VPM's
DR VN BRIMS, Thane
Programme: MMS (2014-16)
Third Semester (Operations) Examination October 2015

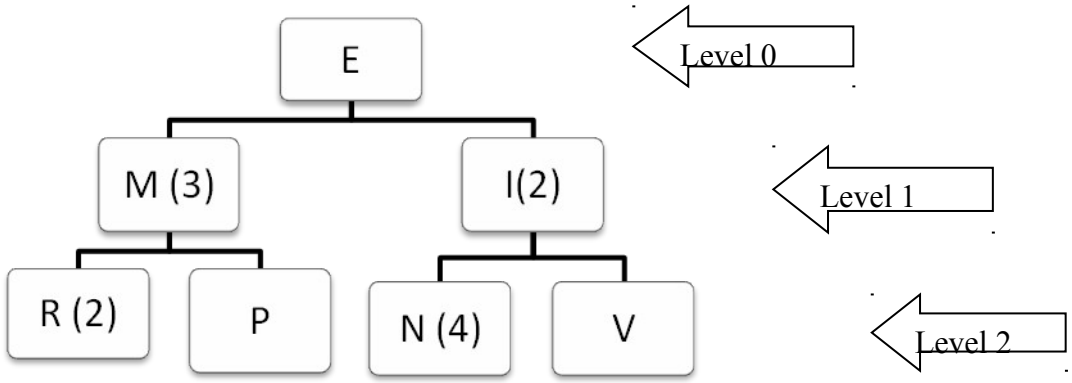
Subject	**MRP & C**		
Roll No.		**Marks**	**60 Marks**
Total No. of Questions	**7**	**Duration**	**3 Hours**
Total No. of printed pages		**Date**	**29.10.2015**

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

Q1) 20 Marks (Compulsory)

The product structure tree for end item E as follows. The manager wants to know its materials requirements that will be needed to complete 120 units of E by the start of 5th week. Lead times for items are one week for level 0 items, one week for level 1 items and two weeks for level 2 items. There is a schedule receipt of 60 units of M at the end of week 1 and 100 units of R at the start of week 1. Determine materials requirements

1) for part R (Lot- for lot ordering is used)
2) for part N (Lot size of 240 units is used)



Attempt Any FOUR from the Remaining SIX Questions

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

a) What are the different Techniques used for MPS, Explain any one in detail.
b) Discuss different functions of MRP
c) How material planning is influenced by different types of environment From MTS to ETO

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

a) Low level coding
b) Sales and operations planning functions
c) Scheduling and control functions

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

a) Explain the importance of ERP in manufacturing organization
b) With the help of neat diagram explain the role of Capacity Planning in the MPC System
c) Explain different priority rules that are followed in manufacturing organizations? Explain each with example.

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

a) Explain Dependent and independent demand with the help of examples and graphical representation.
b) What are the objectives of work-centre scheduling?
c) Explain materials requirement planning in detail with suitable diagram.

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

The table shows times required to complete that job in a two machine flow shop which is sequenced a Machine X then Machine Y.

Job	Time in hours	
	Machine X	Machine Y
A	16	5
B	3	13
C	9	6
D	8	7
E	2	14
F	12	4
G	18	14
H	20	11

a) Determine a sequence that will minimize makespan(Total Processing) time
b) Construct a chart of the resulting sequence and find machine B's idle time
c) Fine idle time of machine A

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

The tasks must be performed on an assembly line in the sequence and times specified.

Task	Task time (Sec.)	Tasks that must precede
A	50	-
B	40	-
C	20	A
D	45	C
E	20	C
F	25	D
G	10	E
H	35	B,F,G

a) Draw the schematic diagram.
b) What is the theoretical minimum number of stations required to meet a forecast demand of 400 units per eight-hour day?
c) Use the longest-task –time rule and balance the line in the minimum number of stations to produce 400 units per day.