(3 Hours)   **(80 marks)**

N.B.: (1) Q. No. 1 is compulsory.
      (2) Answer any THREE questions from the remaining questions.
      (3) Figures to the right indicate full marks.
      (4) Illustrate answers with neat sketches wherever required

1.   Write short note on. **(Any Four)**   **20**

  (a) Production Planning & Control (PPC) as an integrated approach

  (b) Forecasting errors and forecasting bias

  (c) Purpose of holding inventory

  (d) Steps in Process Planning

  (e) Factors influencing scheduling

  (f) Inputs to MRP

2.   **(a)** Illustrate pre-requisites of PPC in the organization.   **10**

     (b) A firm believes that its annual profit depends on its expenditures for   **10**
research. The information for the preceding six years is given below.
Estimate the profit when the expenditure is 6 units.

Year	Expenditure for Research (X)	Annual Profit (Y)
1	2	20
2	3	25
3	5	34
4	4	30
5	11	40
6	5	31
7	6	?

3.   **(a)** A two-wheeler component manufacturing unit uses large quantities of a   **10**
component made of steel. Although these are production items, the demand
is continuous and inventory planning could be done independent of the
production plan. The annual demand for the component is 2,500 boxes. The
company procures the item from a supplier at the rate of □750 per box. The
company estimates the cost of carrying inventory to be 18 per cent per unit
per annum and the cost of ordering as □1,080 per order. The company works
for 250 days in a year. How should the company design an inventory control
system for this item? What is the overall cost of the plan?

     (b) What are the prerequisite information requirements in Process Planning?   **10**
Explain steps in Process Planning.

43450   **Page 1 of 2**

4. (a) With suitable examples, discuss selective Inventory Control Techniques. **10**

   (b) Explain the concept of Cycle Time with a suitable example. Discuss the steps of RPW method for line balancing. **10**

5. (a) Consider the following problem involving activities A to J. **10**

Activity	Immediate Predecessor(s)	Duration (Months)
A	-	1
B	A	4
C	A	2
D	A	2
E	D	3
F	D	3
G	E	2
H	F,G	1
I	C,H	3
J	B	2

   (a) Construct the CPM network.
   (b) Determine the critical path.
   (c) Compute total floats and free floats for non-critical activities.

   (b) Give the framework of MRP-II and explain it. **10**

6. (a) Explain: (i) Product Sequencing (ii) Dispatching (iii) Expediting and Control. **10**

   (b) Describe Generic Model of ERP. **10**

****