



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	

<p>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.</p> <ol style="list-style-type: none">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	
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Question No. 1 Attempt following Question

a) Explain Shockley diode in detail. (4) CO1

OR

b) Classify inductors, write down applications of each. (4) CO1

c) How capacitor blocks dc & allows ac? explain in detail. (5) CO1, CO2

OR

d) What are metal oxide field effect transistors? (5) CO1, CO2

e) Draw the block diagram of operational amplifier and explain what is significance of level shifter block ? (6) CO1, CO2

OR

f) Draw the block diagram of operational amplifier and explain what is significance of differential amplifier block ? (6) CO1, CO2

Question No. 2 Attempt following Question

a) List down applications of relays(any 4). (4) CO1

OR

b) List applications of batteries(any 4). (4) CO1

c) How transistor can be use as switch? explain in detail. (5) CO1,
CO2

OR

d) What is difference between 78XX & 79XX Voltage regulator series? Which ICs will be required to design power supply of +/- 12 Volts? (5) CO1,
CO2

e) List down Different switches and explain SPDT switches in detail with application. (6) CO1

OR

f) Draw and explain block diagram of power supply in detail. (6) CO1