

**Second Semester MBA Examination, October 2004**  
**(Updated Scheme)**  
**MANAGEMENT (Paper – 2.5)**  
**Production and Operations Management**

Time: 3 Hours

Max. Marks: 75

## SECTION – A

1. Answer any six questions:

(6×2 = 12)

- a) Define productivity.
- b) What is MRP ?
- c) Write the steps of method study.
- d) What is value engineering ?
- e) What is meant by F.M.S. ?
- f) Distinguish between cost control and cost reduction.
- g) Define consumers' risk and producers' risk.
- h) What are the various methods of work measurement ?

## SECTION – B

Answer any four questions:

(4×5 = 20)

2. Explain the reasons for more Automotive Industries presence in Faridabad, Mumbai and Chennai.
3. a) What is meant by overall equipment effectiveness ?  
 b) Calculate OEE for a M/c which works in two shifts of 16 Hrs. out of which it was idle for 100 minutes. It was expected to produce every 2 Mts. a piece. They produced 380 pieces. Even in the pieces produced there were 25 defective pieces.
4. a) What are the various control charts used for controlling quality ?  
 b) There were several defects in a consignment of Glass Mugs. The details are as follows:
 

No. of Defective Glass Mgs.	1	2	3	4	5
No. of defects	2	1	3	5	4

 Fix the upper control and lower control limit for monitoring defects.
5. What is ISO 9000 ? What are the steps involved in getting ISO certification ?

P.T.O

6. a) What is the probability of getting a project completed when its critical path duration is 180 days ?
- b) What is the probability of completing the project in 200 days when the standard deviation of the critical path is 10 days ?
7. What are the various types of inventory encountered in Industry and how each type of inventory is controlled for minimising the cost of the same ?

## SECTION - C

Answer any three questions:

(3×10 =30)

8. a) What is work study ?
- b) What are the various types of charts used in method study ?
- c) Ten people were doing the same component in ten different machines and were able to produce 20000 pieces in 5 days working in one shift of 8hrs/day. On an average the performance rating of the workmen were @ 120%. During the 5 days the total idle time due to want of materials was 1 hr/day/machine. The company has a policy of giving allowances at the rate of 15% of the standard time. Find the standard time/piece.
9. a) What are the principles/responsibilities for good vendor-vendee relationship ?
- b) A company uses 2000 units of a component per month. Each component costs Rs. 3 and placing each order costs Rs. 40. The inventory carrying cost is in addition to Rs. 1 it costs 10% of unit cost. The supplier is prepared to give a discount if the annual Qty. is purchased in one lot. What is the break even percentage at which procuring in one lot matches with EOQ based total inventory cost ?

10. Write notes on

a) Robotics

b) ERP

c) TPM

11. a) What is line balancing ?

b) Balance the line for the following:

Work centre	1	2	3	4	5	6
Work elements	A, B	C	D, E	F	G	H
Element time	4, 3	8	4, 4	6	5	6

- i) Identify the bottle neck operation.
- ii) What is the min cycle time ?
- iii) What is the output for 16 Hrs ?
- iv) What is the line efficiency ?



- 12. a) What are the various methods of forecasting ?
- b) What is meant by ISO 14001 and what are the salient features of ISO 14001 ?

SECTION - D

Case study (Compulsory):

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An Automobile company wants to focus on modern tools of Total Quality Management. They produce two wheelers and could produce 50000 two wheelers/year and they have good name in the markets w.r.t. the Product Quality and Service.

They wanted to reduce the cost of manufacture through improvement in various areas like inventory, production cost etc. One of the areas was the quality: The rejections were at 22000 PPM. The CEO wants to reduce it to less than 500 PPM. There were nearly 250 types of parts made in the company which were used to make a two wheeler.

- a) What do you think that the company should do to achieve the goal ?
- b) What are the tools/techniques that could be employed to achieve less than 500 PPM ?
- c) Do you feel that the cost will reduce if rejection rates are reduced ?