

**GAUTENG DEPARTMENT OF EDUCATION
SENIOR CERTIFICATE EXAMINATION**

WOODWORKING SG

TIME: 3 hours

MARKS: 200

REQUIREMENTS:

- Front page of answerbook
- Drawing instruments
- Drawing paper A3

INSTRUCTIONS:

- Answer any FIVE questions.
 - Write your examination number in the title block on the Drawing paper.
 - Drawings are to be fully dimensioned and finished with titles and notes which conform with the SABS recommended practice for building drawing.
 - Circle questions answered on the front page.
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QUESTION 1

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| 1.1 | Write down TEN safety precautions which are applicable to woodworking machines. | (10) |
| 1.2 | Write down FIVE advantages of a setting-out rod. | (10) |
| 1.3 | Write down FIVE advantages of a cutting list. | (10) |
| 1.4 | Describe FIVE main gradings under which wood used for industrial purposes is classified. | (5) |
| 1.5 | Write down FIVE characteristics of a good machine guard. | (5) |
| | | [40] |

QUESTION 2

A South African type roof truss has a pitch of 30° and is made of 115 mm x 38 mm timber. The roof is covered with 400 mm x 230 mm x 12 mm thick roofing tiles fixed to 38 mm x 38 mm tile battens with a gauge of 340 mm. The overhang of the closed eaves project 450 mm and are finished off with 50 mm x 19 mm soffit battens. The roof is supported by 110 mm x 38 mm wall-plates on 220 mm brick walls plastered on the inside.

- 2.1 Draw to a scale of 1:5 a vertical section through the closed eaves showing all details, including not less than three rows of roofing tiles, fascia board 230 mm x 25 mm, a 115 mm x 115 mm gutter and a short length of the downpipe. The drawing must also include a portion of the ceiling, consisting of 6 mm thick ceiling board fixed to 38 mm x 38 mm brander and finished off with a 125 mm cove cornice.

[40]**QUESTION 3**

The components of a double casement window with a frame have the following dimensions:

The head, stiles and mullion of the frame are 115 mm x 75 mm. The dimensions of the transom are 130 mm x 75 mm and those of the sill 150 mm x 75 mm. The stiles and top rails of the sashes are 50 mm x 45 mm, and the bottom rails are 65 mm x 45 mm.

Draw to a scale of 1:2 the following:

- 3.1 A vertical section through the head of the frame and top rail of the fanlight (10)
- 3.2 A vertical section through the bottom of the fanlight, the transom, and the top rail of the sash (10)
- 3.3 A vertical section through the bottom rail of the sash and the sill (10)
- 3.4 A horizontal section through the mullion and the adjacent sash stiles (10)

[40]

QUESTION 4

Draw the following details of wall panelling:

4.1 To a scale of 1:5

4.1.1 a vertical section to illustrate the construction at the **top** of strip-board panelling. (10)

4.1.2 a vertical section to illustrate the construction at the **bottom** of strip-board panelling. (10)

4.2 To a scale of 1:2

4.2.1 a horizontal section through two strip-boards to illustrate secret nailing. (5)

4.2.2 a horizontal section to illustrate the joint between two plywood panels. (5)

4.3 Describe what is meant by the term **beam filling** and give the purpose of it. (5)

4.4 State TWO reasons why it is necessary to wear overalls in the woodworking centre. (5)

[40]

QUESTION 5

5.1 Draw to a scale of 1:10, a side elevation of a single raking shore's top construction to support the wall of a second storey. The width of the wall is 330 mm and a 100 mm concrete floor rests 110 mm on the wall.

RAKING SHORE	=	228 mm	x	228 mm		
NEEDLE	=	300 mm	x	100 mm	x	100 mm
CLEAT	=	200 mm	x	100 mm	x	100 mm
WALL-PLATE	=	228 mm	x	75 mm		

[40]

QUESTION 6

A garage with internal dimensions of 6 000 mm x 6 000 mm and with 220 mm thick external walls is to be covered with a pitched roof with gables. The roof has slope of 30° and eaves with a 600 mm overhang. The gables are built higher than the roof covering. The roof is covered with cement tiles, supported by 38 mm x 38 mm branding, spaced at 300 mm centres. The eaves are finished off with a 75 mm x 50 mm tilting fillet and a 230 mm x 38 mm fascia board. The trusses are made of 115 mm x 38 mm material and are spaced at 750 mm centres. The trusses are supported at the external walls by 115 mm x 38 mm wall-plates.

6.1 Draw to a scale of 1:20 part of the elevation of one roof truss, with one of the wall-plates in position and a portion of one external wall. (25)

- 6.2 Prepare a cutting list of the material required to make one roof truss. (5)
- 6.3 Calculate, in running metres, the quantity of material required to make all the roof trusses. (5)
- 6.4 Determine, in running metres, the length of the fascia boards, tilting fillets, wall-plates and the total length of bracing required. (5)
- [40]**

QUESTION 7

- 7.1 A circular table with a diameter of 1 300 mm has a turned leg, with a diameter of 150 mm, ending in a hexagon into which three splayed legs are morticed. The top, 25 mm thick, is finished with a thumb mould and has an overhang of 25 mm. The table has a 75 mm x 40 mm built-up rail, covered with 3 mm thick plywood. The splayed legs are 40 mm thick and stand on a circle with a diameter of 900 mm. The total height of the table is 760 mm.
- To a scale of 1:10, draw a front view of the table with part of the plywood removed to show the built-up rail. (20)
- 7.2 To a scale of 1:1, draw a vertical section through the built-up rail and a portion of the top. Clearly show a method of fixing the top to the rail. (20)
- [40]**

TOTAL: 200

END