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:III
Class:SY	Program:B.Tech
Branch Code:ROB	Pattern:2023
Name of Course:Electrical and Electronics Systems	Course Code:2312202
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 01n is to be started on a new page.
2. Assume suitable data wherever required, but justify it.
3. Draw the neat labelled diagrams, wherever necessary.
4. The last columns indicates the Course Outcome and level of Blooms Taxonomy of the Question/sub-question.

		Marks	CO
Question No. 1			
1a)	Minimize the following SOP expression with K-map F(A,B C D) = ∑ m(0,1,2,3 11,12. 14 ,15)	(6)	co1
Question No. 2			
2a)	Explain 1:4 de-multiplexer with diagram	(6)	C02
Question No. 3			
3a)	Explain working of Timer IC -555 with block diagram	(8)	C02, C03
	OR		
3b)	Explain IC-555 as Pulse Width Modulation	(8)	C02, C03
3c)	Explain integrator circuit using op-amp with derivation and input and output waveforms.	(8)	C02, C03
	OR		
3d)	Explain working of a Solid State Relay.	(8)	C03
Question No. 4			
4a)	Explain construction of DC motor with diagram	(8)	C03, CO4
	OR		
4b)	Explain field resistance speed control method of DC motor.	(8)	C03, CO4

4c)	Derive back emf equation of DC motor	(8)	C03, CO4

OR

4d)	Explain Dynamic braking of DC motor.	(8)	C03, CO4

Question No. 5

5a)	Explain construction and working principle of linear induction motor	(8)	C03, CO4

OR

5b)	What is the difference between stepper motor and servo motor	(8)	C03, CO4
5c)	Explain speed control method of three phase induction motor.	(8)	C03, CO4

OR

5d)	Explain working of squirrel cage induction motor.	(8)	C03, CO4

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