

Roll No. ....

**23004-23055**

**M. Tech. Manufacturing Tech &  
Automation 1st Semester (Mech. Engg.)  
Examination – January, 2012**

**DESIGN PLANNING & CONTROL OF PRODUCTION  
SYSTEMS**

**Paper : M-607-A**

*Time : Three hours ]*

*[ Maximum Marks : 100*

*Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.*

**Note :** Attempt any *five* questions.

1. (a) Explain life cycle approach to production management. 10  
(b) Discuss features compiling service organization. 10
2. Discuss different stages in new product development. 20
3. The fixed costs incurred for the year 2010-11 are Rs. 2,40,000 and the variable cost per unit is Rs. 12. The selling price of the product is Rs. 24 per unit. Calculate breakeven point. If the plant is producing 30,000 units per year. Calculate the profit and margin of safety. If

the number of units of the product produced coincides with the expected volume of output draw the break even chart and show the change in B. E. point with change in fixed cost; reduction in variable cost and increase in sales price. 20

4. (a) Define a leading economic indicator a coincident indicator and a lagging indicator. Are they equally desirable for forecasting purposes ? Explain. 10
- (b) What is material requirement planning ? Explain with its objectives. 10
5. Seven jobs are to be processed on machines M1 and M2 in order of M1M2. With the following processing times, find optimal sequence and minimum total elapsed time : 20

Job	A	B	C	D	E	F	G
M1	6	24	30	12	20	22	18
M2	16	20	20	13	24	2	6

6. Discuss and explain different elements of monitoring and control of production system. 20
7. Write short notes on : 20
- (a) Assembly line balancing,
- (b) Different rules for sequencing.