



II Semester M.B.A. (Day) Degree Examination, June/July 2010
(2007-08 Scheme)

Paper – 2.3 : PRODUCTION AND OPERATIONS MANAGEMENT

Time : 3 Hours

Max. Marks : 75

- Instructions :** 1) Calculators to be **allowed**.
2) Graph sheets to be **supplied**.

SECTION – A

Answer **any six** questions. **Each** question carries **2** marks. (2×6=12)

1. a) What is cycle time ?
- b) What is continuous improvement ?
- c) What is DFM ?
- d) What is cellular layout ?
- e) What is backward scheduling ?
- f) What is productivity ?
- g) What is capacity planning ?
- h) What is concurrent engineering ?

SECTION – B

Answer **any three** questions. **Each** question carries **eight** marks. (8×3=24)

2. Solve the following LPP by the graphical method :

$$\text{Maximise } Z = 100x_1 + 40x_2$$

$$\text{Subject to } 5x_1 + 2x_2 \leq 100$$

$$3x_1 + 2x_2 \leq 900$$

$$x_1 + 2x_2 \leq 500$$

$$\text{and } x_1, x_2 \geq 0.$$

P.T.O.



3. Define quality. What are the dimensions of quality ? Explain the tools of quality.
4. Briefly explain the following concepts :
 - a) Quality function deployment
 - b) Benchmarking
 - c) 5 S of housekeeping
 - d) Flexible manufacturing systems.
5. a) A time study analyst wants to estimate the time required to perform a certain job. A preliminary study yielded a mean of 7.2 minutes and a standard deviation of 3.2 minutes. The desired confidence is 95 per cent. How many observations will he need (including those already taken) if the desired maximum error is
 - a) ± 10 per cent of the sample mean ?
 - b) One-half minute ?
 (Given $Z = 1.96$)
 - b) What is methods analysis ? Briefly explain its basic procedure.
6. a) What is waste management ? Discuss the seven wastes.
 - b) From the following data calculate the mean absolute deviation, the tracking signal and the running sum of forecast error and infer the meaning of these values.

Period	Demand	Forecast
-8	105	109
-7	115	107
-6	109	109
-5	103	105
-4	111	105
-3	107	109
-2	105	108
-1	103	107



SECTION – C

Answer any two questions. Each question carries twelve marks. (2×12=24)

- 7. What is maintenance ? Discuss the different types of maintenance, their advantages and disadvantages. Explain the importance of having maintenance done.
- 8. a) Why is the location decision important ?
b) Discuss the various factors that affect the location decision. Discuss the different techniques for deciding the location decision using the following factor ratings, determine which location alternative should be chosen on the basis of the maximum composite score.

Factor (100 points each)	Weight	P	Q	R
General convenience	0.15	70	60	50
Parking facilities	0.20	62	66	82
Display area	0.18	78	80	80
Shopper traffic	0.27	84	76	70
Operating costs	0.10	88	80	72
Neighbourhood	0.10	86	75	65
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- 9. What is inventory management ? Why should it be done ? Discuss the different issues in inventory management and the inventory classification systems.



SECTION - D

Compulsory Case Study :

15

10. Does production and operations management help in decision making ? Discuss.

Using the information contained in the table below, do each of the following :

- a) Draw a precedence diagram
- b) Assuming an 8 hour workday, compute the cycle time needed to obtain an output of 400 units per day.
- c) Determine the minimum number of workstations required and illustrate them.

Task	Immediate follower	Task time (in minutes)
a	b	0.2
b	e	0.2
c	d	0.8
d	f	0.6
e	f	0.3
f	g	1.0
g	h	0.4
h	end	0.3