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MBA
(SEM II) THEORY EXAMINATION 2018-19
PRODUCTION OPERATIONS AND SUPPLY CHAIN MANAGEMENT

Time: 3 Hours ***Total Marks: 70***

Note: Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt all questions in brief. **2x7 = 14**

a. Define the term operations.
b. What is production cycle?
c. What is the meaning of layout?
d. Explain in-bound & out-bound logistics?
e. Discuss the concept of just-in-time.
f. Compare between production and productivity.
g. Explain total productive maintenance.

SECTION B

2. Attempt all questions of the following CASE: **7 x 3 = 21**

Personal Care Limited (PCL) is a large and premier FMCG company in India with a turnover of about Rs 2000 crore. It has 85 production plants spread over the whole country, producing about 1200 products ranging from personal care to household goods.

The company has four of its own mother warehouse situated in the four zones of north, south, east and west that receive products from almost all the plants on a regular and consignment basis in containers by road. These warehouses are responsible for taking care of stocks, order placement for next arrivals, loading and unloading, protective storage, stock recording, apart from order processing and trans-shipment of goods to C&F agents of respective zone whose numbers come around 150 per warehouse.

After receiving goods from various plants, these warehousing are first entered into the computer for inventory recording purposes. Suitable storage location spaces are then assigned after taking into consideration the quality to be stored, the physical dimension, characteristics of items, frequently of flow, and availability of the space, which is quite variable and flexible. For

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storageof goods, flexible racking system is used so that the size of a rack's space can be changed as per the size on the product's package.

Furthermore, racking is back-to- back in pallet blocks which are 5 storied and in one block, there are about 400 back-to- back rocks. In certain areas, for selected heavy weight and bulky items, 50 selectors drive forklift trucks and in the remaining areas, as many as 350 selectors pick the goods manually and use hand trolley. Selectors are normally less educated and highly experienced, who have well-defined areas of selection.

With the existing system, there have been a lot of practical problems, such as under utilization of space, traffic congestion in aisles between the racks as one selector blocks another's progress while he is picking items from a location, wrong assortment, difficult to track goods, difficult to flll one single order as it contains a variety of items, etc. furthermore, a trucker is required to collect items from different places of the warehouse to make up the order. Frequently, they have to wait for full load. Then, the driver had to collect challan and other required papers. Normally, this whole process took seven to ten days, subject to ready availability of the goods in the stock. In the case of stock-out items, it may goes anywhere in between 15 to 30 days. That is why, replenishment cycle time of nearby C&F agents' is about 15 days and for others, it comes around 3 weeks. Due to a gradual increase in the quantum of competition and increasing customer expectations, along with increasing awareness about the overwhelming contribution of L&SCM in cost reduction and service improvement, the top management of PCL have appointed highly qualified and experienced professionals at all four warehouses with the following objectives:

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- to improve the efficiency of the warehouses;
- to reduce the replenishment cycle time by 25 per cent;
- to reduce the total logistical costs by 10 per cent; and
- To have transparency in dispateh of premium products.

Mr. A. K. Sinha, who joined the north zone ware house as chief warehouse manager, has had a very successful career of 25 years. He wants to redefine the whole warehouse operating system.

QUESTIONS:-

a. How should Mr. Sinha approach this problem?

b. What changes would be recommended for the implementation of the new strategy?

c. Develop a strategy to overcome the problem and fulfill the redefined objectives of the firm.

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SECTION C

3. Attempt any *one* part of the following: 7 x 1 = 7

a) Discuss the classification of production systems.

b) Explain various types of layouts with neat diagrams.

4. Attempt any *one* part of the following: 7 x 1 = 7

a) Compare & contrast between characteristics of goods and services.

b) Discuss the SERVQUAL model and service capacity planning.

5. Attempt any *one* part of the following: 7 x 1 = 7

a) Discuss the functions & techniques of production planning

b) How can inventory be used as a measurement system for performance evaluation of the supply chain?

6. Attempt any *one* part of the following: 7 x 1 = 7

a) What is ABC analysis? Differentiate between VED and ABC analysis.

b) Elaborate the various components of logistics management along with their specific roles. Also, discuss the various functions of logistics.

7. Attempt any *one* part of the following: 7 x 1 = 7

a) Discuss in brief 7 new QC tools for quality improvement and cost reduction.

b) Discuss the clauses of ISO 9000: 2000 and QS 9000.

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