

	Reg. No.:	
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Mid-Term Examinations – October 2021

Programme	: B-Tech (BAC, BAI, BAS, BCG, BHI, BMR, BOE, BSA)	Semester	: Fall 2021-22
Course	: Electric Circuits and Systems	Code	: EEE1001
Faculty	: Dr. Abhay Vidyarthi	Slot/ Class No.	: E11+E12+E13/0053
Time	: 1 ½ hours	Max. Marks	: 50

Answer all the Questions

Q.No.	Question Description	Marks
1	<p>Find the current in the $2\ \Omega$ resistor in the network of Fig. 1</p> <p align="center">Fig. 1</p>	10
2	<p>Find Norton's equivalent network at the terminals A and B of Fig. 2</p> <p align="center">Fig. 2</p>	10
3	<p>Determine I, V_1, V_2 and V_0 for the series dc configuration of Fig. 3. Consider the value of 0.7v for the silicon diode to move from off state to on state.</p> <p align="center">Fig. 3</p>	10

4	Why the gate to source voltage is not used in an N Channel Depletion type MOSFET? What is pinch –off voltage and what happens to the drain to source current at this pinch –off voltage and what is to be done to increase the value of the drain to source current once if it reaches its saturation value? Explain the working of N Channel Depletion type MOSFET with the help of a neat sketch	10
5	Realize XOR and XNOR gates with the help of NAND and NOR gates respectively.	10
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