



CII Institute of Logistics

PGDSCM & Certificate Programs
Semester-end Examination – June 2009

OPERATIONS MANAGEMENT I

Time : Three Hours

Marks : 100

Part A

Answer all questions (20 x 1 = 20 Marks)

1. Providing healthcare services to patients is an example for
 - a) Job Shop production
 - b) Batch manufacturing
 - c) Standard Service
 - d) Customized Service
2. While formulating corporate objectives, managers must consider
 - a) Market Conditions
 - b) Political environment
 - c) Economic environment
 - d) All the above
3. Which of the following is not an advantage of process focused production system?
 - a) Lower employee skill
 - b) Flexibility
 - c) Lower initial investments
 - d) Use of general purpose Equipment
4. Which of the following layout formats involves grouping of similar equipment of functions?
 - a) Product Layout
 - b) Process Layout
 - c) Fixed position layout
 - d) Group technology layout
5. _____ translates the aggregate plan into production schedules for individual product.
 - a) Master Production Schedule
 - b) Total Production Schedule
 - c) Primary Production Schedule
 - d) Secondary Production Schedule
6. Which of the following is not an inventory classification method?
 - a) ABC
 - b) FIFO
 - c) FSND
 - d) VED
7. Which of the following is an aim of economic order quantity purchasing?
 - a) Minimizing the total cost
 - b) Minimizing transport cost
 - c) Minimizing the storage cost
 - d) Minimizing the order cost
8. MRP is a system in which the given MPS is incorporated to give required amount of raw materials. Which of the following is an objective of an MRP System?
 - a) To improve customer service
 - b) To reduce employee costs
 - c) To improve maintenance schedules
 - d) To improve the performance of the finance department
9. Which of the following characteristics is not associated with JIT?
 - a) Reduction in paper work
 - b) Purchase in small lots with frequent deliveries
 - c) Single source of supply for a given part in a close geographical area with a long-term contract
 - d) Standardized packaging for all part types

10. In _____ technique of lot sizing, planned order releases exactly match the net requirement.
- Lot for lot
 - Economic order quality
 - Least total costs
 - Least unit costs

11. Which of the following are essential conditions for making a JIT system successful?
- Team work
 - Discipline
 - Supplier involvement
 - Employee performance
- i, ii and iv
 - i, iii and iv
 - i, ii and iii
 - ii, iii and iv

12. Which of the following is generally found in most JIT environments?
- Push systems
 - Pull Systems
 - A push or pull system, depending upon the rate of demand
 - A push system for purchased parts and a pull system for manufactured parts

13. Customized product design emphasis on _____
- Quality
 - Quantity
 - Organization
 - Price

14. Operation decisions are based on _____
- Quality
 - Product
 - Maintenance
 - Human Resource
 - All of the above

15. The indirect outputs are _____
- Taxes
 - Social Impact
 - Employee Impact
 - All of the above

16. JIT and Kanban are _____ system
- Push System
 - Pull System
 - Push and Pull System
 - None of the above

17. VED stands for _____

18. "On time delivery" can be achieved by Lean Manufacturing - TRUE/FALSE

19. Combination of process layout and product layout is called as _____

20. Work study is concerned with finding the facts about a situation and better method of doing that work - TRUE/FALSE

Part B

Answer all the four

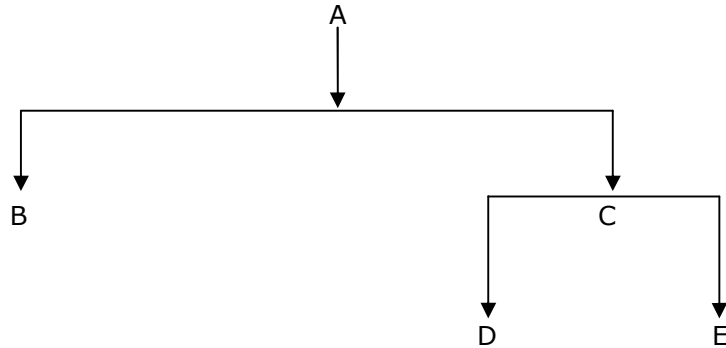
(4 x 10 = 40 marks)

1. Consider the manufacture of a toy. The master production schedule to manufacture the toy is given in the following table.

Master Production Schedule

Week	1	2	3	4	5	6	7	8
Demand	200	-	100	175	300	200	-	250

The Bill of Materials Structure is given in the following figure.



The details of Bill of Materials along with economic order quantity and stock on hand for the final product and subassemblies are shown in the following table.

Details of Bill of Materials

Part Required	Order Quantity	No.of Units	Lead Time (Week)	Stock on Hand
A	350	1	2	200
B	450	1	1	400
C	400	1	1	375
D	375	1	1	250
E	400	1	2	425

Complete the material requirements plan for the main product A as well as for the subassemblies B, C, D and E.

- An engine manufacturing company stocks the items as shown in the following table in its stores. The unit prices, annual consumption quantity in terms of units / year are also given in the same table. Classify the items into A, B and C categories

Component Code	Description	Price / Unit (Rs.)	Annual Demand (Units / Year)
C001	Connecting rodq500	500	600
C002	Crank case	4000	600
C003	Cylinder	2000	600
C004	Cylinder head	3000	600
C005	Crank shaft	4000	600
C006	Cam	500	1200
C007	Nozzle	500	600
C008	Valve set	1000	1200
C009	Fuel injection pump	1500	600
C010	Exhaust pipe	500	600

- What are the factors affecting forecasting?
 - List and explain the types of forecasting in decision?
- Explain the scope and benefits of TQM.
 - What are the factors affecting plant location?

Part C

Case Study

(1X40=40 marks)

Nike's Profits Fall

In February 2001, Phil Knight (Knight), the co-founder and CEO of Nike Inc (Nike), announced that the company's profits for the third quarter of the fiscal year ending May 2001 would fall short of expectations by almost 24 percent. The reason for the shortfall was a failure in the supply chain software that Nike had implemented in June 2000.

The supply chain software, implemented by i2 Technologies Inc (i2) had fallen prey to technical glitches that affected the company's inventory systems adversely, leading to a supply chain failure. Resultantly, Nike's production facilities around the world ended up manufacturing a far greater number of a less popular shoe model and not enough of those models that were in high demand. In the finger pointing that followed, Nike's management laid the blame for the problem squarely at the door of i2. During a press meet, Knight complained, "This is what we get for our \$400 million huh?" On the other hand, i2 claimed that the mismatch was a result of Nike's haste in using the incomplete system and its unwillingness to use i2's standard systems and procedures.

Regardless of who was to blame, Nike's reputation in the market took a beating. The company also lost considerable market share to rivals like New Balance and Reebok. One of the leading sports goods companies in the world, Nike Manufactured high quality athletic shoes for a variety of sports including baseball, athletics, golf, tennis, volleyball and wrestling.

In addition to footwear (which accounted for almost 60 percent of the company's sales), Nike also manufactured fitness equipment, apparel and accessory products. The company's products were sold in over 140 countries around the world. Headquartered in Beaverton, in the state of Oregon, Nike had production facilities scattered around the world and had a complicated supply chain system that extended from Nike factories in developing countries in Asia to uptown stores in the US and other parts of the developed world.

Answer all questions

(14 + 13 + 13 = 40 marks)

Questions:

1. Discuss the issues faced by the manufactures?
2. Do you think that the decision to go in for the new software application is right? Justify.
3. Sketch your perceptions of Nike's supply chain.