

Roll No.

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M.Tech. (PE) (Sem.-2)

PRODUCTION PLANNING & CONTROL

Subject Code : PE-509

Paper ID : [E0448]

Time : 3 Hrs.

Max. Marks : 100

INSTRUCTION TO CANDIDATES :

1. Attempt any FIVE questions out of EIGHT questions.
2. Each question carries TWENTY marks.

- Q1. a) Explain in brief the ten functions of production planning and control cycle.
b) What is pre-planning? Explain in brief the various methods of forecasting.
- Q2. A lathe machine is used for turning operation and it takes 30 minutes to process the component. Efficiency of the lathe is 90 percent and scrap is 20 percent. The desired output is 600 pieces per week. Consider 48 hours per week. Determine the number of lathes required?
- Q3. Explain the following :
 - a) Principles of scheduling.
 - b) Functions of dispatching.
 - c) Difference between backward and forward scheduling.
 - d) Duties of a dispatcher.
- Q4. What is EOQ? Derive an expression for the economic order quantity when the stock replenishment is instantaneous giving the assumptions made.
- Q5. a) What is selective control of inventory and explain various selective control techniques?
b) A company consumes 12000 units of a particular item. The company has a production capacity of 60 units/day. The cost of each unit produced by the company is Rs. 8. The setup and tooling up cost is Rs. 96 per setup. The carrying charges are 15 % of cost per unit. Determine :
 - i. Economic quantity to be manufactured in each batch.
 - ii. How frequently should the production runs be made?
 - iii. Production period.

Assume 300 working days per annum.

Q6. Explain the following :

- a) Classification of purchases.
- b) Quotation.
- c) Organization of purchase department.
- d) Purchase cycle.

Q7. Universal toolings has a requirement for 1,50,000 metal bushings per annum. The company orders the metal bushing in lots of 40,000 units from a supplier. The ordering cost is Rs. 40 and the carrying charges are expressed 20 per cent of the unit cost. The bush costs Rs. 1.5 each. The company wants to know what percentage of their order quantity differs from economic order quantity and how the cost varies for the two. Find the optimal order quantity.

Q8. Write a note on the following :

- a) Route sheet.
- b) Capacity analysis.
- c) Safety stock.
- d) Value analysis.