



UNIVERSITY OF COLOMBO, SRI LANKA

FACULTY OF MANAGEMENT AND FINANCE

Bachelor of Business Administration (Level I – Semester IV) Examination – 2018

MKT 2312 – Operations Management

Three (03) Hours

Answer Any Five (05) Questions

Use of non-programmable calculators is allowed.

01. “Operations Management (OM) may be defined as the management of systems or processes that create goods and/or produce services”.
- i. Using appropriate examples, describe the importance of the knowledge about OM for non-operations managers (i.e. the managers in other functional areas such as Finance, Marketing, Human resources management and Information Technology Etc.).
- (10 Marks)
- ii. Why should an operations system of a firm be improved periodically? Justify your answer with four (04) reasons and examples, where necessary.
- (10 Marks)
- (Total 20 Marks)**
02. i. With the aim of explaining how a firm should specify its Operations Strategy (OS), describe briefly the four (04) perspectives on operations strategy.
- (10 Marks)
- ii. Using the experience that you earned from your group assignment on “Key responsibilities of an Operations Manager”, identify the most essential skills, knowledge and attitudes required to perform OM responsibilities effectively and efficiently in the context of Sri Lankan business organizations.
- (10 Marks)
- (Total 20 Marks)**

03. i. Explain, with examples, the impacts of the geographical location of operations plants and facilities on the performance of operations. You may highlight both supply-side and demand-side influences in your answer.

(10 Marks)

- ii. Briefly describe any two (02) qualitative demand forecasting techniques.

(04 Marks)

- iii. Describe the link between demand forecasting, strategic operations capacity planning and location decision.

(06 Marks)

(Total 20 Marks)

04. i. Describe how different functional areas of a business should contribute for product design process and why such cooperation is important.

(10 Marks)

- ii. Highlighting the main operational challenges of both of process types separately, compare the characteristics of batch process type against project process type. Use examples where necessary.

(10 Marks)

(Total 20 Marks)

05. i. "Job designing is a crucial area of decision making in OM for which not only the behavioral considerations of employees such as job enlargement, job enrichment, ergonomics and team approach but also the physical considerations should be incorporated appropriately".

Describe what is 'method analyses' and 'motion studies' and, comment on the importance of using such methods in designing jobs.

(10 Marks)

- ii. Read the following case and answer for the questions given at the end.

'RoadGrip' is a tire manufacturing company and when hired a consultant to help them determine the best type of production process for its tire manufacturing process the consultant recommended that they should use an assembly line. He further told that the line must be able to produce 600 tires per day to meet the demand forecast. The workers in the plant work seven and half hours per day. The task information of the new process is given in **Table 01** below.

Table 01

<i>Task</i>	<i>Preceding Tasks</i>	<i>Performance Time (Seconds)</i>	<i>Task</i>	<i>Preceding Tasks</i>	<i>Performance Time (Seconds)</i>
A	-	26	G	F	20
B	-	14	H	F	15
C	B	32	I	G	39
D	A,B	11	J	G,H	17
E	C	21	K	I,J	26
F	D,E	9			
					Total 230 Sec

Assume that you are given the line balancing responsibility.

- a) Draw the precedence diagram and assign tasks to work stations using the longest operating time as the primary rule.

(08 Marks)

- b) If the firm wants to enhance the production rate up to 850 tires per day using the same assembly line would it be possible? If 'No' give reasons and if 'Yes' give suggestions to implement your answer.

(02 Marks)

(Total 20 Marks)

06. Read the following dialogues between Director Finance (DF), Chief Operating Officer (COO) and Managing Director (MD) of 'The Elegance', a floor tile manufacturing company. The company is being operated in the Sri Lankan market successfully for almost ten years and now they are planning to start exporting their products to a few selected countries within next five years' time.

MD: We have been attempting to reduce product returns, and in fact, we do mass inspection that ensures customers don't get any defectives from my company.

DF: Yes, if we take last two years we have allocated more than five million Rupees to establish the lab facilities and purchasing other testing equipment and all. We never reduce this element in our annual budgets. May be that is why we are able to offer good quality products.

COO: Having done all these, we manage to reach the place where we are now in the market. Well, we as a company still heavily depend inspection and quality control. That is why I am worried. Quality should be the main priority that we should focus on if we are to think of exporting and enhancing the market.

DF: Aren't we doing enough? I would say more unnecessary efforts may increase our cost and that is taking us nowhere.

MD: Ok, what else possible? You know, I am ready if you come up with good proposal.

COO: Yes, I am studying the recent developments. TQM seems promising for a company like ours.

- i. Assume that you are the COO of the above organization. Describe the main features of the Total Quality Management (TQM) approach and the benefits of converting a traditional operations system into a TQM driven system.

(10 Marks)

- ii. How do you explain what is new in the Lean approach compared to the TQM approach and, what additional benefits would be possible for an organization with the Lean approach?

(10 Marks)

(Total 20 Marks)

07. i. What is an Aggregate Production Plan (APP) and why an APP should be specified in-advance? Use examples to elaborate your answer.

(06 Marks)

- ii. Suppose that you are given the responsibility to set up a production plan for the 'Bright Company', a medium scale CFL bulb manufacturer operating in Sri Lanka. You are given the following information.

Demand and Working Days

	Quarter 01	Quarter 02	Quarter 03	Quarter 04
<i>Demand Forecast</i>	280,000	320,000	135,000	420,000
<i>Number of working days</i>	64	60	66	60

Materials cost	Rs. 65.00 /unit
Inventory holding cost	Rs. 6.50 /unit/quarter
Hiring and training cost.....	Rs. 12,000.00 /worker
Layoff cost	Rs. 25,000.00 /worker
Labor hours required	0.25 Hrs / unit
Straight time cost (first eight hours each day)..	Rs. 700.00

According to the inventory policy of the firm, they expect to maintain 20% of the period demand as a safety stock and the inventory at the beginning of 1st quarter is 75,000 units. Opening workforce at the beginning of Quarter 1 is 146 workers. Consider that under normal conditions, the factory usually operates for 8 hours per day.

- a) Calculate the production requirements for each quarter.

(04 Marks)

- b) If the production manager of the Bright Company has decided to consider only the level production plan and chase production plan, advise him to select the most cost effective aggregate production plan for the next year, considering all the relevant costs. Use assumptions where necessary.

(10 Marks)

(Total 20 Marks)