Printed Pages : 4

EMT602

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

PAPER ID : 141602

Roll No.

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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