

# Mark Scheme (Results)

Summer 2013

Principal Learning  
Manufacturing and Product Design  
(MP302/01)

## **Edexcel and BTEC Qualifications**

Edexcel and BTEC qualifications come from Pearson, the world's leading learning company. We provide a wide range of qualifications including academic, vocational, occupational and specific programmes for employers. For further information, please visit our website at [www.edexcel.com](http://www.edexcel.com).

Our website subject pages hold useful resources, support material and live feeds from our subject advisors giving you access to a portal of information. If you have any subject specific questions about this specification that require the help of a subject specialist, you may find our Ask The Expert email service helpful.

[www.edexcel.com/contactus](http://www.edexcel.com/contactus)

## **Pearson: helping people progress, everywhere**

Our aim is to help everyone progress in their lives through education. We believe in every kind of learning, for all kinds of people, wherever they are in the world. We've been involved in education for over 150 years, and by working across 70 countries, in 100 languages, we have built an international reputation for our commitment to high standards and raising achievement through innovation in education. Find out more about how we can help you and your students at: [www.pearson.com/uk](http://www.pearson.com/uk)

Summer 2013

Publications Code DP036342

All the material in this publication is copyright

© Pearson Education Ltd 2013

Question Number	Answer	Mark
<b>1(a)</b>	<p>One mark for statement, one mark for justification (x2)</p> <ul style="list-style-type: none"> <li>• It would be used to review and compare sales results month over month, quarter over quarter, year over year (1) to help predict where future sales might be, i.e. seasonal (1)</li> <li>• The manufacturer may use data to establish geographic location, sales territory, size of sales team etc (1) and this information can be used to concentrate work in particular areas (1)</li> <li>• To understand where in the product lifecycle the product is (1) to predict when it will become obsolete (1)</li> <li>• The manufacturer would use data to establish demographic information (1) to indicate future target markets (1)</li> </ul> <p>Accept any other suitable answer</p> <p style="text-align: right;">(2 x 2)</p>	<b>(4)</b>

Question Number	Answer	Mark
<b>1(b)</b>	<p>One mark for statement, one mark for justification (x2)</p> <ul style="list-style-type: none"> <li>• Where high demand exists due to seasonal factors (1) a manufacturer might positively advertise a product (1)</li> <li>• Where developments in technology (1) improve to such an extent that a new market is created (1)</li> <li>• Where low supply (1) creates an opportunity for profit (1)</li> <li>• The manufacturer might see a gap in the market (1) and introduce a positive advertising campaign, for example on TV (1)</li> <li>• The manufacturer might see that there is suddenly an interest in a product (e.g. Solar Energy) (1) and start a cold calling telephone campaign (1)</li> <li>• Introduce a cheaper equivalent product to competitor/previous product (1) using heavy promotion to flood the market (1)</li> </ul> <p>Accept any other suitable answer</p> <p style="text-align: right;">(2 x 2)</p>	<b>(4)</b>

Question Number	Indicative content	
<b>2(a)</b>	<p>Qualitative methods include using things like focus groups, in-depth interviews and reviews of documents etc. It is a more subjective way of gathering information and often describes a problem or condition from the point of view of those being asked the questions. The responses tend to be unstructured and cannot be verified using statistics. They can be valid and reliable but it largely depends on skill of the researcher. They can be time consuming.</p> <p>Quantitative methods are surveys, structured interviews and observations, and reviews of records or documents for numeric information. They are more objective and provide observed effects that are interpreted by researchers of a program on a problem or condition. Statistical tests can be used for analysis and they can be valid and reliable but it largely depends on the measurements that are used. They can often allow information to be gathered quickly.</p>	
Level	Mark	Descriptor
	<b>0</b>	No rewardable material
<b>1</b>	<b>1-2</b>	Some acknowledgement that there is a difference between qualitative and quantitative methods of gathering information and that they can make a difference to final results.
<b>2</b>	<b>3-4</b>	An understanding of the fact that there is a difference between qualitative and quantitative methods of gathering information and that some of those differences are quoted/mentioned.
<b>3</b>	<b>5-6</b>	A full understanding of the fact that there is a difference between qualitative and quantitative methods of gathering information and some in-depth explanation of each is offered with sound examples.

Question Number	Answer	Mark
<b>2(b)</b>	<p>1 mark for any of the following</p> <ul style="list-style-type: none"> <li>• Identify sportsmen/womens' needs by interviewing them (1)</li> <li>• Use questionnaires at sports venues (1)</li> <li>• Undertake focused research at specific sports venues, i.e. stadiums (1)</li> <li>• Make a study of sales figures over time (1)</li> <li>• See who is purchasing what products (1)</li> <li>• Consulting with retailers (1)</li> <li>• By discussing needs with specialists (1)</li> <li>• By discussing with governing bodies (1)</li> </ul> <p>Accept any sensible response</p>	<p>(4 x 1) <b>(4)</b></p>

Question Number	Answer	Mark																					
3	<p>Marks awarded for clarity of presentation, including:</p> <p>Appropriate method (1)  Appropriate scale (1)  Clear, appropriate labels (1)  Indication of comparative trend (1)</p> <p>Eg.</p> <table border="1"> <caption>Market Share Data (Estimated from Chart)</caption> <thead> <tr> <th>Operating System</th> <th>2010 (%)</th> <th>2011 (%)</th> </tr> </thead> <tbody> <tr> <td>Symbian</td> <td>26</td> <td>12</td> </tr> <tr> <td>RIM</td> <td>17</td> <td>24</td> </tr> <tr> <td>iOS</td> <td>40</td> <td>23</td> </tr> <tr> <td>Windows</td> <td>6</td> <td>2</td> </tr> <tr> <td>Android</td> <td>9</td> <td>38</td> </tr> <tr> <td>Others</td> <td>3</td> <td>1</td> </tr> </tbody> </table>	Operating System	2010 (%)	2011 (%)	Symbian	26	12	RIM	17	24	iOS	40	23	Windows	6	2	Android	9	38	Others	3	1	(4)
Operating System	2010 (%)	2011 (%)																					
Symbian	26	12																					
RIM	17	24																					
iOS	40	23																					
Windows	6	2																					
Android	9	38																					
Others	3	1																					

Question Number	Answer	Mark
4	<p>One mark for identification, one mark for expansion (x 3)</p> <ul style="list-style-type: none"> <li>• There may be specific legal implications in the terms and conditions (1) that affect the rights of the buyer (1)</li> <li>• There may be extras (1) that the buyer does/does not want (1)</li> <li>• There may be financial issues (1) that lock the buyer into something they do/do not want (1)</li> <li>• The terms and conditions may have clauses included (1) that removes some of/adds to the rights of the buyer (1)</li> <li>• To protect the consumer (1) and the supplier (1)</li> <li>• If there are issues with the order (1) the customer should know the return/refund conditions/options (1)</li> </ul> <p>Accept any suitable response</p>	(3 x 2) (6)

Question Number	Answer	Mark
<b>5(a)</b>	<p>One mark for identification, one mark for expansion (x 2)</p> <ul style="list-style-type: none"> <li>• Might employ illegal workers (1) and pay less than minimum wage (1)</li> <li>• Make workers work long hours (1) in order to boost profit/drive down costs (1)</li> <li>• Cut corners on safety (1) to enable workers to work faster (1)</li> <li>• Might make employers work in very poor conditions (1) such as sweatshops in order to keep the overheads down (1)</li> </ul> <p>Accept any suitable response</p> <p style="text-align: right;">(2 x 2)</p>	<b>(4)</b>

Question Number	Indicative content	
<b>5(b)</b>	<p>Unsafe working practices can be reduced by changing or abandoning certain existing practices therefore making the working environment a safer place. For example, a workshop can be made safer by making it obligatory that when using machines all safety features such as guards and safety interlocks are set up and applied. It should be a feature of any workshop that workers use the correct personal safety clothing such as hard hats and goggles should be worn at appropriate times. Training and risk assessment should be a feature of this. Added to this there should be systems put in place to enable the correct disposal of any dangerous items that are no longer required such as machinery or chemicals thus removing the source of any potential danger and keeping the workplace hygienic/free of contamination. Added to this the manufacturer should have in place all the safety features required by law such as signage and training.</p>	
Level	Mark	Descriptor
	<b>0</b>	No rewardable material
<b>1</b>	<b>1-2</b>	A brief understanding of the responsibility a manufacturer has and that they should reduce unsafe working practices.
<b>2</b>	<b>3-4</b>	An understanding of the importance of reducing unsafe working practices.
<b>3</b>	<b>5-6</b>	A full understanding of all aspects of reducing unsafe working practices with examples of how this might be achieved.

Question Number		Indicative content
<b>6</b>		Sometimes a manufacturer finds a fault with a product that causes so much concern that the product has to be recalled and either replaced or fixed. This can cause problems for the manufacturer and the purchaser. For the manufacturer it means that there could well be a reduction in profits as it costs money to contact, using a number of methods, all the people who have purchased the product and need to return to the manufacturer. It also means that the company might be financially burdened by having to repair or replace a product. Stocks of the product may also require rework or be scrap/waste. For the purchaser it can mean the inconvenience of having to return the product to be inspected or fixed. It could also instill a worry on the part of the customer that the fault could be a real safety problem. It also means that the customer could lose confidence in the product and reconsider their original purchase.
Level	Mark	Descriptor
	<b>0</b>	No rewardable material
<b>1</b>	<b>1-2</b>	An appreciation of the fact that sometimes a product needs to be recalled because of some kind of fault or problem.
<b>2</b>	<b>3-5</b>	An understanding of the fact that a product sometimes has to be recalled and that a number of ways are used to contact people who have the product.
<b>3</b>	<b>6-8</b>	A full understanding of the fact that sometimes a product has to be recalled and that a number of ways are used to contact people who have the product. A recognition that there could be problems if a product has been sold on and that it is vital to ensure that all people who own the dangerous product are contacted.

Question Number	Answer	Mark
<b>7(a)</b>	<p>One mark for identification, one mark for expansion (x 2)</p> <ul style="list-style-type: none"> <li>• Provide good backup (1) if something goes wrong with the product (1)</li> <li>• Provide good regular servicing (1) to ensure that product runs well over time (1)</li> <li>• Keep customer up to date (1) of any improvements or changes (1)</li> <li>• Have confidence that customer service staff are empowered (1) to make quick decisions (1)</li> <li>• Ensure that call centres have qualified staff (1) who can deal quickly with issue (1)</li> <li>• Ensure repair/maintenance technicians are well qualified (1) to undertake good repairs/replacement (1)</li> </ul> <p>Accept any sensible response</p>	(2 x 2) <b>(4)</b>

Question Number	Indicative content	
<b>7(b)</b>	<p>The advantages of a company gaining ISO 9001 certification are that it can help create a more efficient, effective operation in the factory. It can help in customer satisfaction and retention, reduce waste and help the company to increase its overall profits. It can also have a knock on effect with the workforce because by producing items that are tested against a given standard it can improve employee motivation. It can also help because ISO 9001 is recognised internationally so it can promote international trade. It can open up the market to smaller companies so that they can deal with the big players that only accept suppliers with ISO 9001.</p>	
Level	Mark	Descriptor
	<b>0</b>	No rewardable material
<b>1</b>	<b>1-2</b>	An appreciation of the fact that ISO 9001 is about quality and that it is likely to improve a business.
<b>2</b>	<b>3-4</b>	An understanding of the fact that ISO 9001 is about quality and that it is to do with certification against accepted standards.
<b>3</b>	<b>5-6</b>	A full understanding of the fact that ISO 9001 is about the external certification of quality standards that are acceptable worldwide and that it can help a company in a number of positive ways.



Question Number		Indicative content
<b>8(a)</b>		Car manufacturers can give a car to a journalist or celebrity to review and this can help to convince the public that the particular car is an aspirational product to have. Even product placement on TV can help persuade viewers that if the product is good for celebrities then it is appropriate for them and it could encourage them go out and purchase a particular item. It could be that on TV advertisements, fronted by celebrities, various features can be highlighted that the purchaser might see as important or desirable due to the endorsement. Even word of mouth can be encouraged by a manufacturer; for example, by offering incentives if a celebrity is encouraged to speak highly of a particular product.
Level	Mark	Descriptor
	<b>0</b>	No rewardable material
<b>1</b>	<b>1-2</b>	Some acknowledgment that manufacturers would use third party endorsement to help sell new cars.
<b>2</b>	<b>3-4</b>	Some acknowledgment that manufacturers would use third party endorsement to help sell new cars with some examples stated and explained.
<b>3</b>	<b>5-6</b>	Some acknowledgment that manufacturers would use third party endorsement to help sell new cars with many aspects explained and fully justified. Some very feasible examples presented.

Question Number		Indicative content
<b>8(b)</b>		The SatNav illustrated meets market requirements and customer needs in a number of ways. Firstly, it is a product that is targeted towards drivers who need to find their way efficiently from one location to another. It seems a small and compact product and would therefore suit the smaller vehicle. It meets customer needs because it can be programmed to take a car from the starting point right to the destination using a postcode. It can be programmed to include particular waypoints. For example, the driver can require that the SatNav take the vehicle along particular country roads or via particular motorways. It can also take the car along routes that avoid tolls or particular problems. However, there are some issues where it may not always meet needs. For example, it can take a lorry down unsuitable roads and they need to be updated on a regular basis because roads and routes change very quickly. Nonetheless, they are still useful because they can tell the driver where fuel can be obtained and warn drivers of speed cameras.
Level	Mark	Descriptor
	<b>0</b>	No rewardable material
<b>1</b>	<b>1-2</b>	An appreciation of the fact that SatNavs have features that

		can be meet market and customer needs.
<b>2</b>	<b>3-4</b>	An understanding of the fact that there are some features that might be vital to the user and that these features meet market requirements and customer needs.
<b>3</b>	<b>5-6</b>	A full understanding of the fact that SatNavs are useful and have features that meet market requirements and customer needs. There should be descriptions and justifications of those elements that can be regarded as satisfying market requirements and customer needs.

Question Number		Indicative content
<b>9(a)</b>		<p>These figures show the amount of money that has been taken selling books between the years 2008 to 2011. From the figures it can be seen that the revenue collected over the years for traditional books may result from inflation rather than an actual increase in sales. It may be that there is evidence that other traditional manufacturers are getting leaner and as a consequence holding their prices but still generating a profit. It does not actually say what type of books this refers too. It may be that a traditional book manufacturer, in order to maintain profits might specialise in non-fiction where perhaps images and colour are important and integral to the books. This may be for a specialised readership but it could help in maintaining sales. The traditional manufacturer might also look at these figures and make decisions about how costs and manufacturing could be streamlined to enable them to compete with eBooks.</p> <p>Rise in eBook sales could be opening new reading markets, which could also be good for traditional book manufacturers.</p>
Level	Mark	Descriptor
	<b>0</b>	No rewardable material
<b>1</b>	<b>1-3</b>	Some acknowledgement that the sales of books is changing and that there are lessons that a traditional book publisher can learn from these figures.
<b>2</b>	<b>4-5</b>	An understanding of fact that the figures show a change in the ways in which people are buying books and that 2011 was an important year for traditional publishers and that they should take note of the trends.
<b>3</b>	<b>6-8</b>	A full understanding of all the issues and that these figures are very important to a traditional book publisher. They should suggest ways in which the traditional publisher might go in order to ensure the survival of the company.

Question Number	Answer	Mark
<b>9(b)</b>	<p>1 mark for each of the following to a maximum of 4 marks: (or one detailed answer for four marks)</p> <ul style="list-style-type: none"> <li>• Planning a marketing strategy based on demographics (1)</li> <li>• Plan an energy strategy based on energy consumption data (1)</li> <li>• Produce an energy strategy based on raw materials (1)</li> <li>• Decide upon a purchasing strategy based on raw material prices (1)</li> <li>• Adjusting product range based on age profile (1)</li> <li>• Adjust production/product range based on disposable income (1)</li> </ul> <p>A manufacturer could use information from the Office for National Statistics in a number of ways. They could develop a strategy based on demographic information. They could devise their energy consumption strategy and their use of raw materials around statistical information provided by the ONS and then adjust their plans accordingly.</p> <p>Any sensible response accepted</p>	<p>(1 x 4) (4 x 1) <b>(4)</b></p>

Question Number	Answer	Mark
<b>10(a)</b>	<p>One mark for identification, one mark for expansion (x 2)</p> <ul style="list-style-type: none"> <li>• Fluctuation of exchange rates can change the value of the £ (1) thus changing the cost of the finished product abroad (1)</li> <li>• If they go up prices will change, if they go down prices will change (1) and it depends whether you are an importer or exporter as to whether it is a good or bad thing (1)</li> <li>• Fluctuations can change the cost of materials from abroad (1) thus making the finished product either more expensive or cheaper (1)</li> <li>• Fluctuations can affect the cost of fuel (1) thus making distribution either cheaper or more expensive (1)</li> </ul> <p>Any suitable response accepted</p> <p style="text-align: right;">(2 x 2)</p>	<b>(4)</b>

Question Number		Indicative content
<b>10(b)</b>		National economic policies can affect an aircraft manufacturer in a number of ways. For example, if there are procurement changes in the armed forces the amount of aircraft required can reduce and this can have an impact on the company and the worker. Fewer planes produced require fewer engineers. If there is less disposable income then people may not travel abroad for their holidays which means the airlines need fewer aircraft and this in turn will affect the manufacturer. Sometimes a government may provide subsidies on flights and if they are removed it again can reduce the number of people flying. Foreign government policy can also affect UK aircraft manufacturers. If a country puts on import taxes, foreign airlines may not buy UK aircraft and this can affect a company and reduce orders; however, it can work the other way around. If import duty is reduced, it could result in more aircraft being required. An aircraft manufacturer may consider shifting production to a different country because of high taxation, tax breaks e.g. Japanese car manufacturers have plants in the UK to access EU markets.
Level	Mark	Descriptor
	<b>0</b>	No rewardable material
<b>1</b>	<b>1-2</b>	Some acknowledgement that national policies can affect an aircraft manufacturer.
<b>2</b>	<b>3-4</b>	An understanding of the fact that economic policy can affect an aircraft manufacturer. One or two examples should be given.
<b>3</b>	<b>5-6</b>	A full understanding of all the issues with details of a number of instances where policies can make a big difference to an aircraft manufacturer.

Further copies of this publication are available from  
Edexcel Publications, Adamsway, Mansfield, Notts, NG18 4FN

Telephone 01623 467467

Fax 01623 450481

Email [publication.orders@edexcel.com](mailto:publication.orders@edexcel.com)

Order Code DP036342 Summer 2013

For more information on Edexcel qualifications, please visit our website  
[www.edexcel.com](http://www.edexcel.com)

Pearson Education Limited. Registered company number 872828  
with its registered office at Edinburgh Gate, Harlow, Essex CM20 2JE

Ofqual  




Llywodraeth Cynulliad Cymru  
Welsh Assembly Government

