

Code: R7420301

B.Tech IV Year II Semester (R07) Supplementary Examinations January 2014

PRODUCTION PLANNING & CONTROL

(Mechanical Engineering)

Time: 3 hours

Max. Marks: 80

Answer any FIVE questions
All questions carry equal marks

- 1 Explain the various types of production systems. Describe the production system suitable for job work.

- 2 (a) Explain about qualitative forecasting techniques.
(b) A manufacturing company has the following available data of sales.

Year	1980	1981	1982	1983	1985
Sales (lakhs)	50	70	60	80	90

Assuming the same relationship holds true for future, forecast the sales for the year 1990 by applying least square method.

- 3 (a) Derive the EOQ formula for the manufacturing model without shortages.
(b) A diesel engine manufacturer buys an item in lots of 1000 units which is three months requirement. The cost per unit is Rs.60 & the ordering cost is Rs.120 per batch order. The inventory carrying cost is estimated as 20% of the average inventory investment.
(i) What is the annual total cost of existing inventory policy?
(ii) How much money can be saved from EOQ purchase?

- 4 (a) Define routing. Explain the routing procedure, in brief.
(b) Explain how routing differs in job order, intermittent and continuous production system.
- 5 (a) Define scheduling. What are its objectives?
(b) Describe the factors affecting scheduling.

- 6 The forecast for a group of items manufactured in a firm is shown below.

Quarter	1	2	3	4	5	6	7	8
Demand	370	320	570	670	550	370	350	480

The firm estimates that it costs Rs.200 per unit to increase the production rate, Rs.250 per unit to decrease the production rate, Rs.75 per unit per quarter to carry the items on inventory & Rs.125 per unit if subcontracted. Compare the cost incurred if following pure strategies are followed.

(i) Varying the workforce size. (ii) Subcontracting. (iii) Changing the inventory levels.

- 7 (a) What is dispatching? State the various activities of dispatching.
(b) Explain about applications of computers in production planning & control.
- 8 (a) Explain the following:
(i) MRP.
(ii) ERP.
(b) Explain the difference between LOB and line balancing.
