

VPM's
DR VN BRIMS, Thane
Programme: PGDM (2015-17)
First Trimester Examination October-November 2015

Subject	Operations Management I		
Roll No.		Marks	60 Marks
Total No. of Questions	7	Duration	3 Hours
Total No. of printed pages		Date	3.11.2015

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

Q1) 20 Marks (Compulsory):

Construct X and R charts from following information and state whether the process is in control. For each of the following, X has been computed from a sample of 5 units drawn at an interval one hour from an ongoing manufacturing process.

[The values of factors for n=5 are A2: 0.57, D3: 0 and D4: 2.11]

Sr No	X1 (
1	9.				
2	9.				
3	10				

Attempt Any FOUR from the Remaining SIX Questions

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

- a) Explain the stages in work study
- b) Define Inventory and explain the different forms of Inventory.
- c) Explain the different types of costs associated with Inventory

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

- a) The A Corp. desires to classify its entire inventory. The annual usage and unit cost of each item is shown below:

Item	U	C
101		
102		
103		
104		
105		

Classify the inventory by using ABC Analysis

- b) Write a short note on evolution of operation Management

c) Write a note on Time Study

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

- a) Define Mass, Batch, Job form of production
- b) Explain the characteristics of project management
- c) Explain the relationship of operations with other disciplines of management

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

- a) Explain the objectives of work management
- b) A contractor has to supply 10,000 bearings per day to automobile manufacture. He finds that when he starts production run he can produce 25000 bearings per day. The cost of holding bearing in stock for a year is Rs 2/- The set up cost of production ran is Rs 1800. Considering EBQ How frequently production run is made?
- c) Write a short note on MRP II

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

- a) **A Set of interconnected activities and their precedence relationships representing a project. Construct the Network through AOA. Find out Critical path.**

Activity	Predecessor	Successor	
A	None	B	2
B	A	C,D	3
C	B	E	5
D	B	F	2
E	C	G	3
F	D	G	4
G	E,F	None	5

- b) Explain the phases of project management
- c) Explain the concept of SQC. State the tools used in SQC

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

- a) The annual demand of the product is 10000 units. Each unit costs Rs 100 if the order is placed in quantities below 200 units. For order 200 and above however the price is Rs 95. The annual inventory holding cost is 10% of value of Item and ordering cost Rs 5. Find the economic lot size considering quantity discount model.
- b) What is bill of Material? Explain the necessity of the same.
- c) The BOM for Motor Engine is given below. The required quantities for single assembly and total quantities available in stock are given. Calculate the total quantities to be ordered for each item provided that you have to supply 10 quantities of engines to your customer.

Sr No	Material Discription	Qty Required for single Assembly	Total Qty Available in stock
1	Bearings	4	5
2	Connecting Rod	2	4
3	Cam shaft	2	2
4	Cylinder	1	2
5	Piston	1	1