PG – 100

II Semester M.B.A. (Day) Degree Examination, June/July 2013
(Scheme : 2007-08)
MANAGEMENT
Paper – 2.3 : Production and Operations Management

Time : 3 Hours Max. Marks : 75

SECTION – A

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

1. a) What is a C chart ?
   b) What do you mean by MRP II ?
   c) What is a GANTT chart ?
   d) Define DFA.
   e) What is a work break down schedule ?
   f) What is robust design ?
   g) Why is the centre of gravity method used ?
   h) What is vertical loading ?

SECTION – B

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

2. a) Explain the steps involved in developing new products.
   b) A time study of an assembly operation yielded the following observed times for one element of the job, for which the analyst gave a performance rating of 1.12. Using an allowance of 20 percent of job time, determine the appropriate standard time for this operation :

Observation	Time in minutes
1	1.15
2	1.12
3	1.13
4	1.16
5	1.14
6	1.11
7	1.13
8	1.15
Total	**9.09**

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3. What is work study ? Explain its components.

4. a) What are the seven tools of quality ? Illustrate them.

   b) Twenty samples of n = 8 have been taken from a cleaning operation. The average sample range for the twenty samples was 0.014 minutes, and the average mean was 3 minutes. Determine 3 segma control limits for this process. Given $A_z = 0.37$ for n = 8.

5. What is inventory management ? What are the issues involved in it ?

6. Describe the nature of seven wastes and five S housekeeping.

SECTION – C

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

7. a) What are the factors that should be considered in facility location ?

   b) Using the following factor ratings, determine which location alternative should be chosen on the basis of maximum composite score, A or B, or C :

Factor (100 points each)	Weight	A	B	C
Convenient	0.15	85	75	65
Parking facilities	0.20	70	72	90
Display area	0.18	85	88	90
Shopper traffic	0.27	92	86	82
Operating costs	0.10	94	83	73
Neighbourhood	0.10	95	86	76
	1.00			

8. What is meant by faulty layout ? What are its characteristics ?

9. What is meant by maintenance ? Why is it necessary ?

SECTION – D

This section is **compulsory** : 15

10. Using the information given 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 480 units per day.

c) Determine the minimum number of workstations required.

d) Assign tasks to workstations using this rule. Assign tasks according to greatest number of following tasks. In case of a tie, use the tiebreaker of assigning the task with the longest processing time :

Task	Immediate follower	Task time in minutes
a	b	0.4
b	e	0.3
c	d	0.8
d	f	0.6
e	f	0.2
f	g	1.1
g	h	0.5
h	end	0.3
		Total 4.2

Draw the work stations according to the assigned tasks.