



University of Kelaniya - Sri Lanka
Centre for Open and Distance Learning



Faculty of Commerce and Management Studies

Bachelor of Business Management (General) Degree

Year III Examination (External) – 2008

BMGT 33045 – Operational Management

No of Questions – 7

Time: 03 Hours

Answer only five (05) questions

(1) (1) Briefly explain what you understand by the term “Productivity” and clarify how it can be improved in an organization? (10 marks)

(11) Describe the term of “Zero Defects” as advocated by Philip Corby in the context of quality Management. (10 marks)
(Total Marks -20)

(2) The tasks of the operational process of the Wikis Fast – Food restaurant have been indicated below.

Task	Tasks which are immediately preceded	Time required to perform tasks (minutes)
A	-	0.07
B	-	0.15
C	A,B	0.08
D	C	0.05
E	C	0.18
F	-	0.12
G	-	0.06
H	F,G	0.1
I	D,E	0.15
J	H,I	0.11
K	J	0.06
L	K	0.19

If 220 packets of food should be prepared by the crew within an hour which consists of only 55 minutes of productive time,

- (I) draw the diagram indicating the precedence relationships
- (II) compute and state the cycle time in minutes required to spend for a packet of food.
- (III) compute and state the minimum number of workstations required
- (IV) prepare a proposal describing how would you assign tasks to the workstations in order to minimize idle with an evaluation of the same proposal.

(Total Marks -20)

- (111) An Experienced engineer conducted a direct time study for an operation. The analyst found cycle times as shown below, and rated the observed worker at an efficiency of 80% using an allowance of 10% fraction. Determine the standard time.

Cycle time (in minutes)	Number of times observed
2.7	3
2.7	4
2.9	2
3.1	1
3.2	1

(10 marks)

(Total – 20 marks)

- (6) (1) What is meant by ABC Classification? How does an organization analyse its inventory using ABC classification?

(10 marks)

- (11) Identify and describe the elements of an Inventory control system?

(10 marks)

(Total – 20 marks)

- (7) Kamal has estimated aggregate demand of his products for the coming year as follows.

Month	Productive Days	Demand (in units)
January	22	8,000
February	19	12,000
March	21	18,000
April	22	20,000
May	21	28,000
June	21	25,000
July	22	26,000
August	11	16,000
September	21	18,000
October	22	14,000
November	18	9,000
December	21	7,000

No of employees serving at present is 100 and each employee is producing 12 units per day. Daily capacity can be increased up to 30% deploying them for work on overtime at an additional cost of Rs. 2.00 per unit. Average salary per day is Rs. 30.00. Cost of storing a unit in the inventory is Rs. 2.00. Inventory shortage cost per unit is Rs. 10.00. Cost of hiring and training is Rs. 300.00 per employee and layoff cost amounts to Rs. 200.00 per employee. An additional capacity could be made available through a local subcontractor at a cost of Rs. 8,000 per unit. Kamal has 5000 units in inventory. Develop the aggregate plan for the next year.