



<b>Q-4</b>	<b>Attempt all questions</b>	<b>(14)</b>
	A Compare the characteristics of ideal Op-Amps and practical Op-Amps.	7
	B Explain Integrator and Zero Crossing Detector using Op-Amps.	7
<b>Q-5</b>	<b>Attempt all questions</b>	<b>(14)</b>
	A Describe output Characteristics of JFET.	6
	B Give difference between JFET and Bipolar Transistors.	5
	C Explain construction of MOSFET with diagrams	3
<b>Q-6</b>	<b>Attempt all questions</b>	<b>(14)</b>
	A Explain Karnaugh map of three variable using example.	5
	B Explain in details Half adder and full adder circuits.	5
	C Simplify the Boolean Expressions: $AB + \bar{A}C + BC$	4
<b>Q-7</b>	<b>Attempt all questions</b>	<b>(14)</b>
	A Why OP-AMP is not used in open loop for most of the applications?	5
	B Give truth table of XOR and XNOR Gates	5
	C Convert the following binary to decimals (a) $(11001)_2$ (b) $(10101)_2$	4
<b>Q-8</b>	<b>Attempt all questions</b>	<b>(14)</b>
	A Explain in details Barkhausen's criterion for self-sustained oscillations in details.	7
	B Explain advantages and applications of UJT.	7

