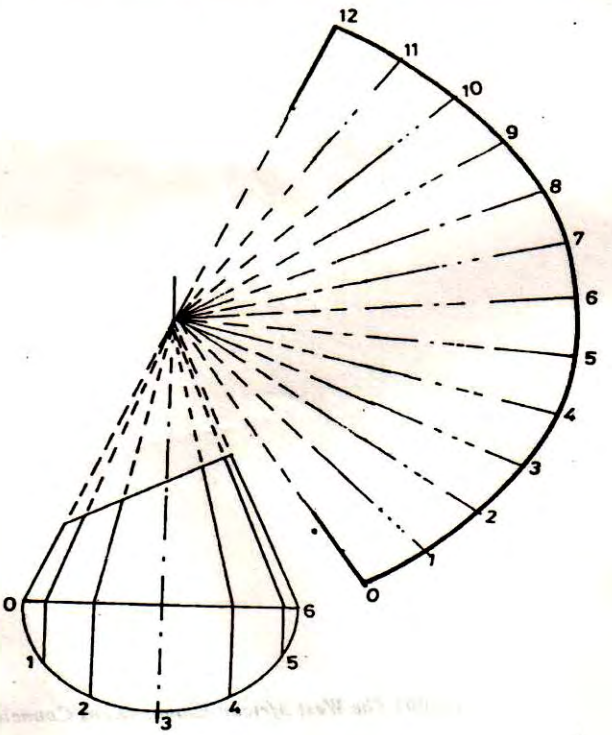
[30 marks] 1 hour

Answer **all** *questions in this section.*

1. Use the diagram below to construct an ellipse. (3 marks)



2. Complete the development of the truncated cone shown below. (3 marks)



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3. Line AB is the perimeter of a triangle, use it to construct a triangle whose sides are in the ratio 3:4:5. (3 marks)

4. Sketch a woodruff key and a split pin in the spaces provided below. (3 marks)

Woodruff key

Split pin

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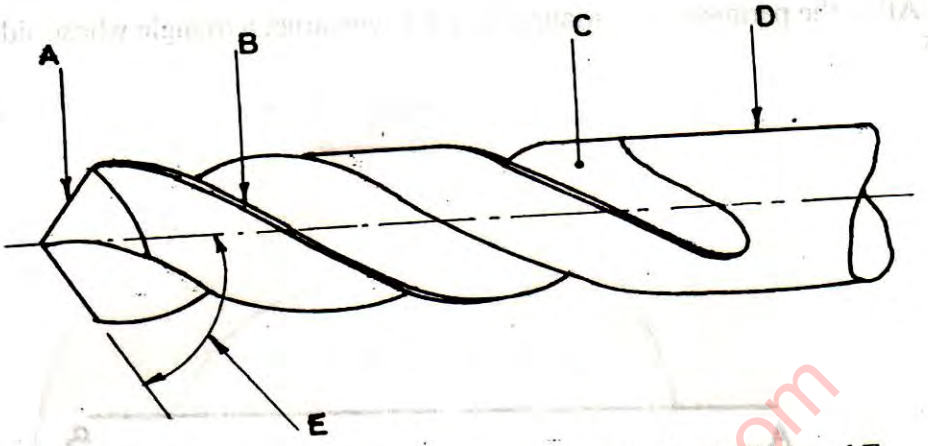
5.



Name the tool shown above and identify the parts labelled A,B,C,D, and E. (3 marks)

The name of the above tool is ..... (½)

A is ..... (½)

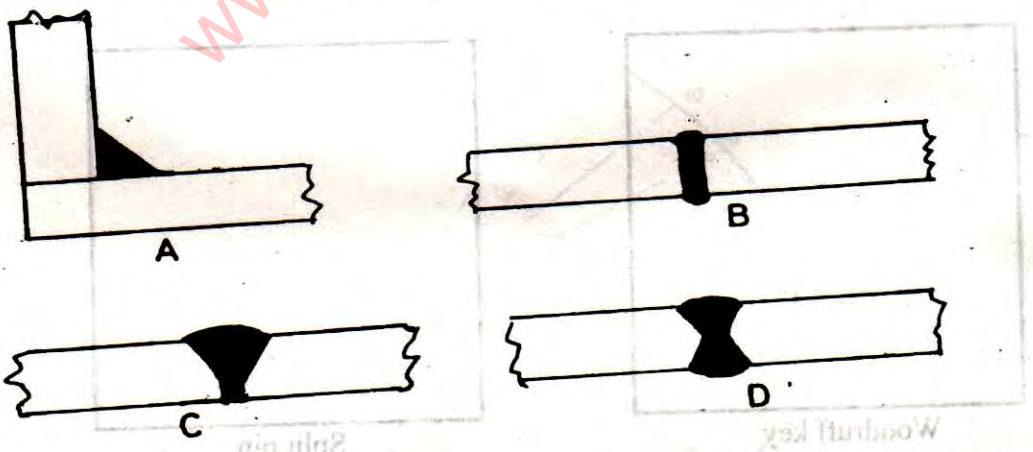
B is ..... (½)

C is ..... (½)

D is ..... (½)

E is ..... (½)

6. Identify the following weld representations (2 marks)



A is .....welding. (½)

B is .....welding. (½)

C is .....welding. (½)

D is .....welding. (½)

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7. Make a freehand sketch of a wooden mallet hammer in the space below. (4 marks)

8. Make a freehand sketch of a claw hammer in the space below. (4 marks)

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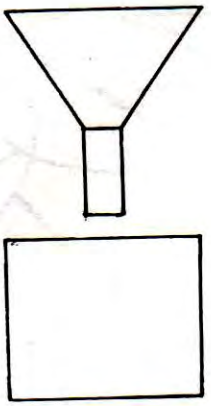
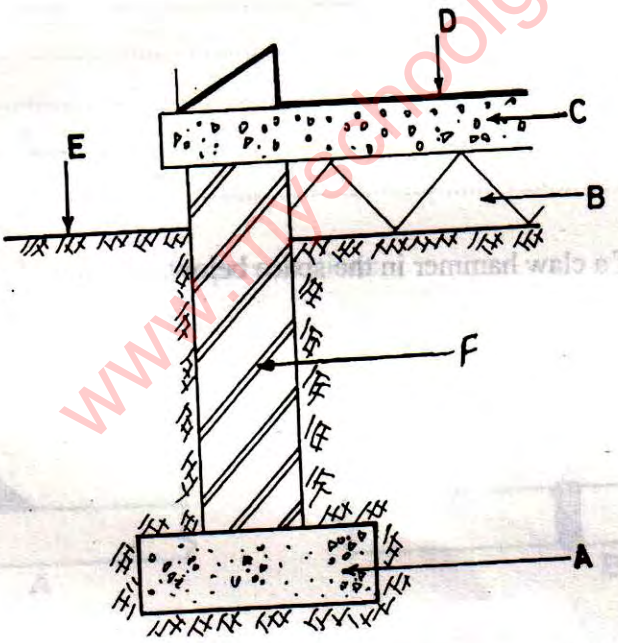
9. Complete the plan of the square funnel given below. (2 marks)



10.



The figure above shows a section through a building foundation. Name the parts labelled A,B,C,D,E and F. (3 marks

A .....

B .....

C .....

D .....

E .....

F .....

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

YOU WILL BE PENALIZED SEVERELY IF YOU ARE FOUND LOOKING AT THE NEXT PAGE BEFORE YOU ARE TOLD TO DO SO.

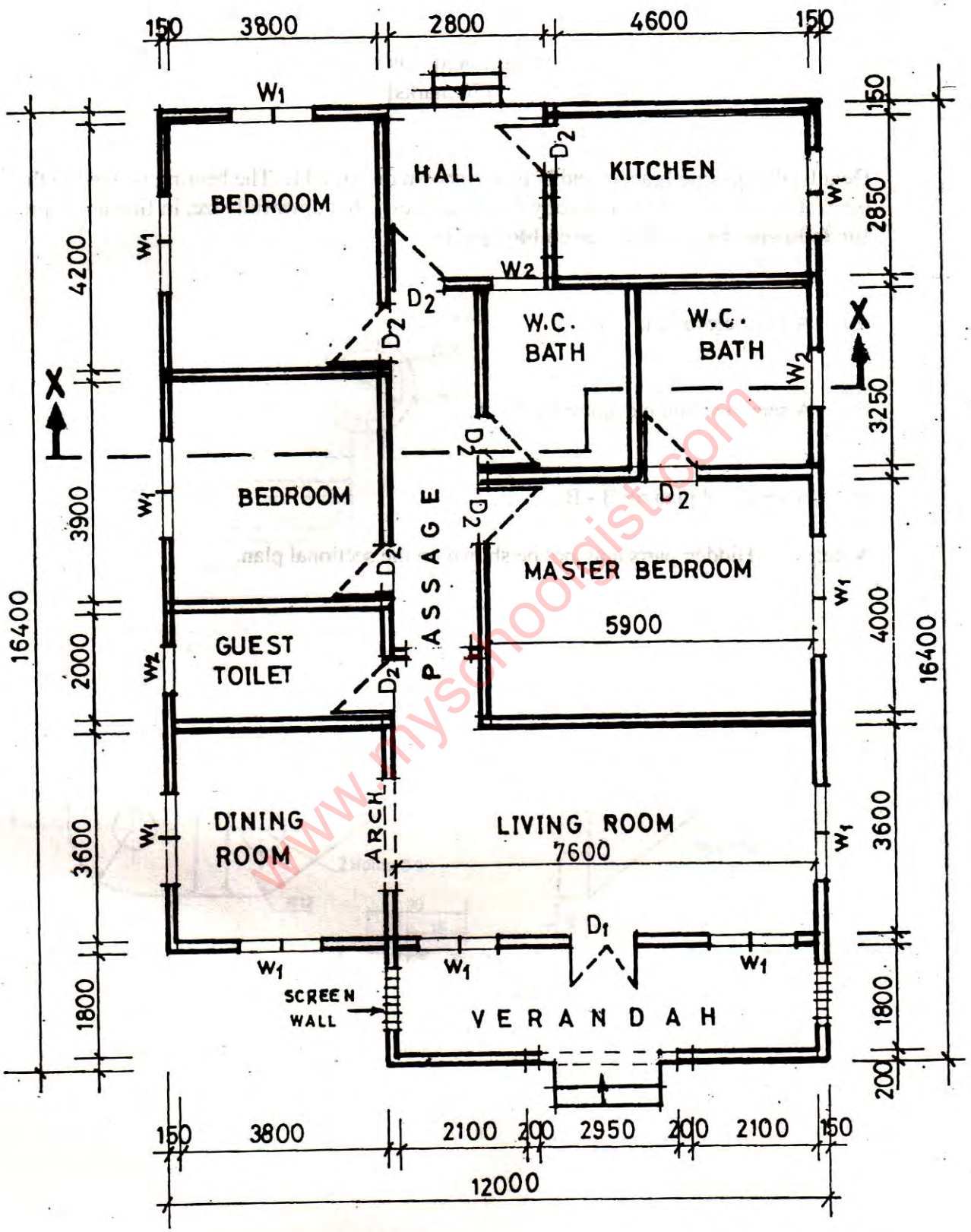
SECTION B 1½ hours

Answer **one** *question only from this section either* **Building Drawing** *or* **Mechanical Drawing.**

BUILDING DRAWING
[70 marks]

The diagram on page 9 shows the plan of a residential building. Study the specifications and use them to answer the following questions.

FOUNDATION:		800 x 250 Concrete strip laid over 1000 below ground level.
Walls	:	All walls are 150 thick sandcrete hollow blocks.
Floor	:	300 hardcore; 150 thick concrete slab; 40 cement sandscreed; 8 thick ceramic floor tiles.
Doors	:	Main entrance:- 1200 x 2100 Aluminium metal frame with glass. Inside: 900 x 2100 x 40 flush wooden in 100 x 50 timber frames Back: 900 x 2100 fabricated half-glazed metal door.
WINDOWS	:	All glass louvered with aluminium carriers in 100 x 50 timber frames W_1 1400 x 1200 W_2 800 x 500
Lintel	:	150 x 200 reinforced concrete.
Stairs	:	reinforced concrete: 150 riser, 300 thread, waist slab 150 deep, 300 footing below ground level.
Roof	:	160 thick reinforced concrete 300 eaves projection 800 x 150 parapet with 20 cement plaster at the edge of slab all round.
	:	Height of ceiling from unfinished floor level 2850
Note	:	Assume suitable dimensions where data are not given.
Draw	:	(a) a floor plan of the building to a scale 1:100
		(b) left hand side elevation of the building on a scale 1 : 100
		(c) sectional elevation on X – X to a scale 1 : 100.



SKETCH PLAN SCALE 1:100

Turn over

MECHANICAL DRAWING
[70 marks]

Details of a bearing bracket and bolts are shown on page 11. The bearing is fixed to the bracket by two bolts. Do **not** copy the given views, but draw full size, in first angle projection **the following views of the assembled parts.**

(a) A front elevation.

(b) A sectional end elevation on A - A.

(c) A sectional plan on B - B.

Note: Hidden parts may not be shown on the sectional plan.