



*Where Leaders are Made*

**UNIVERSITY EXAMINATIONS: 2025/2026**

**EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN**

**INFORMATION TECHNOLOGY**

**BACHELOR OF BUSINESS LEADERSHIP**

**BACHELOR OF COMMERCE**

**BIT 404|BUE4213**

**OPERATIONS MANAGEMENT**

**EXAM DATE: TUESDAY 9<sup>TH</sup> DECEMBER, 2025 DURATION: 2 HOURS**

**TIME: 8:30AM-10:30AM**

---

**INSTRUCTIONS: Question One is Compulsory, Choose Three Other Questions**

---

**SECTION A (COMPULSORY)**

**QUESTION ONE (15 Marks) Compulsory**

**Read the case below and answer the following questions:**

**Outridge Company**

Outridge is an outdoor-clothing company based in London. The business specialises in manufacturing all-weather winter coats which are filled with goose feathers for extra warmth. The feathers are sourced ethically with no harm to the bird. The ethical reputation of Outridge is popular with its customers. The coats manufactured by Outridge are sold globally and are very popular in Canada, USA, Japan and China.

All coats are currently manufactured in the UK and each coat takes five hours to manufacture. The coats are produced to the highest quality resulting in a top-quality brand image for Outridge.

The cost of producing the coats is high, this is due to:

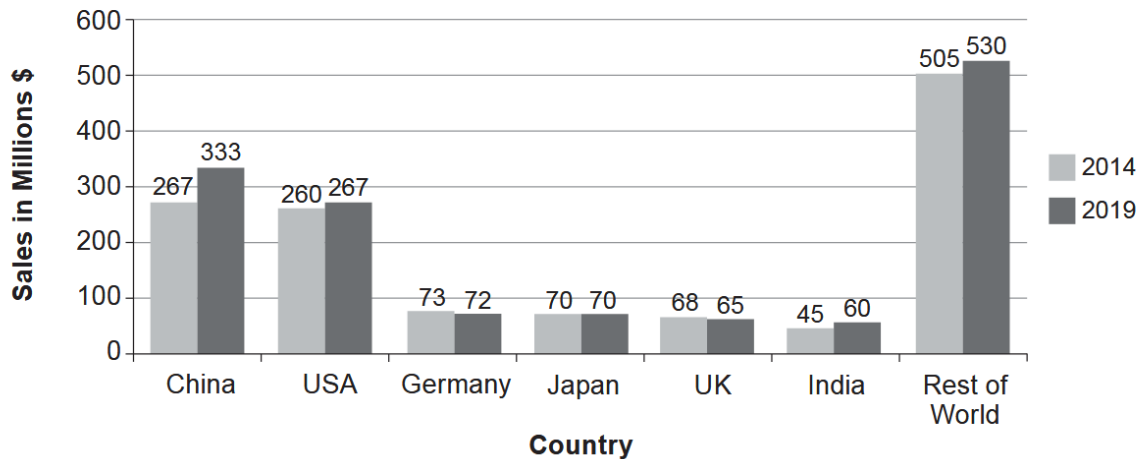
- The cost of sourcing feathers
- The length of time it takes to produce the coat
- The high level of labour involved in producing each coat

Over the last year, these costs have been rising and as a result Outridge has decided to move production to China. This will make Outridge a multinational company.

The high costs of producing the coats have resulted in Outridge having to charge customers a high price in order to make a net profit. Many competitors are now selling similar coats at lower prices and sales for Outridge are slowing down, especially in the UK market.

Outridge is just one business that operates in this market and Outridge is worried about increased competition from other well-known global brands. In addition, in recent years many new businesses are now manufacturing and selling goose feather filled coats, having recognised the popularity of these coats with all types of customers around the world.

**Size of global goose feather coat market 2014 compared to 2019**

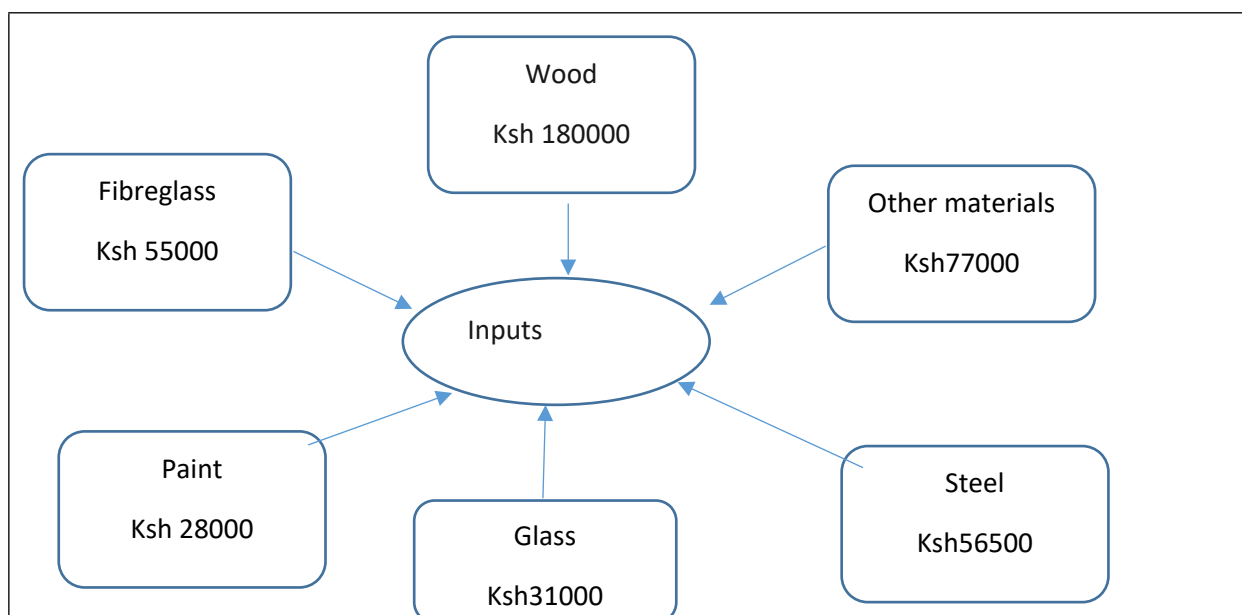


- Identify the total value of sales of goose feather coats for the UK in 2014. **(1 marks)**
- Calculate the percentage change in sales in China between 2014 and 2019. (Show your workings). **(2 marks)**
- Explain **THREE** reasons why Outridge may have decided to move production to China. **(6 marks)**
- Discuss the advantages of Outridge becoming a multinational business in relation to the following factors
  - Quality **(2 marks)**
  - Costs **(2 marks)**
  - Revenue **(2 marks)**

**SECTION B: (Answer any THREE (3) Questions in this section)**

**QUESTION TWO (15 marks)**

**Mcford yachts**



- a) The diagram above gives the value of all the raw materials used by Mcford Yachts builders when constructing one of its luxury sailing yachts. The yachts sell for KSh1,100,000.
  - i. Calculate the added value when constructing one of its yachts. **(3 marks)**
  - ii. As an Operations management specialist, explain to Mcford the goals in achieving lean production system. **(6 marks)**
- b) Using Kenya Defence Forces as an example, illustrate its production process. **(6 marks)**

### **QUESTION THREE (15 marks)**

- a) A local bakery's main oven produces an average of 420 loaves of bread per day. The oven's maximum (design) capacity is 500 loaves per day. However, due to scheduled maintenance, cleaning time, and employee breaks, the effective capacity is 450 loaves per day.
  - i. Determine the utilization and efficiency for the bakery (Show your workings) **(4 marks)**
  - ii. Interpret your results in (i) above. **(1 mark)**
- b) A customer service call centre currently handles an average of 110 calls per hour. The centre's phone system is designed to process 120 calls per hour. Because of the current staffing levels and system limitations, the centre can realistically (effectively) handle 140 calls per hour.
  - i. Determine the utilization and efficiency for the call centre (Show your workings) **(4 marks)**
  - ii. Interpret your answer in (i) above. **(1 mark)**
- c) Give an example of a good and a service that exhibit these seasonal demand patterns:
  - i. Annual **(1 mark)**
  - ii. Bi-Annual **(1 mark)**
  - iii. Monthly **(1 mark)**
  - iv. Weekly **(1 mark)**
  - v. Daily **(1 mark)**

### **QUESTION FOUR (15 marks)**

NextCo is a multinational clothing, footwear and home products retailer. It sells through its stores, website and app. NextCo sells a combination of own-brand and branded products that it purchases from a range of manufacturers. NextCo has a good reputation for selling high-quality products and providing excellent customer service.

- a) Explain THREE reasons why quality is important to a business. **(6 marks)**
- b) Discuss THREE ways that NextCo can achieve quality. **(6 marks)**
- c) Identify THREE ways NextCo can ensure it offers good customer service through its website. **(3 marks)**

**QUESTION FIVE (15 marks)**

- a) Prepare a check sheet for the occurrences of defective computer monitors based on the following data, which an analyst obtained from the process for making the monitors. Workers are given a 15-minute break at 10:15 a.m. and 3:15 p.m., and a lunch break at noon. **(5 marks)**

Interval Start Time	Number of Defects	Interval Start Time	Number of Defects	Interval Start Time	Number of Defects
8:00	1	10:45	0	2:15	0
8:15	0	11:00	0	2:30	2
8:30	0	11:15	0	2:45	2
8:45	1	11:30	1	3:00	3
9:00	0	11:45	3	3:30	0
9:15	1	1:00	1	3:45	1
9:30	1	1:15	0	4:00	0
9:45	2	1:30	0	4:15	0
10:00	3	1:45	1	4:30	1
10:30	1	2:00	1	4:45	3

- b) Explain your results from your answer in (a) above. **(2 marks)**
- c) Using examples, analyze how the use of modern manufacturing systems might improve operational efficiency.
- i. CAD **(2 marks)**
  - ii. CIM **(2 marks)**
  - iii. CAM **(2 marks)**
  - iv. MRP **(2 marks)**

**QUESTION SIX (15 marks)**

- a) Describe THREE reasons why the number of electronic waste (e-waste) landfill sites is increasing around the world. **(3 marks)**
- b) Some high-income economy countries (HICs) export their e-waste to low-income economy countries (LICs). Evaluate TWO advantages and TWO disadvantages of this waste disposal strategy.
- i. TWO advantages **(4 marks)**
  - ii. TWO disadvantages **(4 marks)**
- c) Discuss TWO strategies for reducing the impacts of e-waste. **(4 marks)**