



CII Institute of Logistics

Post Graduate Diploma in Supply Chain Management
Semester-end Examination June 2008

OPERATIONS MANAGEMENT II

Time : Three Hours

Marks : 100

Part A

Answer all questions (10 x 1 = 10 Marks)

- Most of the service capacity planning is done by
 - MRP
 - Queuing system theory
 - PPC
 - MPS
- Flexibility and customization is not possible in
 - Product layout
 - Functional layout
 - Fixed position layout
 - All of the above.
- Tools used in scheduling and controlling projects
 - PERT
 - CPM
 - Precedence diagram
 - All the above
- 95% service level means
 - Continuous improvement
 - Only 5% times stockout occurs
 - Only 5% times stocks are available
 - None of the above
- Bill of materials is otherwise called as
 - Product structure tree
 - Bill of resources
 - Input-output control report
 - Safety stock
- Focused factory is a concept followed in

- Mass customization
- Just in time production
- TPM
- Kanban production system

7. In six sigma concept, the sigma means

- Mean of variable
- Variability in terms of standard deviation
- Range
- None of the above

8. The ability of the process to meet the design specifications for a product is known as

- System capacity
- Process capability
- Tolerance
- Capacity limit

9. Service facility location is more influenced by proximity to raw materials. TRUE/FALSE.

10. The theory of constraints is proposed by Eliyahu M. Goldratt. TRUE/FALSE

Part B

Answer all three (3 x 15 = 45)

1. (a) How service operation facility is located? Explain with an example

(b) Explain (i) Product layout and (ii) Gravity location model

2. A plant manager of a chemical plant must determine the lot size for a particular chemical that has a steady demand of 30 barrels/day. The production rate is 190 barrels/day, annual demand is 10,500 barrels, setup cost is \$200, annual holding cost is \$0.21/barrel, and the plant operates 350 days/year. Determine the production order quantity.

3. (a) Schedule the following six jobs through two machines in sequence to minimize the flow time using Johnson's rule:

Job	Operation time-M1	Operation time-M2
A	9	6
B	18	15
C	2	9
D	13	11
E	17	3
F	18	7

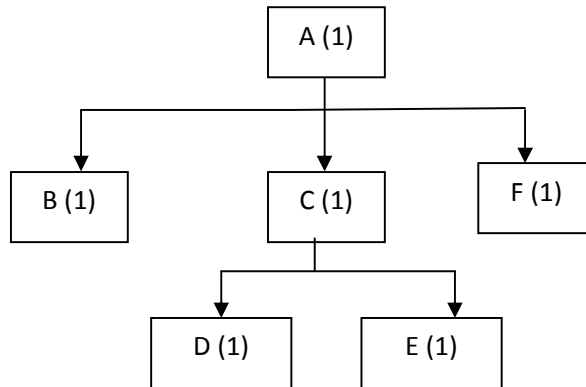
(b) Explain major features of ISO 9001 standards

Part C

Case 1

(20 Marks)

Develop a MRP plan using the following details.



Master production schedule:

Period	1	2	3	4	5	6
Gross requirements	--	100	--	80	150	200

Item	Stock on Hand	Lead time in Periods
A	0	1
B	30	2
C	30	1
D	50	2
E	100	3
F	0	3

Case 2

(10 Marks)

Consider a service supply chain like Pizza Delivery Company. How do you design your production (Kitchen) network so that you can distribute Pizza to the customers at the lowest cost and with lowest delivery time? What factors you have to consider before you locate the Production Kitchens

Case 3

(15 marks)

Most of the MNCs are operating globally and their supply chains are also truly global. Procurement takes place in one place, manufacturing in some countries, assembly in other countries and marketing in most of the countries. Most companies outsource production to low wage countries like China and India. The network is complex and sometimes very difficult to manage.

Recently there are issues related to environmental pollution created by supply chain activities. If the network is global, it requires more transportation to move goods from place to place. Because of this, there is more damage to environment. As a measure to reduce pollution, companies may go back to local sourcing and manufacturing instead of outsourcing from other countries even though it cost more. As part of green supply chain networks, initiatives are taken in this direction.

As a supply chain manager, how do you evaluate this situation?
