PROD

TE | VI | CBGS | PROD | Production & Operation Mgmt | 03-06-15

Q.P. Code : 5038

(3 Hours) **[Total Marks : 80**

Instructions:

1. Question No. 1 is Compulsory.
2. Answer any three from remaining five Questions.
3. Assume suitable data if required.
4. Draw figure, charts, block diagram wherever required.
5. All questions carry equal marks.

Q 1 Explain the following in brief (attempt any four) 5x4=20

A. Allowances considered in Standard Time Calculations

B. Stages of Product Life Cycle

C. Procedure of Method Study

D. Economic Order Quantity

E. Purchasing Cycle

Q 2 a. Exponential smoothing is used to forecast automobile battery sales. Two value of α are examined, $\alpha = 0.8$ and $\alpha = 0.5$. Evaluate the accuracy of each smoothing constant. Which is preferable? (Assume the forecast for January was 22 batteries.) Actual sales are given below: 10

Month	Actual Battery Sales
January	20
February	21
March	15
April	14

b. List and explain various Principles of Plant Layout. 10

Q 3 a. List and explain in brief various functions of Production Planning and Control. 10

b. Write detail note on Logistic and Supply Chain Management. 10

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Q 4 a The Hunicut and Hallock Corporation makes two versions of the same basic file cabinet, the TOL (Top-of-the-line) five drawer file cabinet and the HQ (High-quality) five drawer filing cabinet. The TOL and HQ use the same cabinet frame and locking mechanism. The drawer assemblies are different although both use the same drawer frame assembly. The drawer assemblies for the TOL cabinet use a sliding assembly that requires *four* bearings per side whereas the HQ sliding assembly requires *only two* bearings per side. (These bearings are identical for both cabinet types.) 100 TOL and 300 HQ file cabinets need to be assembled in week #10. No current stock exists. Develop a material structure tree for the TOL and the HQ file cabinets. Develop a gross material requirements plan for the TOL and HQ cabinets. 10

b. Compare Mass and Job Production systems on various features. 10

Q 5 Write short notes on the following (Attempt any Four) 5x4=20

A. Green Manufacturing.

B. Maynard Operations Sequence Technique.

C. Enterprise Resource Planning.

D. Selective Inventory Control.

E. Management Information System.

Q 6 a. What is Lean Manufacturing? List and elaborate various wastes in manufacturing as per Just in Time Philosophy. 10

b. A factory uses annually 24,000 units of a Raw Material which costs Rs.1.25per unit .Placing each order costs Rs.25 and carrying cost is 6% per year of the average inventory. 10

C. Find the economic order quantity and the total inventory cost including the cost of material.

D. The factory works for 320 days a year. If the procurement time is 10 days and safety stock is 450 units, find the reorder point, minimum, maximum, and average inventories.
