	DNR COLLEGE OF ENGINEERING & TECHNOLOGY, Bhimavaram		
Program Name:	M.Tech. In Digital Electronics & Communication Systems	AY	2020-21
Class/SEM	I-I	Regulation	R19

Course Name: Digital System Design

Upon completion of the course, students will be able to:

CO#	Course Outcomes	Taxonomy
CO.1	Understand the basic concepts of a Karnaugh Map (“K-map”) for a 2-, 3-, 4-, or 5-variable logic function and to identify the prime implicants, essential prime implicants, and nonessential prime implicants of a function depicted on a K-map.	Understand
CO.2	Perform the minimization of a Boolean function using tabular method, QM algorithm and CAMP algorithm and determine the Adjacencies, DA, CSC, SSMs, EPCs and SPCs	Evaluate
CO.3	Perform the minimization of PLA using IISc algorithm and folding using COMPACT algorithm	Apply
CO.4	Can design a digital circuit by steps involving ASM chart.	Create
CO.5	Understand the digital system design approaches using CPLDs, FPGAs and ASICs.	Understand
CO.6	Rectify a single fault and multiple faults in combinational circuits using Path sensitization method, Boolean difference method and Kohavi algorithm.	Apply

Course Name: Digital Data Communications

Upon completion of the course, students will be able to:

CO#	Course Outcomes	Taxonomy
CO.1	1 Model digital communication system using appropriate mathematical techniques (error probability, constellation diagrams, pharos diagrams).	Understand
CO.2	Understanding the basic concepts of how digital data is transferred across computer networks.	Understand
CO.3	Independently understand basic computer network technology.	Apply
CO.4	Understand and explain Data Communications System and its components	Understand
CO.5	Identify the different types of network topologies and protocols	Apply
CO.6	Enumerate the layers of the OSI model and TCP/IP. Explain the function(s) of each layer	Apply

Course Name: Radar Signal Processing

Upon completion of the course, students will be able to:


CO#	Course Outcomes	Taxonomy
CO.1	Understand the operation of Radar and characteristics of Matched filter for non-white noise	Understand
CO.2	Understand the various detection criterion and types of detectors that can be used to detect the Radar signals in noise.	Understand
CO.3	Understand the waveform design requirements and optimum waveforms for the detection of signals in clutter.	Create
CO.4	Know the significance and types of pulse compression techniques for analog and digital signals.	Analyzing
CO.5	Understand the requirements of phase coding in Radar and various poly phase codes used for phase coding	Understand

Course Name: Optical Communication Technology

Upon completion of the course, students will be able to:

CO#	Course Outcomes	Taxonomy
CO.1	Realize basic elements in optical fibers, different modes and configurations	Analyze
CO.2	Analyze the transmission characteristics associated with dispersion and polarization techniques.	Analyze
CO.3	Design optical sources and detectors with their use in optical communication system.	Create
CO.4	Construct fiber optic receiver systems, measurements and coupling techniques.	Create
CO.5	Design optical communication systems and its networks. phase codes used for phase coding	Understand

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Program Name:	M.Tech. In Digital Electronics & Communication Systems	AY	2020-21
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Course Name: Image and Video Processing

Upon completion of the course, students will be able to:


CO#	Course Outcomes	Taxonomy
CO.1	Know digital image, representation of digital image, importance of image resolution, applications in image processing, the advantages of representation of digital images in transform domain, application of various image transforms.	Understand
CO.2	Understand and analyze the image enhancement and image degradation, image restoration techniques using spatial filters and frequency domain	Understand
CO.3	Understand and analyze the detection of point, line and edges in images, edge linking and various segmentation techniques and the redundancy in images, various image compression techniques	Understand
CO.4	Describe the video technology from analog color TV systems to digital video systems, how video signal is sampled and filtering operations in video processing.	Understand
CO.5	Describe the general methodologies for 2D motion estimation, various coding used in video processing	Understand

Course Name: Wireless Communications and Networks

Upon completion of the course, students will be able to:

CO#	Course Outcomes	Taxonomy
CO.1	Understand Cellular communication concepts	Understand
CO.2	Study the mobile radio propagation	Apply
CO.3	Study the wireless network different type of MAC protocols	Analyze
CO.4	Evaluate process of Practical Space Diversity Consideration	Evaluating
CO.5	Understand Frequency Domain Channels Sounding	Understand

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Program Name:	M.Tech. In Digital Electronics & Communication Systems	AY	2020-21
Class/SEM	II-III	Regulation	R19

Course Name: Digital Signal Processors and Architectures

Upon completion of the course, students will be able to:

CO#	Course Outcomes	Taxonomy
CO.1	Understand the basics concepts of Digital Signal Processing (DSP) and transforms.	Understand
CO.2	To distinguish between the architectural features of General purpose processors and Programmable DSP processors.	Analyze
CO.3	Understand the architectures of TMS320C54xx devices.	Understand
CO.4	Understand the architectures of ADSP 2100 DSP devices and Black fin Processor.	Understand
CO.5	Interface various devices to DSP Processors.	Apply
CO.6	Able to write simple assembly language programs using instruction set of TMS320C54xx.	Understand

Course Name: Advanced Digital Signal Processing

Upon completion of the course, students will be able to:

CO#	Course Outcomes	Taxonomy
CO.1	To understand theory of different filters and algorithms	Understand
CO.2	To understand theory of multi rate DSP, solve numerical problems and write algorithms	create
CO.3	To understand theory of prediction and solution of normal equations	Analyze
CO.4	To know applications of DSP at block level	Understand
CO.5	To understand lattice structures for IIR filters	Understand

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