	National Institute of Technology Meghalaya An Institute of National Importance	**CURRICULUM**

Programme	**Bachelor of Technology in Electronics and Communication Engineering**	Year of Regulation	**2018-19**
Department	**Electronics and Communication Engineering**	Semester	**IV**

Course Code	Course Name	Credit Structure				Marks Distribution		
		L	T	P	C	CONTINOUS EVALUATION	VIVA	Total
EC 254	**Electronic Circuits Lab**	**0**	**0**	**2**	**1**	**70**	**30**	**100**

Course Objectives	To develop the student's ability verify the theoretical concepts and IV - characteristics of various electronic devices, studied in Electronic Devices (EC 254) through laboratory experiments.	Course Outcomes	CO1	Able to experimentally test the IV characteristics of various semiconductor devices studied in EE201, and interpret the results
			CO2	Operate electronic test equipments (CRO, Function Generator, Multimeter, power supply etc.) to characterize the behavior of semiconductor devices and circuits.
			CO3	Prepare professional quality textual and graphical presentations of laboratory data

No.	COs	Mapping with Program Outcomes (POs)												Mapping with PSOs			
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
1	CO1	**2**	**2**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**2**	**2**	**1**	**-**	**-**
2	CO2	**2**	**2**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**2**	**2**	**1**	**-**	**-**
3	CO3	**2**	**2**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**2**	**2**	**1**	**-**	**-**

SYLLABUS

No.	Content	Hours	COs
I	Experiments related to measure the electrical current- voltage characteristics of various semiconductor devices including semiconductor diodes, bipolar junction transistor and field effect transistors. To study and plot the output waveforms of diode based clipper and clamper circuits. To study and plot the output waveforms and frequency response of RC low and high pass filter circuits. To study the input & output waveforms and frequency response of BJT in common emitter (CE) amplifier circuit. To study the input & output waveforms and frequency response of BJT in common base (CB) amplifier circuit. To study the input & output waveforms and frequency response of BJT in common collector (CC) amplifier circuit. To study the input & output waveforms and frequency response of FET in common source (CS) amplifier circuit. To study the input & output waveforms and frequency response of FET in common gate (CG) amplifier circuit. To study the input & output waveforms and frequency response of FET in common drain (CD) amplifier circuit. To study the input & output waveforms and frequency response of differential amplifier circuit. To study the input & output waveforms and frequency response of multistage amplifier circuit.	**16**	**CO1, CO2, CO3**
Total Hours		**16**	

Essential Readings

1. R.L. Boylestad and L. Nashelsky, "Electronic Devices And Circuit Theory", Prentice Hall, Tenth Edition, 2011.
2. D.A. Bell ,"Electronic Devices and Circuits", Prentice Hall of India, 5th Edition, 2004

Supplementary Readings

1. A.S. Sedra and K.C. Smith, "Microelectronic Circuits", Oxford, Seventh Edition, 2017.
2. D.A.Neaman, "Microelectronics: Circuit Analysis and Design", McGraw Hill, Fourth Edition, 2010.