



K. K. Wagh Institute of Engineering Education & Research, Nashik
(An Autonomous Institute From A.Y. 2022-23)

WINTER-2025	
Exam Seat No.:	
Academic Year:2025-2026	Semester: VII
Class: FINAL	Program: B.Tech
Branch Code: MEC	Pattern:2022
Name of Course: Total Quality Management	Course Code: MEC224002A
Max. Marks:60	Duration:2.30 Hrs.

Instructions: Candidates should read carefully the instructions printed on the Question Paper and on the cover page of the Answer Book, which is provided for their use.

1. This question paper contains 02 page(s).
2. Answer to each new question is to be started on a new page.
3. Assume suitable data wherever required, but justify it.
4. Draw the neat labelled diagrams, wherever necessary.
5. The last columns indicates the Course Outcome and level of Blooms Taxonomy of the Question/sub-question.

	Marks	CO
Question No. 1		
1a) Explain Juran Triology diagram.	(6)	CO1
Question No. 2		
2a) Write short note on process capability.	(6)	CO2
Question No. 3		
3a) Explain cost of quality and value of quality.	(8)	CO3
OR		
3b) Discuss the concepts of Total Productive Maintenance (TPM). Explain the pillars of TPM.	(8)	CO3
3c) Describe the phases of Quality Function Deployment (QFD).	(8)	CO3
OR		
3d) Describe the steps involved in Performing FMEA and explain how RPN (Risk Priority Number) helps in prioritizing failures.	(8)	CO3
Question No. 4		
4a) Explain the Seven QC Tools used for quality analysis.	(8)	CO4
OR		
4b) Discuss the Cause-and-Effect (Ishikawa) Diagram. Explain its steps to construct.	(8)	CO4
4c) Draw and explain operating characteristic curve.	(8)	CO4
OR		
4d) Explain the Arrow Diagram (Activity Network Diagram).	(8)	CO4
Question No. 5		
5a) Explain the 5S methodology. Describe each of the five steps.	(8)	CO5

OR

- 5b) Describe the PDCA (Plan–Do–Check–Act) Cycle. Explain each phase (8) CO5
- 5c) What is ISO? Explain the purpose, structure and benefits of ISO Certification (8) CO5

OR

- 5d) What is Benchmarking? Describe different types of benchmarking. (8) CO5

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