SOUTH EASTERN UNIVERSITY OF SRI LANKA

003

THIRD YEAR EXAMINATION IN BACHELOR OF BUSINESS ADMINISTRATION
(EXTERNAL) – 2008 / 2009
HELD IN AUGUST – 2009

BBA 33 – OPERATIONS MANAGEMENT

Answer any **Five (05)** Questions

Time : 03 Hours

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01. a) Why operations management is important in a business?

b) Using the Input-Transformation-Output relationships for typical systems as a model, describe the following systems.

i. College or University.
ii. Branch office of a Bank.
iii. Restaurant.

c) Briefly explain the performance objectives of operations management?

(Total 20 Marks)

02. a) Define the types of cost of quality and briefly describe each by providing suitable examples.

b) Completed forms from a particular department of an insurance company were sampled daily to check performance quality of that department. To establish a tentative norm for the department, one sampled of 100 units was collected each day for 15 days, with following results.

Sample	Sample size	No of forms with errors	Sample	Sample size	No of forms with errors
1	100	4	9	100	4
2	100	3	10	100	2
3	100	5	11	100	7
4	100	0	12	100	2
5	100	2	13	100	1
6	100	8	14	100	3
7	100	1	15	100	1
8	100	3			

i. Develop a 'P chart' using a 95 percent confidence interval (1.96 standard deviations)
ii. Find the UCL and LCL
iii. Plot the 15 samples collected.
iv. What comments can you make about the process?

(Total 20 Marks)

(Contd.....2)

03. a) What do you mean by Just-in-Time (JIT) production?

b) Cooper's plant needs to design an efficient assembly line to make a new product. The following tasks are to be performed on an assembly line.

Task	Seconds	Tasks That Must Procede
A	20	-
B	7	A
C	20	B
D	22	B
E	15	C
F	10	D
G	16	E,F
H	8	G

The work day is seven hours long. Demand for completed product is 750 per day.

i. Find the cycle time.
ii. What is the theoretical number of work stations?
iii. Draw the precedence diagram.
iv. Balance the line using sequential restrictions and the longest-operating-time rule.
v. What is the efficiency of the line balanced as in the above question (iv)?
vi. Suppose the demand rose from 750 to 800 units per day. What would you do? Show any amounts or calculations.
vii. Suppose that demand rose from 750 to 1000 units per day. What would you do? Show any amounts or calculations.

(Total 20 Marks)

04. a) Why would combining work measurement techniques be a good strategy in establishing a standard?

b) Contrast job enlargement and job enrichment. Are they mutually exclusive?

c) An experienced industrial engineer conducted a direct time study for an acid mixing operation. The analyst found cycle time as shown below, rated the observed worker at 80%, and used the firm's 10% allowance fraction. Determine the standard time.

Cycle Time(minutes)	**No of Time Observed**
2.7	**3**
2.8	**4**
2.9	**2**
3.1	**1**

(Total 20 Marks)

(Contd.....3)

05. a) Contrast the location problems of a manufacturing firm and a super market, showing the relevant considerations they share and those they do not.

b) Briefly explain the different types of layout and pinpoint the problems of inefficient layout.

c) How product/service design and process selection contribute in achieving performance objectives of an organization.

(Total 20 Marks)

06. a) State the assumptions and conditions for the Fixed Order Quantity inventory model.

b) A fast food chain has a local retail outlet that uses 120 six-ounce paper cups each day. It plans to be open 360 days a year. The cups cost Rs. 10/dozen; Ordering costs are Rs. 5 per order; and carrying costs are 50 percent of the item cost (Since space is premium). The lead time for order receipts is 5 Days.

i. Find the economic order quantity and Reorder point.

ii. Currently, cups are ordered every 30 days, Relate current ordering quantity, optimal order quantity, current total cost and optimal total costs. What does this mean ?

(Total 20 Marks)

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