THE OPEN UNIVERSITY OF SRI LANKA
COMMONWEALTH EXECUTIVE MASTER OF BUSINESS/PUBLIC ADMINISTRATION PROGRAMME
FINAL EXAMINATION 2012
MCP1604 – OPERATIONS MANAGEMENT
DURATION THREE (03) HOURS

DATE: 31st March 2012 **TIME: 9.30am to 12.30pm**

- **Answer any five (05) questions.**
- **Use of a non programmable calculator is allowed.**
- **All questions carry equal marks.**

Q1. **a)** Describe the major differences between products and services from the view point of Operations Management and explain why delivering a service is more difficult than introducing a product to the market.

b) Describe the key operations management related factors which influence the competitiveness of an organization.

Q2. **a)** Describe why Work Study is considered as a very valuable tool in improving the operations of an organization.

b) State the steps carried out in a Method Study exercise. Give brief comments regarding the importance of carrying out those steps.

c) What are the primary questions asked during a Method Study investigation? Explain.

Q3. **a)** What are the process chart symbols? Briefly explain how these assist in recording of various operations in an office or in a factory.

b) Following are the elements of changing the wheel of a vehicle given in a random manner. Draw an appropriate Flow Process Chart of the activity. *(Use the chart paper in page 4)*

1-Open car boot and take jack/spare wheel and other equipment out

2-Loosen the nuts of the deflated wheel partially

3-Remove the wheel cap (hub cap) of the tyre

4-Place the wheel wedges against the other tyres to prevent vehicle from slipping

5-Place and operate the jack and raise the vehicle

6-Remove the nuts and remove the wheel

7-Insert the spare wheel and attach the nuts

8- Replace the wheel cap

9- Loosen the jack and tighten the wheel nuts fully

10-Check the tightened wheel nuts again

11- Replace deflated wheel, jack etc in the boot

12- Lower the jack and remove it.

Q4. **a)** Discuss the type of layout which would be most suitable for the operations of a Supermarket, a Garment Factory, an Engineering Workshop and a Ship Building yard. Give reasons for your choice.

b) Explain what is a bottleneck at the production floor. Providing examples describe how 'line balancing' can improve the productivity of an operation.

c) Provide a layout diagram of your office and give your comment on how it can be improved, giving the bases for improvement.

Q5. **a)** Discuss basic types of qualitative and quantitative forecasting methods and comment on the reliability and ease of using such methods

b) 'Forecasts are rarely perfect'. Do you agree? Explain.

c) The room registrations at Hotel Lanka Plaza have been recorded (in thousands) and they are given below..

Year	Registrations(000)
2003	17
2004	16
2005	16
2006	21
2007	20
2008	20
2009	23
2010	25
2011	24

Plot a graph and draw the trend line for these data. Using the trend line forecast the registrations for 2012 and 2013.

Q6. **a)** Define Total Quality management (TQM) and explain why TQM is more beneficial to an organization than Quality Control or Quality assurance.

b) Name the five basic quality tools and write short notes on these tools.

c) Define the ISO 9000 System and explain how the ISO 9000. 2000 differs from the earlier version. Why is it considered as a more appropriate system than ISO 9000? Explain.

Q7. **a)** Explain the 3 main types of production systems highlighting their differences. Give suitable examples.

b) Define the 3 main types of organizational plans and describe the activities involved in these types

c) Define Materials Resource Planning and its key elements

Q8. **a)** Discuss 'sustainable development' and how an organization can be benefitted from cleaner production initiatives.

b) Explain four advanced manufacturing systems and discuss how those methods increase the competitiveness of an organization.

With standard notations
For linear graph
$y = mx + c$
The coefficients m and c are

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

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

Flow process chart for Question no 3-b

Element or action carried out	Op	Tra	Ins	Del	Sto
	O		□		▼
	O		□		▼
	O		□		▼
	O		□		▼
	O		□		▼
	O		□		▼
	O		□		▼
	O		□		▼
	O		□		▼
	O		□		▼
	O		□		▼
	O		□		▼
	O		□		▼
	O		□		▼
	O		□		▼
	O		□		▼

Op – Operation - O
Tra – Transport - ⇨
Ins – Inspection - □
Del– Delay - D
Sto– Storage - ▼