



(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 141602

Roll No.

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B. Tech.

(SEM. VI) THEORY EXAMINATION, 2014-15
PRODUCTION PLANNING AND CONTROL

Time : 3 Hours]

[Total Marks : 100

Note : Attempt all five questions, as instructed. Marks are indicated alongside.

1 Answer **any four** : **5×4=20**

- (a) Explain EST, LST, EFT and LFT.
- (b) Write names of different types of production.
- (c) Define the batch shop production.
- (d) Define the preplanning production.
- (e) Define the capacity planning.
- (f) What do you mean by float and slack?

2 Answer **any four** : **(5×4=20)**

- (a) Define the PPC. What is objective of PPC?
- (b) Explain the various function of PPC.

- (c) What is difference between factory (plant) location and factory layout?
- (d) Define the sales forecasting. Write names of various methods of sales forecasting?
- (e) What is concurrent engineering and its application`?
- (f) Define expected time (t_p). What is formula to calculate expected time?

3 Answer **any two** :

10×2=20

- (a) Define inventory. Give brief classification of inventories.
- (b) What is Economic Order Quantity? Derive the formula for determining EOQ.
- (c) A manufacturer purchases items in lots of 800 units which is a four months' requirement. The cost per unit is Rs.100 and the ordering cost Rs.120 per patch order. The inventory carrying cost is estimated as 20% of the average inventory investment.
 - (i) Determine the annual variable cost managing the inventory.
 - (ii) How much saving can be obtained from the EOQ purchases?

4 Answer **any two** :

10×2=20

(a) Explain the following terms in brief : **(any four)**

- (1) Scheduling
- (2) Route sheet
- (3) Dispatching
- (4) Loading
- (5) Routing

(b) Mr. ramesh, executive officer of a small concern, notes that his peon used to remain absent frequently from his seat. Peon was found missing not less than 5 minutes from his seat and sometimes as much as 1 hour. Fifteen minutes absence from his seat, is more frequent than absence of any other duration. If absence of peon were an activity in PERT project :

- (i) What would be the expected absence duration?
- (ii) What estimates would you give for its variance?
- (iii) In scheduling the project how much time would you allocate for the absence ?

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

5 Answer any two :

10×2=20

- (a) PERT calculation yields a project length of 120 weeks, with variance 9. Within how many weeks would you expect the project to be completed with probability 95.5%.
- (b) Describe in detail ABC analysis. State its applications.
- (c) A company requires 16000 units of raw material costing Rs. 2 per unit. The cost of placing an order is Rs. 45 and the carrying costs re 10% per year per unit of the average inventory.

Determine:

- (i) the economic order quantity
 - (ii) cycle time
 - (iii) total variable cost of managing the inventory.
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