

Cambridge National

Engineering Design

R038/01: Principles of engineering design

Level 1/2 Cambridge National Certificate/Award/Diploma

Mark Scheme for June 2025

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This mark scheme is published as an aid to teachers and students, to indicate the requirements of the examination. It shows the basis on which marks were awarded by examiners. It does not indicate the details of the discussions which took place at an examiners' meeting before marking commenced.

All examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes should be read in conjunction with the published question papers and the report on the examination.

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MARKING INSTRUCTIONS

PREPARATION FOR MARKING

RM ASSESSOR

1. Make sure that you have accessed and completed the relevant training packages for on-screen marking: *RM Assessor Online Training: OCR Essential Guide to Marking*.
2. Make sure that you have read and understood the mark scheme and the question paper for this unit. These are available in RM Assessor
3. Log-in to RM Assessor and mark the **required number** of practice responses (“scripts”) and the **required number** of standardisation responses.

MARKING

1. Mark strictly to the mark scheme.
2. Marks awarded must relate directly to the marking criteria.
3. The schedule of dates is very important. It is essential that you meet the RM Assessor 50% and 100% (traditional 40% Batch 1 and 100% Batch 2) deadlines. If you experience problems, you must contact your Team Leader (Supervisor) without delay.
4. If you are in any doubt about applying the mark scheme, consult your Team Leader by telephone, email or via the RM Assessor messaging system.
5. **Crossed-Out Responses**

Where a candidate has crossed out a response and provided a clear alternative then the crossed-out response is not marked. Where no alternative response has been provided, examiners may give candidates the benefit of the doubt and mark the crossed-out response where legible.

Rubric Error Responses – Optional Questions

Where candidates have a choice of question across a whole paper or a whole section and have provided more answers than required, then all responses are marked and the highest mark allowable within the rubric is given. Enter a mark for each question answered into RM Assessor, which will select the highest mark from those awarded. *(The underlying assumption is that the candidate has penalised themselves by attempting more questions than necessary in the time allowed.)*

Multiple-Choice Question Responses

When a multiple-choice question has only a single, correct response and a candidate provides two responses (even if one of these responses is correct), then no mark should be awarded (as it is not possible to determine which was the first response selected by the candidate).

When a question requires candidates to select more than one option/multiple options, then local marking arrangements need to ensure consistency of approach.

Contradictory Responses

When a candidate provides contradictory responses, then no mark should be awarded, even if one of the answers is correct.

Short Answer Questions (requiring only a list by way of a response, usually worth only one mark per response)

Where candidates are required to provide a set number of short answer responses then only the set number of responses should be marked. The response space should be marked from left to right on each line and then line by line until the required number of responses have been considered. The remaining responses should not then be marked. Examiners will have to apply judgement as to whether a 'second response' on a line is a development of the 'first response', rather than a separate, discrete response. *(The underlying assumption is that the candidate is attempting to hedge their bets and therefore getting undue benefit rather than engaging with the question and giving the most relevant/correct responses.)*

Short Answer Questions (requiring a more developed response, worth two or more marks)

If the candidates are required to provide a description of, say, three items or factors and four items or factors are provided, then mark on a similar basis – that is downwards (as it is unlikely in this situation that a candidate will provide more than one response in each section of the response space).

Longer Answer Questions (requiring a developed response)

Where candidates have provided two (or more) responses to a medium or high tariff question which only required a single (developed) response and not crossed out the first response, then only the first response should be marked. Examiners will need to apply professional judgement as to whether the second (or a subsequent) response is a 'new start' or simply a poorly expressed continuation of the first response.

6. Always check the pages (and additional objects if present) at the end of the response in case any answers have been continued there. If the candidate has continued an answer there, then add the annotation 'SEEN' to confirm that the work has been seen and mark any responses using the annotations in section 11.
7. There is a NR (**No Response**) option. Award NR (No Response):
- if there is nothing written at all in the answer space
 - OR if there is a comment which does not in any way relate to the question (e.g., 'can't do', 'don't know')
 - OR if there is a mark (e.g., a dash, a question mark) which is not an attempt at the question.
- Note: Award 0 marks – for an attempt that earns no credit (including copying out the question).
8. The RM Assessor **comments box** is used by your Team Leader to explain the marking of the practice responses. Please refer to these comments when checking your practice responses. **Do not use the comments box for any other reason.**
9. *Assistant Examiners will send a brief report on the performance of candidates to their Team Leader (Supervisor) via email by the end of the marking period. The report should contain notes on particular strengths displayed as well as common errors or weaknesses. Constructive criticism of the question paper/mark scheme is also appreciated.*
10. For answers marked by levels of response: Not applicable in F501
To determine the level – start at the highest level and work down until you reach the level that matches the answer
To determine the mark within the level, consider the following

Descriptor	Award mark
On the borderline of this level and the one below	At bottom of level
Just enough achievement on balance for this level	Above bottom and either below middle or at middle of level (depending on number of marks available)
Meets the criteria but with some slight inconsistency	Above middle and either below top of level or at middle of level (depending on number of marks available)
Consistently meets the criteria for this level	At top of level

11. Annotations

Annotation	Meaning
	Blank page
	Seen
	Tick
	Benefit of the doubt
	Level 1 for use on Q15b only
	Level 2 for use on Q15b only
	Level 3 for use on Q15b only
	Highlight Pen tool must be used on Q15b

Applying the annotations

Every page must have a stamp on it to indicate you have checked all the pages that are available. If a page is blank, use the 'seen' stamp.

All question parts must have an annotation applied.

Levels of response questions

- Do **not** use ticks, use the highlighter tool to indicate relevant sections. The number of highlighted sections does **not** equal the number of marks awarded.
- Always stamp the level number at the end of the question, e.g. L2

Do **not** use crosses.

Question	Answer	Mark	Guidance
1	(b) Prototype gear assembly	1	Correct answer only
2	(c) External thread	1	Correct answer only
3	(a) Colourful graphics	1	Correct answer only
4	(c) Comparing the size of the product with the client's specifications	1	Correct answer only
5	(a) 1:2	1	Correct answer only
6	(c) A design that uses human measurements to ensure the product is comfortable and easy to use	1	Correct answer only
7	(c) The information available is often free	1	Correct answer only
8	(a) Author's name / who the drawing is by	1	Correct answer only
9	(d) Vernier callipers	1	Correct answer only
10	(c) 45°	1	Correct answer only

Question			Answer	Mark	Guidance
	(a)	(i)	Award one mark for each suitable specification point, e.g.: Aesthetics • Appeal to user • Available in a variety of colours / finishes • Modern design, or plain • Painted • Powder coating • Smooth / Textured finish / look Working environment • Clean • Construction site • Easily adjustable • For use in workshops, buildings as construction material • Galvanised for rust resistance in warehouses etc • Industrial applications, garage, warehouse etc. • Inside buildings • Safe / secure • Spacious • Suitable for indoor use <i>Continued next page</i>	4	Aesthetics: ‘Colour’ must be qualified. Award a given specific colour. Working environment: No marks for ‘heavy duty’ in working environment.

			Function • Ability to dissemble • Benches • Secure to the wall • Shelving • Storage racking in custom sizes • Structural profile for heavy duty storage • Support items • Supporting pipe work • Test rigs Material • Aluminium • material property – e.g. Will not rust, Robust • Stainless steel • Steel • Stainless steel Award credit for other appropriate answers		Function & Material: No marks for generic terms i.e.: ‘metal’ ‘strong’
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Question			Answer	Mark	Guidance
11	(a)	(ii)	Award up to two marks for a valid sketch i.e.: 1 mark for an attempted freehand sketch 2D or 3D. 1 mark for one or more labels / dimensions.	2	Award drawings that show the material before it has been folded i.e. a flat profile.
11	(a)	(iii)	Award one mark for an appropriate manufacturing process i.e.: • Cut from steel sheet (1) • Drilling (1) • Finishing / galvanising / powder coating / painting (1) • Forming, shaping, wasting, (1) • Laser cut / CNC (1) • Punching / piercing / (1) • Saw / cut to length (1) Award credit for other appropriate answers	1	Do not award marks for specific answers that repeat the information already given in the question.

11	(a)	(iv)	Up to three marks for an explanation e.g.: • The material used is widely available (1) in sheets or already as an angle (1) meaning it can be used to mass produce the product (1) • The material is easy to get hold of (1) making it cost effective to use (1) and is easily folded into shape (1) • The material can come as angle already made (1) so all the manufacturer has to do is punch the holes and paint it (1) making it quick to produce (1) Award credit for other appropriate answers	3	Award marks for: One mark for availability. One mark for form. One mark for how this influences the design or manufacturing processes, cost or scale of production. Do not award answers related to sustainability of the environment.
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Question		Answer	Mark	Guidance														
12	(a)	Up to three marks for correct stages in order. One mark for each correct stage, i.e.: <table border="1"><thead><tr><th colspan="2">Key stages of 3D printing</th></tr><tr><th></th><th>Description of key stage</th></tr></thead><tbody><tr><td>Stage 1</td><td>Computer generated design created</td></tr><tr><td>Stage 2</td><td><i>Slicing – Transforming STL file to G code</i></td></tr><tr><td>Stage 3</td><td>Setting up the machine ready for printing</td></tr><tr><td>Stage 4</td><td>3D Printing</td></tr><tr><td>Stage 5</td><td>Post processing</td></tr></tbody></table>	Key stages of 3D printing			Description of key stage	Stage 1	Computer generated design created	Stage 2	<i>Slicing – Transforming STL file to G code</i>	Stage 3	Setting up the machine ready for printing	Stage 4	3D Printing	Stage 5	Post processing	3	1 correct stage = 1 mark 2 correct stage = 2 marks 3 or 4 correct stages = 3 marks Up to three marks available if stated in correct stage. Use a maximum of three ticks only.
Key stages of 3D printing																		
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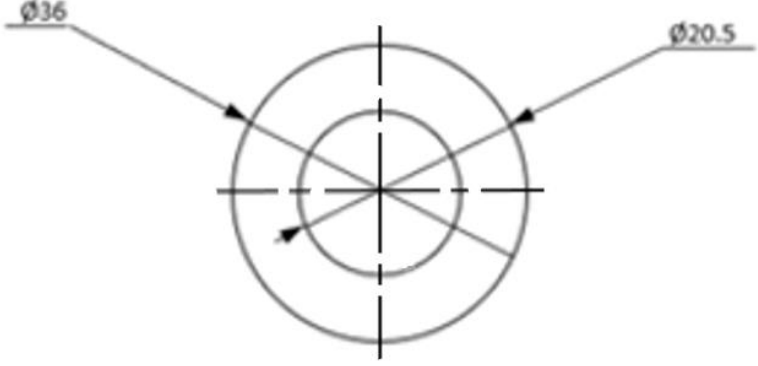
12	(b)	(i)	Award one mark for one identified advantage, e.g.: • 3D printing means the whole product can be produced at once • Cost effective • Easy to modify / change design of model • Less material wasted • Less manual labour • More accurate • Only one material is needed • Possible to make complex shapes • Possible to make internal shapes not possible through traditional use of tools / machines • Saves time or quicker manufacture • The same design can be made in different scales / sizes • Wide choice of materials Award credit for other appropriate answers	1	
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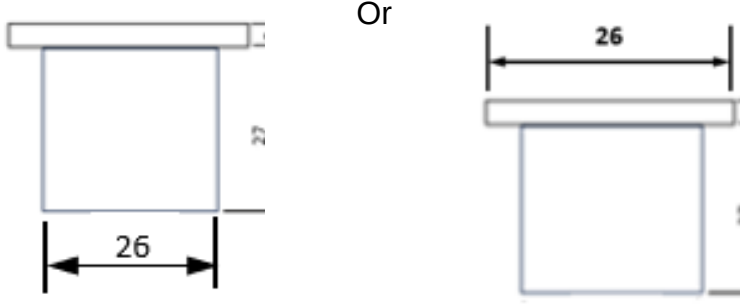
Question			Answer	Mark	Guidance
12	(b)	(ii)	Award up to three marks for a valid description with an example. e.g.: 3D printing builds up the shape in layers instead of removing material. (1) For example, a model car could be printed instead of moulded (1). This saves the cost of expensive moulds that have to be redesigned for any changes made to the design. (1) No material removal processes are needed to form the product shape. (1) For example, to make a thread, the thread can be printed instead of cut. (1) This saves materials and processing time (1) A hole can be printed to go through the component (1) instead of being drilled (1). This reduced the number of manufacturing processes the part needs to go through (1) A hollow shape can be 3D printed as one complete part such as a vacuum cleaner handle (1) without having to join two halves (1) this means no joining / screwing processes are needed saving time (1) Designed on CAD (1) allows modifications to be made easily (1) therefore you do not have to start again to change the design (1) Quicker than traditional methods using tools (1) with less material wastage (1) saving time / cost / resource (1) Award credit for other appropriate answers	3	One mark for example or scenario, feature or named product. One mark for difference. One mark for the explanation of difference justification e.g. a benefit.

12	(b)	(iii)	• Acetonitrile Butadiene Styrene (ABS) (1) • Acrylic (PMMA) (1) • Carbon mix filament (1) • Cement (1) • Clay (1) • High-density polyethylene (HDPE) (1) • High Impact Polystyrene (HIPS) (1) • Metal filament (1) • Polyester (PET) (1) • Polyethylene Terephthalate Glycol (PETG) (1) • Polylactic Acid (PLA) (1) • Polypropylene (PP) (1) • PVA (1) • Resin (1) • Silicon (1) • Wood filament (1) Award credit for other appropriate answers	1	Do not award generic material types i.e. 'plastic' / 'polymer', 'wood', 'metal'
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Question			Answer	Mark	Guidance
12	(b)	(iv)	Award up to two marks for an explanation e.g.: The printed component may be attached to supports (1) which need to be removed (1) 3D printing leaves lines where the layers have been built up (1) These need to be sanded to improve the appearance of the product (1) If the part is to be painted, the component needs sanding / priming and maybe some filing (1) to remove any traces of printing before it can be painted (1) Some 3D printed parts will need drilling and tapping (1) to allow them to be attached / assembled to other parts (1) Cleaning or smoothing ridges / lines / evidence of layers (1) to improve the appearance of the component (1) Removing unwanted sharp points, or burrs (1) to ensure safety when being handled (1) Resin needs to harden before use (1) and then it needs to be cleaned (1) Award credit for other appropriate answers	2	One mark for the reason. One mark for the explanation.

13	(a)	(i)	<i>Isometric view</i>  Bush bearing – Not to scale	1	Accept '3D view' if on the correct drawing.
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Question			Answer	Mark	Guidance
13	(a)	(ii)	Marks awarded for each correct aspect as shown. i.e.: • Centreline through the centre of the plan view, horizontally & vertically (1) • Correct line convention (1) • 	2	Accept solid lines through the centre of the plan view (max 1 mark). If the line convention is correct but only vertical or horizontal, maximum 1 mark. Lines must be drawn on the plan view to be awarded marks.

13	(a)	(iii)	Up to three marks awarded for each correct aspect as shown on the front view i.e.: • arrowed dimension line touching the leader lines (1) • arrowhead should have solid points (1) • dimension centred above the line (1) • leader lines not touching the shape (1)  Or	3	Dimension lines must be drawn on the front view to be awarded marks. Award marks for the correctly applied dimension even if the value is incorrect i.e. 20, 27 etc instead of 26. Award a maximum of three ticks.
13	(a)	(iv)	Award up to two marks for a valid explanation, e.g.: A physical model can test the size / proportions of the bush (1) to see if it fits the other parts of the pump (1) Physical models can test the shape of the design (1) and its appearance (1) Test can be carried out on a physical model (1) and check it against the design specification requirements (1) Test the model (1) and see if improvements are needed (1) Test the function of the model / test the design (1) before manufacture (1)	2	Award marks for the advantages of physical modelling rather than specific to the bush itself. One mark for the explanation of one point only. One mark for further justification.

Question			Answer	Mark	Guidance
13	(b)		Award up to two marks for a valid description of the benefits e.g.: Designs drawn in CAD can be easily edited (1) and therefore if changes are needed such as the dimensions, these can be made without starting again (1) CAD drawings can be rotated through different views (1), so you can see the shape in different angles (1) The drawing of the bush in CAD could show a sectioned view (1) to show the thickness (1) The design can be shared electronically via email (1) and the customer can then make edits or notes of changes required (1) Drawing the bush in CAD allows the design to be tested virtually (1) so simulation can be used to test the design before it is manufactured (1) CAD allows designers to 3D print prototypes (1) to test a physical copy of the design (1) CAD drawings can be completed quickly (1) therefore saving time and resources (1) Award credit for other appropriate answers	2	One mark for a valid description of one point only. One mark for a justification.

Question			Answer	Mark	Guidance
14	(a)	(i)	Award up to three marks for a valid description with an example. e.g.: A mobile phone could be designed to slow down processing information after it is 3 years old (1) This means customers would have to pay for new upgraded phone to enjoy reliable use (1) which secures future sales of the product (1) Electric toothbrushes /and some mobile phones are made so that the battery cannot be replaced (1) The battery starts to lose charge / needs charging more often until it is unusable (1). The customer has no alternative other than to buy a new one (1) Some electronic devices with a screen develop lines or colour interference after software upgrades (1) This decreases the user experience of using the device (1) and makes the user buy a new device, increasing sales (1) Award credit for other appropriate answers	3	One mark for one example, scenario, feature or named product. One mark for how this impacts on the use of the product. One mark for a justification point.

Question			Answer	Mark	Guidance
14	(a)	(ii)	Award up to two marks a description of the drawbacks e.g.: The product does not last very long (1) and the customer may not buy another one of their products (1) Negative reviews and complaints about the product (1) can damage company reputation (1) As the product becomes obsolete or fails as planned, customers will buy a newer product. (1) The drawback is customers may be disappointed that the product life was not longer, resulting in unhappy customers (1) More products must be bought to replace the obsolete product which is good for sales (1) but the brand /company reputation may suffer. (1) Customers upgrade to newer products more frequently so there is a continuous supply of repeat customers (1) but they may post negative comments on social media about the product reliability, affecting sales (1) There is regular demand for replacement parts which contributes to the overall success of the product (1) but customers change to other brands when buying a new product that is more reliable or has a longer lifespan. (1) More products will be thrown away more regularly (1) meaning more waste and landfill (1)	2	One mark for one valid explanation. One mark for a justification.

			Planned obsolescence is not sustainable (1) and new products are bought even if the old product still works, wasting materials (1) Customers choose alternative longer lasting products instead (1) lowering sales (1) More materials are used to replace obsolete products (1) which is unsustainable for the environment (1) Award credit for other appropriate answers		
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Question			Answer	Mark	Guidance
14	(b)	(i)	Award up to two marks for appropriate description of resources needed e.g.: Tools (screwdriver) may be used as a resource to disassemble a product (1) removing screws from casings to allow access (1) A manual or drawing would be needed (1) to show how to disassemble the product without braking components / disassemble the product safely (1) To disassemble a moped / lawnmower engine, you would need to use hand tools disassembling it on a workbench (1). A manufacturer's manual would help you disassemble the engine in the correct sequence (1) To disassemble a vacuum cleaner, you may need to use a torx screwdriver (1) and the owner's manual to see how the parts are assembled together (1) A manual or drawing would be needed (1) to show how to disassemble the product without braking components / disassemble the product safely (1) Award credit for other appropriate answers	2	One mark for one resource / scenario, e.g.: • Tools • Manufacture's manuals / instructions • Servicing information • PPE • etc. Award one mark for a justification or why / how the resource is used. No mark for 'disassemble / take apart the product', as this is given in the question. No marks awarded for the product example if given, e.g. 'mobile phone'.

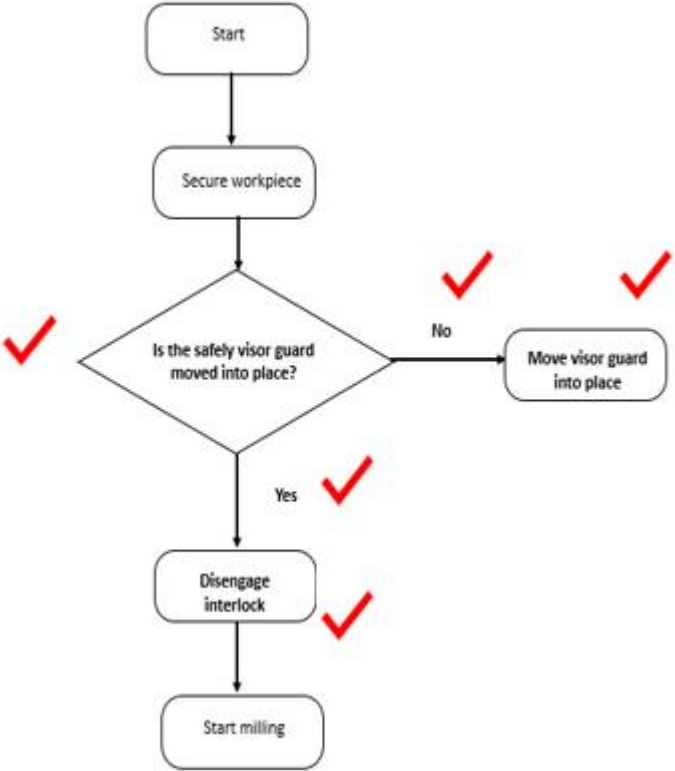
14	(b)	(ii)	Award up to two marks for a valid explanation e.g.: Specialist tools may be required only accessible through the manufacturer (1) The manufacturer wants repairs to only be carried out by authorised repairers (1) It may be a sealed unit (1) because the manufacture does not want customers / aftermarket repairs / not designed to come apart (1) Permanent fixings such as glue or welding may be used (1) so it cannot be taken apart without damaging it (1) Some products would be dangerous if attempted to taken apart such as batteries (1) so they are sealed for safety reasons (1) Damage may occur if taken apart (1) it may not go be possible to re-assemble the product (1) It is a single component (1) so nothing to take apart (1) Award credit for other appropriate answers	2	One mark for an explanation. One mark for an extension / justification.
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Question			Answer	Mark	Guidance
14	(c)		United Kingdom Conformity Assessed / Assessment (1) The mark that indicates that the product conforms with the requirements for the product to be sold within the UK (1) Demonstrate the product meets regular safety, health and environmental requirements UK (1)	1	Award: - Assessed for safety - Safety approved No marks for 'safe' 'standard' or 'British standard'
15	(a)	(i)	Award up to two marks for a valid description e.g.: To find out how other motors are made to function (1) and improve on the design / look at ways to reduce the number of components (1) To give an idea of how the motor is designed (1) and take inspiration for a new design (1) The drawing could be used to research how existing products are assembled (1) to generate new design ideas (1) To carry out desk-based research analysis of an existing product (1) to design better solutions than the current models (1)	2	One mark for each point made Answers related to showing the materials used are not accepted as not within table / assembly drawing. .

15	(a)	(ii)	Award up to two marks for a valid explanation e.g.: The drawing does not give any dimensions for the components (1) which would be needed to ensure the components fit together to be fully assembled (1) The drawing does not give information about the materials used for each component (1) so it is not possible to select a method of manufacturing to suit the component (1) Doesn't show orthographic views / internal shapes / detailed drawing of each component (1) therefore it is not possible to copy the design for manufacture (1)	2	One mark for each valid point made. Or one mark for a valid point and one mark for a justification.
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Question	Answer	Mark	Guidance
15 (b)	Level 3 (5–6 marks) A thorough discussion of ways to consider how assembly processes can be reduced to increase the number of products that can be made, showing understanding of all the points stated. The discussion typically includes one or more ways to change the design to speed up assembly processes and recognises changes may not speed up assembly or have other consequences. Consistent use of appropriate terminology. Level 2 (3–4 marks) An adequate discussion of ways to consider how assembly processes can be reduced to increase the number of products that can be made, showing understanding of some of the points stated. The discussion typically includes at least one way to change the design to speed up assembly processes and may recognise changes may not speed up assembly or have other consequences. Some use of appropriate terminology. Level 1 (1–2 marks) A brief discussion of ways to consider how assembly processes can be reduced to increase the number of products that can be made, showing limited understanding.	6	Up to six marks for a discussion or detailed explanation of the possible solutions to speed up assembly processes, to increase the number of products that can be made. Responses may include reference to: • The drones being produced have been designed to be assembled by hand, but they will need to be redesigned so some parts can be assembled by machines. • Manufacturing processes could be changed. • Using machines for some assembly will save time meaning more drones can be assembled in less time. • The drones would need to be re-designed to allow for machines to do some assembly. • The design could be changed to allow some automation. • If machines are used for assembly, these require investment for the purchase, set up and staff training which could initially delay production. • Instead of using machines for assembly, the drones could be redesigned to use less fasteners such as screws. • Injection moulding could be used to mould in snap connectors, so workers do not need to spend time using screws. • Using less fasteners could be more cost effective than trying to use machines for assembly. • The design could be changed so some parts could be 3D printed, meaning so less components are required.

Question		Answer	Mark	Guidance
		Answers typically only state changing the design will speed up the assembly process. Little or no use of appropriate terminology. 0 marks Response that is irrelevant and/or not worthy of credit. Annotate with 'Seen' at end of response.		For example, hollow casings can be printed instead of producing two halves, therefore saving assembly time. • The company will need to consider how much investment in time, redesigning and machines will cost vs. continuing to assemble the existing designs by hand. • Employing more staff for assembly may be a more cost-effective solution than changing the design and assembly methods. Award other valid discussion points

Question	Answer	Mark	Guidance
16 (a)	Award one mark for each correctly placed answer up to a maximum of three i.e.:  <pre> graph TD Start([Start]) --> Secure([Secure workpiece]) Secure --> Decision{Is the safety visor guard moved into place?} Decision -- No --> Move([Move visor guard into place]) Decision -- Yes --> Interlock([Disengage interlock]) Interlock --> Milling([Start milling]) </pre>	3	1 correct = 1 mark 2 correct = 2 marks 3, 4 or 5 correct = 3 marks One mark for each correct label Award a maximum of three ticks. Award one mark for each as shown, i.e.: Is the safety visor guard moved into place (1) No [on the arrow line] (1) Move visor guard into place (1) Yes [on the arrow line] (1) Disengage interlock (1) Do not award marks for adding stages to the flowchart.

Question			Answer	Mark	Guidance
16	(b)		Award up to four marks for an analysis, which may include comparisons, and or advantages / benefits vs. disadvantages / drawbacks covering key points e.g.: • Standby mode saves energy by not drawing much energy in standby mode • Some devices turn to standby mode after a while when no buttons have been pressed • This saves energy compared to being left fully on when not actually being used, saving energy and natural finite resources used to create the energy • Laptops/computers can use less energy being active faster /starting up again in standby mode than a full power restart, saving energy • But standby mode still uses energy even though the product is not being used • The product many not actually be used for days or weeks but is still drawing energy in standby mode • Standby mode can make people lazy as it is easier to click onto standby mode than turning the product fully off, such as at the wall plug • If there was no standby mode, a significant amount of energy could be saved as people would have to switch products off fully, which is what is best for sustainability and the environment • Saving energy consumption saves fossil fuels being burnt reducing emissions / reducing use of finite resources	4	Award one mark for each valid point made up to a maximum of four marks. Or: Award one mark for each valid point made with a further mark for relevant extension / justification up to a maximum of four marks. Award one mark for an example product given. Do not award marks for merely repeating the question.

			• Conclusion: Standby mode only partially contributes to sustainable design as energy is still consumed and wasted.		
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Question			Answer	Mark	Guidance
16	(c)		• Reuse (1) • Repair (1) • Reduce (1) • Refuse (1)	1	Award a mark for answers that relate to Reuse, Repair, Reduce, Refuse.
16	(d)		Award up to two marks for an explanation e.g.: Interviews with potential customers (1) on which materials were preferred for the product (1) Most respondents from the focus group (1) expressed a preference for a certain material (1) Product disassembly of a toy (1) showed that nylon gears would last longer than the plastic gears (1) A survey (1) of which material gives the highest quality finish showed that most people thought carbon fibre (1) It can help to determine which products can be recycled (1) or are biodegradable so that it doesn't harm the environment (1) Award credit for other appropriate answers	2	One mark for a method of primary research or scenario. One mark for an explanation of how research of existing products is used. Award marks for appropriate examples if given.

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