UNIVERSITY OF KELANIYA – SRI LANKA

Centre for Distance and Continuing Education

Faculty of Commerce & Management Studies

Bachelor of Commerce (Special) Degree Third Year Examination (External) – 2019

July – 2025

BCOM E 3025 - Operations Management

No. of Questions: Five (05) **Time: 03 Hours**

Answer Any Four (04) Questions

Question No. 01

a) Briefly describe the term operations management.

(05 Marks)

b) "When creating value for the final customers in operations, both efficiency and effectiveness need to be emphasized." Explain these concepts with relevant examples.

(08 Marks)

c) "Operations and supply chains are interdependent—one couldn't exist without the other, and no business organization could exist without both" Discuss this statement by using relevant examples from Sri Lankan context.

(12 Marks)

(Total 25 Marks)

Question No. 02

a) Briefly describe how research and development help for operations management.

(05 Marks)

b) "Layout of the workplace is critical to deliver high levels of customer satisfaction." Discuss this statement with relevant examples.

(08 Marks)

c) Salsa Company is evaluating three potential factories with different production capacities to manufacture a new product. The company wants to assess which factory is most suitable based on capacity utilization and expected profits. The following data have been collected for each factory:

Factory	Kandy	Biyagama	Maharagama
Production Capacity (Units)	11,000	10,000	14,000
Fixed Cost (LKR)	50 million	55 million	48 million
Variable Cost per Unit (LKR)	10,000	9,000	8,900
Selling Price per Unit (LKR)	17,000	18,000	15,200

Questions:

i. Calculate the break-even point in units for each factory.

ii. If the company expects to sell 10,500 units annually, calculate

(a) The capacity utilization percentage.

(b) profit for each factory.

iii. Analyze and recommend the most suitable factory based on break-even point, capacity utilization, and expected profits.

(12 Marks)

(Total 25 Marks)

Question No. 03

a) Explain what 3D Printing and Additive Manufacturing is.

(05 Marks)

b) " Favorable working conditions contribute to employee productivity, satisfaction, and overall well-being." Discuss this statement by highlighting the modern world working conditions.

(08 Marks)

c) A rice and curry restaurant in Kandy serves 8,400 dishes per year. The restaurant orders rice in bulk from a supplier in Anuradhapura. Each order costs LKR 3,600 to place (including transportation and administrative costs), and the cost of storing one dish, worth of rice for a year is LKR 25 (considering storage space, spoilage, and opportunity cost). Calculate the Economic Order Quantity (EOQ).

(05 Marks)

d) A popular bakery in Colombo produces traditional milk bread and requires a steady supply of high-quality wheat flour. The bakery uses 24,000 kg of wheat flour per year for their bread production. The cost of placing an order with their supplier in Kurunegala is LKR 6,500 per order (including transportation, quality inspection, and administrative costs). The annual holding cost per kg of wheat flour is LKR 85, which includes storage costs, insurance, spoilage due to humidity, pest control, and the opportunity cost of capital tied up in inventory.

Questions:

i. Calculate the Economic Order Quantity (EOQ) for the bakery.

(04 Marks)

ii. If the bakery has limited storage space and can only order a maximum of 1,500 kg at a time, what would be the additional cost compared to the optimal policy?

(03 Marks)

(Total 25 Marks)

Question No. 04

a) Define what Lean Supply chain Management is.

(05 Marks)

b) Explain what types of factors must be considered when adding or reducing capacity for a business.

(08 Marks)

c) Following table shows the specific seasonal sales data (based on quarters) of the retail apparel industry in Sri Lanka from 2020 to 2024. Based on that, calculate the seasonal index, and rank the four seasons according to the importance of sales.

Year	2020	2021	2022	2023	2024
1st Quarter	2.899	1.699	0.701	1.845	0.811
2nd Quarter	1.234	2.161	1.315	2.100	1.612
3rd Quarter	2.513	1.662	2.454	2.522	2.491
4th Quarter	2.612	1.127	1.118	1.992	1.202

(12 Marks)

(Total 25 Marks)

Question No. 05

Write a short note on the following topics.

a) Total Quality Management.

b) Product and Services Redesign.

c) Operations strategy and competitive priorities.

d) Enterprise Resource Planning (ERP).

e) Six Sigma methodology.

(05 Marks per each)

(Total 25 Marks)