ASSIGNMENT

Course Code	**:**	**MMPC-019**
Course Title	**:**	**Total Quality Management**
Assignment Code	**:**	**MMPC-019/TMA/JAN/2026**
Coverage	**:**	**All Blocks**

Note: Attempt all the questions and submit this assignment to the coordinator of your study centre. Last date of submission for January 2026 session is 30th April, 2026 and for July 2026 session is 31st October, 2026.

1. A small manufacturing organization plans to modernize its production process. Discuss two total quality management tools it should adopt.

2. How can PDCA (Plan-Do-Check-Act) cycle be applied in an organization? Explain with the help of illustration.

3. Suppose you are working in a service organization. How will you implement TQM so that the customer satisfaction improves? Discuss.

4. What is the role of leadership in implementing TQM? Discuss.

5. Why is Kaizen essential for TQM? Explain with suitable example.

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Answer

Modernising a production process should not mean buying new machines first and thinking about quality later. The new process has to produce what the customer values, do it consistently and reduce waste, rework and delays. For a small manufacturing organization, two useful TQM tools are Quality Function Deployment (QFD) and Six Sigma using the DMAIC approach. QFD helps the firm decide what the modernised process must achieve, while Six Sigma helps it control variation and improve the process on the basis of data.

1. Quality Function Deployment (QFD)

QFD is a systematic method of converting the voice of the customer into product, process and technical requirements. Its basic idea is simple: modernization should start from customer needs and then move backwards to design and production decisions. A company may otherwise purchase faster equipment but still fail to improve the characteristics that customers actually consider important.

The organization can begin by collecting customer requirements from complaints, sales feedback, warranty data, dealer discussions and direct interviews. Suppose it manufactures small electric pumps. Customers may value low noise, reliable performance, easy maintenance, low power consumption and timely delivery. These requirements should be ranked according to importance. The team then translates them into measurable technical characteristics such as vibration level, dimensional tolerance, motor efficiency, seal life, cycle time and defect rate.

The main QFD device is the House of Quality. It relates customer requirements to technical characteristics and shows where strong or weak relationships exist. It also allows the organization to compare its present performance with competitors and to identify the technical areas that need priority. For the pump example, if low noise is a high-priority customer requirement, the modernization plan may give more attention to balancing equipment, bearing quality, machining accuracy and vibration measurement rather than simply increasing production speed.

QFD is especially helpful to a small manufacturer because it improves cross-functional coordination. Production, quality, design, purchase, maintenance and marketing employees work with the same set of customer priorities. This reduces the risk that one department will optimise its own activity at the cost of the final