COURSE MODULE

Faculty Name:			Academic Year: **2025-26 (EVEN Sem)**				
Department: **ECE**							
Course Code	Course Title	Core/Elective	Prerequisite	Contact Hours			Total Hrs/ Sessions
				L	T	P	
BECL404	**Communication Laboratory**	**Core**	**Principles of Communication**	**-**	**-**	**2**	**40**

This course will enable students to:

1. Understand the basic concepts of AM and FM modulation and demodulation.
2. Design and analyse the electronic circuits used for AM and FM modulation and demodulation circuits.
3. Understand the sampling theory and design circuits which enable sampling and reconstruction of analog signals.
4. Design electronic circuits to perform pulse amplitude modulation, pulse position modulation and pulse width modulation.

Experiments Covered as per Syllabus

1. Design and test a high-level collector Modulator circuit and Demodulation the signal using diode detector.
2. Test the Balanced Modulator / Lattice Modulator (Diode ring).
3. Design a Frequency modulator using VCO and FM demodulator using PLL (Use IC566 and IC565).
4. Design and plot the frequency response of Pre-emphasis and De-emphasis Circuits.
5. Design and test BJT/FET Mixer.
6. Design and test Pulse sampling, flat top sampling and reconstruction.
7. Design and test Pulse amplitude modulation and demodulation.
8. Generation and Detection of Pulse position Modulation.
9. Generation and Detection of Pulse Width Modulation. 1
0. PLL Frequency Synthesizer.
11. Data formatting and Line Code Generation.
12. PCM Multiplexer and Demultiplexer.

List of Text Book

1. Louis E Frenzel, Principles of Electronic Communication Systems, 3rd Edition, Mc Graw Hill Education (India) Private Limited, 2016. ISBN: 978-0-07-066755-6.Entrepreneurship Development Small Business Enterprises- Poornima M Charantimath,2nd Edition, Pearson Education 2018, ISBN 978-81-317-6226-4.

Course Outcomes:

At the end of the course the student will be able to:

CO1: Illustrate the AM generation and detection using suitable electronic circuits.
CO2: Design of FM circuits for modulation, demodulation and noise suppression.
CO3: Design and test the sampling, Multiplexing and pulse modulation techniques using electronic hardware.
CO4: Design and Demonstrate the electronic circuits used for RF transmitters and receiver

The Correlation of Course Outcomes (CO's) and Program Outcomes (PO's)

Subject Code: **BECL404**	TITLE: **Communication Laboratory**	Faculty Name:

List of Course Outcomes	Program Outcomes												Total
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	
CO-1	3	2	2	-	2	-	-	-	2	1	-	2	**14**
CO-2	3	2	2	-	2	-	-	-	2	1	-	2	**14**
CO-3	3	2	3	-	2	-	-	-	2	1	-	2	**14**
CO-4	3	2	2	-	2	-	-	-	2	1	-	2	**14**
Total	**12**	**8**	**8**	**-**	**8**	**-**	**-**	**-**	**8**	**4**	**-**	**8**	**56**

The Correlation of Course Outcomes (CO's) and Program Specific Outcomes (PSO's)

Subject Code: BEC601	**TITLE: Embedded System design**	

List of Course Outcomes	Program Specific Outcomes		
	PSO1	**PSO2**	**Total**
CO-1	3	1	**4**
CO-2	3	1	**4**
CO-3	3	1	**4**
CO-4	3	1	**4**
Total	**12**	**4**	**16**

Note: 3 = Strong Contribution 2 = Average Contribution 1 = Weak Contribution - = No Contrib