

Roll No.

23055

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

(Manufacturing & Automation)

Examination – December, 2014

**DESIGN PLANNING & CONTROL OF PRODUCTION
SYSTEMS**

Paper : 834

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. All questions carry equal marks.

1. Discuss life cycle approach to production management highlighting the decisions to be made at each stage. 20
2. Explain the following :
 - (a) Features compiling service organization 10
 - (b) Aim and types of production system. 10
3. The fixed costs incurred for the year 2012 - 13 is Rs. 280000 and the variable cost per unit is Rs. 15. The

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selling price of the product is Rs. 28 per unit. Calculate breakeven point. If the plant is producing 35000 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 breakeven 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. An Assembly consists of the following elements as given in table below.

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

The production rate required is one assembly every 15 minute. Determine the minimum no of workstations required so as to minimize the Balance. Delay. Find balance Delay station wise. 20

5. (a) What do you mean by MRP model ? Explain with example 10
 (b) What is sales forecasting ? Discuss trendline analysis method of sales forecasting 10
6. (a) Discuss monitoring and control of production system. 10
 (b) What is plant Layout and its objectives ? Discuss advantages and limitation of product layout. 10

7. Explain the following :

- (a) n Job and 3 machine scheduling 10
- (b) Master Production scheduling 10

8. Write short notes on :

- (a) Decision Trees 10
 - (b) MRP logic comparison. 10
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