

Discipline: Semester: 4<sup>th</sup>  
 Electrical/No of days/weeks  
 Subject: Marks allocated: 05

Name of the teaching staff: Sanghamitra Nahak  
 Semester Room: Page:  
 14.02.23 to 25.05.23

AE &  
 OP-Amp

Week	No of Period	Theory Topics
	1 <sup>st</sup>	
14.02.23 to 18.02.23	2 <sup>nd</sup> 3 <sup>rd</sup>	PN junction Diode, working of Diode $V_i$ char. of PN junction diode Dc load line
	4 <sup>th</sup>	Important terms such as ideal diode knee voltage, junction break down
	5 <sup>th</sup>	Zener breakdown, Avalanche breakdown
20.02.23 to 25.02.23	1 <sup>st</sup> 2 <sup>nd</sup> 3 <sup>rd</sup>	PN Diode clipping circuit PN Diode clamping circuit Special Conductor devices, Thermistors
	4 <sup>th</sup> 5 <sup>th</sup>	Sensors & bannettens Zener diode, Tunnel diode
27.02.23 to 04.03.23	1 <sup>st</sup> 2 <sup>nd</sup> 3 <sup>rd</sup> 4 <sup>th</sup> 5 <sup>th</sup>	② PIN Diode Rectifier Circuits & filters classification of Rectifier Halfwave & fullwave Rectifiers Centre tapped Rectifier
06.03.23 to 11.03.23	1 <sup>st</sup> 2 <sup>nd</sup> 3 <sup>rd</sup> 4 <sup>th</sup> 5 <sup>th</sup>	Bridge type Rectifier Dola Purpina Hall Dc output current & Voltage Rms output current & Voltage

Week	No of Period	Theory Topics
	1 <sup>st</sup>	Rectifier Efficiency
13.03.23	2 <sup>nd</sup>	Ripple factor, Regulation
to	3 <sup>rd</sup>	Transformer Utilization factor
18.03.23	4 <sup>th</sup>	Peak Inverse Voltage
	5 <sup>th</sup>	filters
	1 <sup>st</sup> ③	Shunt capacitor filter & π filter
20.03.23	2 <sup>nd</sup>	Transistors
to	3 <sup>rd</sup>	Principle of Bipolar Junction Transistor
25.03.23	4 <sup>th</sup>	Different modes of operation of Transistor
	5 <sup>th</sup>	Current components in a transistor Transistor as an Amplifier
	1 <sup>st</sup>	Transistor Circuit Configuration
27.03.23	2 <sup>nd</sup>	Characteristics of Transistor
to	3 <sup>rd</sup>	CB, CE Configuration
01.04.23	4 <sup>th</sup>	<b>Rama Navami</b>
	5 <sup>th</sup> ④	CC Configuration
	1 <sup>st</sup>	Transistor Circuits, Transistor Biasing
03.04.23	2 <sup>nd</sup>	Stabilizing, Stability factor
to	3 <sup>rd</sup>	Different method of Transistor Biasing
08.04.23	4 <sup>th</sup>	Base resistor method, collector to base bias
	5 <sup>th</sup>	<b>Good Friday</b>

Week	No of Period	Theory Topics
10.04.23 to 15.04.23	1 <sup>st</sup>	Self bias / Voltage Divider Method
	2 <sup>nd</sup>	Transistor Amplifier & Oscillators
	3 <sup>rd</sup>	Practical ckt of transistor amplifier
	4 <sup>th</sup>	Dc load line & Dc equivalent ckt
	5 <sup>th</sup>	Maha Visub Sankranti
17.04.23 to 22.04.23	1 <sup>st</sup>	Ac load line & Ac equivalent ckt
	2 <sup>nd</sup>	Calculation of gain, Phase reversal
	3 <sup>rd</sup>	H parameters of transistor, Simplified h-parameter
	4 <sup>th</sup>	Generalised approximate model
	5 <sup>th</sup>	Analysis of CB, CE, CC amplifier using generalised approximate model
24.04.23 to 29.04.23	1 <sup>st</sup>	Multistage transistor Amplifier
	2 <sup>nd</sup>	Rc coupled amplifier, Transformer coupled amp.
	3 <sup>rd</sup>	feedback in amplifier, general theory of feedback
	4 <sup>th</sup>	Negative feedback ckt, Advantages
	5 <sup>th</sup>	Power amplifier & its classification
01.5.23 to 06.05.23	1 <sup>st</sup>	Difference bet <sup>n</sup> voltage & power amplifier
	2 <sup>nd</sup>	Class A push-pull amplifier class B Push Pull amplifier
	3 <sup>rd</sup>	Oscillators, types of oscillators
	4 <sup>th</sup>	Essential of transistor Oscillators
	5 <sup>th</sup>	Buddha Purnima

Week	No of Period	Theory Topics
06.05.23	1st	Operat <sup>n</sup> of collector, Hartley, ColPit,
to	2nd	Phase shift, Wien bridge Oscillator
13.05.23	3rd	Classification of FET, Advantages of FET
	4th	Principals of operation of BJT
	5th	FET Parameters (no mathematical derivat <sup>n</sup> )
15.05.23	1st	DC drain resistance, AC drain resistance
to	2nd	Trans-conductance, Biasing of FET
20.05.23	3rd	General ckt simple of OP-AMP & IC-CA-741 OP-AMP
	4th	Operat <sup>n</sup> amplifier stage, equivalent ckt of OP-AMP
	5th	<b>Sabitre Amabasya</b>
22.05.23	1st	Open loop OP-AMP configuration with feedback
to		Inverting & Non inverting OP-AMP, Voltage follower, buffer, Adder / summing amplifier
25.05.23	2nd	Sub tracker, Integrator, Differentiator, Comparator

Verified

*[Signature]*  
12/02/2023