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SCHOOL OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



BASIC ELECTRONICS ENGINEERING LABORATORY


S.No.	Name of the Experiment	Name of Equipment	Specification and Key Equipment Details	Equipment Photo with connections
1.	Study of CRO	Cathode Ray Oscilloscope – 1 No. BNC Probes Function Generator – 1No.	<p><u>Cathode Ray Oscilloscope</u> : 30MHz Analog Oscilloscope two channels, sensitivity: 5mV to 20V/Div, Vert and TB accuracy :±2%.</p> <p><u>Function generator</u> : 3MHz Microcontroller based function pulse generator with 40MHz Frequency counter.</p> <p><u>BNC Probes</u> : BNC probes with crocodile teeth with length of 1.25 meters.</p>	

2.	PN Junction Diode Characteristics	<p><u>P-N Diode</u> – IN4007 - 1 No.</p> <p><u>Resistor</u> – 1 k ohm</p> <p><u>Regulated Power Supply</u> –(0-30 v)</p> <p><u>Ammeter</u>– (0-50 mA)</p> <p><u>Voltmeter</u>- (0-30v) (0-50v)</p> <p><u>Bread Board and Connecting wires</u> -5-6 No.</p>	<p><u>Regulated power Supply (0-30V) :</u></p> <p>Floating DC Power supply voltages Dual DC:2*0-30V;0-2A Automatic Overload (current protection) Constant voltage and constant current operation Digital display for voltage and current Adjustable current limiter Excellent line and load regulation.</p> <p><u>Voltmeters</u> (0-30V) with wide display. (0-50V) with wide display.</p> <p><u>Ammeters</u> (0-50mA) with wide display</p> <p><u>Bread boards :</u> Nickel Plated 840 Points Bread Board.</p>	
3.	Half wave Rectifier with and without C filter	<p><u>Millimeters</u>- 2No.</p> <p><u>Transformer</u> - (15v)</p> <p><u>Diode</u> - IN4007</p> <p><u>Rheostat</u> -1k ohm,0.6A</p> <p><u>Ammeter</u> – (0-250 mA)</p> <p><u>Connecting Wires</u> -5-6 No.</p> <p><u>Bread board</u></p>	<p><u>Millimeter</u> 3 ¹/₂ digit display.</p> <p><u>Ammeters</u> (0-250mA) with wide display</p> <p><u>Bread boards :</u> Nickel Plated 840 Points Bread Board.</p>	
4.	Full wave Rectifier with and without LC filter	<p><u>Multimeters</u> -2 No.</p> <p><u>Transformer</u> (15v)</p> <p><u>Diode</u> IN4007 -1 No.</p> <p><u>Rheostat</u> -1k ohm,0.6A</p> <p><u>Connecting Wires</u> -5-6 No.</p> <p><u>Bread board</u></p>	<p><u>Millimeter</u> 3 ¹/₂ digit display.</p> <p><u>Bread boards :</u> Nickel Plated 840 Points Bread Board.</p>	

5.	Bridge Rectifier with and without π filter	<u>Millimeters</u> -2 <u>Transformer</u> - (15v) <u>Diode</u> - IN4007 <u>Rheostat</u> - 1k ohm,0.6A <u>Connecting Wires</u> -5-6 No. <u>Bread board</u>	<u>Millimeter</u> $3\frac{1}{2}$ digit display. <u>Bread boards</u> : Nickel Plated 840 Points Bread Board.	
6.	Input and Output Characteristics of BJT in CE Configuration	<u>Transistor</u> : (BC 107)– 1 No. <u>Regulated power Supply</u> : (0-30V) - 2NO.S <u>Voltmeter</u> : (0-20v)-2no.s <u>Ammeter</u> : (0-200 μ A) (0-50mA) <u>Resistors</u> : 1 k ohm – 1 No. 10 k ohm - 1 No. <u>Breadboard</u>	<u>Regulated power Supply (0-30V)</u> : Floating DC Power supply voltages Dual DC:2*0-30V;0-2A Automatic Overload (current protection) Constant voltage and constant current operation Digital display for voltage and current Adjustable current limiter Excellent line and load regulation. <u>Voltmeters</u> (0-20V) with wide display . <u>Ammeters</u> (0-200mA) with wide display (0-50mA) with wide display <u>Bread boards</u> : Nickel Plated 840 Points Bread Board.	

7.	CE amplifier	<p><u>Transistor</u> : BC107- 1 no.</p> <p><u>Function Generator</u> : – 1 No.</p> <p><u>CRO</u> -1 No.</p> <p><u>Resistors:</u> 1K ohm-2no. 10 K ohm- 2 no. 47 k ohm- 1 no. 2.2 k ohm - 1 no.</p> <p><u>Capacitors:</u> 10 μF- 2 no.</p> <p><u>Breadboard</u> : – 1 No.</p> <p><u>Connecting wires</u> : 5-6 No.</p>	<p><u>Cathode Ray Oscilloscope</u> : 30MHz Analog Oscilloscope two channels, sensitivity: 5mV to 20V/Div, Vert and TB accuracy :\pm2%.</p> <p><u>Function generator</u> : 3MHz Microcontroller based function pulse generator with 40MHz Frequency counter.</p> <p><u>Bread boards</u> : Nickel Plated 840 Points Bread Board.</p>	
8.	FET Characteristics	<p><u>Field effect Transistor</u> – 1 No.</p> <p><u>Multimeter</u> – (0-5v)-1 No. (0-10v) – 1 No.</p> <p><u>Ammeter</u> –(0-50 mA) -2 No.</p> <p><u>Resistors</u> – 470 ohm 1 K ohm</p> <p><u>Power supply</u> – (0-30v)</p> <p><u>Connecting wires</u> : 5-6 No.</p>	<p><u>Millimeter</u> 3 $\frac{1}{2}$ digit display.</p> <p><u>Regulated power Supply (0-30V)</u> : Floating DC Power supply voltages Dual DC:2*0-30V;0-2A Automatic Overload (current protection) Constant voltage and constant current operation Digital display for voltage and current Adjustable current limiter Excellent line and load regulation.</p> <p><u>Ammeters</u> (0-50mA) with wide display</p>	

9.	Feedback Amplifiers	<p><u>Regulated power Supply</u> : 1 No.</p> <p><u>Transistor BC107</u> : 1 No.</p> <p><u>Resistors</u> :</p> <p>47 k ohm 10 k ohm 2.2 k ohm 1 k ohm</p> <p><u>Capacitors</u> 22 μF – 1 No.</p> <p><u>Connecting wires</u>: 5-6 No.</p>	<p><u>Regulated power Supply (0-30V)</u> :</p> <p>Floating DC Power supply voltages Dual DC:2*0-30V;0-2A Automatic Overload (current protection) Constant voltage and constant current operation Digital display for voltage and current Adjustable current limiter Excellent line and load regulation.</p>	
10.	RC phase shift Oscillator	<p><u>Variable Resistors</u> :</p> <p>47 k ohm – 1 No. 10 k ohm – 1 No.</p> <p><u>Resistors</u>:</p> <p>10 k ohm – 4 No. 2.2 k ohm – 1 No. 1 k ohm – 1 No.</p> <p><u>Capacitors</u> :</p> <p>22 μF – 1 No. 0.01 μF – 3 No.</p> <p><u>Transistor</u>: BC107 - 1 NO.</p> <p><u>Regulated Power Supply</u> – 1 No.</p> <p><u>BNC Probes</u> - 2 No.</p> <p><u>Cathode Ray Oscilloscope</u> –1 No.</p>	<p><u>Regulated power Supply (0-30V)</u> :</p> <p>Floating DC Power supply voltages Dual DC:2*0-30V;0-2A Automatic Overload (current protection) Constant voltage and constant current operation Digital display for voltage and current Adjustable current limiter Excellent line and load regulation.</p> <p><u>Cathode Ray Oscilloscope</u> : 30MHz Analog Oscilloscope two channels, sensitivity: 5mV to 20V/Div, Vert and TB accuracy \pm2%.</p> <p><u>BNC Probes</u> :</p> <p>BNC probes with crocodile teeth with length of 1.25 meters.</p>	

11.	OP-Amp applications (Adders & subtractors)	<u>IC</u> - IC741 -1 No. <u>RPS</u> - (0-30V)-1 No. <u>Millimeter</u> (0- 20 V)-1 No. <u>Resistors</u> - 1 K ohm - 4 No. <u>Connecting Wires</u> - 5-6 No. <u>Bread board</u> -1 No.	<u>Regulated power Supply (0-30V) :</u> Floating DC Power supply voltages Dual DC:2*0-30V;0-2A Automatic Overload (current protection) Constant voltage and constant current operation Digital display for voltage and current Adjustable current limiter Excellent line and load regulation <u>Bread boards :</u> Nickel Plated 840 Points Bread Board. <u>Millimeter</u> 3 $\frac{1}{2}$ digit display.	
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Lab In-charge

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