

Computer Engineering				
Sem	Course Code	Course Name	CO Number	Course Outcome Statements
VII	CSC701	Digital Signal & Image Processing	CSC7011	Describe the concept of discrete time signal and systems and use signal processing techniques.
			CSC7012	Implement Digital Signal Transform techniques DFT and FFT.
			CSC7013	Explain process of image digitization and different image file types and formats.
			CSC7014	Use the enhancement techniques for digital Image Processing.
			CSC7015	Differentiate between the advantages and disadvantages of different edge detection techniques.
			CSC7016	Explore research trends in the area of digital signal and image processing or Compare and apply different digital signal and image processing techniques.
VII	CSC702	Mobile Communication & Computing	CSC7021	Identify basic concepts and principles in mobile communication & computing, cellular architecture
			CSC7022	Describe the components and functioning of mobile networking
			CSC7023	Classify variety of security techniques in mobile network.
			CSC7024	Analyze the concepts of WLAN
			CSC7025	Describe and apply the concepts of mobility management
			CSC7026	Describe Long Term Evolution (LTE) architecture and its interfaces.
VII	CSC703	Artificial Intelligence & Soft Computing	CSC7031	Identify the various characteristics of AI and SC techniques
			CSC7032	Identify and apply the most suitable search strategy to design problem solving agent
			CSC7033	Represent a natural language description as statements in logic and apply the inference rules to design knowledge-based agent and planning agent
			CSC7034	Construct supervised and unsupervised ANN for real world applications
			CSC7035	Design fuzzy controller system
			CSC7036	Apply Hybrid approach for expert system design
			CSDLO70321	Identify the key issues in big data management and its associated applications for business decisions and strategy.

			CSDLO70322	Develop problem solving and critical thinking skills in fundamental enabling techniques like Hadoop, MapReduce
			CSDLO70323	Apply NoSQL architectural patterns in big data analytics to create, manage, store, query various forms of Big Data
			CSDLO70324	Analyze and apply data mining techniques in various applications of Big Data.
VII	CSDLO7031	Big Data & Analytics	CSDLO70325	Adapt adequate perspectives of big data analytics in various applications
			CSDLO70326	Design business models and solve complex real-world problems in various applications like recommender systems, social media applications, health and medical systems, etc.
VII	CSDLO7031	Advance System Security & Digital Forensics	CSDLO70311	CSDLO70311 Classify Cyber-attacks and vulnerabilities
			CSDLO70312	Describe operating systems and programs vulnerabilities and protection mechanism
			CSDLO70313	Describe Web application and WIFI vulnerabilities and protection mechanism
			CSDLO70314	Discuss legal and ethical issues associated with cyber crime
			CSDLO70315	Illustrate Access control policies and control mechanism
			CSDLO70316	Use different forensics tools to acquire and analyze compromised data.
VII	ILO7015	Operation Research	ILO70151	Describe the theoretical working of simplex method
			ILO70152	Distinguish between linear programming and its dual
			ILO70153	Perform sensitivity analysis to determine the direction and magnitude of change of a model's optimal solution as the data change.
			ILO70154	Solve the transportation, assignment and Game theory problems using linear programming.
			ILO70155	Solve the problems using network models like the shortest path, minimum spanning tree, and maximum flow problems
			ILO70156	Explain the applications of integer programming, queuing model, inventory models and Simulation to compute important performance measures
			ILO70161	Understand the concept of cybercrime and cyber offences.
			ILO70162	Identify and classify cybercrimes to estimate their impact on society and mitigate the risks involved.
			ILO70163	Understand the various tools used by cyber criminals.
			ILO70164	Identify and interpret the various aspects of Cyber laws.

VII	ILO7016	Cyber Security and Laws	ILO70165	Apply and Interpret the Indian IT Act 2008 and its latest amendments.
			ILO70166	Apply Information Security Standards compliance during software design and development.
VII	ILO7013	Management Information System	ILO70131	Explain the importance of information systems and the impact of information technology on an organization to transform business.
			ILO70132	Identify the principal tools and technologies for storing and accessing information in an organization to improve business performance and decision making.
			ILO70133	Describe ethical issues related to information technology, potential threat to the privacy of the data and control measures that organizations can use to protect their information resources.
			ILO70134	Identify current and emerging technologies and apply them to today's businesses
			ILO70135	Describe use of the Internet and World Wide Web to provide a global platform for e-business, business mobility and communications, collaboration, and cloud computing.
			ILO70136	Explain the types of support that information systems can provide for each functional area of the organization.
VII	CSL701	Digital Signal & Image Processing Lab	CSL7011	Demonstrate process of signal conversion.
			CSL7012	Implement Discrete Convolution and Discrete Correlation.
			CSL7013	Implement the Discrete Fourier Transform and the Fast Fourier Transform.
			CSL7014	Demonstrate point operations in digital image processing.
			CSL7015	Illustrate and implement image Enhancement techniques.
			CSL7016	Demonstrate Image Segmentation techniques.
VII	CSL702	Mobile App. Development. Tech. Lab	CSL7021	To develop and demonstrate mobile application using various tools
			CSL7022	Students will articulate the knowledge of GSM, CDMA & Bluetooth technologies and demonstrate it.
			CSL7023	Students will able to carry out simulation of frequency reuse, hidden terminal problem.
			CSL7024	To develop security algorithm for mobile communication network.
			CSL7025	To demonstrate simulation and compare the performance of wireless LAN
			CSL7026	To implement and demonstrate mobile node discovery and route maintains.

			CSL7031	Formulate PEAS description for the given intelligent agent.
			CSL7032	Write a program in PROLOG to represent natural language description as statements in Logic and apply inference rules to it
VII	CSL703	Artificial Intelligence & Soft Computing Lab	CSL7033	Apply suitable search techniques to design a problem-solving agent.
			CSL7034	Implement Supervised and unsupervised neural network learning rules.
			CSL7035	Design a fuzzy controller system.
			CSL7036	Design an application using AISC techniques
VII	CSL704	Computational Lab-I	CSL7041	Demonstrate program and operating system vulnerabilities
			CSL7042	Implement network security
			CSL7043	Use and analyze different security tools to detect web application and browservulnerabilities
			CSL7044	Use and explore forensics tools for data acquisition, duplication and analysis
			CSL7045	Use different tools to secure mobile device
			CSL7046	Use and explore Authentication and access control mechanism
VII	CPP701	Project-I	CS9051	Identify the customer requirements and define problem.
			CS9052	Define objective, outcomes and scope of the project.
			CS9053	Design different modules of the system and identify tools and techniques required to implement the modules.
			CS9054	Implement the proposed design partly and present the work done effectively group wise.