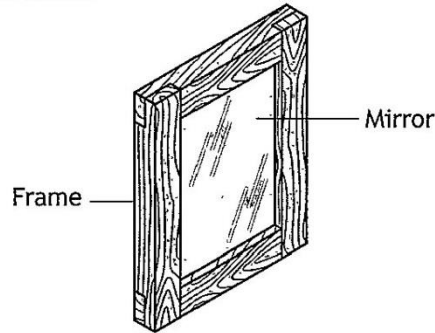


Candidate 3 evidence

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Total marks — 60
Attempt ALL questions

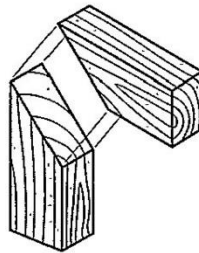
1. A mirror is shown below.



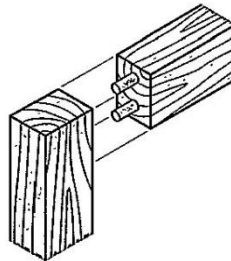
The mirror frame is made using corner halving joints.

As part of the design process various other joints were considered, three of which are shown.

(a) Name the joints shown.



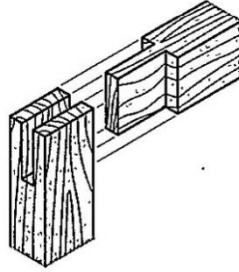
(i) ~~mitre joint~~ mitre joint 1



(ii) dovetail joint 1

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1. (a) (continued)



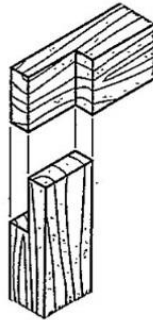
(iii) Mortice & tenon joint 1

[Turn over

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1. (continued)

The corner halving joint used in the mirror frame is shown below.



An important part of making any joint is marking out.

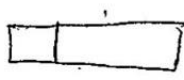
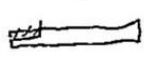
There are four stages in the marking out process.

(b) Describe three stages in the marking out process in the table below. You may use sketches to support your answer.

The stages must be in the correct order.

The final stage is completed for you.

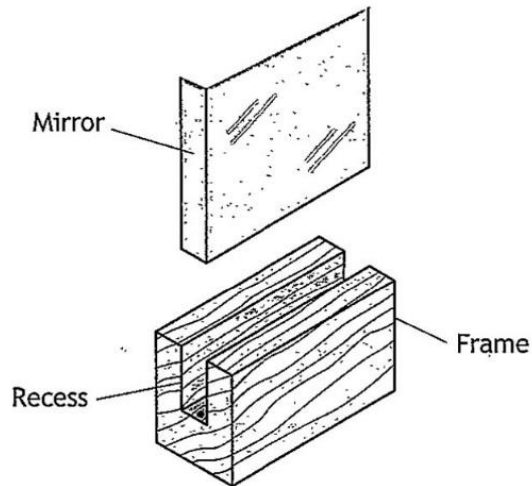
3

Sequence	Process
Stage 1	measure and mark the the wood to the correct sizes.
Stage 2	Draw line ^{across} off wood 
Stage 3	go down half way on wood and mark it on the breadth 
Stage 4	Mark the waste wood.

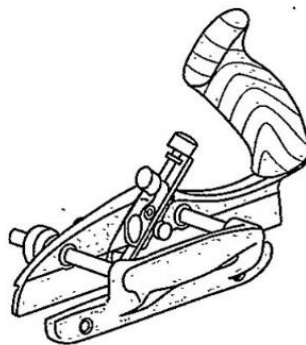
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1. (continued)

The mirror frame is recessed to allow the mirror to be fitted, as shown below.



The tool shown below is used to cut the recess.



(c) Name this tool. plough
plane 1

[Turn over

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1. (continued)

Various types of woods were considered to make the mirror frame.

(d) Complete the table below identifying if the woods listed are hardwood or softwood.

The first one is completed for you.

4

Wood	Hardwood/Softwood	
Meranti	Hardwood	
Oak	(i)	Hardwood
Ash	(ii)	Hardwood
Cedar	(iii)	Softwood
Larch	(iv)	Hardwood

It was decided to use softwood to make the mirror frame.

(e) Describe two environmental reasons for selecting a softwood instead of a hardwood.

2

- 1 Softwood grows faster so its more sustainable
- 2 It is cheaper also for every soft wood tree cut 2 are planted in return

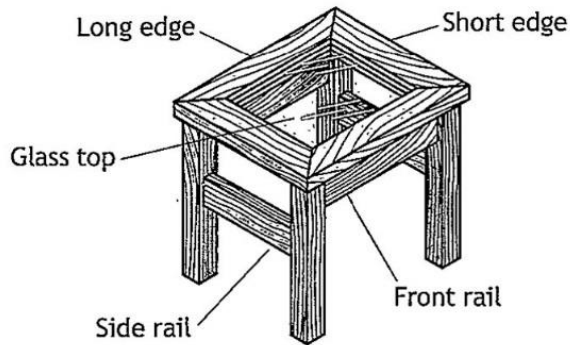
The mirror frame requires a finish to be applied which will protect the wood and show off the natural wood grain.

(f) State a suitable finish.

1

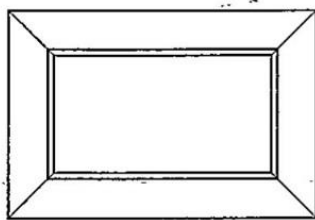
Varnish

2. A table is shown below.

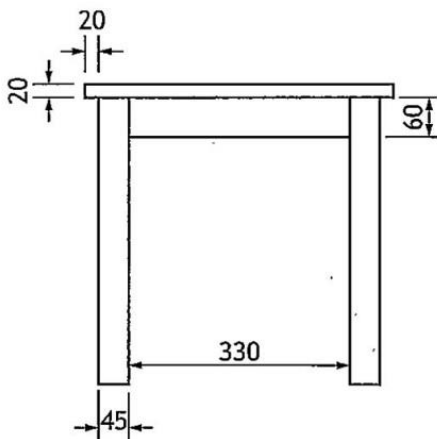


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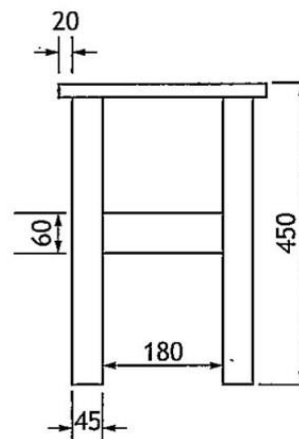
The diagram below shows the working drawings for the table.



Plan

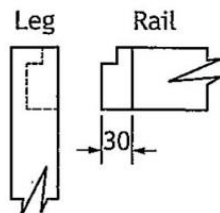


Elevation

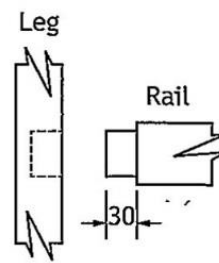


End Elevation

Front rail



Side rail



Note: The rails are joined to the legs using the joints shown in the drawings above. All sizes are in millimetres.

2. (continued)

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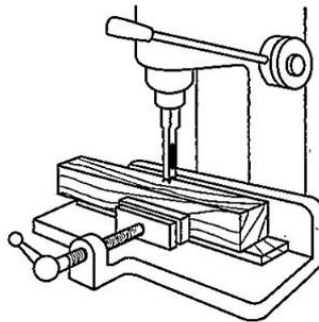
- (a) Complete the cutting list below, using the information provided in the working drawings shown opposite.

6

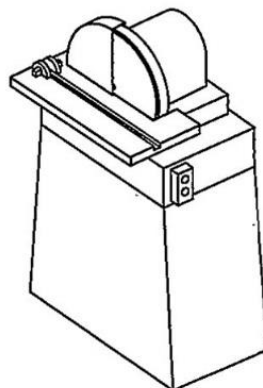
Part	Number	Length	Breadth	Thickness
Table top long edge	2	460	50	20
Table top short edge	2	310	50	20
Front Rails	2	330	60	18
Side Rails	2	180	60	18
Legs	4	430	45	45

Various machines are used to make the table.

- (b) Name the machines shown below.



(i) mortising machine. 1

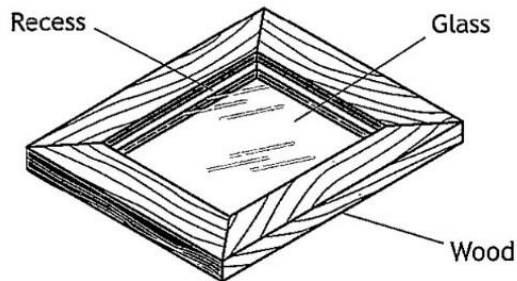


(ii) Belt sander 1

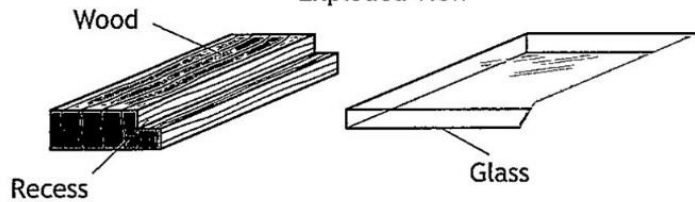
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2. (continued)

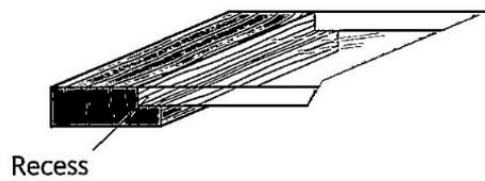
The table top has glass inserted, as shown below.



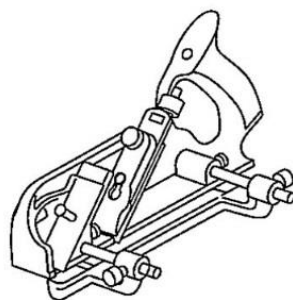
Exploded view



Assembled view



The hand tool shown below is used to cut the recess.



(c) Name this tool.

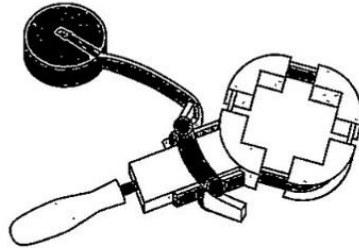
Rebate plane

1

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2. (continued)

The tool shown below is used during the assembly of the table top.



(d) Name this tool.

1

Box/square clamp.

Before final assembly, the table top is dry cramped.

(e) Explain the purpose of dry cramping.

1

to see if all parts fit properly
and to see if any adjustments are
required

Glue is used to assemble the table.

(f) State the name of a wood glue.

1

PVA Glue.

Before a finish is applied to the table it is prepared using different grades of glass paper: fine, medium and coarse.

(g) State which grade of glass paper is used first.

1

Coarse / rough sand paper.

(h) Explain the purpose of wetting the wood before starting the final stage of sanding.

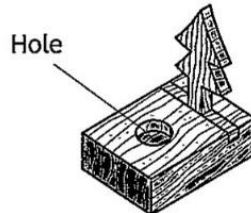
1

it raises the grain of the
wood

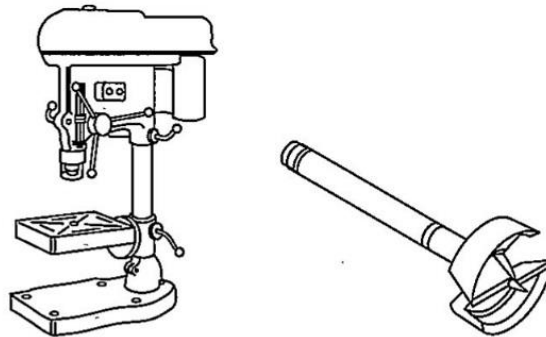
[Turn over

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3. A wooden tealight holder is shown below.



The diagrams below show the machine and forstner bit used to cut the hole in the tealight holder.



(a) (i) Name this machine.

1

Pillar drill

(ii) Explain why the forstner bit, shown above, was used to create the hole.

1

It puts a flat base for the
circle at the bottom of the
hole.

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3. (continued)

Health and safety is a priority when using the machine shown opposite.

- (b) Describe three health and safety checks that would be carried out on the machine before switching it on.

3

1 All pieces of wood are secure and clamped down.

2 Check if the drill bit being used is secure and tight.

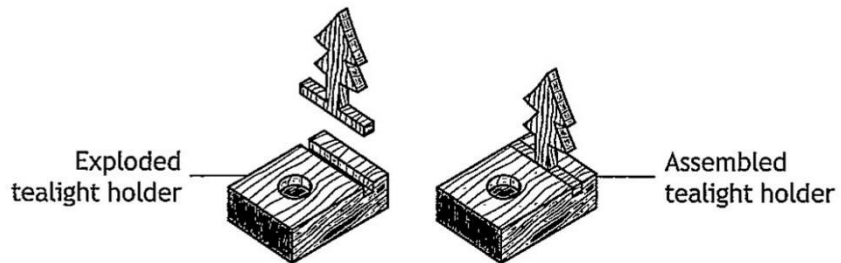
3 Check if guard is down + secure and use sacrificial wood if going all the way through.

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3. (continued)

The tealight holder is joined, as shown below.



(c) Name this joint.

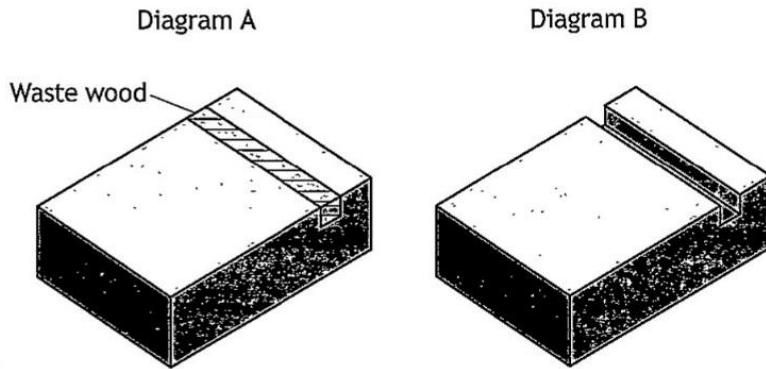
1

through housing joint.

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3. (continued)

Diagram A shows the marked out joint used in the tealight holder. Diagram B shows the wood that is removed.



- (d) Describe three stages in cutting and removing the wood from the joint shown above. You may use sketches to support your answer.

3

Stage 1	Use a Fennon saw along the length of the wood
Stage 2	Knife the waste material with a chisel
Stage 3	Use a 6 mm chisel + mallet (if required) to remove wood

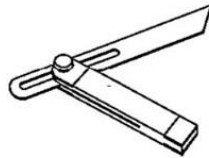
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3. (continued)

The tealight holder, shown below, is manufactured using various hand tools.



(e) Name the tools shown below and describe what they are used for.



(i) Name

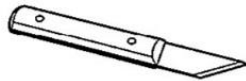
Sliding Bevel

1

(ii) Use

to get accurate 45 degree lines
mainly used for mitre joint.

1



(iii) Name

Crafting knife / knife

1

(iv) Use

to knife the wood so
you can cut in ease

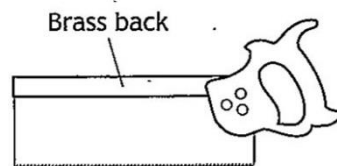
1

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3. (continued)

(f) Explain the purpose of the brass back on the tenon saw shown below.

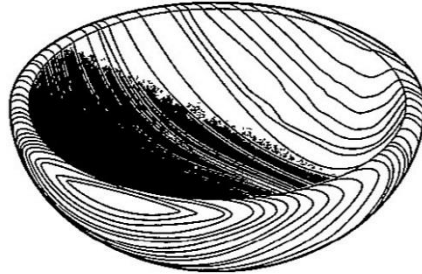
1



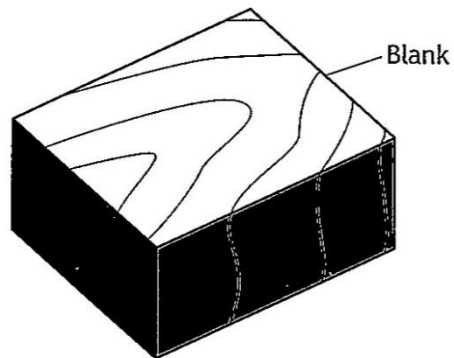
It makes the blade sturdy and holds it in place so it does not move about.

[Turn over

4. A wooden bowl is shown below.



The bowl is made from one piece of material called a blank, shown below.



The blank has to be prepared for the turning process before it is mounted on the woodturning lathe.

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4. (continued)

- (a) Describe two stages in the process of marking out the blank.

You may use sketches to support your answer.

The stages must be in the correct order.

2

Stage 1

~~Use~~ use the COMPASS to
get the circle shape

Stage 2

One side has to
be bradled so it
fits on the wood
turning lathe.

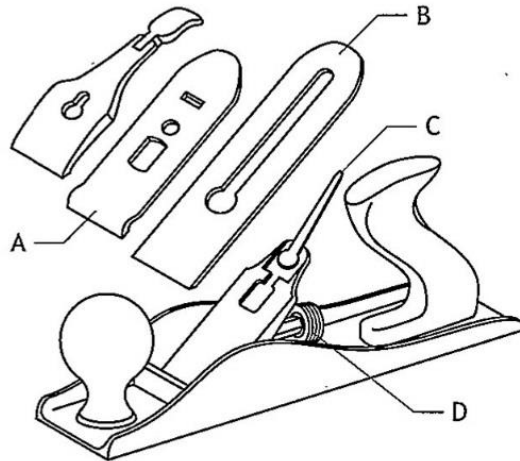
[Turn over

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4. (continued)

In preparing the top surface of the wooden blank before marking it out, a smoothing plane is used.

A diagram of the smoothing plane is shown below.

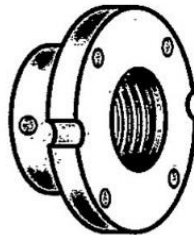


(b) Name parts A, B, C and D of the smoothing plane.

4

- A frog
- B sole plate
- C arc lever
- D brass nut

The attachment for mounting the bowl on the woodturning lathe is shown below.



(c) Name this attachment.

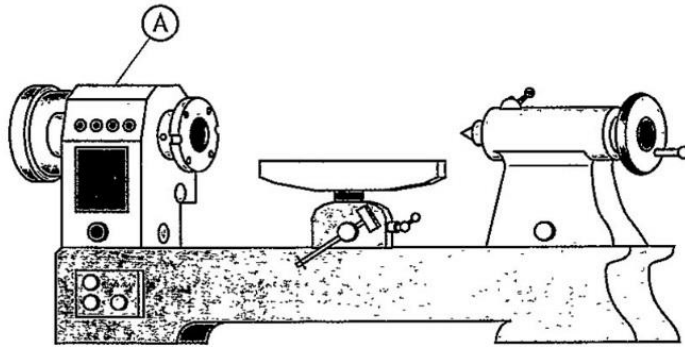
1

- face plate

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4. (continued)

The attachment is mounted onto the woodturning lathe shown below.



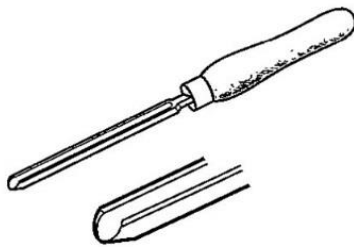
(d) Name part A shown above.

1

Head stock

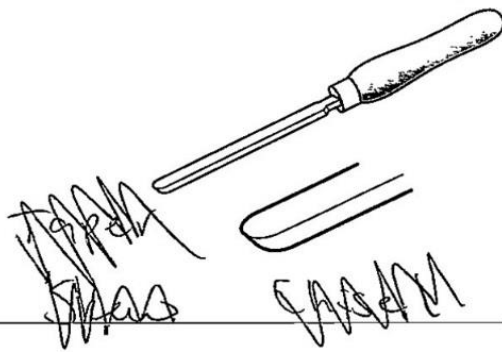
The tools shown are used to help shape the bowl on the woodturning lathe.

(e) Name the tools shown below.



(i) gouge

1



(ii) parting tool

1

[Turn over

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4. (continued)

When shaping wood on the woodturning lathe it is important for safety reasons to have the cutting tool at the correct height.

(f) Identify the correct tool height by ticking **one** of the boxes below.

1

A

Wood Tool

Tool rest

B

C

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4. (continued)

A varnish finish is to be applied to the bowl. The bowl is prepared for varnishing while still on the woodturning lathe.

- (g) Describe three actions that will ensure a good quality surface finish is achieved before applying the varnish. 3

1 use coarse sand paper to take pencil marks off

2 use medium sanding paper to get small marks off

3 use fine sand paper to make it smooth.

Health and safety in a workshop is a priority.

- (h) Describe three personal safety precautions you would take before switching on the woodturning lathe. 3

1 hair tied back + loose clothing item kept back or taken off

2 apron tied back and apron on

3 use safety goggles or a ~~mask~~ full face protector

MARKS

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4. (continued)

The bowl is made from wood left over from another project.

- (i) Explain the reason why this is environmentally friendly.

1

Wood is being reused as we are
running out of wood and it helps
save the environment.

[END OF QUESTION PAPER]