

Mark Scheme (Results) Summer 2010

Principal Learning

Manufacturing and Product Design

MP302 Customer Needs and Market Requirements
in Manufacturing

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General Marking Guidance

- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.
- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.
- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.
- There is no ceiling on achievement. All marks on the mark scheme should be used appropriately.
- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.
- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.
- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the team leader must be consulted.
- Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.

Question Number	Answer	Mark
1(a)	Quantitative Research, e.g.: Face to face interviews (1) Telephone interviewing (1) Postal and Self-Completion Market Research (1) Omnibus Market Research Surveys (1) Online/Internet Research (1) Computerised data collection (1) Questionnaire (1) Focus meetings with potential client group (1) Any two of the above	(2)

(2 x 1)

Question Number	Answer	Mark
1(b)	Qualitative Research, e.g.: In-Depth Interviews (1) Paired Depths (1) Triads (1) Market Research Mini-Groups (1) Focus Groups or Group Discussions (1) Observation (1) Workshops (1) Any two of the above (No repetitions)	(2)

(2 x 1)

Question Number	Answer	Mark
1(c)	<ul style="list-style-type: none"> • Closed questions are a means of asking questions that have a definite set of clear-cut answers. (1) They usually result in simple factual information. (1) • They require the respondent to answer clear, specific questions (1) and therefore give a high level of control to the questioner. (1) • They involve minimum effort on the part of the respondent (1) so are seen as an easy option. (1) • They provide uniform questions and answers, and (1) they make it easier to evaluate/analyse the information that has been obtained. (1) • They save time because they are less time consuming for respondents to complete. (1) This may allow the questionnaire to ask more questions and may also increase the return rate. (1) • They can provide better information than open-ended questions, (1) particularly where respondents are not highly motivated. (1) Any two stated	(2)

(2 x 1)

Question Number	Answer	Mark
1(d)	<p>Focus groups</p> <ul style="list-style-type: none"> • Group of people are asked (1) about their attitude towards a product, service, concept, advertisement, idea or packaging (1). • Questions are asked in an interactive group (1) setting where participants are free to talk with other group members (1). • Two-way focus group (1) one focus group watches another focus group and discusses the observed interactions and conclusion (1) • Dual moderator focus group (1) one moderator ensures the session progresses smoothly, while another ensures that all the topics are covered (1) • Duelling moderator focus group (1) two moderators deliberately take opposite sides on the issue under discussion (1) • Respondent moderator focus group (1) one or more of the respondents are asked to act as the moderator temporarily (1) • Client participant focus groups (1) one or more client representatives participate in the discussion, either covertly or overtly (1) • Mini focus groups (1) groups are composed of four or five members rather than 6 to 12(1) • Teleconference focus groups (1) telephone network is used (1) • Online focus groups (1) computers connected via the internet are used (1) <p>1 Mark for how 1 Mark for expansion Up to 2 marks for each point mentioned.</p> <p style="text-align: right;">(2 x 2)</p>	(4)

Question Number	Answer	Mark
2(a)	<p>A customer may be offered a</p> <ul style="list-style-type: none"> • replacement product (1) • a credit note (1) • free repair (1) • refund (1) <p>Any two stated</p>	(2)

Question Number	Answer	Mark
2(b)	<ul style="list-style-type: none"> • What the price is (1) and if in a sale, how long the price has been at that level (1) • All details of other costs (1) like postage and packing or any extras (1) • Any taxes you need to pay (1) on top of the price stated on the price tag (1) <p>One identification, one description</p> <p style="text-align: right;">(1 x 2)</p>	(2)

Question Number	Answer	Mark
2(c)	<p>Key Factors:</p> <ul style="list-style-type: none"> • Wherever goods are bought they must "conform to contract" (1) This means they must be as described, fit for purpose and of satisfactory quality (i.e. not inherently faulty at the time of sale). (1) • Goods are of satisfactory quality if they reach the standard that a reasonable person would regard as satisfactory, (1) taking into account the price and any description. (1) • Aspects of quality include fitness for purpose, (1) freedom from minor defects, appearance and finish, durability and safety. (1) • It is the seller, not the manufacturer, (1) who is responsible if goods do not conform to contract. (1) • If goods do not conform to contract at the time of sale, purchasers can request their money back (1) "within a reasonable time". (1) • For up to six years after purchase (1) (five years from discovery in Scotland) purchasers can demand damages (which a court would equate to the cost of a repair or replacement). (1) • A purchaser who is a consumer, i.e. is not buying in the course of a business, (1) can alternatively request a repair or replacement. (1) • If repair and replacement are not possible or too costly (1), then the consumer can seek a partial refund, if they have had some benefit from the good, or a full refund if the fault/s have meant they have enjoyed no benefit. (1) • In general, the onus is on all purchasers to prove the goods did not conform to contract (1) (e.g. was inherently faulty) and should have reasonably lasted until this point in time (i.e. perishable goods do not last for six years). (1) • If a consumer chooses to request a repair or replacement, (1) then for the first six months after purchase it will be for the retailer to prove the goods did conform to contract (e.g. were not inherently faulty) (1) <p>1 Mark for identification 1 Mark for justification Up to 2 marks for each factor mentioned</p>	<p style="text-align: right;">(2 x 2) (4)</p>

Question Number	Answer	Mark
3	<ul style="list-style-type: none"> • When the ASA receives a complaint (1) it is assessed against the Codes. (1) • If there appears to be a problem (1) the person complaining will be informed that the ASA is taking up the complaint. (1) • Complaints are resolved as quickly as possible. (1) • If the complaint is serious (1) a formal investigation is started. (1) • Evidence is ordered from the advertiser. (1) • Findings then go to the ASA council. (1) • Council decides if Code has been broken. (1) • Advertisers and complainants are told in advance. (1) when the case will be published on the website. (1) • Both sides have 21 days to ask the Independent Reviewer of ASA Adjudications to review the case (1) in the rare instance where a substantial flaw of process or adjudication is apparent, or where additional relevant evidence becomes available. (1) • If the Reviewer accepts a request for a review he can ask the Council to reconsider its ruling. (1) • Broadcasters cannot air ads that break the Codes and the ASA (1) can require publishers not to print ads that don't meet the rules. (1) <p>Any one point thoroughly explained (Up to 4 marks)</p> <p>One mark for identification, one mark for expansion Up to 2 marks for identifications only</p>	<p>(2 x 2) (4)</p>

Question Number	Answer	Mark
4(a)	<p>The Internet:</p> <p>Advantages:</p> <ul style="list-style-type: none"> • Able to have instant sales through web (1) • Add on animation and film sequences (1) • Get instant feedback from potential customers (1) <p>Disadvantages:</p> <ul style="list-style-type: none"> • Not everyone has access to internet (1) • Regarded as a young persons facility (1) • Advertising easily ignored (1) • Pop-ups often switched off (1) <p>Television:</p> <p>Advantages:</p> <ul style="list-style-type: none"> • Wide Audience (1) • Older people watch TV more than use internet (1) • High quality images (1) • Brings product right into living room (1) <p>Disadvantages:</p> <ul style="list-style-type: none"> • Great increase in number of channels (1) • Cannot be sure of captive audience (1) • People go and make drinks during commercial break (1) <p>At least 1 advantage and 1 disadvantage for both television (up to 2 marks) & internet (up to 2 marks) discussed (2 x 2)</p>	(4)

Question Number	Answer	Mark
4(b)	<ul style="list-style-type: none"> • Provides customer confidence (1) so customers come back and buy more products from the company (1) • Allows minor faults to be rectified (1) customers feel that even if faults are detected the company will do what it can to rectify the issues (1) • Good after sales service in terms of ringing or writing to buyers of products (1) makes purchaser consider buying further (1) products • Good reputation (1) can help word of mouth recommendation (1) • Good after sales service can encourage customer loyalty (1) and help customers decide to buy more items from manufacturer (1) • Customer who feels "cared about" (1) is likely to return (1) • If things do go wrong with a product (1) good after-sales service can minimize bad effects on a company (1) <p>One mark for identification, one mark for expansion Any one point thoroughly explained (up to 4 marks) (2 x 2) (1 x 4)</p>	(4)

Question Number	Answer	Mark
5(a)	<p>List</p> <ul style="list-style-type: none"> • Reports • Forecast • Trends • Surveys • Specifics - ergonomics, anthropometrics, usage, replacement, demographics etc • Specialist statistics from organisation such as DEFRA • Or similar <p>Any four stated</p> <p style="text-align: right;">(1 x 4)</p>	(4)

Question Number	Indicative Content	
5 (b)	<p>Level 1 A business would look at statistics like the numbers of the potential market. If they did this they would have a good idea of what type of production should be used. It could be a one off item, a batch produced item or a mass produced item.</p> <p>Level 2 A business would look at statistics like the numbers of the potential market. If they did this they would have a good idea of what type of production should be used. It could be a one off item, a batch produced item or a mass produced item. The number of items being produced and the statistics obtained could have a bearing on not only the number being produced but how they are being produced. For example, it might be that the numbers warrant computer aided manufacturing.</p> <p>Level 3 A business would look at statistics like the numbers of the potential market. If they did this they would have a good idea of what type of production should be used. It could be a one off item, a batch produced item or a mass produced item. The number of items being produced and the statistics obtained could have a bearing on not only the number being produced but how they are being produced. For example, it might be that the numbers warrant computer aided manufacturing. It might also affect such issues as whether or not flexible manufacturing systems are set up. For example, if there was a demand for a certain batch of a particular colour, some consideration would be made of being able to change colours quickly. There would also be financial issues and whether or not the product was financially viable.</p>	
	Level	Descriptor
	Mark	Descriptor
	0	No rewardable content
1	1-2	Some comment on the size of the potential market and the relationship to level of production.
2	3-4	Some comment on the size of the potential market and whether or not it would be justifiable to use computer aided manufacturing.
3	5-6	Comment on the size of the potential market and CAM together with discussion over elements such as flexible manufacturing and adapting flexible manufacturing to a particular product.

Question Number	Answer	Mark
6(a)	<p>Look at the statistics regarding the potential market (1) and decide whether or not there are enough buyers for the product (1)</p> <p>The market would be analysed before investment decisions would be made (1) and development plans outlined (1) and costed (1)</p> <p>Manufacturer would use statistics to establish if development was worthwhile (1)</p> <p>Use statistics to understand issues and risks (1) of developing new medicines</p> <p>All above can be mentioned but must be expanded (Any 1 point thoroughly explained - up to 4 marks or 1 mark for identification, 1 mark for description)</p> <p style="text-align: right;">(1 x 4) (2 x 2)</p>	(4)

Question Number	Answer	Mark
6(b)	<ul style="list-style-type: none"> • Understand market potential (1) so that the company can gear product to market (1) • Deploy resources effectively (1) by ranking markets in priority order (1) • Forecast total (1) opportunity in terms of number of customers and revenue potential (1) • Estimate market share (1) so that the company can gear product to market (1) • Generate customer profile so that the company can gear product to market (1) thus focusing sales (1) • To understand where to find more customers (1) so that the company can gear product to market (1) <p>At least two well discussed issues All above can be mentioned but must be expanded (Any 1 point thoroughly explained - up to 4 marks or 1 mark for identification, 1 mark for description)</p> <p style="text-align: right;">(1 x 4) (2 x 2)</p>	(4)

Question Number	Answer	Mark
7(a)	<ul style="list-style-type: none"> • Save energy (1) reduce electricity bills (1). A CFL light bulb uses 80% less electricity than an equivalent incandescent light bulb (1) • Lasts eight to twelve times longer (1) and do not need to keep replacing bulbs (1) • Cost of new bulbs higher (1) and cost of replacement of all bulbs in house (1) has financial implications (1) • Now larger selection of energy saving bulbs available (1) so different types of lighting may be energy efficient (1) • Disposal issues of new bulbs (1) not as easy to dispose of as old style bulbs (1) <p>One advantage and one disadvantage stated and explained. Four advantages/disadvantages stated. (At least one advantage and one disadvantage) Max 3 marks for advantage/disadvantage only</p>	<p>(2 x 2) (1 x 4) (4)</p>

Question Number	Answer	Mark
7(b)	<ul style="list-style-type: none"> • Look carefully at what is to be achieved by marketing low energy light bulbs (1) in terms of consumer (1) in terms of the company (1) • What might need to do to encourage the public to use their particular product (1) How to pitch advertising (1) • What key partnerships might be appropriate/beneficial to support the initiatives?(1) Link with things like the Carbon Trust (1) • What is the best way of promoting product? (1) Can it be linked to government initiatives? (1) • What can be measured/demonstrated as specific green outcomes? (1) Can the company use statistical evidence in advertising? (1) <p>One mark for identification, one mark for expansion Up to three marks for identification only Up to 2 marks for each strategy mentioned</p>	<p>(2 x 2) (4)</p>

Question Number	Answer	Mark
8(a)	<ul style="list-style-type: none"> • Customers' perceived value (1) leading to lower sensitivity to price (1) • Brand trust (1) due to word of mouth advocacy (1) • Customers' satisfaction (1) this makes it likely that a customer will return to the company in the future (1) because it works once it will work again • Positive behaviors e.g. word of mouth advocacy (1) It is seen as good to recommend and be recommended (1) • High relative attitude toward the brand (1) They see the product as better than others (1) • Consumer perceives that the brand offers the right product features (1). The customer may want a lot/a few features and this company have always given what they wanted (1) • Image (1) Name becomes associated with the product (1) • Level of quality at the right price (1) <p>One mark for identification, one mark for expansion Up to 2 marks for each factor mentioned</p> <p style="text-align: right;">(2 x 2)</p>	(4)

Question Number	Answer	Mark
8(b)	<ul style="list-style-type: none"> • Exclusive experiences or financial incentives (1) This is seen as economically sensible (1) • Brands must create the ability to connect customers (1) It might offer something for people with particular interests (1) • Meet a multi-continent, multi-currency, multi-language customer (1) This could be geared towards people like frequent flyers or air-miles (1) • Advantages of being an exclusive member need to be tied into one programme (1) and it could give a range of incentives (1) • Elite points and cash offers (1) Discounts (1) • Brand loyalty from industry commentators (magazine writers etc) (1) Encourage people to purchase particular products for instance Top Gear and Jeremy Clarkson (1) <p>Any 1 point thoroughly explained (up to 4 marks) 1 mark for identification 1 mark for description</p> <p style="text-align: right;">(2 x 2) (1 x 4)</p>	(4)

Question Number	Answer	Mark
9(a)	<ul style="list-style-type: none"> • Measure of the impact activities have on the environment (1) • In relation to climate change (1) • Relates to the amount of greenhouse gases released (1) • Burning of fossil fuels (1) • Electricity generation, heating, transport (1) • Units in tonnes or kg of carbon dioxide equivalent (1) • Personal carbon foot print is the amount of carbon produced by the individual. <p>Any of these issues can be included and discussed</p> <p>1 mark for identification 1 mark for explanation</p>	(2)

Question Number	Indicative Content	
9(b)	<p>Level 1 Response: A company could plant trees. Trees breathe in carbon dioxide and breathe out oxygen. This could help the environment. This process is called "carbon sequestration".</p> <p>Level 2 Response: A company could plant trees. Trees breathe in carbon dioxide and breathe out oxygen. This could help the environment. This process is called "carbon sequestration". A company could also purchase carbon dioxide credits and then not use them. This stops other people, organisations and countries using them.</p> <p>Level 3 Response: A company could plant trees. Trees breathe in carbon dioxide and breathe out oxygen. This could help the environment. This process is called "carbon sequestration". A company could also purchase carbon dioxide credits and then not use them. This stops other people, organisations and countries using them. They could also invest or donate to companies / organisations, which are researching and developing renewable and sustainable technologies. A manufacturer could also buy energy efficient technologies and donate them to developing countries. They could purchase power from 'green' or renewable energy providers and reduce their carbon footprint.</p>	
Level	Mark	Descriptor
	0	No rewardable content
1	1-2	Some comment about the fact that there is a relationship between trees and carbon reduction.
2	3-4	This should include the information about trees and carbon and move onto the fact that companies can buy carbon credits that can be offset.
3	5-6	This should include a detailed account including those elements in Levels 1 and 2 and move onto energy efficiency and using green technologies.

Question Number	Answer	Mark
9(c)	<ul style="list-style-type: none"> • Computing and other equipment usage (1) • Lighting technologies (1) • Heating, ventilation and cooling (1) • Resources, recycling and waste (1) • Building fabric and structural issues (1) • Staff comfort (1) • Carbon emissions (1) <p>Four points stated</p>	(4 x 1) (4)

Question Number	Indicative Content	
10(a)	<p>Level 1 Companies are really keen to reduce costs and increase productivity. They can do this in a number of ways. One way is to move the manufacturing operation to cheaper areas such as the far east where labour is cheap.</p> <p>Level2 Companies are really keen to reduce costs and increase productivity. They can do this in a number of ways. One way is to move the manufacturing operation to cheaper areas such as the far east where labour is cheap. Exploitation of labour is a way of reducing costs. The ultimate is where the manufacturing is moved and undertaken in sweat shops, where there are few regulations and rules.</p> <p>Level 3 Companies are really keen to reduce costs and increase productivity. They can do this in a number of ways. One way is to move the manufacturing operation to cheaper areas such as the far east where labour is cheap. Exploitation of labour is a way of reducing costs. Shareholders are expecting a good return on their investment and moving workshops where there is exploitation of labour is seen as a solution to make more money. Many of the foreign factories employ children who are paid little for the work they do. Some big name companies have been implicated in the exploitation of child labour in the developing world. In this country, there are strict rules regarding the exploitation of labour. However, it still exists, particularly with illegal immigrants who do not have National Insurance number.</p>	
Level	Mark	Descriptor
	0	No rewardable content
1	1-2	Some comment about an in increase productivity and reduction of costs together with a suggestion that a company might look at moving the factory to another area in the world.
2	3-4	Comment about productivity and reduction of costs. In addition the candidate should mention issues such as moving production to sweat shops where there are few rules and regulations that need to be adhered to.
3	5-6	Detailed account giving information on child labour and the fact that it is against the law to exploit any worker. There should be reference to making profits and cheap labour together with the fact that some big name companies have been implicated in the practice.

Question Number	Indicative Content
10(b)	<p data-bbox="379 226 1399 591"> Level 1 Intellectual property allows people to own their creativity and innovation in the same way that they can own physical property. That means that if you create an idea for a manufactured product, even if you work for a company, you are the owner of the idea and not the manufacturer who makes the product. This means that the owner of the intellectual property can be rewarded for the idea of the design. This is designed to encourage innovation and creativity. You have to apply to protect the intellectual property by applying for a patent. This is not true with the written word as arises automatically, without any registration, as soon as there is a record in some form of what has been created. </p> <p data-bbox="379 667 1399 1032"> Level 2 Intellectual property allows people to own their creativity and innovation in the same way that they can own physical property. That means that if you create an idea for a manufactured product, you are the owner of the idea and not the manufacturer who makes the product. This means that the owner of the intellectual property can be rewarded for the idea of the design. This is designed to encourage innovation and creativity. You have to apply to protect the intellectual property by applying for a patent. This is not true with the written word as arises automatically, without any registration, as soon as there is a record in some form of what has been created. </p> <p data-bbox="379 1039 1399 1339"> The way in which an inventor or designer of a product can protect the idea as his is to apply for a patent. A patent is for inventions. That is new and improved products and processes that are capable of industrial application. To understand exactly what can be protected by IP, a designer will need to check patents and trademarks as well as other IP to ensure that the idea does not impinge on other peoples' designs. Often, more than one type of IP may apply to the same creation. Patents need to be applied for and you will only get protection if what you have is something that can be protected by a patent. </p> <p data-bbox="379 1415 1399 1780"> Level 3 Intellectual property allows people to own their creativity and innovation in the same way that they can own physical property. That means that if you create an idea for a manufactured product, you are the owner of the idea and not the manufacturer who makes the product. This means that the owner of the intellectual property can be rewarded for the idea of the design. This is designed to encourage innovation and creativity. You have to apply to protect the intellectual property by applying for a patent. This is not true with the written word as arises automatically, without any registration, as soon as there is a record in some form of what has been created. </p> <p data-bbox="379 1787 1399 2018"> The way in which an inventor or designer of a product can protect the idea as his is to apply for a patent. A patent is for inventions. That is new and improved products and processes that are capable of industrial application. To understand exactly what can be protected by IP, a designer will need to check patents and trade marks as well as other IP's to ensure that the idea does not impinge on other peoples' designs. Often, more than one type of IP may apply to the same creation. Patents need to be applied for and you will </p>

		only get protection if what you have is something that can be protected by a patent. Anyone can apply for a patent. The UK Patent Office accepts applications and grants rights in each of these areas, but patents valid in the UK can also be obtained from The European Patent Office (EPO) and registered trade marks valid in the UK can be obtained from the Office for Harmonization in the Internal Market (OHIM).
Level	Mark	Descriptor
	0	No rewardable content
1	1-3	Statement about what intellectual property actually is and that ideas for a manufactured item is not automatically granted like copyright. It must be applied for.
2	4-5	This has a statement of fact as in Level 1, but it moves onto what a patent is and how it can help with the protection of intellectual property.
3	7-8	This covers the areas in Levels 1 and 2. However, it move onto look at the international nature of patents and that they are governed by international treaties.

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