**Applications of linear programming for solving business problems:**

**1. Production Management:**

LP is applied for determining the optimal allocation of such re­sources as materials, machines, manpower, etc. by a firm. It is used to determine the optimal product- mix of the firm to maximize its revenue. It is also used for product smoothing and assembly line balancing.

**2. Personnel Management:**

LP technique enables the personnel manager to solve problems relating to recruitment, selection, training, and deployment of manpower to different departments of the firm. It is also used to determine the minimum number of employees required in various shifts to meet production schedule within a time schedule.

**3. Inventory Management:**

A firm is faced with the problem of inventory management of raw materials and finished products. The objective function in inventory management is to minimize inven­tory cost and the constraints are space and demand for the product. LP technique is used to solve this problem.

**4. Marketing Management:**

LP technique enables the marketing manager in analyzing the audience coverage of advertising based on the available media, given the advertising budget as the constraint. It also helps the sales executive of a firm in finding the shortest route for his tour. With its use, the marketing manager determines the optimal distribution schedule for transporting the product from different warehouses to various market locations in such a manner that the total transport cost is the minimum.

**5. Financial Management:**

The financial manager of a firm, mutual fund, insurance company, bank, etc. uses the LP technique for the selection of investment portfolio of shares, bonds, etc. so as to maximize return on investment.

**6. Blending Problem:**

LP technique is also applicable to blending problem when a final product is produced by mixing a variety of raw materials. The blending problems arise in animal feed, diet problems, petroleum products, chemical products, etc. In all such cases, with raw materials and other inputs as constraints, the objective function is to minimize the cost of final product.