

Government College of Engineering, Salem - 11
Department of Electronics and Communication Engineering
M.E. - Communication Systems
COs - POs and PSO Mapping
Course Articulation Matrix – 18 Regulation

Semester -I																
18COC11-Statistical Information Processing																
		Program Outcomes												Program Specific Outcomes		
Course Outcomes		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	Characterize and apply probabilistic techniques in modern decision systems.	3	2	-	2	-	-	-	-	-	-	-	-	2	-	-
2	Demonstrate and compare various Estimation techniques	1	1	1	1	1	-	-	-	1	-	-	-	2	1	1
3	Understand and analyse Spectral content in Random Signals.	2	1	-	2	-	-	-	-	-	-	-	-	2	1	-
4	Apply various source coding techniques to real time data	1	1	2	1	2	-	-	-	-	-	-	-	1	2	1
Average		1.75	1.25	0.75	1.5	0.75	-	-	-	0.25	-	-	-	1.75	1	0.5

Semester -I																
18COC12-Advanced Digital Communication Techniques																
Course Outcomes		Program Outcomes												Program Specific Outcomes		
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	Apply the knowledge of mathematical models of channels in the design of Digital Communication systems.	2	1	1	1	-	-	-	-	-	-	-	-	2	1	1
2	Classify the different receiver used in the digital communication systems.	2	1	1	-	1	-	-	-	-	-	-	-	2	1	-
3	Analyse the eye patterns and can select the algorithm for equalizer to reduce ISI.	2	2	1	1	1	-	1	-	-	-	-	-	2	1	-
4	Design a digital modulators and can generate codes for error free communication.	2	1	1	1	-	-	1	-	-	-	-	-	2	1	2
Average		2	1.25	1	0.75	0.5	-	0.5	-	-	-	-	-	2	1	0.75

Semester - I																
18MLC01-Research Methodology and IPR																
Course Outcomes		Program Outcomes												Program Specific Outcomes		
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	Understand research problem formulation.	-	1	-	1	-	-	1	2	-	-	-	-	1	1	-
2	Analyze research-related information	1	1	-	-	-	-	-	-	-	-	-	-	1	1	-
3	Understand that today's world is controlled by Computer, Information Technology, but tomorrow world will be ruled by ideas, concept, and creativity.	1	1	1	1	1	1	1	-	-	-	-	-	1	1	-
4	Understand that IPR protection provides an incentive to inventors for further research work and investment in R & D, which leads to the creation of new and better products, and in turn brings about, economic growth and social benefits.	1	1	1	-	-	-	1	2	-	-	2	-	-	2	1
Average		0.75	1	0.5	0.5	0.25	0.25	0.75	1	-	-	0.5	-	0.75	1.25	0.25

Semester - I																
18COC13-Statistical Information Processing Laboratory																
		Program Outcomes												Program Specific Outcomes		
Course Outcomes		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	Design channel estimators.	2	2	2	1	-	-	-	-	-	-	-	-	2	-	-
2	Use various Noise Cancellation Algorithm.	1	1	2	-	1	-	-	-	-	-	-	-	2	2	-
3	Implement various systems involving functionalities in detection.	1	2	2	-	-	-	-	-	-	-	-	-	2	2	-
4	Design source coders according to the requirements.	1	-	2	1	-	-	-	-	-	-	-	-	3	2	-
Average		1.25	1.25	2	0.5	0.25	-	-	-	-	-	-	-	2.25	1.5	-

Semester - I																
18COC14-Advanced Digital Communication Systems Laboratory																
Course Outcomes		Program Outcomes												Program Specific Outcomes		
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	Compute and analyse the distortion in the presence of noise and to design filters.	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-
2	Analyse the system using eye pattern and design equalizer to avoid ISI.	2	1	2	1	-	-	-	-	-	-	-	-	2	2	-
3	Design an error free system using coding techniques.	2	-	2	-	2	-	-	-	-	-	-	-	2	2	-
4	Select the modulation scheme and able to design system using SDR.	2	1	1	1	1	-	-	-	-	-	-	-	2	2	-
Average		2	0.75	1.5	0.5	0.75	-	-	-	-	-	-	-	2	2	-

Semester - II																
18COC21-Antennas And Radiating Systems																
Course Outcomes		Program Outcomes												Program Specific Outcomes		
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	Compute the far field distance, radiation pattern and gain of an antenna for given current Distribution.	1	2	-	1	-	-	-	-	-	-	-	-	2	2	-
2	Estimate the input impedance, efficiency and ease of match for antennas.	2	2	-	1	-	-	-	-	-	-	-	-	2	3	-
3	Compute the array factor for an array of identical antennas	2	-	2	2	-	-	-	-	-	-	-	-	3	1	-
4	Design antennas and antenna arrays for various desired radiation pattern characteristics.	2	-	1	1	-	-	-	-	-	-	-	-	3	3	-
Average		1.75	1	0.75	1.25	-	-	-	-	-	-	-	-	2.5	2.25	-

Semester -II																
18COC22-Advanced Digital Signal Processing																
Course Outcomes		Program Outcomes												Program Specific Outcomes		
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	Formulate time domain and frequency domain description of Wide Sense Stationary process in terms of matrix algebra and relate to linear algebra concepts.	3	-	1	1	-	-	-	-	-	-	-	-	2	-	-
2	State Parseval's theorem, W-K theorem, principle of orthogonality, spectral factorization theorem, Widrow -Hoff LMS algorithm and Shannon's sampling theorem, and define linear prediction, linear estimation, sample auto-correlation, periodogram, bias and consistency.	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-
3	Calculate mean, variance, auto-correlation and PSD for WSS stochastic processes, and derive prediction error criterion, Wiener-Hoff equations, Parseval's theorem, W-K theorem and normal equations.	2	2	2	-	-	-	-	-	-	-	-	-	2	2	-
4	Design AR, MA, ARMA models, Weiner filter, anti-aliasing and anti-imaging filters, and develop FIR adaptive filter and polyphase filter structures, Simulate spectral estimation algorithms and basic models on computing platform.	3	2	2	-	2	-	-	-	-	-	-	-	3	2	-
Average		2.5	1.25	1.5	0.25	0.5	-	-	-	-	-	-	-	2.25	1.5	-

Semester - II																
18COC23-Antennas and Radiating Systems Lab																
Course Outcomes		Program Outcomes												Program Specific Outcomes		
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	Develop and experiment coding from basic mathematical operations to complex operations in signal processing.	2	-	1	2	-	-	-	-	-	-	-	-	3	2	-
2	Visualize the amplitude and phase spectrum of the signal in frequency domain.	3	1	2	-	-	-	-	-	-	-	-	-	2	2	-
3	Simulate FIR and IIR filter using MATLAB.	3	1	1	2	-	2	-	-	-	-	-	-	2	3	-
4	Understand the properties of discrete time signals.	2	2	1	1	-	-	-	-	-	-	-	-	2	3	-
Average		2.5	1	1.25	1.25	-	0.5	-	-	-	-	-	-	2.25	2.5	-

Semester - II																
18COC24- Advanced Digital Signal Processing Lab																
Course Outcomes		Program Outcomes												Program Specific Outcomes		
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	Develop and experiment coding from basic mathematical operations to complex operations in signal processing.	2	1	2	-	-	-	-	-	-	-	-	-	1	2	-
2	Visualize the amplitude and phase spectrum of the signal in frequency domain.	2	1	2	-	-	-	-	-	-	-	-	-	1	2	-
3	Simulate FIR and IIR filter using MATLAB.	2	1	2	-	2	-	-	-	-	-	-	-	1	2	-
4	Understand the properties of discrete time signals.	2	1	2	-	-	-	-	-	-	-	-	-	1	2	-
Average		2	1	2	-	0.5	-	-	-	-	-	-	-	1	2	-

Elective																
18COE11-Multimedia Compression Techniques																
Course Outcomes		Program Outcomes												Program Specific Outcomes		
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	Code information using various Lossy and Lossless methods.	2	-	1	1	-	-	-	-	-	-	-	-	2	1	-
2	Apply the concepts dictionary based coding techniques.	1	2	1	-	-	-	-	-	-	-	-	-	2	1	-
3	Do various analysis on audio compression.	1	-	-	1	-	-	-	-	-	-	-	-	2	1	-
4	Implement image and video compression	2	-	1	-	2	-	-	-	-	-	-	-	2	1	-
Average		1.5	0.5	0.75	0.5	0.5	-	-	-	-	-	-	-	2	1	-

Elective																
18COE12- Advanced Communication Networks																
Course Outcomes		Program Outcomes												Program Specific Outcomes		
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	Understand the concept behind TCP/IP and other networking protocols	1	1	2	-	-	-	-	-	-	-	-	-	1	1	-
2	Implement problem based on traffic engineering and capacity planning	1	-	2	1	-	-	-	-	-	-	-	-	2	2	-
3	Solve various information security algorithms from various scenarios.	-	1	2	1	-	-	-	-	-	-	-	-	2	2	-
4	Apply the various concept learnt in multimedia over internet.	1	1	2	-	1	-	-	-	-	-	-	-	2	2	-
Average		0.75	0.75	2	0.5	0.25	-	-	-	-	-	-	-	1.75	1.75	-

Elective																
18COE13- Wireless Sensor Networks																
		Program Outcomes												Program Specific Outcomes		
Course Outcomes		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	Gain knowledge on some existing applications of wireless sensor networks.	2	-	-	-	1	-	-	-	-	-	-	-	-	-	-
2	Get exposure to network protocol design and apply these principles in the context of wireless sensor networks.	2	1	2	-	-	-	-	-	-	-	-	-	2	2	-
3	Learn various hardware, software platforms that exist for sensor networks.	2	-	1	1	1	-	-	-	-	-	-	-	2	2	-
4	Gain knowledge on various topologies available in wireless sensor networks	2	1	1		2	-	-	-	-	-	-	-	1	1	-
Average		2	0.5	1	0.33	1	-	-	-	-	-	-	-	1.25	1.25	-

Elective																	
18COE21- RF and Microwave Circuit Design																	
Course Outcomes		Program Outcomes												Program Specific Outcomes			
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
1	Understand the behaviour of passive components at very high frequency.	2	-	1	-	-	-	-	-	-	-	-	-	-	1	1	-
2	Design High Frequency Mixer and Amplifiers.	1	2	-	-	-	-	-	-	-	-	-	-	-	2	-	-
3	Do stability analysis for power amplifiers.	1	1	2	-	-	-	-	-	-	-	-	-	-	2	-	-
4	Understand about frequency synthesizers and linearised PLL model.	2	2	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Average		1.5	1.25	0.75	-	-	-	-	-	-	-	-	-	-	1	0.75	-

Elective																
18COE22- Optical Networks																
Course Outcomes		Program Outcomes												Program Specific Outcomes		
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	To enable the student to understand the importance of the backbone infrastructure for our present and future communication needs and familiarize them with the architectures and the protocol stack in use.	2	1	1	-	-	-	-	-	-	-	-	-	1	2	-
2	To understand the differences in the design of data plane and the control plane and the routing, switching and the resource allocation methods and the network management and protection methods.	1	2	-	2	-	-	-	-	-	-	-	-	-	1	-
3	To expose the student to the advances in packet switching in the optical domain, the associated challenges and the possible solution approaches.	2	-	1	1		1	-	-	-	-	-	-	1	1	-
4	To introduce students the important areas of communication networks, mainly optical networks and photonic switching.	-	1	2	-	-	-	-	-	-	-	-	-	2	1	-
Average		1.25	1	1	0.75	-	0.25	-	-	-	-	-	-	1	1.25	-

Elective																
18COE23- Satellite Communication																
		Program Outcomes												Program Specific Outcomes		
Course Outcomes		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	Understand the orbital laws and elements of satellite communication.	2	-	1	2	-	-	-	-	-	-	-	-	-	1	-
2	Understand the concept of geostationary orbit and the station keeping.	2	1	1	-	-	-	-	-	-	-	-	-	1	1	-
3	Know the concept of different space and earth segments and noise interference.	1	-	1	1	-	-	-	-	-	-	-	-	1	1	-
4	Know the available satellite access methods, Networks and specialized services.	1	-	1	2	-	-	-	-	-	-	-	-	1	1	-
Average		1.5	0.25	1	1.25	-	-	-	-	-	-	-	-	0.75	1	-

Elective																
18COE31- Wireless and Mobile Communication																
Course Outcomes		Program Outcomes												Program Specific Outcomes		
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	Understand the difference in wireless compared to wired counterpart.	2	-	1	-	-	-	-	-	-	-	-	-	2	1	-
2	Understand the different propagation mechanisms and calculate large scale path loss.	-	2	1	1	-	-	-	-	-	-	-	-	1	1	1
3	Analyze small scale and multipath fading in mobile environment.	2	1	1	-	-	-	-	-	-	-	-	-	2	1	-
4	Analyze the cell structure and calculate interference and improve the coverage and capacity of cellular system.	2	-	1	1	-	1	-	-	-	-	-	-	2	1	-
Average		1.5	0.75	1	0.5	-	0.25	-	-	-	-	-	-	1.75	1	0.25

Elective																
18COE32- Pattern Recognition and Machine Learning																
		Program Outcomes												Program Specific Outcomes		
Course Outcomes		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	Implement pattern classification methods and structural pattern recognition.	2		2	-	1	-	-	-	-	-	-	-	2	2	-
2	Implement feature extraction and selection.	2		2	-	-	-	-	-	-	-	-	-	2	2	-
3	Apply AI problem solving techniques for machine learning	2		2	-	1	-	-	-	-	-	-	-	3	3	-
4	Apply the concepts of various planning algorithm and expert systems.	2	2	2	-	-	-	2	-	-	-	-	-	2	2	-
Average		2	2	2	-	0.5	-	0.5	-	-	-	-	-	2.25	2.25	-

Elective																	
18MCSE09- Voice and Data Networks																	
Course Outcomes		Program Outcomes												Program Specific Outcomes			
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
1	To be able to introduction to voice and data networks.	1	1	2	-	-	-	-	-	-	-	-	-	-	1	1	-
2	To Analyse the transmission methods and switching.	1	1	-	-	-	-	-	-	-	-	-	-	-	2	1	-
3	To understand the concept of data link layer protocols.	1	2	2	-	-	-	-	-	-	-	-	-	-	1	1	-
4	To Know the concept of interconnecting networks.	1	1	2	-	-	-	-	-	-	-	-	-	-	1	2	-
Average		1	1.25	1.5	-	-	-	-	-	-	-	-	-	-	1.25	1.25	-

Elective																
18COE41- Spread Spectrum Communication																
		Program Outcomes												Program Specific Outcomes		
Course Outcomes		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	To be able to arrive at detailed specifications of the spread spectrum systems.	2	1	1	-	-	-	-	-	-	-	-	-	2	1	-
2	To design systems based on spread spectrum to mitigate the jamming and multipath effect.	1	2	3	-	-	-	-	-	-	-	-	-	-	1	-
3	To design the spread spectrum based systems for CDMA and GPS.	2		2	-	-	-	-	-	-	-	-	-	1	2	-
4	To Know the concept of Global positioning system.	1	2	-	-	-	-	-	-	-	-	-	-	2	-	-
Average		1.5	1.67	1.5	-	-	-	-	-	-	-	-	-	1.25	1	-

Elective																
18COE42- MIMO Systems																
		Program Outcomes												Program Specific Outcomes		
Course Outcomes		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	Understand the diversity techniques and design the MIMO channels	1	1	2	-	-	-	-	-	-	-	-	-	1	2	-
2	Analyse the performance of for Space time Trellis code.	1	1	2	-	-	-	-	-	-	-	-	-	1	2	-
3	Design concatenated codes.	1	1	2	-	-	-	-	-	-	-	-	-	1	2	-
4	Understand Frequency selective channels	1	1	2	-	-	-	-	-	-	-	-	-	1	2	-
Average		1	1	2	-	-	-	-	-	-	-	-	-	1	2	-

Elective																
18COE43- High Performance Networks																
		Program Outcomes												Program Specific Outcomes		
Course Outcomes		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	Apply knowledge of mathematics, probability, and statistics to model and analyze some Networking protocols.	3	2	1	-	-	-	-	-	-	-	-	-	2	2	-
2	Design, implement, and analyze computer networks.	2	2	2	-	-	-	-	-	-	-	-	-	2	2	-
3	Identify, formulate, and solve network engineering problems.	2	2	2	-	-	-	-	-	-	-	-	-	2	2	-
4	Show knowledge of contemporary issues in high performance computer networks.	2	2	2	-	-	2	-	-	-	-	-	-	2	2	-
Average		2.25	2	1.75	-	-	0.5	-	-	-	-	-	-	2	2	-

Elective																
18COE51-Cognitive Radio																
		Program Outcomes												Program Specific Outcomes		
Course Outcomes		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	Understand the concepts and design of cognitive radios.	1	2	2	-	-	-	-	-	-	-	-	-	1	2	-
2	Study about the SDR architecture and analysis.	-	2	1	-	-	-	-	-	-	-	-	-	-	1	-
3	Analyse the various cognitive radio network architectures	2	1	1	-	-	-	-	-	-	-	-	-	2		-
4	Study the impact of the evolved solutions in future wireless network design.	2		1	1	-	-	1	-	-	-	-	-	2	1	-
Average		1.25	1.67	1.25	0.25	-	-	0.25	-	-	-	-	-	1.25	1.33	-

Elective																
18COE52- Internet of Things																
		Program Outcomes												Program Specific Outcomes		
Course Outcomes		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	Understand the fundamentals of IoT.	1	2	2	-	-	-	-	-	-	-	-	-	1	2	-
2	Analyse various protocols for IoT.	1	2	1	-	-	-	-	-	-	-	-	-	1	2	-
3	Design a portable IoT using Raspberry Pi.	2	2	2	-	-	-	-	-	-	-	-	-	1	1	-
4	Analyse applications of IoT in real time scenario.	2	2	2	-	-	2	-	-	-	-	-	-	2	1	-
Average		1.5	2	1.75	-	-	0.5	-	-	-	-	-	-	1.25	1.5	-

Elective																
18COE53- VLSI for Wireless Communication																
		Program Outcomes												Program Specific Outcomes		
Course Outcomes		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	Understand the fading concepts	1	1	2	-	-	-	-	-	-	-	-	-	1	2	-
2	Design Low Noise amplifier and Mixers	1	1	2	-	-	-	-	-	-	-	-	-	1	2	-
3	Evaluate the performance of Frequency synthesizers	1	1	2	-	-	-	-	-	-	-	-	-	1	2	-
4	Design and analyze Power amplifiers	1	1	2	-	-	-	-	-	-	-	-	-	1	2	-
Average		1	1	2	-	-	-	-	-	-	-	-	-	1	2	-

Elective																
18COE61-Remote Sensing																
		Program Outcomes												Program Specific Outcomes		
Course Outcomes		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	Understand the basics of remote sensing systems.	1	-	1	-	-	-	-	-	-	-	-	-	1	1	-
2	Apply image processing techniques in the area of remote sensing	2	-	2	-	-	-	-	-	-	-	-	-	1	1	-
3	Extract and analyse thematic information using image analysis techniques	2	1	2	-	2	-	-	-	-	-	-	-	2	2	-
4	Implement various remote sensing applications using the learnt technique.	2	1	2	-	-	-	2	-	-	-	-	-	2	2	-
Average		1.75	0.5	1.75	-	0.5	-	0.5	-	-	-	-	-	1.5	1.5	-

Elective																	
18COE62- Wavelet Signal Processing																	
Course Outcomes		Program Outcomes												Program Specific Outcomes			
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
1	Understand about windowed Fourier transform and difference between windowed Fourier transform and wavelet transform.	2	2	1	1	-	-	-	-	-	-	-	-	-	1	1	-
2	Understand wavelet basis and characterize continuous and discrete wavelet transforms	1		2	1	-	-	-	-	-	-	-	-	-	1	1	-
3	Understand multi resolution analysis and identify various wavelets and evaluate their time-frequency resolution properties	2	1		-	-	-	-	-	-	-	-	-	-	2	2	-
4	Design certain classes of wavelets to specification and justify the basis of the application of wavelet transforms to different fields.	2		2	-	-	1	-	-	-	-	-	-	-	2	2	-
Average		1.75	1.5	1.67	0.5	-	0.25	-	-	-	-	-	-	-	1.5	1.5	-

Elective																	
18COE63- Bio MEMS																	
Course Outcomes		Program Outcomes												Program Specific Outcomes			
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
1	Learn and realize the MEMS applications in Bio Medical Engineering.	2	1	3	-	-	-	-	-	-	-	-	-	-	1	2	-
2	Understand the Micro fluidic Principles and study its applications.	1	1	3	-	-	-	-	-	-	-	-	-	-	2	2	-
3	Learn the applications of Sensors in Health Engineering.	1	1	2	-	-	-	-	-	-	-	-	-	-	2	2	-
4	Learn the principles of Micro Actuators and Drug Delivery system and applications of Micro Total Analysis.	2	1	2	-	-	-	-	-	-	-	-	-	-	1	2	-
Average		1.5	1	2.5	-	-	-	-	-	-	-	-	-	-	1.5	2	-

III																
18COC205 - Mini Project																
Course Outcomes		Program Outcomes												Program Specific Outcomes		
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	Practice acquired knowledge within the chosen area of technology for project development.	2	-	3	2	-	-	2	-	-	-	-	-	3	2	2
2	Identify, discuss, and improve the technical aspects of the chosen project with an ethical responsibility.	-	2	2	2	-	-	-	3	-	1	-	-	3	2	3
3	Acquire knowledge on contemporary issues and apply modern engineering tools for projects.	-	-	-	-	3	3	-	-	-	-	-	-	1	3	2
4	Work as an individual or in a team in development of technical projects in multidisciplinary environments.	-	-	-	-	-	-	-	1	3	2	2	3	1	2	2
5	Communicate and report effectively project related activities and findings.	-	-	-	-	-	-	2	-	-	3	1	-	2	1	1
Average		0.4	0.4	1	0.8	0.6	0.6	0.8	0.8	0.6	1.2	0.6	0.6	2	2	2

IV																
18CO301 - Dissertation Phase – I																
Course Outcomes		Program Outcomes												Program Specific Outcomes		
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	Understand existing technologies, theories and methodologies through comprehensive literature review, identifying gaps and formulating research questions or project objectives.	2	2	3	2	-	3	-	1	1	-	-	-	2	2	1
2	Develop a project proposal that outlines objectives, methodology, expected outcomes and a timeline.	2	1	3	3	-	-	1	-	1	-	-	-	2	3	1
3	Engage in collaborative learning activities, such as group projects or peer mentoring, to enhance foundational technical skills in communication technologies, fostering teamwork and knowledge sharing.	-	1	2	3	2	-	-	2	-	1	2	3	2	2	2
4	Understand ethical considerations and regulatory requirements relevant to the project.	-	-	-	-	-	-	2	3	-	-	-	-	1	-	1
5	Develop the capability to design novel methodologies tailored for real-time applications in communication systems, ensuring scalability to accommodate varying demands and complexities inherent in dynamic environments.	-	-	-	-	-	2	1	2	-	2	-	2	1	1	2
Average		0.8	0.8	1.6	1.6	0.4	1	0.8	1.6	0.4	0.6	0.4	1	1.6	1.6	1.4

IV																
18CO401 - Dissertation Phase - II																
Course Outcomes		Program Outcomes												Program Specific Outcomes		
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	Collaborate with team members to implement the project, dividing tasks effectively, sharing expertise and to collect and analyse project data, pooling resources to ensure thoroughness and accuracy in data analysis.	-	2	3	2	2	-	2	2	-	-	-	3	2	2	1
2	Critically evaluate project results, soliciting feedback from team members to identify areas for improvement and collectively adapt project strategies as needed.	-	1	1	-	-	-	-	2	-	1	2	2	2	2	1
3	Apply ethical principles and professional responsibility in the execution of project work, ensuring integrity in data collection, analysis, and reporting. Recognize and address ethical dilemmas and societal impacts of the project, adhering to professional standards and regulatory requirements.	2	2	-	-	-	-	2	2	3	2	2	-	1	2	2
4	Demonstrate a commitment to lifelong learning by engaging with new technologies, methodologies, and innovations in the field. Show an openness to self-evaluation and continuous improvement based on project outcomes and feedback.	1	1	2	2	2	-	-	-	-	1	3	2	1	1	2
5	Develop professional presentation skills to convey project findings, insights, and implications effectively through various formats, including formal presentations, posters, and digital media. Tailor communication strategies to engage diverse audiences and maximize impact.	2	-	-	-	-	1	-	2	-	3	-	2	1	2	2
Average		1	1.2	1.2	0.8	0.8	0.2	0.8	1.6	0.6	1.4	1.4	1.8	1.4	1.8	1.6