

**THIRD YEAR EXAMINATIONS IN BACHELOR OF BUSINESS ADMINISTRATION
/ COMMERCE (EXTERNAL) – 2007 / 2008**

HELD IN AUGUST – 2008

BBA 33 – OPERATIONS MANAGEMENT

Answer only Five question

Time : 03 Hours

01. (a) What are the performance objectives of operations management? Explain the importance of those objectives by taking a service business as an example. (06 Marks)
- (b) “Improvements in an operations management system will contribute to the national economic development”. List out the contributions of operations management to the national economy (06 Marks)
- (c) What do you mean by Just-in-Time (JIT)? Explain the contributions of JIT towards achieving performance objectives by taking a manufacturing company as an example. (08 Marks)
- (Total 20 Marks)

02. (a) Coolsuper Ltd is one of the supermarket chains in Sri Lanka. The company is seeking a location for its another supermarket outlet. It has identified following factors and ranked on their importance to the operations. There are four alternative locations proposed and each location has been assessed and following score has been allocated out of 10. Company wants to evaluate each location and select the best.

Factors	(S.core)			
	Rank	Kalmunai	Ampara	Akkaraipattu
1.Easy access to customer	0.25	09	04	06
2.Density	0.18	09	05	06
3.Parking facility	0.15	05	07	06
4.Availability of building space and cost	0.22	06	07	07
5.Transport and infrastructure facilities	0.20	08	09	07

(14 Marks)

- (b) What are the factors that should be considered when selecting a location for a factory of a manufacturing company?

(06 Marks)

(Total 20 Marks)

03. (a) Explain the advantages of an effective layout?

(05 Marks)

(b) KMT Company Ltd plans for a new layout for its manufacturing process. Use the precedence and time requirements given below to design an assembly line that will produce a new product.

Task	Precedence	Time (Minutes)
A	-	6
B	A	2
C	B	2
D	A	1
E	A	7
F	A	5
G	C	6
H	D, E, F	5
I	H	4
J	G	4
K	I, J	4

Required :

- (i) Construct a precedence diagram.
- (ii) Calculate the expected output for an eight hour work a day.
- (iii) Taking 12 minutes as the cycle-time allocate the tasks in to work station (use LOT rule).
- (iv) Determine the deficiency of the line

(15 Marks)

(Total 20 Marks)

04. Control Charts are useful measures in determining the acceptability of production process.

(a) Briefly explain the usefulness of Mean Chart, Range chart, P-Chart and C-Chart
(06 Marks)

(b) A company has taken number of samples as 8 and found following number of defects in the process of constructing a control chart for its product.

Sample	No. of defects
1	35
2	28
3	20
4	51
5	40
6	30
7	08
8	20

'Z' value - generally taken as 3 standard deviation assuming 99% normal
Calculate:

- (i) Mean and Standard deviation

- (ii) Upper and lower control limits
- (iii) Construct a control chart and explain whether the process is in under control or not.

(14 Marks)
(Total 20 Marks)

05. (a) A large hotel purchases liquid soap at price of Rs. 20 each. It is estimated that the cost of handling an order is approximately Rs. 600. Annual stock holding cost is estimated to be 20% of the price of the average stock. Annual requirement of the liquid soap is 30,000 units. The supplier's new price list shows that orders of less than 2000 units will not have any discounts but 2000 to 3000 units 5%, 3001 to 4000 units 7% and more than 4000 units 10% discounts will be provided.

What is the optimum quantity to be ordered at a time?

(16 Marks)

- (b) What do you mean by the term ABC analysis?

(04 Marks)
(Total 20 Marks)

06. (a) In a factory a direct time study was made based on stop watch time study. The analyst gave a performance rating of worker as 112% and assuming an allowance time of 15%. The observations are given below :

Cycle	Time (min)	Cycle	Time (min)
1	2.5	6	2.4
2	2.8	7	2.3
3	1.9	8	2.5
4	2.3	9	2.5
5	2.3	10	2.4

Determine standard time for the task.

(12 Marks)

- (b) Explain how work measurement contributes for the achievement of performance objectives.

(08 Marks)
(Total 20 Marks)
