

**THE OPEN UNIVERSITY OF SRI LANKA  
COMMONWEALTH EXECUTIVE MASTER OF BUSINESS/PUBLIC  
ADMINISTRATION**



**FINAL EXAMINATION – 2014**

**MCP 1604 – OPERATIONS MANAGEMENT**

**DURATION: THREE (03) HOURS**

**Date: 9<sup>th</sup> August, 2014**

**Time: 1.30 pm – 4.30 pm**

This paper consists of 8 questions and has 3 pages.

**Instructions:**

- Answer any FIVE Questions.
- Answers should be methodical and focused. Use suitable examples and illustrations where necessary.

- 1 a) Explain “Competitiveness” and the factors on which a firm could compete. (5 marks)  
 b) Describe different types of operations that take place in organizations. Provide suitable examples. (6 marks)  
 c) Describe the following concepts in relation to Operations Management with suitable examples  
 (i) Productivity (ii) Efficiency and effectiveness (iii) Strategy (9 marks)
  
- 2 a) Discuss the reasons why Work Study is considered as an important tool in improving operations in manufacturing and service organizations. (6 marks)  
 b) Describe the steps carried out in a Method Study exercise. Explain the importance of these steps. (8 marks)  
 c) What are the primary questions asked during a Method study investigation? Explain the relevance of such questions. (6 marks)
  
- 3 a) Discuss the importance of having proper layout plans for organizations and the factors that have to be considered when selecting a plan. (6 marks)  
 b) With justifications, describe the facility layout plans most suitable for;  
 ii) Garment Factory iii) Engineering Workshop iv) Ship Building Industry. i) Supermarket, (8 marks)

- c) Draw the layout plan of your office or factory and comment on the work flow and indicate any changes that would improve the performance of operations. Provide justifications for your answer. (6 marks)
- 4 a) Explain what Productivity is and how it affects the performance of an organization. (5 marks)
- b) What is multifactor productivity? Discuss the importance of applications of multifactor productivity measures. (5 marks)
- c) Tissa Wood Producers, fabricate crates for export. They produce 240 crates per day, from 100 logs. Tissa believes that if they purchase better logs they can produce 260 crates per 100 logs per day.
- i. What would be the productivity increase? (4 marks)
- ii. With this change, the labour hours increases to 300 hours at Rs 100/- per hour and the energy cost at Rs. 150/- per hour. Further, capital cost goes up by Rs. 350/-. Calculate the multifactor productivity measures and explain the current situation. (6 marks)
- 5 a) Explain 'quality control' and "quality assurance" bringing out their differences. (6 marks)
- b) Explain why Total Quality Management is more beneficial to an organization and why it is more difficult to implement and also costlier than usual quality control systems. (8 marks)
- c) Explain what is ISO 9000 system and how the revised ISO 9000; 2000 differs from the earlier system and why the ISO 9000:2000 system is more appropriate for the modern business environment. (6 marks)
- 6 a) Explain the elements of a good forecast. (5 marks)
- b) 'Forecasts are rarely perfect'; Critically analyse this statement. (5 marks)
- c) The sales figures for the first 10 weeks for a newly introduced shampoo are shown below.

Week number	Units sold
1	630
2	652
3	648
4	655
5	666
6	668
7	682
8	675
9	693
10	698

- i. Plot a graph and trend line and predict the sales for weeks 11 and 12.
  - ii. What other methods of forecasting techniques would you suggest for the above?  
(10 marks)
- 7
- a) Discuss the importance of human resource management practices for successful operations management. (6 marks)
  - b) Explain three main types of production systems highlighting their differences with suitable examples. (6 marks)
  - c) With suitable examples explain the supply chain model and its importance to the operations management. (8 marks)
- 8
- a) Explain the different types of alternate energy sources that can be used by Sri Lankan manufacturing and service organizations. Describe their advantages and limitations.  
(8 marks)
  - b) Discuss 4 advanced manufacturing systems used in modern manufacturing organizations. (6 marks)
  - c) Explain what is meant by "Lean Manufacturing" and advantages of adopting lean manufacturing practices for organizations. (6 marks)

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Formula for question No.6

For linear graph

$$y = mx + c$$

The coefficients m and c are computed using the following equations

$$m = \frac{n(\sum xy) - (\sum x)(\sum y)}{n(\sum x^2) - (\sum x)^2}$$

$$c = \frac{\sum y - m \sum x}{n}$$

where n = Number of paired observations