

## 4: Operations management

### Paper 1 – Topic questions

The questions in this document have been compiled from a number of past papers, as indicated in the table below.

Use these questions to formatively assess your learners' understanding of this topic.

Question	Year	Series	Paper number
2c	2017	March	12
4c	2017	June	11
4e	2017	June	11
4e	2018	March	12

- 2 QAC uses batch production to make 70 different cleaning products including soap and polish. To meet increased demand for two of its products, X and Y, QAC could invest \$10m in flow production using new technology. The Finance Director is worried about QAC's cash flow position as shown in Table 1. He thinks it is important to have a high level of inventory but he also wants to improve the cash flow position.

**Table 1: QAC's cash flow forecast for April – June 2017 (\$000)**

	April	May	June
Cash in:	300	400	460
Cash out:			
Labour costs	140	140	140
Inventory costs	120	180	180
Fixed costs	100	100	100
Total cash out	360	420	420
Net cash flow	(60)	(20)	?
Opening balance	30	(30)	(50)
Closing balance	(30)	(50)	?

- (c) Identify and explain **two** advantages to QAC of having a high level of inventory.

Advantage 1: .....

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Explanation: .....

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Advantage 2: .....

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Explanation: .....

.....[4]

- 4 GKK makes plastic bottles for a range of products from food to chemicals. GKK buys its raw materials from a low-cost country. GKK's organisational structure is wide with a short chain of command which allows for delegation. The Government plans to introduce new legal controls to protect the environment. The Operations manager said: 'The Government might achieve one of its objectives but how does it affect GKK? This is a competitive market so prices are important.' He wants to improve efficiency and plans to use lean production.

(c) Identify and explain **two** benefits to GKK of increasing efficiency.

Benefit 1: .....

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Explanation: .....

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Benefit 2: .....

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Explanation: .....

..... [4]

- (e) Explain **one** lean production technique. Recommend whether GKK should introduce this technique. Justify your answer.

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..... [6]

**(e)** Do you think MSH should relocate its business? Justify your answer.

[illegible]

Question	Answer	Mark
2 (c)	<p><b>Identify and explain two advantages to QAC of having a high level of inventory.</b></p> <p>Knowledge <math>[2 \times 1]</math> – award 1 mark per advantage identified</p> <p>Application <math>[2 \times 1]</math> – award 1 mark for each explanation in context</p> <p>Points might include:</p> <ul style="list-style-type: none"> <li>• Able to meet orders straightaway [k] to meet increased demand [app]</li> <li>• Benefit from economies of scale / bulk buy [k] as discounts reduce cash outflow [app]</li> <li>• Production does not stop [k] which is important if change to flow production [app]</li> <li>• Avoid supply problems [k] as some chemicals might be difficult to obtain [app]</li> <li>• Able to increase scale of production [k] for its 70 products [app]</li> </ul> <p>Application marks may be awarded for appropriate use of the following: correct use of data in table 1, \$10m, batch or flow production, reference to soap or polish, 70 products, cleaning products, increased demand for two products</p>	4
4 (c)	<p><b>Identify and explain two benefits to GKK of increasing efficiency.</b></p> <p>Knowledge <math>[2 \times 1]</math>: award 1 mark for each benefit identified</p> <p>Application <math>[2 \times 1]</math> : award 1 mark for each relevant explanation</p> <p>Points might include:</p> <ul style="list-style-type: none"> <li>• Increase output OR quicker production [k] of plastic bottles [app]</li> <li>• Lower average costs [k] so can keep prices low [app]</li> <li>• Fewer workers needed [k]</li> <li>• Better able to compete [k] in this competitive market [app]</li> <li>• Less waste [k] need for less raw materials [app]</li> <li>• Fewer errors [k]</li> </ul> <p>Application marks may be awarded for appropriate use of the following: Plastic bottles, raw materials, environment OR pollution, competitive market, prices are important.</p>	4

Question	Answer	Mark
4 (e)	<p><b>Explain one lean production technique. Recommend whether GKK should introduce this technique. Justify your answer.</b></p> <p>Knowledge [1] : award 1 mark for identification of relevant point (s) [max 1]  Application [1] : award 1 mark if relevant reference made to this business  Analysis [2] : award up to 2 marks for relevant development of point(s)  Evaluation [2] : justified decision made as to whether GKK should introduce this technique</p> <p>Points might include:</p> <ul style="list-style-type: none"> <li>• Just in Time inventory control [k] which would help reduce storage costs [an]</li> <li>• Kaizen /continuous improvement [k] by using delegation [app]</li> <li>• Cell production [k]</li> </ul> <p>Application marks may be awarded for appropriate use of the following:  Range of products, food, chemicals, plastic bottles, delegation, low cost country, low prices, competitive market, short chain of command, wide structure.</p>	6
4 (e)	<p><b>Do you think MSH should relocate its business? Justify your answer.</b></p> <p>Knowledge [1] – award 1 mark for identification of relevant issue(s)  Application [1] – award 1 mark for a relevant reference made to this business  Analysis [2] – award up to 2 marks for each relevant explanation(s)  Evaluation [2] – justified decision as to whether MSH should relocate its business</p> <p>Relevant points might include:</p> <ul style="list-style-type: none"> <li>• Higher possible demand OR sales [k] due to expanding industrial areas [app] leading to increased revenue [an]</li> <li>• Demand will continue to be low in the current location [k] as unemployment levels are high [app]</li> <li>• Employees may not want to move [k] 50 km away [app] so may leave leading to additional recruitment costs [an]</li> <li>• Possible reaction OR high level of competition in new location [k] so may not be able to attract new customers [an]</li> <li>• Need to use promotion in new location [k]</li> <li>• Likely to pay low wage rates in current location [k]</li> </ul> <p>Application marks may be awarded for appropriate use of the following:  floor cleaning, business customers, high levels of unemployment, falling demand, loyal employees, on-the-job training, expanding industrial areas, stakeholder groups, increase promotion, 50 km away</p> <p>Note: candidates final decision may be for or against the relocation</p>	6