

**GOVERNMENT POLYTECHNIC KORAPUT  
DEPARTMENT OF ELECTRICAL ENGINEERING**

**Pr2. ANALOG ELECTRONICS LAB**

Name of the Course: Diploma in Electrical Engineering			
Name of the Faculty: S Bichiballi		<i>Semester duration: 10/03/2022 to 10/06/2022</i>	
Course code:	Pr2	Semester	4 <sup>th</sup>
Total Period:	45	Examination	3 hrs
Lab. periods:	3 P / week	Sessional	25
Maximum marks:	75	End Semester Examination:	50

**VISION:**

To create competent & industry ready Electrical Diploma Engineers with professional and social values to meet future challenges.

**MISSION:**

- To prepare diploma holders through "qualitative competency based education system" to compete with national requirement along with core values.
- To produce dynamic Electrical Engineers to serve the society and industry.
- To develop leadership qualities, communication skills, critical thinking and attitude for lifelong learning

**PROGRAM EDUCATIONAL OBJECTIVES:**

PEO1	Apply technical knowledge and skills learned in the field of Electrical Engineering to excel in Professional and/or higher education.
PEO2	To provide students an excellent academic environment and make them aware the needs of Society and industry to become a successful Professional/Entrepreneur.
PEO3	To engage in lifelong learning, career enhancement to adopt emerging technologies

**COURSE OUTCOMES:**

CO1	Understand behavior of basic semiconductor devices.
CO2	Construct various rectifier amplifier and oscillator circuits using electronic kits.
CO3	Explain working of rectifiers, oscillators and amplifiers.
CO4	Characterize electronic circuits based on their construction.

**LESSON PLAN**

Week	Day	Experiment
1 <sup>st</sup>	1 <sup>st</sup>	Determine the input and output Characteristics of CE & CB transistor configurations.
	2 <sup>nd</sup>	
	3 <sup>rd</sup>	
2 <sup>nd</sup>	1 <sup>st</sup>	Determine Drain & Transfer Characteristics of JFET.
	2 <sup>nd</sup>	
	3 <sup>rd</sup>	



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3 <sup>rd</sup>	1 <sup>st</sup>	Construct Bridge Rectifier using different filter circuits, determine Ripple factors and analyze waveforms with filter & without filter.
	2 <sup>nd</sup>	
	3 <sup>rd</sup>	
4 <sup>th</sup>	1 <sup>st</sup>	Construct & test the regulator using Zener Diode.
	2 <sup>nd</sup>	
	3 <sup>rd</sup>	
5 <sup>th</sup>	1 <sup>st</sup>	Construct different types of biasing circuit and analyze the wave form I. Fixed bias II. Emitter bias III. Voltage divider bias.
	2 <sup>nd</sup>	
	3 <sup>rd</sup>	
6 <sup>th</sup>	1 <sup>st</sup>	Study the single stage CE amplifier & find gain.
	2 <sup>nd</sup>	
	3 <sup>rd</sup>	
7 <sup>th</sup>	1 <sup>st</sup>	Study multi stage R-C coupled amplifier, determine frequency response & gain.
	2 <sup>nd</sup>	
	3 <sup>rd</sup>	
8 <sup>th</sup>	1 <sup>st</sup>	Construct & Find the gain I. Class A Amplifier II. Class B Amplifier III. Class C Tuned Amplifier.
	2 <sup>nd</sup>	
	3 <sup>rd</sup>	
9 <sup>th</sup>	1 <sup>st</sup>	Construct & test Push Pull Amplifier & observe the waveform.
	2 <sup>nd</sup>	
	3 <sup>rd</sup>	
10 <sup>th</sup>	1 <sup>st</sup>	Construct & calculate the frequency, draw waveform & calculate the frequency of I. Hartly Oscillator II. Colpitt's Oscillator.
	2 <sup>nd</sup>	
	3 <sup>rd</sup>	
11 <sup>th</sup>	1 <sup>st</sup>	Construct & calculate the frequency, draw waveform & calculate the frequency of I. Wein Bridge Oscillator II. R-C phase shift Oscillator.
	2 <sup>nd</sup>	
	3 <sup>rd</sup>	
12 <sup>th</sup>	1 <sup>st</sup>	Construct & test Differentiator and Integrator using R-C Circuit.
	2 <sup>nd</sup>	
	3 <sup>rd</sup>	
13 <sup>th</sup>	1 <sup>st</sup>	Study Multivibrator (Astable, Bistable, Monstable) Circuit & Draw its Waveforms.
	2 <sup>nd</sup>	
	3 <sup>rd</sup>	
14 <sup>th</sup>	1 <sup>st</sup>	Reserved for assessment
	2 <sup>nd</sup>	
	3 <sup>rd</sup>	
15 <sup>th</sup>	1 <sup>st</sup>	Reserved for assessment
	2 <sup>nd</sup>	
	3 <sup>rd</sup>	

Signature of faculty concerned

H.O.D. Electrical

