



**2007 Craft and Design**

**Standard Grade – F/G/C**

**Finalised Marking Instructions**

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## 2007 Craft and Design

### Standard Grade – Foundation

#### Marking Instructions

##### Acceptable answers

1. (a) It can be heated and re-shaped
- (b) Template
- (c) Coping saw
- (d) Half round
- (e) (i) Pedestal drill
- (ii) Any two of the following:
  - wearing goggles/safety glasses
  - loose hair/clothing tied back
  - work securely fixed
  - drill straight in chuck
  - chuck key removed
  - no distractions when using machine
  - no button pupils/only one person operates the machine
  - no wearing rings, necklaces, jewellery
  - speed of the machine
  - guard down
  - any other acceptable answer.
- (iii) Hand vice
- (f) (i) Cross file
- (ii) Polish
- (g) Easier to work at edges  
Harder when bent
- (h) Oven

##### Unacceptable answers or answers for discussion

wearing gloves – 0 marks  
keep hands away – 0 marks

### Acceptable answers

2. (i) Brief
- (ii) Specification
- (iii) Ideas
- (iv) Evaluation
3. (a) Red pine
- (b) (i) Lap
- (ii) Try square
- (iii) Tenon saw
- (iv) Bevel edged
- (c) Auger bit
- (d) By placing a piece of wood behind the work piece where it is being bored OR DRILL FROM BOTH SIDES
- (e) Top right tick box
- (f) (i) 3rd tick box
- (ii) Warrington hammer
- (iii) Nail punch

### Unacceptable answers or answers for discussion

## Acceptable answers

4. (a) Length 400  
Breadth 200 or 196  
Sides 2  
Thickness 4
- (b) Plywood
- (c) (i) Dowel  
(ii) Marking gauge
- (d) Brace
- (e) (i) One from:  
• it will be outside  
• watering  
• rain.
- (ii) One from:  
• with damp cloth  
• edge of a steel rule  
• paper towel  
• cloth  
• chisel.
- (iii) One from:  
• spoils aesthetics  
• shows as a white mark through varnish  
• easier when wet.
- (f) Varnish
5. (i) One from:  
• sides too low  
• magazines falling out  
• not deep enough.
- (ii) One from:  
• coat hook too sharp  
• dangerous  
• will cut/rip coat  
• holes for fixing.

## Unacceptable answers or answers for discussion

wax – 0 marks/Oil – 1 mark/stain – 0 marks

### Acceptable answers

6. (a) Aluminium
- (b) Hacksaw
- (c) Metal lathe
- (d) Knurling
- (e) Low speed
- (f) A: Head stock  
B: 3 Jaw chuck  
C: Tail stock
7. (a) It contains iron
- (b) 3rd box
- (c) (i) Tongs
- (ii) Bar would be hot
- (iii) Anvil
- (iv) Ball peen hammer
- (v) One from:
- leather apron
  - apron
  - spats
  - safety shoes.
- (d) Wood lathe
- (e) Any two of the following:
- tool rest at correct height
  - correct speed
  - blank secured between centres
  - blank not hitting tool post/rest
  - no tools lying on machine.
- (f) Plane

### Unacceptable answers or answers for discussion

- everything tight/secure – 1 mark
- tool rest at correct angle – 1 mark
- extraction in place – 1 mark

**2007 Craft and Design**

**Standard Grade – General**

**Marking Instructions**

**Acceptable answers**

1. (a) Any answer which indicates that the angle of the stand is adjustable  
Stand is portable – 1 mark
- (b) (X) Mortise and tenon
- (Y) Cross halving
- (Z) Dowel joint or dowel
- (c) (i) Marking gauge
- (ii) (A) Spur
- (B) Stock
- (C) Stem
- (d) (i) Countersunk or slotted
- (ii) So that the head of the screw is flush with the surface of the wood or, so that the head doesn't stick out from the wood or, any answer which indicates the above  
Level with top/surface – 1 mark

**Unacceptable answers or answers for discussion**

both the words 'mortise' and 'tenon' required

accept 'halving' only – 1 mark

gauge – 0 marks; mortise gauge – 0 marks

flat head – 0 marks

## Acceptable answers

2. (a) One from:
- no finish required
  - it has a low melting temperature
  - it's attractive
  - it's heavy enough
  - it's easily cast
  - does not rust.
- (b) (i) Casting
- (ii) Runner – to pour the molten aluminium into  
Riser – to show when the mould is full or to allow gases to escape  
Steam – 1 mark
- (c) (i) Dip coating or plastic dip coating
- (ii) 2 heat metal in oven  
3 place metal in fluidiser  
4 allow metal to cool
3. (a) (i) One from:  
Any suitable manufactured board
- MDF
  - veneered MDF
  - plywood
  - veneered chipboard.
  - craftsman's pine
  - furniture board.
- (ii) One from:  
Reason for any manufactured board...
- large sheets – 1 mark
  - it doesn't warp or twist
  - it's quicker – 0 marks
  - easy application of finish – 1 mark.
- (b) (i) Stopped housing
- (ii) 2 drill (or chisel) out end of waste wood  
3 saw to depth  
4 chisel out waste material  
5 marking gauge for depth – 1 mark  
6 appropriate tools – 1 mark

## Unacceptable answers or answers for discussion

durable – 0 marks  
strong – 0 marks  
cheap – 0 marks  
lightweight – 0 marks  
easy to work with – 0 marks

allow heat out – 0 marks

blockboard – 1 mark  
chipboard – 1 mark  
laminated pine board – 1 mark  
pine – 0 marks  
hardboard – 0 marks

cheaper – 1 mark  
strong – 1 mark  
easier – 1 mark

housing – 0 marks

any order as candidates are only asked to list three further stages.  
Credit should be given if a hand router (or granny's tooth) is used to level the housing.  
sanding – 0 marks  
glueing – 0 marks  
filing – 0 marks  
cut out joint – 0 marks

## Acceptable answers

4. (a) Idea 1 – One from:
- hole too small
  - it doesn't hold the egg securely
  - it's difficult to clean.
- Idea 2 – It's made from two pieces of plastic
- Idea 3 – It's not stable
- Idea 4 – It's got sharp corners
- (b) (i) Outside callipers  
External
- (ii) Research or investigation
- (c) (i) One from:
- card or paper
  - cardboard
  - balsa
  - foam board
  - polystyrene board.
- (ii) One from:
- it can be easily changed or made again
  - it's cheap
  - quick.
- (d) Two from:
- it's available in a range of colours
  - it's easy to bend/shape
  - it's easy to clean
  - does not rust
  - no finish required
  - waterproof
  - aesthetic
  - hygienic.

## Unacceptable answers or answers for discussion

calliper – 0 marks

analysis – 0 marks : ideas – 0 marks

plasticine – 0 marks; pvc – 0 marks; clay – 0 marks; foam – 0 marks; polystyrene – 0 marks

cheap – 0 marks

strong – 0 marks

easy to use – 0 marks

does not break easily – 0 marks

dishwasher safe – 0 marks



### Acceptable answers

5. (a) (i) Facing, facing off
- (ii) Chamfering or taper turning or tapering
- (b) Two from:
- one person at machine
  - put guard down
  - setting and speed correct
  - make sure material is secure
  - make sure tool is secure
  - apron
  - make sure tool is at centre height
  - remove chuck key.
- (c) (i) Engineers square
- (ii) One from:
- checking edge is straight/flat
  - to mark out lines at right angles
  - to check edges are at right angles to one another
  - implies 90° (marking or checking).
- (iii) Odd leg callipers (or jenny callipers)
- (iv) One from:
- to mark (or scribe) lines parallel to an edge
  - find the centre.
- (v) Centre punch
- (vi) One from:
- to mark the centre of a hole
  - highlight a bend or outline
  - location point for dividers.
- (vii) Spring dividers or dividers
- (viii) To mark (or scribe) a semi circle (or arc)

### Unacceptable answers or answers for discussion

bevelling – 0 marks

gloves – 0 marks

keep hands away – 0 marks

try square – 0 marks

square – 0 marks

callipers – 0 marks

dot punch – 1 mark

**Acceptable answers**

6. (a) So that the hole is made the correct size or, so that photo and frame 'fit' one another
- (b) One from:
- acrylic
  - polythene
  - polystyrene
  - PVC
  - perspex.
- (c) (i) One from:
- used more than once
  - it's quicker
  - it's accurate
  - all the frames will be the same
  - it's easier
  - prevents mistakes.
- (ii) A scribe
- (d) (i) Name of the machine: A bench drill or pillar drill  
Name of tool (1): Twist drill  
Name of tool (2): A chuck key or a Jacobs chuck key  
Use of tool (2): To tighten drill in the drilling machine or to tighten (1) in the machine
- (ii) One from:
- use stepped drill
  - feed slowly
  - use pilot hole
  - carefully
  - drill slowly
  - clamp the plastic to the drill table
  - stick masking tape to the plastic
  - make sure there is scrap material below the plastic
  - use special plastic drill.
- (e) A coping saw
- (f) Method 1 – Cross filing }  
Method 2 – Draw filing } Any order  
(or vice versa)
- (g) (i) A strip heater or line bender  
(ii) It would crack or split

**Unacceptable answers or answers for discussion**

- frame correct size – 1 mark
- whiteboard markers – 0 marks
- pedestal drill – 1 mark; vertical drill – 1 mark; drill – 0 marks  
jobber – 1 mark; drill – 0 marks; or engineers drill – 0 marks  
chuck – 0 marks
- or slacken – 1 mark
- keep the protective covering on the plastic – 0 marks  
increase speed – 0 marks  
blunt drill – 0 marks
- It would not bend – 0 marks

## 2007 Craft and Design

### Standard Grade – Credit

#### Marking Instructions

##### Acceptable answers

1. (a) (i) Two from:
- shape
  - form
  - texture
  - balance
  - symmetry
  - contrast
  - style
  - pattern
  - proportion
  - finishes
  - line.
- (ii) Two from:
- allow light to pass through
  - light in weight
  - attractive
  - easily cleaned
  - cost
  - fitness for purpose
  - availability
  - safety
  - strong
  - heat resistance
  - aesthetics
  - manufacturing process
  - property of material
  - location.
- (b) Ergonomics, maintenance or anthropometrics
- (c) Drill all at the same time/use a template/JIG
- (d) (i) It contains iron
- (ii) 285mm (2 x 60 + 2 x 75 + 3 x 5)
- (iii) Set callipers to approximate size and mark a line from both sides. If 2 separate lines are visible then the callipers should be adjusted and tried again until there is only one line from both sides.

##### Unacceptable answers or answers for discussion

size – 0 marks  
any height, length, breadth on its own – 0 marks  
theme – 0 marks

function – 0 marks; safety – 0 marks  
running costs – 0 marks

rusts – 0 marks

**Acceptable answers**

- (e) (i) To stop the drill from slipping/wandering/  
location of centre/accuracy
- (ii) To allow the lamp to be fixed to the wall  
Remove from wall
- (f) (i) Cutting tool not at the correct height or the  
cut not taken into the centre of the bar
- (ii) Name – Centre drill or slocombe or  
combination  
Purpose – to allow a pilot hole to be drilled  
on the lathe
- (iii) Use the measurements on the tailstock/tape  
on the drill at 30mm
- (g) (i) Plug tap or bottoming tap
- (ii) Die
- (iii) Slacken the centre screw and tighten the  
side ones.
- (h) Slow the speed down

**Unacceptable answers or answers for  
discussion**

- easier – 0 marks
- fall off – 0 marks
- location for drill – 1 mark
- finishing – 0 marks
- die stock – 1 mark
- adjust the screws – 1 mark

**Acceptable answers**

2 (a) Beech

Any hardwoods – 1 mark

- (b) (i) • to allow the damaged ends to be removed where it is held in the centres  
• waste between the wheels.

- (ii) One from:  
• diagonals on the sketch  
• Vee Shown  
• saw cut.

- (iii) Two from:  
• gouge  
• skew chisel  
• parting tool  
• scraper.

- (iv) Name: Outside callipers  
Purpose: to measure the diameter of the wood.

- (v) Removal of the tool rest and change the speed

(c) Correct labelling.

3 (a) (i) Any two of the following:

- testing
- faults
- save costs
- market research.

To check the proportions/to test with an ergonome/to see how it looks

- (ii) A scale figure of a human

- (b) (i) • Softwoods grow quicker than hardwoods and are in greater numbers  
• Managed forests

- (ii) The grain on adjacent layers runs at right angles

(c) (i) Mortise gauge

- (ii) By adjusting the adjustment screw the distance between the spurs can be changed

Turning the thumbscrew will allow movement between the stock and the stem

**Unacceptable answers or answers for discussion**

work too close to centre – 1 mark

edges removed – 0 marks

external callipers – 1 mark; callipers – 0 marks  
checking sizes – 1 mark  
width of wheel – 1 mark

checking manufacturing – 1 mark

cheaper – 0 marks

layers on its own – 0 marks

**Acceptable answers**

- (d)
- A knock down fitting.
  - Barrel and bolt.
- (e)
- (i) Move the lever from side to side
- (ii) Turn the wheel
- (iii) To get a smoother finish/does not lift the grain

**Unacceptable answers or answers for discussion**

temp fixing – 0 marks

level – 0 (on its own)

goes with the grain – 1 mark

easier to cut – 1 mark

**Acceptable answers**

**Unacceptable answers or answers for discussion**

4. (a) How humans relate to the things around them  
Comfort – 1; human engineering – 1 mark
- (b) (i) Anthropometric data
- (ii) The people who are the smallest in the range  
50%ile the average/most popular in the range
- (c) If the scales were designed for the largest in the range then it would fit most people
5. (a) (i) A plastic which can be reheated and then reshaped
- (ii) It is brittle or scratches easily
- (b) (i) Vacuum former
- (ii) 2 heat the plastic until soft  
3 remove the heat and raise the pattern into the soft plastic  
4 switch on the pump and suck out the air  
5 when cool, unclamp the plastic and remove the pattern
- | <u>4 marks</u> | <u>3 marks</u> | <u>2 marks</u> | <u>1 mark</u> |   |
|----------------|----------------|----------------|---------------|---|
| 2              | 5              | 4              | 2             | 5 |
| 3              | 2              | 5              | 4             | 4 |
| 4              | 3              | 2              | 3             | 2 |
| 5              | 4              | 3              | 5             | 3 |
- (c) (i) Ease of removal of the pattern
- (ii) One from:
- no creases/weaknesses at the corners
  - no tears
  - thin corners.
- (iii) One from:
- to allow air to be sucked out
  - to improve vacuum
  - tighter shape on pattern
  - help with release from pattern.

anthropometric data – 0 marks

normal – 1 mark; norm – 1 mark

plastic memory – 1 mark

difficult to vacuum form – 0 marks; cost – 0 marks; weight – 0 marks

all in order – 4 marks  
3 in sequence – 3 marks  
2 pairs in sequence – 2 marks  
2 in order – 1 mark

sharp – 0 marks

[END OF MARKING INSTRUCTIONS]