

School of Business

BBA
ETE - Jun 2023

Time : 3 Hours

Marks : 100

Sem II - D1UA204T - Production and Operations Management

Your answer should be specific to the question asked

Draw neat labeled diagrams wherever necessary

1. Explain the Dimensions of Service Quality, in detail with example. K2 CO3 (5)
2. Explain forecasting and its importance in production and operations management. K2 CO2 (5)
3. Explain the following location planning techniques briefly: K2 CO1 (5)
 - The Factor Rating Method
 - Weighted Scoring Method
 - Centre of Gravity Method
 - Load-distance Method
 - Location Break-Even Analysis
4. (a) A famous burger store has given their consent to Mr Steve to open their franchisee at a new location. After a few days, the store received a number of complaints from their customers. The complaint was mainly linked to the bad quality and taste of burgers which customer's bought from the Steve's franchisee. Help the burger store to identify the root cause of the problems using a suitable quality tool. K3 CO2 (10)

(b) A grocery shop owner in the city of New Delhi hires a third party logistics provider to supply their online orders to customers. From the few days, they were complaints on their online portal regarding the poor quality of products delivered in a very bad condition. Help the grocery shop owner to identify the root cause of the problems with third party logistics provider using suitable quality tool.

(c) A very large production company, XYZ Corporation, in the first quarter of 2022 reported an increased defect in production to 20%. Help the XYZ Corporation to identify the root cause of problems with the production system (man, method, machine, material, and environment).
5. Illustrate the Principles of Lean Manufacturing along with 7 wastes. K2 CO1 (10)
6. Compare the concept of production and transformation process. Also categorize the types of transformation. K4 CO1 (10)

OR

Dr. Lillian Fok, a New Orleans psychologist, specializes in treating patients who are agoraphobic (i.e., afraid to leave their homes). on the previous data analysis, the following table indicates how many patients Dr. Fok has seen each year for the past 10 years:

Year	1	2	3	4	5	6	7	8	9	10
No. of Patients	36	33	40	41	40	55	60	54	58	61

Examin through the Linear Regression Method and analyze the number of patients Dr. Fok will see in years 15 and 20 as a function of time.

7. Analyze the concept of six-sigma with the Operations Management. Also conclude the six sigma methodology. K4 CO3 (10)
8. Determine the factors effecting the location decision for any plant with location planning techniques. K5 CO3 (15)
9. Discuss Qualitative & Quantitative Forecasting Methods for a Production Organization, with example, in detail. K5 CO1 (15)

OR

PTO

The Warren W. Fisher Computer Corporation purchases 8,000 transistors each year as components in minicomputers. The unit cost of each transistor is \$10, and the cost of carrying one transistor in inventory for a year is \$3. The ordering cost is \$30 per order. Estimate the following: K5 CO3 (15)

- (a) the optimal order quantity,
- (b) the expected number of orders placed each year,
- (c) the expected time between orders.

Assume that Fisher operates on a 200-day working year.

10. The new Health-care facility is targeted to serve seven census tracts in Delhi. The table given below shows the coordinates for the centre of each census tract, along with the projected populations, measured in thousands. Customers will travel from the seven census tract centres to the new facility when they need health-care. Two locations being considered for the new facility are at (5.5, 4.5) and (7, 2), which are the centres of census tracts C and F. Details of seven census tract centres, co-ordinate distances along with the population for each centre are given below. If we use the population as the loads and use rectilinear distance, which location is better in terms of its total load distance score? K4 CO2 (15)