

2005 Craft and Design

Standard Grade – F/G/C

Finalised Marking Instructions

These Marking Instructions have been prepared by Examination Teams for use by SQA Appointed Markers when marking External Course Assessments.

2005 Craft and Design

Standard Grade – Foundation

Marking Instructions

Each answer is allocated 1 mark unless otherwise stated

Acceptable answers

1. (a) (i) Shelf is sloping the wrong way/CD's will fall off the front etc.
Rail in wrong place.
- (ii) To stop the CD's falling off the back.
- (b) If three are ticked and two are correct and one wrong – 1 mark.
The number of CD's
The thickness of a CD
- (c)
- | Part | No | L | B | T | Material |
|-------|----|-----|-----|----|----------|
| Side | 2 | 210 | 170 | 12 | MDF |
| Shelf | 1 | 375 | 160 | 12 | MDF |
| Rail | 1 | 385 | ∅ 9 | | Ramin |
- (d) Paint, coloured varnish
Stain and varnish – 1
Emulsion paint – 1

Unacceptable answers or answers for discussion

Where will it be stored – 0

Clear varnish – 0

Acceptable answers

2. (a) (i) Mahogany
(ii) Pine
(b) Through housing
(c) (i) Marking gauge
(ii) Tenon saw
(iii) Bevel-edged
(iv) Hand router
(d) Varnish, stain, wax, oil, lacquer
3. Specification (3) Working drawing (6)
Cutting list (7) Evaluation (9)
Presentation drawing (5)

Unacceptable answers or answers for discussion

Acceptable answers

4. (a) (i) Length – 160
(ii) Breadth – 120
- (b) (i) Hand vice
(ii) Support the acrylic with a piece of scrap wood
- (c) Coping saw
- (d) (i) Cross file
(ii) Polish
- (e) Easier to do
Easier – 1
Too fiddly – 1
- (f) Strip heater

Unacceptable answers or answers for discussion

Acceptable answers

5. (a) Unbalanced/topple over unstable base not big enough.
Fall over – 1
- (b) Brief
- (c) (i) Spring Dividers
(ii) Centre punch
(iii) Scriber
- (d) Emery cloth
6. (a) (i) Wood lathe
(ii) Turning
(iii) It is easier to switch off in an emergency.
(iv) Full face mask
- (b) Any 2 from:
- speed
 - wood secure
 - tool rest – height
 - distance from work piece
 - tight
 - ask teacher for permission to switch on etc
 - rotate workpiece – 1
 - dust extractor – 1
 - tidy machine – 1
 - clear work area – 1.

Unacceptable answers or answers for discussion

No Personal safety/equipment – 0
Safety guard – 0

Acceptable answers

7. (a) (i) Mortice and Tenon
(ii) Dowel
(b) (i) Try square
(ii) Plane
(iii) Sash cramp
8. (a) Safety
Sizes of small children
(b) (i) Plywood
(ii) It is very strong
(c) (i) Pedestal drill
(ii) Jigsaw

Unacceptable answers or answers for discussion

Acceptable answers

9. (a) Lathe
(b) Contains iron
(c) (i) Tap
(ii) Cutting an internal thread
(d) Forging
(e) Heating

Unacceptable answers or answers for discussion

2005 Craft and Design

Standard Grade – General

Marking Instructions

Each answer is allocated 1 mark unless otherwise stated

Acceptable answers

1. (a) (1&2) Must be statements
- Holder must allow the toilet roll to turn.
 - Holder must allow the old toilet roll to be removed.
 - Holder must allow the new toilet roll to be put in place.
 - Holder is to be wall mounted.
 - Toilet roll must not fall off holder (held securely).
 - No sharp edges or splinters (safety).
 - Easily cleaned (maintenance).
 - Holder to fit the aesthetics of room.
 - Must look good – 1
 - Looks – 1
 - Must be cheap/cost – 1
 - Must hold a toilet roll – 1
 - Size ref. to toilet rolls – 1
 - Atmospheric conditions – 1
- (b) Wood turning lathe
Lathe – 1

Unacceptable answers or answers for discussion

- No duplication of answers
- ‘Strong’ – 0
- No **one** word answers

Acceptable answers

- (c) (i) Outside callipers
'Callipers' – 1
- (ii) Parting tool
- (d) (i) Dowel joint
- (ii) Smoothing plane
Plane – 1
Jack plane – 1
Spokeshave – 1
Rasp – 1
Surform – 1
File – 1
Chisel – 1
- (e) (i)
 - Aesthetics clear finish shows natural beauty of the wood grain.
 - Waterproof finish will protect the wood from moisture/wet conditions.
 - Allows the holder to be easily cleaned.
 - Makes it shiney – 1 .
- (ii) Brush, cloth, spray
- (f) Countersink screw
Countersunk – 1

Unacceptable answers or answers for discussion

- Spring callipers – 0
Odd leg callipers – 0
Inside callipers – 0
Round callipers – 0

Acceptable answers

2. (a)
- Aluminium is corrosion resistant (doesn't rust)
 - Strong
 - Light weight
 - Can be anodised in different colours
 - Durable – 1
 - Can be cast – 1
 - Low melting point – 1
- (b) (i) Crucible
- (ii) Riser
- (iii) Drag
- (c) (i) Leather apron, safety boots, spats
Shoe covers – 1
Must say leather or heat resistant apart from safety boots.
- (ii) Tongs
- (d) (i) Hacksaw
Junior hacksaw
- (ii) Hand file
File – 1
Flat file – 1
Emery cloth – 1
Appropriate abrasive paper

Unacceptable answers or answers for discussion

Looks attractive – 0
Cheap – 0

Overall – 0
Protective trousers – 0
Apron – 0
Gauntlets – 0

Grinder – 0
Coping saw – 0
Hammer and chisel – 0

Milling machine – 0

Acceptable answers

3. (a) Pop rivets, self tapping screws, spot weld, nut and bolt
Bolt/Bolting – 1
Rivets any type – 1
Round head/countersink rivets – 1
M/C screws – 1
Self tapping screws – 1
Electric arc/spot welding – 1
Brazing/soldering – 1
- (b) (i) Paint
Dip coating
Blueing
Hammerite – 1
Galvanising – 1
Lacquer – 1
- (ii) To prevent rust/corrosion
Aesthetic reasons – 1
Appearance – 1
Protect – 1
- (c)
- Make sure work is secured, machine vice, hand vice, g-clamp
 - Make sure drill bit secure/straight
 - Chuck key is removed from Jacob's chuck
 - Speed of drill – 1
 - Guard down or in place – 1

Unacceptable answers or answers for discussion

Screws – 0

No personal safety – 0

Emergency stop button – 0

Set to correct depth – 0

Acceptable answers

- (d)** **(i)** Engineer's square
- (ii)** Odd leg callipers
Jenny callipers – 1
- (iii)** Ball pein/engineer's hammer
Centre punch/dot punch
Ball hammer – 1
- (iv)** Spring loaded dividers
Spring dividers – 1
Dividers – 1

Unacceptable answers or answers for discussion

- Square – 0
Try square – 0
Set square – 0
- 'Callipers' – 0
'Jennies' – 0
- 'Hammer' – 0
- Compass – 0

Acceptable answers

4. (a) (i) Does not contain iron
- (ii) • Won't rust
• Naturally lubricating (rotating sails)
- (b) (i) Three jaw chuck
Chuck – 1
- (ii) Facing off
Facing – 1
- (c) (i) Knurling tool
'Knurling' – 1
- (ii) Die
Die holder – 1
Die stock – 1
- (iii) 25 mm

Unacceptable answers or answers for discussion

- Does not rust – 0
- Easy to cut – 0
- Aesthetically pleasing – 0
- Adds quality to product – 0
- 'Strong' – 0
- 'Stock' – 0

Acceptable answers

- 5. (a) (i) Any of the three below:**
- Aesthetics/style of holder
 - Aesthetics/style of surroundings
 - Current trends/fashion
 - Market niche/target market
 - Anthropometrics
 - Ergonomics
 - Environmental Concerns Finishes
 - Manufacturing/jointing
 - Cost
 - Maintenance
 - Who it's for – 1
 - Size of CD's – 1
 - Existing products – 1
 - Number of CD's – 1
 - Safety – 1
 - Finish – 1
- (ii)**
- Readily available in large sheets.
 - Cost, cheaper than natural wood or pine board.
 - MDF has no natural defects such as warping or knots.
 - Flat and stable.
 - Has smooth surfaces, (no grain) that allows for very good finish with paint.
 - Easily worked – 1
 - Environmentally friendly – 1
 - 'Cost' – 1
 - Environmental reasons – 1
 - Easy to cut – 1
 - Easy to shape – 1

Unacceptable answers or answers for discussion

Stability – 0

Strong – 0

Acceptable answers

- (b) To allow the user to grip/pull the CD.
Seeing the names/read the label – 1
- (c) (i) Joint 1 Housing
Through housing – 1
Joint 2 Rebate/lap
Corner rebate – 1
- (ii) To mark depth of the housing.
To remove waste from wood housing.
To square shoulders of housing joint.
Mark lines parallel to edge – 1
Must have the word 'depth' or implies it – 1
- (d) Use a try square.
Check/measure the diagonals.

Unacceptable answers or answers for discussion

- Quicker – 0
- Stopped housing – 0
- Set square – 0
Engineers square – 0

Acceptable answers

6. (a) Any suitable thermoplastic
Acrylic
Polythene – 1
Polystyrene – 1
- (b) (i) Speed (faster)
Accurate
- (ii) Marker pen lines can be rubbed off plastic.
Scriber scratches plastic and if a mistake was made you can't rub the scratch off.
Marker pen easier to see – 1.
Scratch mark could weaken bend (break/snap etc) – 1.
- (iii) Bandsaw
Fretsaw
Jigsaw – 1
Hegner saw – 1
Scroll saw – 1
- (c) (i) 2. Draw file/Scraper – 1
4. Polish/Brasso/Abrasive polish – 1
Soap and steel wool – 1
- (ii) Easier to place/secure in vice
File – but qualified – 1

Unacceptable answers or answers for discussion

Edges easier to file – 0

Acceptable answers

- (d) (i) Strip heater
Line bender – 1
- (ii) Gloves
- (iii) Plastic will crack/break if forced
- (e) Evaluation
Modelling – 1
Prototype – 1

Unacceptable answers or answers for discussion

Touching plastic – 0

2005 Craft and Design

Standard Grade – Credit

Marking Instructions

Each answer is allocated 1 mark unless otherwise stated

Acceptable answers

1. (a) (i) More comfortable shape
Better grip
Less slippery grip
Angled blade
Lighter weight
Any similar specific answer showing the understanding of ergonomics.
Easy to adjust blade – 1
- (ii) Curved, flowing lines/shape/form
Contrasting materials
Less plain looking
More modern looking
Any similar specific answer showing understanding of aesthetics.
Looks better – 1
- (iii) Retractable blade
Better grip
Any similar specific answer showing understanding of safety factors.
More control – 1

Unacceptable answers or answers for discussion

- Easier to use – 0
- Aesthetically pleasing – 0
Plastic – 0
- Safer – 0
No sharp edges – 0

Acceptable answers

- (b) (i)** To make any necessary design changes.
To check how it works/how it looks/proportions/ergonomics etc.
To market test/test consumer opinions.
Any similar specific answer showing understanding of modelling.
To evaluate it – 1
Reduce manufacturing problems – 1
To save money – 1
 - (ii)** Plasticine, clay, Styrofoam, foam, mdf.
Any other material suitable for modelling 3D form.
Specify wood – 1
MDF – 1
Polystyrene – 1
Expanded polystyrene – 1
 - (iii)** Easy to shape
Cheap
Quick/speed – 1
Recycled (specific to material) – 1
Colour (specific to material) – 1
Any other valid reason
- }
- (c) (i)** Anthropometrics
 - (ii)** Research
Investigation – 1
Must be a stage in design process

Unacceptable answers or answers for discussion

- Card – 0
- Aluminium – 0
- 'Wood' – 0
- Plastic – 0

Must relate to 1(b)(ii)

- Ergonomics – 0
- Human sizes – 0
- Percentiles – 0

- Development – 0
- Initial ideas – 0

Acceptable answers

- (d) (i) 95mm
- (ii) 50mm
(male/female average 50th%le grip diameter.)
43mm – 1
(female 5th%le grip diameter)
48-52mm (ie 48,49,50,51,52) – 1
50th%le for male/female
2. (a) The tray is kept in a drawer.
It is not visible/on show.
No one is too concerned about the looks of their cutlery tray.
It is not a status symbol.
Any other valid reason.
- (b) Cheap
Suitable for mass production
Versatile wrt manufacturing process
Waterproof
Hygienic/easily cleaned
Does not rust – 1
Speed of recycled – 1
Coloured – 1
No finish required – 1
Durable – 1
Speed of production – 1
Any other valid answer
- (c) Plastic that can be reheated and reshaped, plastic that returns to its original shape on reheating.
Implies it's done more than once – 1
Must be reheated and reshaped – 1

Unacceptable answers or answers for discussion

(Maximum length acceptable?
(keep less than 105, 107 & 117mm?)) – 0

Easily shaped – 0
Looks good – 0
Strong – 0
Weight – 0

Plastic that can be recycled – 0

Acceptable answers

- (d) Vacuum former
Vacuum forming machine
- (e) (i) Rounded edges/corners
Smooth corners – 1
- (ii) Draft angle/taper
Tapered/sloping edges
Air holes
3. (a) (i) Use a template/stencil.
Cut the two parts together/at the same time.
Cut one and trace it onto the second part.
Use CNC router – 1
- (ii) The distance between the blade and the frame is too small.

Coping saw too small – 1
Refer to reach of saw or the distance cut is from the edge – 1
- (iii) Drill hole + use jigsaw
Chain drill + file/sand
Any other valid tool/method
(1 mark each point either method)
- (b) Cross-halving joint
(1 mark name, 1 mark sketch with workable cross halving joint.)
Methods involving the splitting of Part A – 1
(thereafter dowel – 1/biscuit joints – 1)
Knock down fitting – 1
Sketch should show it in half if accepting joints

Unacceptable answers or answers for discussion

- Vac moulder – 0
- Smooth surfaces – 0
- Surface – 0
- Too small.
Not enough detail – 0
- Butt – 0

Acceptable answers

- (c) Paint parts separately/before joining
Masking
- (d) Lever – changes angle of blade
Sideways – 1
Angle of cut – 1
Levels the blade – 1
Nut – changes depth of cut/amount of blade protruding
Protruding – 1
Move blade up/down – 1
- (e) (i) The blank ends are damaged by the centres and may need to be cut off.
Keep chisel away from centres – 1
Must imply mounting on lathe – 1
- (ii) Position of **tool rest**
Speed of lathe/slow down
- (iii) Gouge
Scraper – 1
- (iv) Outside callipers

Unacceptable answers or answers for discussion

Adjust size of blade – 0
Length of blade – 0

Steel rule – 0
Micrometer – 0
Vernier callipers – 0

Acceptable answers

4. (a) (i) Does not rust/corrosion resistant/requires no finish
Lightweight
Easy to turn (on a metal lathe)/easily machined
- (ii) Tough/impact resistant
Durable
Dense
Hard – 1
Heavy – 1
Hardened – 1
Hard wearing – 1
Won't dent – 1
- (b) (i) Not all the metal/bar/end would be faced/machined/removed.
Sketch acceptable – 1
The centre of the face would be left ('bump' left in the middle...)
(Any description which shows an understanding of the effect of not having a centred lathe tool.)
- (ii) Compare lathe tool height to the height of the revolving centre.
Steel rule method, sketch alone valid if sufficiency descriptive.
Set to tailstock – 1
Trial and error method by removing the 'pip' - 1
- (b) (iii) Speed
Feed rate – 1
Reduce speed – 1

Unacceptable answers or answers for discussion

- Non ferrous – 0
Strong – 0
Looks good – 0
Aesthetics – 0
- Strong – 0
Cheap/low cost – 0
- Safety implications – 0
End not square – 0
Poor finish – 0
Uneven cut – 0
Safety – 0
- Use of tailstock (unless accompanied by sketch showing revolving centre)
Measure with rule – 0
- Change compound slide – 0
Knurling tool in – 0
Speed up – 0

Acceptable answers

- (iv) Grip/less slippy
Easier to turn
- (v) Taper turning
Tapering – 1
- (vi) Fast speed
Slow feed rate
Smooth/even feed rate/don't stop
Automatic feed
Use lubricants – 1
Sharp tool – 1
Correct type of tool (finishing/round nose) – 1
- (vii) Parting tool
- (c) (i) Hole not drilled all the way through/stopped hole.
(Any description showing understanding.)
- (ii) 5mm
Ø4.5→Ø5.5mm
Acceptable tolerance? (4.5-5.5mm?) – 1
- (iii) Taper tap
- (iv) Use of lubricant
Release of cuttings
Use taps in sequence – 1
Forward one turn – back half turn
Ensure tap vertical
(Any valid method showing understanding)

} These are the same

Unacceptable answers or answers for discussion

Aesthetics/looks better – 0

Chamfering – 0

Do it very slowly – 0

Flat bit – 0

First tap – 0

Acceptable answers

5. (a) (i) Aesthetics
- (ii) Proportion – tall back **compared** to seat height.
(Any description including a comparison, eg thickness of legs compared to length.)
- (iii) Contrast – circles in back compared to rectangles/straight lines.
Contrasting: Shapes
Colours
Texture
(Any description including difference compared.)
- (b) (i) Pine, spruce, fir... (any softwood.)
- (ii) Sustainable resources, recyclable materials, transportation/energy costs, pollution caused by manufacturing process/disposal.
(Any valid environmental consideration – must be clearly different for two marks.)
Quality of wood – 1
Type of wood – 1
Conditions to which it is exposed (ie weather outdoors) – 1
- (c) (i) Poor strength
Weak – 1
- (ii) Dowel
Mortise & Tenon
Biscuit
Bridle joint – 1
Knock down fitting – 1
Dovetail – 1

Unacceptable answers or answers for discussion

Mention of surroundings – 0

Non toxic – 0
Where it will be used – 0

Mortice – 0
Tenon – 0
Lap – 0

Acceptable answers

- (d) Dry cramping
- (e) (i) Removing pencil marks
Raising the grain/wetting wood
(Any valid method)
Fill defects – 1
Remove dust – 1
Use scraper/plane – 1
- (ii) To show the grain
To protect the wood
To improve the aesthetics/looks
Shiney – 1
Glossy – 1
- (f) (i) Cheaper to buy
Easier to transport
Easier to access buildings/rooms/car
'Cheaper' – 1
- (ii) Cheaper to produce/no need to assemble
Cheaper transport costs
Improve profits – 1
Ease of storage – 1
- (g) Knock down (KD) fittings
KD's – 1

Unacceptable answers or answers for discussion

- Dry assembly – 0
- Wet and dry – 0
Steel wool – 0
- 'Fun' to make – 0
'Challenge' to make – 0
- 'Cheaper' – 0
- Fixtures – 0

[END OF MARKING INSTRUCTIONS]