K. K. Wagh Institute of Engineering Education & Research, Nashik

(An Autonomous Institute From A.Y. 2022-23)

InSem Examination-I Winter2025	
Exam Seat No.:	
Academic Year:2025-2026	Semester:I
Class:PG-I	Program:M.Tech
Branch Code:ETC	Pattern:2024
Name of Course:Static Timing Analysis	Course Code:2402504(B)
Max. Marks:30	Duration:1.15 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 1 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			
1 a)	Compare Static Timing Analysis (STA) and Dynamic Timing Analysis (DTA) with suitable examples.	(7)	CO1
Question No. 2			
2 a)	Explain the concept of timing paths in STA and describe how setup and hold time violations are analysed.	(8)	CO1
	OR		
2 b)	Explain the advantages of Static Timing Analysis in details	(8)	CO1
Question No. 3			
3 a)	What is the slew rate of a waveform? Explain its importance in timing analysis.	(7)	CO2
Question No. 4			
4 a)	Draw and explain the switching waveform of a CMOS inverter.	(8)	CO2
	OR		
4 b)	Explain clock distribution network design and its challenges.	(8)	CO2

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