2005-PUNJAB TECHNICAL UNIVERSITY
B.TECH VI SEMESTER DEGREE EXAMINATION
OPERATION MANAGEMENT
(MECHANICAL ENGINEERING)

TIME-3HOUR
MARK-60

Note: Section A Is Compulsory. Attempt Any Four Questions From Section B And Any Two From Section C.

SECTION A MARKS 2 EACH

1.(a) Define operations management and name the three approaches of management.

(b) What is meant by Product Design and Development?

(c) Draw and label a product life cycle.

(d) What do you understand by Capacity and man Power Requirement Planning?

(e) What is the effect f location changes on the cost of a product?

(f) Give the objectives and functions of materials management
.
(g) What are the steps in designing a management information system?

(h) Differentiate between forecasting and prediction.

(i) Discuss in brief preventive maintenance.

(j) Differentiate between lead time and Reorder point.

SECTION B MARKS 5 EACH

2. Discuss the role of a customer in improving the quality of a product.

3. Discuss the various production control functions.

4. A hospital has experienced irregular and usually increasing, demand for disposable kits throughout the hospital. The demand for a plastic disposable tubing in pediatrics for January was 300 units and for February 350 units. The old forecast procedure was to use last year's average monthly demand of the forecast for each month this year. Last year's average monthly demand was 200 units. Using 200 units as the January forecast and a smoothing coefficient of 0.7 to weight recent demand most heavily, calculate the forecast for the month of February and March.

5. Derive a relationship to calculate Economic Order Quantity where C = Total cost per year, Q = Lot size, H = annual holding cost, D = Annual demand and S = Ordering cost. Plot a graph to show the same.

6. Discuss the application of concurrent Engineering in Product Design and Development.

SECTION C MARKS 10 EACH

7. Discuss the salient features of three major philosophies and their impact on quality.

8. Name the process which eliminates 100^ inspection. Discuss the seven Basic Tools of Statistical Quality Control with examples.

9. (a) What s process capability? Show it graphically.

(b) Discuss the concept of Six sigma with example.