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:2022
Name of Course:Electrical and Electronics Systems	Course Code:ROB222003
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 02page(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 the working of NPN transistor with diagram	(6)	CO1, CO2
Question No. 2			
2a)	Explain Dfferentiator with diagram	(6)	CO3, CO4
Question No. 3			
3a)	Explain working of SCR with diagram	(8)	CO1, CO2
	OR		
3b)	Explain construction and working FET.	(8)	CO3
3c)	Explain working of opto- isolator	(8)	CO3
	OR		
3d)	Explain different signal conditioning method with diagram	(8)	CO4
Question No. 4			
4a)	Derive the EMF equation of DC generator	(8)	CO3
	OR		
4b)	Explain the working of DC series motor with diagram	(8)	CO3
4c)	Explain the regenerative braking method of DC motor.	(8)	CO3, CO4
	OR		
4d)	State the different industrial application of DC motor.	(8)	CO3
Question No. 5			

5a)	Explain the construction and working principle of stepper motor	(8)	CO5
	OR		
5b)	Explain Torque slip characteristics of induction motor:	(8)	CO5
5c)	Explain construction and working principle Servo motor	(8)	CO5
	OR		
5d)	Explain any two method of speed control of Induction motor.	(8)	CO5

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