Answers

1. Clarkson’s is a large manufacturing company with a Head Office in Reading. Some employees are able to work from home on occasions.

 The management is keen to reduce the environmental impact caused by the company.

a) Describe **one** way in which the use of IT equipment can have a negative impact on the environment [2]

The manufacture of the equipment uses raw materials which have to be mined, which often has a negative environmental impact.

Computer equipment uses a lot of electricity, which means more power stations are needed to supply this.

Old computer equipment is not always recycled, meaning it is sent to landfill sites from which hazardous materials can leach out into the water table.

b) Describe **one** measure that the company could make use of IT to improve the
impact of their business on the environment. [2]

They could minimize the amount of commuting to and from the office by enabling more people to work from home on remote computers via the internet.

They could ensure that no computer equipment is left on unnecessarily, which will reduce electricity consumption.

They could use more energy efficient equipment.

They could send out invoices, statements, receipts and other documents by email rather than printing and posting them, which will save paper.

They could donate older IT equipment to charity for shipment to countries that can use them. Reuse is more environmentally friendly than recycling.

They could improve the products that they manufacture so that they can be repaired more easily or are easier to recycle.

c) Clarkson’s has decided that it will design products in Reading and manufacture them in Shenzhen, China. The finished products will then be shipped back to the UK.

i) Explain **one** advantage for the company of manufacturing items in China. [2]

The cost of production will be cheaper due to lower employee wages / lower employment conditions / the region of China is highly competitive.

ii) Explain **one** disadvantage for employees of manufacturing items in China. [2]

Existing employees in the UK may lose their jobs as the factory has moved abroad

Existing employees in the UK (such as team leaders) may need to relocate to China to help them set up and run the factory

Management in the company may need to make business trips to China if there is a problem which will lead to them being away from their families

2. Eric’s Electrics is a large retail store which sells both electrical appliances, such as washing machines and refrigerators, and electronics such as computers and smartphones.

 The company adheres to the WEEE directive. This law is concerned with the disposal of electrical and electronic equipment.

 Eric’s Electrics has decided to allow customers to recycle in store. When a customer buys a new item such as a computer, the company accepts the old computer for recycling.

 Evaluate the impact of this scheme on customers, retailers and the environment. [12]

Answers will be credited according to the learner’s demonstration of knowledge and understanding of the material, using the indicative content and level descriptors below. The indicative content that follows is not prescriptive. Answers may cover some/all of the indicative content, but learners should be rewarded for other relevant answers.

Learners evaluate the decision to allow customers to recycle in-store rather than disposing at a local recycling centre.

Customers

* Price of electronic/electrical waste will rise as Eric’s Electrics now needs to dispose of the item
* Responsibility for the disposal or recycling moves away from the customer
* Convenient for the customer as they do not need to go to the recycling centre
* The customer saves fuel travelling to the recycling centre
* Some customers do not have cars and so cannot take items to the recycling centre so have to pay for a disposal truck to visit their home

Retailers

* The retailer has to have space to store the items until they can be disposed of
* The retailer has to employ people to accept and process used items
* They will be fined if they don’t comply with the law
* The retailer has to meet the costs involved in storing and disposing of the items
* The retailer has to make consumers aware that they can drop off their old electrical and electronic waste
* By adopting this scheme (rather than paying into a scheme such as a local recycling centre) the company will get goodwill from customers who save a journey to the recycling centre
* Retailers can put pressure on manufacturers to make products easier to repair. For example, a smartphone with a battery that can be replaced by the customer would result in less waste to dispose of and a sale for a new battery to the retailer.
* Because the retailer has hundreds of items a day to dispose of, they will be able to calculate the most efficient way to do this with the least impact on the environment. A customer could never be expected to do this level of analysis for the disposal of one item

Environment

* More IT equipment will be recycled
* Rare minerals can be recovered and then re-used in the creation of other products
* Fewer landfill sites will be needed so the land can be left for nature
* A reduction in the need of each customer to travel to recycling centres will reduce the use of fuel and carbon emissions
* By charging customers more, as part of the initial price of the product, customers are more likely to keep products for longer. This reduces the need to manufacture another product

| **Level** | **Mark** | **Descriptor** |
| --- | --- | --- |
| Level 0  | 0  | No rewardable material.  |
| Level 1  | 1-4  | Technical vocabulary is used but it is not used appropriately to support arguments, in relation to the issues of the question.Issues are identified but chains of reasoning are not made, leading to a superficial understanding. No conclusion is presented or is generic.  |
| Level 2  | 5-8  | Accurate technical vocabulary is used to support arguments but not all arguments are relevant to the issues of the question. There is consideration of relevant issues using logical chains of reasoning but does not reflect upon their relative importance to the given scenario. An attempt at a conclusion is presented that links arguments to the given scenario but is not justified in that it does not reflect the careful consideration of both sides of the argument. |
| Level 3  | 9-12  | Fluent and accurate technical vocabulary is used to support arguments that are relevant to the issues of the question. There is a balanced and wide-ranging consideration of relevant issues, using coherent and logical chains of reasoning that shows a full awareness of their relative importance to the given scenario.A fully justified conclusion is presented that links arguments to the given scenario and that reflects the careful consideration of both sides of the argument leading to a reasoned decision. |

[Total 20 marks]