

VPM's
DR VN BRIMS, Thane
Programme: PGDM (2014-16)
Fifth Semester Examination January 2016

Subject	Productivity Techniques		
Roll No.		Marks	60 Marks
Total No. of Questions	7	Duration	3 Hours
Total No. of printed pages	2	Date	12.01.2016

Note: Q1 is compulsory and solve any FOUR from the remaining SIX questions.

Q1) 20 Marks (Compulsory):

Write a note on Total Productivity Model of David J Sumanth. Explain the partial productivity.

Company A manufactures the product Soaps, face wash, liquid soap and gel. The input for each of the product are classified as : Human (H), capital (c), Material (M), Energy (E), and other expenses (X).

The following table shows the money value of each of these inputs for each of the product manufactured.

Product	Amount of inputs (Rs Lakhs)				Other Expencc (X)	Total VP of product	Total O/P of Product
	Human (H)	Capital (C)	Material (M)	Energy (E)			
Soap	2	4	14	5	6	31	50
Face Wash	2.5	6	10	5	8	31.5	55
Liquid Soap	2	3	10	4	10	29	45
Gel	3	8	13	5	5	34	40
Total Input	9.5	21	47	19	29	125.5	190

- Calculate productivity of each product line.
- Calculate total productivity of the firm.

Attempt Any FOUR from the Remaining SIX Questions

Q2) Any two from (a) or (b) or (c) ————— (5x2) = 10 Marks

- Explain the difference between value analysis and value engineering.
- Suhas is newly appointed lathe machine operator in JSW steels ltd. Time taken by him to complete the same type of job each time is recorded by the supervisor as per the below table. Plot the learning curve for Suhas and find out the rate of learning.

Job number	Time taken in minutes
1	21
2	20.2
3	20.4
4	19.4
5	19
6	18.5
7	18
8	17.6
9	17
10	16.2
11	16
12	15

- c) AR Dairies is a mumbai based milk and dairy product company. They used to supply milk (cow and buffalo) in 500 ml glass bottles. Recently they have introduced Masala Milk in 200ml bottles, Which become instant success. While masala milk is supplied throughout the day, other type of milk is supplied only in the morning. While going through the audit reports, AR Dairies found that there is a transit loss of 5% due to breakage of bottles. To overcome that they introduced polyethylene bags in place of 500 ml bottles. However Masala milk continued to be sold in glass bottles.
Why did AR Dairies not introduce polyethylene bags for masala milk? Do value analysis of the case.

Q3) Any two from (a) or (b) or (c) ————— (5x2) = 10 Marks

- a) Explain the point rating method of job evaluation.
- b) Explain the kepner-Tregoe problem solving and decision making methods with reference to Nestle Maggie controversy.
- c) Why does a poor value exist in production process?

Q4) Any two from (a) or (b) or (c) ————— (5x2) = 10 Marks

- a) State the applications of Learning curves.
- b) Write a note on problem analysis stage suggested by Kepner-Tregoe.
- c) Explain the recording techniques used in work study.

Q5) Any two from (a) or (b) or (c) ————— (5x2) = 10 Marks

- a) Define Ergonomics and Explain the importance of the same in production management.
- b) Explain the process of work measurement.
- c) Explain Piece Rate Based Incentive plan.

Q6) Any two from (a) or (b) or (c) ————— (5x2) = 10 Marks

- a) Explain seven wastes in lean.
- b) Write a note on Job gradation method in job evaluation
- c) Explain the concept of lateral thinking in creativity based techniques

Q7) Any two from (a) or (b) or (c) ————— (5x2) = 10 Marks

- a) Define Work study. State the objectives of work study.
- b) Explain the importance of maintenance shutdown in productivity techniques.
- c) Write a note on quality circles.