(3Hours) **Total Marks 80**

N.B:

1. Question No.1 is compulsory
2. Attempt any three out of remaining questions
3. Draw neat sketches to illustrate your answers
4. Figures to the right indicate full marks.

Q 1. Write short notes on : 20

a) Two-bin system

b) MRP-I and MRP-II

c) Dispatching

d) Delphi Method

Q 2. a) How the size of an organization affects the various factors that influence PPC? 20

b) Define the terms - lead time, safety stock, reorder point and maximum inventory.

Q 3. a) Discuss the prerequisites of PPC. 20

b) Why process planning is needed? Explain Computer aided process planning.

Q 4. a) Explain 1. Computer integrated process planning, 2. JIT system 20

b) What is Linear programming? Discuss the areas of applications of Linear programming.

Q 5. a) Explain any two types of Qualitative forecasting models. 20

b) Explain the factors influencing scheduling.

163A4613477425A40D6893384471E368

Q 6. a) There are five jobs, each of which must go through machines A, B, and C in the order ABC. Processing times on the machines are given in the following table. 20

Jobs	Processing times (Hours)		
	Machines		
	A	B	C
1	8	5	4
2	10	6	9
3	6	2	8
4	7	3	6
5	11	4	5

Determine the sequence for processing of these five jobs on three machines for which the entire process will be completed in the minimum possible time.

b) A small project is composed of 7 activities whose completion time estimates are given in the following table. Activities are identified by their beginning and end node numbers.

Activity (i - j)	Optimistic time	Most likely time	Pessimistic time
	to (in weeks)	tm (in weeks)	tp (in weeks)
1-2	1	1	7
1-3	1	4	7
1-4	2	2	8
2-5	1	1	1
3-5	2	5	14
4-6	2	5	8
5-6	3	6	15

i) Draw the project network
ii) Find the expected duration and variance for each activity.
iii) What is the expected project length
iv) Calculate the variance and standard deviation of the project length.

****