



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

	InSem Examination-I Winter 2023		
	Exam Seat No.:		
	Academic Year:2023-2024	Semester: III	
	Name of Programme: S.Y.B.Tech R&A	Pattern:2022	
	Name of Course: Electrical and Electronics Systems	Course Code:ROB222003	
	Max. Marks:30	Duration:1 hr	

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 2 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

Question No. 1 Attempt following Question

a) Write difference between BJT & FET. (4) CO1

OR

b) List down four different types of diodes & applications of these diodes in detail. (4) CO1

c) List difference between active & passive derives (at least 5 diff). (5) CO1

OR

d) Explain Shockley diode in detail. (5) CO1

e) List different types of capacitors. Explain how capacitor blocks DC and allows AC? (6) CO1, CO2

OR

f) List characteristics of Operational Amplifier. Describe the significance of first stage (Differential amplifier) block in operational amplifier's block diagram. (6) CO1, CO2

Question No. 2 Attempt following Question

- a) List different types of switches and explain STDP switch in detail. (4) CO1

OR

- b) Write down applications of switches in robotic industry. (4) CO1

- c) What are relays? Explain operation of relays in detail. (5) CO1,
CO2

OR

- d) Explain any application of relay with diagram. (5) CO1,
CO2

- e) Explain basic block diagram of power supply in detail. (6) CO1

OR

- f) How transistor can be use as switch ? Explain in detail. (6) CO1