

AMRUTVAHINI COLLEGE OF ENGINEERING, SANGAMNER

Department of Electronics and Telecommunication Engineering

Course Outcomes

Final Year: 2012 Course			
Course Code	Course Name	Course Outcomes	
Semester- I			
404181	VLSI Design & Technology	CO1	Write effective HDL coding for digital design.
		CO2	Apply knowledge of real time issues in digital design.
		CO3	Model digital circuit with HDL, simulate, synthesis and prototype in PLDs (CPLD and FPGA).
		CO4	Design CMOS circuits for specified applications.
		CO5	Apply concepts of analog CMOS design for circuits.
		CO6	Apply knowledge of testability in design and build self-test circuit.
		CO7	Perform the experiments on VLSI Design and Technology in a team and as an individual using appropriate engineering tools. Comprehend and write laboratory record following academic ethics and draw conclusions at technical level.
404182	Computer Networks	CO1	Explore Fundamental underlying principles of Networking
		CO2	Apply various techniques & topologies to implement data link layer for local management of computer network
		CO3	Categorize wired & wireless standard network
		CO4	Compile the hardware, software requirements for network layer and define IPv4 & IPv6. Compare IPv4 and IPv6 and discuss transition of IPv6 from IPv4.
		CO5	Select the different Quality of services to examine Transport Layer Performance
		CO6	Develop encryption and decryption algorithms for coding plain text.
		CO7	Carry out experiment on networking in a group and as an individual. Comprehend and write laboratory record by adopting professional and academic ethics and draw conclusions at technical level.
404183	Microwave Engineering	CO1	Formulate the wave equations in the waveguide and study coaxial line, rectangular waveguides and cavity resonators.
		CO2	Explore the construction and working principle of passive microwave components and identify their microwave applications.
		CO3	Apply circuit or network concept to handle microwave analysis and Analyze the scattering properties of the passive microwave components.
		CO4	Discuss the high frequency limitations of conventional tubes and Explain construction details, working principle of various microwave tubes and choose a suitable tube and microwave solid state device a for particular application.
		CO5	Choose a suitable microwave measurement instruments and carry out the required measurements.
		CO6	Carry out experiments as an individual and in a team, comprehend and write a laboratory record and draw conclusions at a technical level.
		CO7	Formulate the wave equations in the waveguide and study coaxial line, rectangular waveguides and cavity resonators.
404184	Digital Image Processing (Elective – I)	CO1	Perform basic operations such as image enhancement and restoration operations on digital image processing
		CO2	Develop image compression algorithms by applying concepts of Information Theory and Coding Techniques (ITCT)
		CO3	Identify line, edge and point in an image using appropriate segmentation technique (First order and second order derivate)
		CO4	Represent an image using chain code, polygonal approximation, Signatures.
		CO5	Apply image processing algorithms for practical object recognition applications
		CO6	Carry out operations on images using suitable tools and comprehend lab report with technical conclusions
404184	PLC & Automation	CO1	Clarify control principles, PLC Architecture, PLC addressing concepts.
		CO2	Generalize automation types & its applications in industry.

	(Elective – I)	CO3	Develop PLC Ladder programs for simple industrial applications
		CO4	Review the concept of Human Machine Interface (HMI)
		CO5	Develop interfacing to real world devices SCADA.
		CO6	Explore details of Automation systems for Industrial applications
404185	Electronic Product Design (Elective – II)	CO1	Understand the stages involved in any kind of electronic product design and development
		CO2	Identify different stages involved in hardware designing and testing
		CO3	Identify different stages involved in Software designing and testing
		CO4	Apply rules and standards required for PCB designing.
		CO5	Understand the steps of debugging, study of different techniques for troubleshooting.
		CO6	Understand concept of documentation & its need in Different stages.
404188	Project Phase I	CO1	Formulate the problem statement based on interested domain, literature survey and recent trends.
		CO2	Compare and select software and hardware resources to carry out the project work.
		CO3	Carry out the project work as an individual and in a team and present the same through demonstration and presentation.
		CO4	Demonstrate the ability to present the project work in oral and written form.
Semester- II			
404189	Mobile Communication	CO1	Explain and apply the concepts telecommunication switching, traffic and networks
		CO2	Understand different types of signal networks
		CO3	Explore the cellular concept & propagation mechanism to develop optimal cellular networks
		CO4	Identify elements of GSM (represent it through GSM architecture) and explore the services, radio transmission parameters and applications of the same
		CO5	Differentiate thoroughly the services provided by GSM network
		CO6	Understand the concepts of GSM and CDMA system
		CO7	Carry out experiment on mobile communication in a group and as an individual. Comprehend and write laboratory record by adopting professional and academic ethics and draw conclusions at technical level.
404190	Broadband Communication Systems	CO1	Explore the basic working mechanism and components of optical fiber communication system.
		CO2	Set up Link power budget and Rise Time Budget analysis of optical fiber communication system; and judge its viability.
		CO3	Illustrate the construction and working mechanism of advanced WDM optical components including isolator, circulator, coupler and fiber bragg grating.
		CO4	Explore the basic working mechanism and components of satellite communication.
		CO5	Set up Link power budget analysis of a satellite communication system; and judge its viability.
		CO6	Carry out experiments as an individual and in a team, comprehend and write a laboratory record and draw conclusions at a technical level.
404191	Audio-Video Engineering (Elective-III)	CO1	To understand the concept of colour TV systems, overview of different TV standards & systems
		CO2	To understand the basic functioning of Digital TV and its types like LED, LCD, TFT & Plasma, requirement of MAC signal in transmission, different display devices
		CO3	To understand HDTV standards, transmission & receiving principles of HDTV and Study of different TV systems such as Satellite TV, CATV, CCTV, DTH TV & Set Top Box and its applications.
		CO4	To study advanced TV systems and its applications.(like IPTV, Mobile TV, VDP)
		CO5	To understand fundamentals of Audio-Video recording, to study the methods of sound recording & reproduction using modern devices such as CD, DVD & optical recording and its applications, To study the concept of acoustics & reverberation & its importance, selection of Microphone and Speaker for specific application.

		CO6	Aware about all the types of Audio and Video systems and their working principle which will help them to apply practically
404192	Wireless Networks (Elective –IV)	CO1	Understand latest wireless technologies- their standards, operating principles, need of evolution and emerging trends in the communication field.
		CO2	Understand the transmission of voice and data through such Wi-Fi & next generation WLAN And select appropriate air interface access techniques, signal processing and coding techniques to combat channel uncertainties when used in wireless networks.3G, 4G and Wi-MAX.
		CO3	Demonstrate knowledge of architecture and protocols used in third generation mobile services.
		CO4	Summarize knowledge of architecture and radio channel components used in Long Term Evaluation.
		CO5	Understand Wi-Max technologies- their standards, operating principles, features and applications in the communication field.
		CO6	Understand the need of IP based communication for next generation wireless networks.
404195	Project Phase-II	CO1	Implement the project work in compliance to the prescribed standards and environmental factors.
		CO2	Design, implement and demonstrate working of project and to arrive at valid conclusion.
		CO3	Demonstrate effective oral and written communication through the project report and publications.