

IMT- 99

PRODUCTION PLANNING AND CONTROL

Notes:

- Write answers in your own words as far as possible and refrain from copying from the text books/handouts.
- Answers of Ist Set (Part-A), IInd Set (Part-B), IIIrd Set (Part – C) and Set-IVth (Case Study) must be sent together.
- Submit the assignments in IMT CDL H.O. along with the assignments Question Papers for evaluation .
- Only hand written assignments shall be accepted.

A. First Set of Assignments

5 Questions, each question carries 1.5 marks.

B. Second Set of Assignments

5 Questions, each question carries 1.5 marks.

C. Third Set of Assignments

5 Questions, each question carries 1.5 marks. Confine your answers to 150 to 200 Words.

D. Forth Set of Assignments

Two Case Studies : 7.5 Marks. Each case study carries 3.75 marks.

SECTION - A

- What are the main stages and functions of production planning and control?
- What are the basic techniques of PPC? Explain with an example.
- Differentiate between Continuous and Intermittent Manufacturing Systems.
- Explain the concept of aggregate planning process. What are pure strategies? Explain in detail.
- What is capacity Requirement Planning? How is it different from Rough cut capacity planning.

SECTION - B

- High Capacity and Low capacity can both lead to problems. Discuss the consequences of the same.
- What are the various elements of control system? Differentiate between Open Loop and Feedback Control System.
- What are the various characteristics of Production Design. Explain with Examples.
- As part of production Development Technique , Explain the difference between standardization and simplification
- 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.

SECTION - C

1. Explain various priority rules for Job Shop Scheduling.
2. What is JIT? How can JIT help in improving Profitability of an organisation?
3. Explain the following:
 - a. Value Engineering
 - b. ISO 9000
 - c. Acceptance Sampling
4. Discuss various methods of purchasing. What are their advantages and disadvantages?
5. Explain the difference between Time Study and Work Study. What is the relationship between Normal Time and Standard Time.

CASE STUDY - 1

A manufacturer produces two types of models M1 and M2. Each model of the type M1 requires 4 hours of grinding and 2 hours of polishing; whereas each model of M2 requires 2 hours of grinding and 5 hours of polishing. The manufacturer has 2 grinders and 3 polishers. Each grinder works for 40 hours a week and each polisher works 60 hours a week. Profit on M1 model is Rs.3.00 and on model M2 is Rs.4.00. Whatever produced in a week is sold in the market. How should the manufacturer allocate his production capacity to the two types of models, so that he makes maximum profit in a week?

CASE STUDY - 2

A company is faced with seven tasks that have to be processed through two work centers. Assume work center I works continuously and that they are using Johnson's rule. Data appear below in hours:

Task	Work center I	Work center II
A	2.58	3.47
B	1.66	5.84
C	2.71	2.41
D	5.52	1.99
E	3.38	7.62
F	5.22	1.73
G	2.89	1.11

Work Center I	
Work Centre 2	

What is the sequence of tasks?

What is the time in hours to complete all the tasks in both work centers?

