

VPM's
DR VN BRIMS, Thane
Programme: MMS (2016-18) (Operations)
Third Semester Examination October 2017

Subject	Manufacturing Resource Planning & Control		
Roll No.		Marks	60 Marks
Total No. of Questions	7	Duration	3 Hours
Total No. of printed pages		Date	28.10.2017

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

Q1) 20 Marks (Compulsory)

1. A firm that produces wood shutters and bookcases has received two orders for shutters: one for 100 shutters and one for 150 shutters. The 100-unit order is due for delivery at the start of week 4 of the current schedule, and the 150-unit order is due for delivery at the start of week 8.

Each shutter consists of two frames and four slatted wood sections. The wood sections are made by the firm, and fabrication takes one week. The frames are ordered, and lead time is two weeks. Assembly of the shutters requires one week.

There is a scheduled receipt of 70 wood sections in (i.e., at the beginning of) week Determine the size and timing of planned-order releases necessary to meet delivery requirements under each of these conditions:

- I. Lot-for-lot ordering (i.e., order size equal to net requirements)...(5 Marks)
- II. Lot-size ordering with a lot size of 320 units for frames and 70 units for wood sections....(5Marks)

2. Answer Multiple Choice Questions.

[1] A Master Schedule contains which of the following?:

- a. Which end items are to be produced
- b. When end items will be needed
- c. What quality of end items will be needed
- d. All of the above
- e. A and B only

[2] What is the expanded approach to production resource planning that involves other areas of a firm in the planning process and enables capacity requirements planning?

- a. ERP
- b. MRP II
- c. DRP II
- d. MRP Extended
- e. None of the above

[3] ERP software provides:

- a. A system to capture and make data available in real time
- b. A capability to assess the feasibility of a proposed plan
- c. A set of tools for planning and monitoring business processes to achieve goals of the organization
- d. A and C
- e. None of the above

[4] What is a product structure tree?

- a. Visual depiction of the requirements in a bill of materials where all components are listed by levels
- b. Visual depiction of the requirements in a master schedule where all products are listed by demand.
- c. Visual depiction of the requirements in inventory records where all components are listed by status.
- d. all of the above
- e. none of the above

[5] The benefit of an MRP system depends on the ability to have large amounts of unorganized information readily accessible.

- a. True

- b. False
- [6] Which of the following is/are (a) factor(s) that causes problems in an MRP system?
- assumption of constant lead times
 - products being produced differently from the bill of materials
 - failure to alter a bill of materials when customizing a product
 - Inaccurate forecast
 - All of the above
- [7] MRP is essential in establishing requirements for capacity, but it also has a downfall. What is it?
- Cannot aggregate demand from all sources
 - Cannot plan for amount of requirements and timing
 - Cannot distinguish between a feasible Master Schedule and a non-feasible schedule.
 - Cannot make changes to the Master Schedule once it is in process.
 - None of the above
- [8] Which of the following is true of ERP?
- Low start up cost
 - Requires intensive employee training
 - Low maintenance cost
 - Non time consuming
 - All choice are false
- [9] Which ordering method would you use if the use of the item is fairly uniform?
- Economic order quantity model
 - L4L
 - Fixed Period Ordering
 - BOM
 - Automated Ordering
- [10] Primary Reports include which of the following?
- Planned Orders
 - Order releases
 - Changes to planned orders
 - All the above
 - Only A and C

Attempt Any FOUR from the Remaining SIX Questions

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

- What are the functions of PPC?
- Distinguish between MRP I & MRP II
- Elaborate operation functional activities with respect to ERP.

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

- What problems are faced in case of lack product planning?
- What are the various strategies for aggregate planning? Explain.
- Complete the below MRP table

Lot Size=25 Lead Time =1week	PD	1 st week	2 nd week	3 rd week	4 th week	5 th week
Gross Requirements		10	15	25	25	30
Scheduled Receipts			25			
Projected on Hand	20					
Net Requirements						
Planned order Releases						

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

- List & explain the key functions of the production scheduling and control.
- State the objectives and Inputs of an MRP system.
- Computer assembly requires following tasks in the given sequence

Task	Immediate Predecessor	Task Time (Minutes)
A	-	12
B	A	6
C	B	6
D	B	2
E	B	2
F	B	12
G	C,D	7
H	G	5
I	E	1
J	F,I	4
K	H,J	6
L	K	7

Desired output rate 140 computers /week. The assembly line operates for 1 shift/day (7Hours), 5 day a week. Find the balance that minimizes the number of workstations & evaluate efficiency of the line balance.

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

- Explain the range of production plans along with sub planning process (Diagram)
- What is scheduling, and does it differ from aggregate planning?
- Explain CRP inputs and outputs.

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

- Write short note on line balancing
- What are the inputs & out puts of aggregate planning?
- What is backward scheduling & forward scheduling? Explain with an example

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

- Explain principles and procedure of production control.
- Define ERP. Explain its main functions and methodology adopted in implementing ERP.
- What are the merits & demerits of batch production system?