**Design & Technology**

**AQA GCSE** Logo

Description automatically generated with low confidence

**Stock forms, types and sizes**

**Materials required for questions**

* Pencil
* Rubber
* Calculator

**Instructions**

* Use black ink or ball-point pen
* Try answer all questions
* Use the space provided to answer questions
* Calculators can be used if necessary
* For the multiple choice questions, circle your answer

**Advice**

* Marks for each question are in brackets
* Read each question fully
* Try to answer every question
* Don’t spend too much time on one question

**Good luck!**

**Q1.** Choose one commercial process from the table below

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Paper and board die cutting | Wood turning | Metal casting | Polymer extrusion | Textile weaving | Electronic pick and place assembly |

**Q1a**. Name a specific main material used with your chosen process **(1 mark)**

**Q1b**. Name a stock form of the material used in your chosen process **(1 mark)**

**Q2.** The products/components in the table are manufactured from different materials

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Metal can opener | Card shoe box | Textile shopping bag | Wooden toy train | Polymer gears |

**Q2a.** Name the specific main material of your chosen product/component **(1 mark)**

**Q2b.** Name the stock form used in manufacture of your chosen product/component **(1 mark)**

**Q3**. The table below shows a variety of standard components. Choose **one** component and complete **one** row in the table **(3 marks)**

|  |  |  |
| --- | --- | --- |
| **Component** | **Component name** | **Component function** |
| 100PCS 3/4" Brass Paper Fasteners | PLOMA |  |  |
|  |  |  |
| Resistor - Wikipedia |  |  |
| Plated Steel Ball Bearing Hinge |  |  |
| Hexagonal Stainless Steel Nuts And Bolts, Size: 25mm at ₹ 3/piece in Raipur |  |  |

**Answers**

**Q1a**.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Paper and board die cutting | Wood turning | Metal casting | Polymer extrusion | Textile weaving | Electronic pick and place assembly |
| Any specific named paper e.g., cartridge paper, layout paper Any specific paper-based board e.g., cardboard, corrugated cardboard, solid white board | Any specific named wood e.g., beech, ash | Any specific named metal e.g., aluminium, pewter | Any specific named polymer e.g., acrylic, nylon | Any specific named textile fibre e.g., cotton, polyester | Any specific named material e.g., PCB board, solder |

**Q1b.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Paper and board die cutting | Wood turning | Metal casting | Polymer extrusion | Textile weaving | Electronic pick and place assembly |
| Sheet, roll | Plank, board, log, (bowl) blank | Ingot, bar | Powder, granules, pellets | Yarn, thread, hank | Board, PCB board, reel of solder |

**Q2.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Q2 | Metal can opener | Card shoe box | Textile shopping bag | Wooden toy train | Polymer gears |
| Q2a | Steel Stainless steel | Solid white board Corrugated cardboard | Cotton drill Denim Hessian Calico | Beech Pine MDF Plywood | Most gears are made from Nylon and Polyacetal Also accept: Polyphenylene sulfide (PPS) Thermoplastic polyester, long fibre reinforced plastic and liquid crystal polymers (LCP). |
| Q2b | Sheet Strip Bar | Sheet | Roll | Plank Board | Granules Also accept named gear stock forms eg spur, bevel, helical, worm, bevel, hypoid, crown gear |

**Q3**.

|  |  |  |
| --- | --- | --- |
| **Component** | **Component name** | **Component function** |
| 100PCS 3/4" Brass Paper Fasteners | PLOMA | * Split pin * Bifurcated rivet * Paper fastener | * Used to fasten multiple layers of paper and card together. * Create a hinged joint in paper or card. |
| A pair of metal buttons  AI-generated content may be incorrect. | * Press stud * Snap fastener | * Fasten two pieces of fabric together. * Create a closure device |
| Resistor - Wikipedia | * Resistor | * To limit current flow in circuits. * To limit current flow in different parts of circuits. * To limit current flow to components damaged by excessive current. |
| Plated Steel Ball Bearing Hinge | * Hinge | * Used to hinge a door in a door frame so it opens and closes. * Used to provide and opening a lid on a box |
| Hexagonal Stainless Steel Nuts And Bolts, Size: 25mm at ₹ 3/piece in Raipur | * Nut and bolt * Set screw and nut | * Fasten two or more components together. * Fasten two or more pieces of sheet material together. * Used where a non-permanent joint or a serviceable joint is required. |