(Following Paper ID and Roll No. to be filled in your Answer Books)	
Paper ID : 141612	**Roll No.** ☐☐☐☐☐☐☐☐☐☐

B.TECH.

Theory Examination (Semester-YI) 2015-16

PRODUCTION PLANNING & CONTROL

Time : 3 Hours ***Max. Marks : 100***

Note: Attempt questions as per instructions.

Section-A

1. Attempt ALL parts of the following: (2×10=20)

(a) Explain: EST,LFT, EFT, LST.

(b) Define aggregate planning.

(c) What is CAPP?

(d) What is master production schedule?

(e) What is Delphi?

(f) Define preplanning production.

(g) What is reorder point, Lead Point?

(h) What is balance delay, Smoothness index?

(i) What is forecasting? What are various forecasting methods?

(j) What do you mean by independent float, free float and total float?

Section-B

2. Attempt any FIVE questions from this section. **(10×5=50)**

(a) What is break even analysis ? Explain with proper diagram.

(b) What is plant layout? What are different types of plant layout ?

(c) What is network analysis? What are various network analysis techniques? Explain.

(d) What is MRP I? What arc its purposes, advantages and key features?

(e) Explain ERP and MRP II briefly.

(f) What is economic order quantity? Derive the formula for determining EOQ.

(g) Five jobs are to be run on two processes, all in the sequence of first process then process 2. The duration (in hours) of the operations are indicated in the table that follows:

JOB	PROCESS 1	PROCESS2
A	7	3
B	4	8
C	2	6
D	5	6
E	9	4
F	8	1

(i) Sequence the jobs according to Johnson's rule.

(ii) Use a Gantt chart to show how long after the start of first job on process 1 each job will be completed on process 2.

(h) Green Grass's plant manager just received marketing's latest forecasts of fertilizer spreader sales for the next year. She wants its production line to be designed to make 2,400 spreaders per week. The plant will operate 40 hours per week.

Assume that in order to produce the new fertilizer spreader on assembly line requires doing the following steps in the order specified :

Work Element	Time(scc)	Immediate Processor
A	40	None
B	30	A
C	50	A
D	40	B
E	6	B
F	25	C
G	15	C
H	20	D,E
I	18	F,G

(i) What should be the line's cycle time or throughput rate per hour be?

(ii) What is the total number of stations or machines required?

(iii) What is line efficiency and balance delay?

Section-C

Attempt any two questions from this section. (15×2=30)

3. (a) Define inventories. Give brief classification of inventories.

(b) What is CPM? What are the essential steps in CPM for project planning?

4. (a) What is organisation? What are the elements, importance and characteristics of organisation?

(b) Explain the terms in brief:

- Route sheet
- Dispatching
- Follow up
- Loading
- Sequencing
- Scheduling

5. (a) What is ABC analysis? Explain with diagram and example

(b) A manufacturer's purchases item in the lot of 800 units which is a four month requirements. The cost per unit is 100 and the ordering cost Rs. 120 batch per order. The inventory carrying cost is estimated as 20% of average inventory investment. Determine the average inventory cost managing the inventory and how much saving can be obtained from the EOQ purchases.