



BUS.OP2 Procurement and managing stock

AQA 8132 · Calculator allowed · about 55 minutes

Total Marks

Name: _____ Date: ____ / ____ / ____

Answer ALL questions in the spaces provided. Show your working for any calculation: method marks are available even if your final answer is wrong. Cranmoor Stationery Supplies, used throughout this pack, is a fictional business.

1 Which one of the following best describes procurement?

- ☐ A) The process of finding, agreeing terms with and obtaining goods or services from suppliers
- ☐ B) The process of selling finished goods to customers
- ☐ C) The process of advertising a business's products
- ☐ D) The process of training new members of staff

(Total for Question 1 is 1 mark)

2 Which one of the following best describes lead time?

- ☐ A) The number of units a business sells in a year
- ☐ B) The time between placing an order with a supplier and that order being delivered
- ☐ C) The number of staff needed to run the warehouse
- ☐ D) The price a supplier charges per unit

(Total for Question 2 is 1 mark)

3 State two costs to Cranmoor of holding too much stock.

(Total for Question 3 is 2 marks)

4 Cranmoor sells 50 boxes of notebooks a day. Its supplier's lead time is 6 days.
Calculate Cranmoor's reorder level: the stock level at which a new order should be placed.
Show your working.

(Total for Question 4 is 2 marks)

- 5** Cranmoor keeps a buffer (minimum) stock of 100 boxes and reorders 800 boxes each time it places an order.
Calculate Cranmoor's maximum stock level. Show your working.

(Total for Question 5 is 2 marks)

- 6** Using your answers to questions 4 and 5, and the daily usage rate of 50 boxes, calculate how many days it takes for stock to fall from the maximum stock level to the reorder level. Show your working.

(Total for Question 6 is 2 marks)

- 7** Explain why Cranmoor holds a 100-box buffer stock rather than letting stock run right down to zero before it expects a delivery.

(Total for Question 7 is 3 marks)

- 8** Cranmoor's reorder level of 300 boxes (question 4) assumes a 6-day lead time. If the supplier's lead time increased to 12 days but Cranmoor kept reordering at 300 boxes, explain what would happen to Cranmoor's stock before the new delivery arrived.

(Total for Question 8 is 3 marks)

9 In one delivery of 800 boxes, 4% arrive damaged and cannot be sold.

(a) Calculate how many boxes in this delivery are damaged. (2)

.....
(b) Using your answer to part a, calculate how many usable boxes Cranmoor actually (2)
receives from this delivery.

.....
(Total for Question 9 is 4 marks)

10 Cranmoor's warehouse costs 0.75 pounds per box per month to run. Using the 900-box maximum stock level from question 5, calculate the monthly cost of holding stock at this maximum level. Show your working.

(Total for Question 10 is 2 marks)

11 Explain one advantage to Cranmoor of moving to a just-in-time (JIT) approach to stock management, in which stock is ordered to arrive only as it is needed rather than being stored in advance.

(Total for Question 11 is 3 marks)

12 Explain one risk to Cranmoor of moving to a just-in-time (JIT) approach to stock management.

(Total for Question 12 is 3 marks)

- 13** Using the buffer stock figure from question 5, explain one advantage to Cranmoor of its current just-in-case (JIC) approach, which keeps a buffer stock in reserve rather than ordering stock to arrive exactly when needed.

(Total for Question 13 is 3 marks)

- 14** State two factors, other than price, that Cranmoor should consider when deciding how many boxes to order each time it reorders stock.

(Total for Question 14 is 2 marks)

- 15** Cranmoor currently manages stock on a just-in-case basis: a 100-box buffer stock, a 300-box reorder level and a 900-box maximum stock level, costing 675 pounds a month to hold (question 10). A move to just-in-time would cut this holding cost but, as shown in question 12, would leave Cranmoor exposed if its supplier's lead time changed unexpectedly (question 8). Recommend whether Cranmoor should move from its current just-in-case stock management approach to a just-in-time approach. Justify your answer using the figures and points made earlier in this pack.

(Total for Question 15 is 9 marks)

Mark scheme · BUS.OP2 Procurement and managing stock

Question 1

- **B1** A cao
- **Answer: A**

Question 2

- **B1** B cao
- **Answer: B**

Question 3

- **B1** one acceptable cost, e.g. the cost of storing/warehousing the stock
- **B1** a second acceptable cost, e.g. cash tied up in stock that could be used elsewhere, or the risk of stock becoming damaged, out of date or unsellable
- **Answer: Any two, e.g. storage/warehousing cost; cash tied up in stock; risk of damage or stock going out of date.**

Question 4

- **M1** 50 x 6 seen
- **A1** 300 boxes cao
- **Answer: 300 boxes.**

Question 5

- **M1** 100 + 800 seen
- **A1** 900 boxes cao
- **Answer: 900 boxes.**

Question 6

- **M1** $(900 - 300) / 50$ seen (ft from questions 4 and 5)
- **A1** 12 days cao
- **Answer: 12 days.**

Question 7

- **B1** identifies the point, e.g. deliveries or demand do not always go exactly to plan
- **B1** develops the point, e.g. a delayed delivery or an unexpectedly busy period could otherwise leave Cranmoor with no stock left to sell
- **B1** links clearly to an outcome, e.g. the buffer stock gives Cranmoor a safety margin, reducing the risk of a stockout and lost sales
- **Answer: Deliveries and demand do not always go exactly to plan, so without a buffer a delayed delivery or a busy period could leave Cranmoor with no stock, but the 100-box buffer gives a safety margin that reduces the risk of a stockout and lost sales.**

Question 8

- **B1** identifies the point, e.g. between the 300-box reorder point and the 100-box buffer stock, Cranmoor has only 200 boxes of margin, covering $(300 - 100) / 50 = 4$ days of trading
- **B1** develops the point, e.g. this 4-day margin is far shorter than the new 12-day lead time
- **B1** links clearly to an outcome, e.g. Cranmoor would run out of stock roughly 8 days before the new delivery arrived, causing a stockout and lost sales unless the reorder level is increased
- **Answer: The reorder point gives only $(300-100)/50 = 4$ days of margin before hitting the buffer stock, far short of the new 12-day lead time, so Cranmoor would run out of stock about 8 days before the delivery arrived, causing a stockout, unless the reorder level is raised.**

Question 9

- (a) **M1** 800×0.04 seen
- (a) **A1** 32 boxes cao
- (a) **Answer: 32 boxes.**
- (b) **M1** $800 - 32$ seen (ft from part a)
- (b) **A1** 768 boxes cao
- (b) **Answer: 768 boxes.**

Question 10

- **M1** 900×0.75 seen (ft from question 5)
- **A1** 675 pounds cao
- **Answer: 675 pounds.**

Question 11

- **B1** identifies the point, e.g. JIT means holding very little stock, since deliveries are timed to arrive only as they are needed
- **B1** develops the point, e.g. this greatly reduces the amount of money tied up in stock and the space needed to store it, unlike the 900-box maximum level held now
- **B1** links clearly to an outcome, e.g. this could cut Cranmoor's monthly holding cost (question 10) and free up cash for other uses
- **Answer: JIT means holding very little stock since deliveries arrive only as needed, which reduces the money tied up and the space required compared with the current 900-box maximum, cutting the monthly holding cost calculated in question 10 and freeing up cash.**

Question 12

- **B1** identifies the point, e.g. JIT relies on suppliers delivering the right stock reliably and on time, with little or no buffer stock to fall back on
- **B1** develops the point, e.g. any delay or problem with a supplier's delivery would leave Cranmoor with almost no stock to sell
- **B1** links clearly to an outcome, e.g. this could cause a stockout and lost sales far more quickly than under the current 100-box buffer-stock system
- **Answer: JIT relies on suppliers delivering reliably with little or no buffer stock held, so any delay leaves Cranmoor with almost nothing to sell, risking a stockout and lost sales much faster than under the current 100-box buffer system.**

Question 13

- **B1** identifies the point, e.g. the 100-box buffer stock is kept in reserve in case demand rises unexpectedly or a delivery is delayed
- **B1** develops the point, e.g. this means Cranmoor can usually keep supplying customers even if something goes wrong with an order or demand spikes
- **B1** links clearly to an outcome, e.g. this reduces the risk of a stockout and lost sales, protecting Cranmoor's reputation for reliable supply compared with a JIT approach holding no buffer at all
- **Answer: The 100-box buffer is kept in reserve for unexpected demand or a delayed delivery, so Cranmoor can usually keep supplying customers, reducing the risk of a stockout and protecting its reputation for reliable supply compared with holding no buffer at all under JIT.**

Question 14

- **B1** one acceptable factor, e.g. the cost of storing a larger order versus the cost of placing more frequent smaller orders
- **B1** a second acceptable factor, e.g. any minimum order quantity set by the supplier, or bulk-order discounts available for larger orders
- **Answer: Any two, e.g. storage cost of a larger order vs cost of ordering more often; supplier minimum order quantity; bulk-order discounts.**

Question 15

- **Level 1** (1-3): Makes simple, undeveloped comments about the stock-management decision, with little or no use of the pack's figures and no clear recommendation.
- **Level 2** (4-6): Gives a developed argument for or against moving to JIT, using some of the pack's figures, but does not fully weigh both sides or reach a clearly justified recommendation.
- **Level 3** (7-9): Weighs the evidence for and against moving to JIT, using the holding-cost, reorder-level and lead-time-risk figures from this pack, and reaches a justified recommendation supported by that analysis.
- **Indicative content:**
 - For moving to JIT: the current maximum stock level costs 675 pounds a month to hold (question 10); JIT would sharply cut this cost by holding far less stock, freeing up cash and warehouse space.
 - For moving to JIT: less cash tied up in stationery stock could be used elsewhere in the business, such as on marketing or new products.
 - Against moving to JIT: question 8 shows that even the current buffer only covers about 4 days of margin at the reorder point, and question 12 shows JIT removes this margin almost entirely, so any supplier delay quickly causes a stockout and lost sales.
 - Against moving to JIT: JIT depends on the supplier being consistently reliable; if Cranmoor cannot be confident of this, the savings in holding cost could easily be outweighed by lost sales and damaged customer trust.
 - Judgement: since Cranmoor sells a steady, predictable product like notebooks rather than something highly seasonal, a reasonable recommendation is to move only part-way toward JIT (a smaller buffer stock and more frequent, smaller deliveries) rather than adopting pure JIT, keeping some protection against supplier delays while still reducing the 675 pound holding cost.