

Roll No.

23055

M. Tech. 1st Sem. (Mech. Engg.)

(Manufacturing & Automation)

Examination – December, 2013

**DESIGN PLANNING & CONTROL OF PRODUCTION
SYSTEMS**

Paper : 834/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) "Production management is process of planning, organizing and controlling the activities of production function". Explain. 10
- (b) Give the classification of production system based on quantity of production. 10
2. What do you mean by design for production ? Explain different stages in new product development and design. 20

3. (a) What are the factors that influence the selection of location for a plant ? 10
- (b) Explain the various tools and techniques of plant layout. 10
4. (a) What is Break even analysis ? What is its significance ? 10
- (b) For a particular product, the following information is given : 10
- Selling price per unit : Rs. 10
- Variable cost per unit : Rs 6
- Fixed costs : Rs 1,00,000
- Due to inflation variable cost increase by 10% while fixed costs increase by 5%. If the break-even quantity is to remain constant, by what percentage should the sales price to be raised ?
5. (a) Explain heuristic methods of line balancing. 10
- (b) What is sales forecasting ? Discuss different methods of sales forecasting. 10
6. (a) What are the objectives and benefits of MRP. 10
- (b) Discuss MRP logic and time phasing. 10
7. Five jobs are to be processed on two machines M_1 and M_2 in the order M_1M_2 . Processing time in hours are given below :

Job	1	2	3	4	5
Time (M_1)	5	1	9	3	10
Time (M_2)	2	6	7	8	4

Determine the sequence that minimizes total elapsed time. Find out the total elapsed time idle time (if any) on M_2 . 20

8. Discuss the followings : 20

- (a) Monitoring and follow up
- (b) Criteria for sequencing
- (c) Forecasting error.