VAAGDEVI COLLEGE OF ENGINEERING

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Bollikunta, Khila Warangal (Mandal), Warangal Urban-506 005 (T.S), www.vaagdevi.edu.in

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

VISION OF THE DEPARTMENT

- Producing professionals and entrepreneurs with strong morals and ethics by strengthening students with content and skills of emerging technologies in Computer Science and Engineering for our nation building.

MISSION OF THE DEPARTMENT

M1: To lay solid foundation to acquire skills in developing software by research and innovation.

M2: To impart leadership qualities in the fields of their choicest interest and produce socially responsible engineers in this digitalized Society.

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

M.TECH COMPUTER NETWORKS AND INFORMATION SECURITY (CNIS)

PROGRAM EDUCATIONAL OBJECTIVES (PEO)

PEO-1: To create interest to pursue advanced studies in the areas of Computer Networks, Network Security, Cloud Computing and related disciplines.

PEO-2: To empower students by providing necessary knowledge base, critical thinking and problem solving capabilities in the field of Computer Networks , Information Security and allied fields so that they can excel in their professions.

PEO-3: To develop skills for employability in reputed Computer, IT, Government and Research organizations.

PEO-4: To encourage students to become entrepreneurs for serving the society.

M.TECH COMPUTER NETWORKS AND INFORMATION SECURITY (CNIS)

PROGRAM OUTCOMES (PO)

PO-1: Ability to independently carry out research/investigation and development work to solve practical problems.

PO- 2: Ability to write and present a substantial technical report/document.

PO-3: Able to demonstrate a degree of mastery over the area as per the specialization of the program. The mystery should be at higher level than the requirements in the appropriate bachelor program.

PO-4: Ability to involve in inter-disciplinary subjects and develop interest according to the needs of society and environment.

PO-5: Ability to secure society with innovative solutions for cyber crimes.

PROGRAM SPECIFIC OUTCOMES (PSO)

PSO-1: Students will acquire in-depth knowledge in field of Computer Networks and Information Security.

PSO-2: Students will be prepared to develop skills in finding solutions to prevent cyber crimes.

PSO-3: Students will be prepared to analyze the problems of society and involve in the development of secured networks.

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Course Outcomes for M.Tech – CNIS () for the year 2018-19

Course Outcome	Year/Semester I/I Sem	Subject Name (Subject Code) DATA STRUCTURES AND ALGORITHMS (M18CS01)	No.of Hours L:3 T:0 P:	Credits:3
After the completion of this course, the students should be able to				
1	Understand the basics of Algorithms and Analyze the performance and complexity of Algorithms			
2	Explain the concepts of basic data structures: Linear and Non Linear and compare how the storage and retrieval of data is done on these data structures.			
3	Gain knowledge about applications of data structures including creating, inserting, deleting, searching and sorting of data for each data structure.			
4	Distinguish between Trees and Graphs and the areas where best applicable.			
5	Decide an appropriate data structure for any specific problem.			
Course Outcome	Year / semester I/I Sem	Subject Name (Subject Code) **NETWORK PROGRAMMING(Core Course-II)** (M18CS11)	No.of Hours L: 3 T: 0 P:	Credits:3
After the completion of this course, the students should be able to				
1	Understand and acquire knowledge in Linux environment and its different utilities.			
2	Identify the different concepts of Files, Directory ,Process and Kernel Support for them .			
3	Demonstrate Inter Process Communication IPC between processes and FIFO's creation.			
4	Gain insight on Network IPC and Connection – Oriented , Connectionless communication			
5	Experiment with Network Programming in Java for the concepts of i) Single and multiple connections (using multithreaded server) ii) Remote Method Invocation (Java RMI)-Basic RMI Process Application.			
Course Outcome	Year / semester I/I Sem	Subject Name (Subject Code) **TCP/IP PROTOCOL SUITE** (PROGRAM ELECTIVE-I) (M18CN01)	No. of Hours L: 3 T: 0 P:0	Credits:3
After the completion of this course, the students should be able to				
1	Identify and differentiate the various TCP/IP protocol suites and explore the OSI Model.			
2	Analyze the functionalities of various protocols like Internet Protocol (IP), Internet Control Message Protocol (ICMP), Internet Group Management Protocol (IGMP).			
3	Analyze the functionalities of various protocols like User Datagram Protocol (UDP), Transmission Control Protocol (TCP) ; Routing Protocols (RIP)			
4	Differentiate between Rlogin and Telnet protocols for remote connections and execution of commands.			
5	Summarize the different File Transfer Protocols.			

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Course	Year / semester	Subject Name (Subject Code)	No.of Hours	Credits: 3
		ANDROID APPLICATION		

Outcome	I/I Sem	**DEVELOPMENT** (PROGRAM ELECTIVE-I) (MS18CN02)	L: 3 T: 0 P: 0	
After the completion of this course, the students should be able to				
1	Understand the basics of Android Operating Systems and applicable devices.			
2	Demonstrate Android Operating System development framework and life cycle of Android Applications.			
3	Analyze the various components, layouts, fragments and Activities of an Android User Interface.			
4	Make use of SQLite (Android built in database implementation) to perform different operations like insert			
5	Gain a complete knowledge on advanced concepts like creating and using of alarms			

Course Outcome	Year / semester	Subject Name (Subject Code)	No.of Hours	Credits: 3
	I/I Sem	**INTERNET OF THINGS (IoT)** (PROGRAM ELECTIVE-I) (M18CS03)	L: 3 T: 0 P: 0	
After the completion of this course, the students should be able to				
1	Understand the basic Characteristics, Physical Design, Protocols and Communication Models of IoT.			
2	Acquire Knowledge on a. Domain Specific IoTs b. Application Areas of IoT c. M2M: Machine to Machine and IoT System Management			
3	Develop techniques using Python Scripting Language to solve problems of IoT			
4	Analyze IoT Physical Devices and Raspberry PI-Interfaces (serial, SPI, I2C)			
5	Illustrate IoT Physical Server and Web Server designing frameworks.			

Course Outcome	Year / semester	Subject Name (Subject Code)	No.of Hours	Credits: 3
	I/I Sem	**ETHICAL HACKING (PROGRAM ELECTIVE-II) (M18CN03)**	L: 3 T: 0 P: 0	
After the completion of this course, the students should be able to				
1	Gain Knowledge on Hacking Impacts, Hacker Framework and Vulnerability Analysis.			
2	Understand the different Information Security Models and Information Security programs.			
3	Analyze the system level and network level vulnerabilities which give a scope for hacking			
4	Develop techniques to solve the security risks that may arise due to hacking.			
5	Identify the appropriate technique of Ethical Hacking to solve any given security problem.			

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Course Outcome	Year / semester I/I Sem	Subject Name (Subject Code) SECURE SOFTWARE DESIGN (PROGRAM ELECTIVE-II) (M18CN04)	No.of Hours L: 3 T: 0 P: 0	Credits: 3
After the completion of this course, the students should be able to				
1	Understand the different threats to software security, Sources of software insecurity, and Benefits of Detecting Software Security.			
2	Acquire Knowledge on Requirements Engineering for secure software.			
3	Analyze the Architecture and Design principles, guidelines of Secure Software .			
4	Interpret the System Assembly Challenges like attacker perspectives for security and failures.			
5	Summarize the security requirements to decide which enterprise software security framework can be adopted.			
Course Outcome	Year / semester I/I Sem	Subject Name (Subject Code) DISTRIBUTED SYSTEM SECURITY (PROGRAM ELECTIVE-II) (M18CN05)	No.of Hours L: 3 T: 0 P: 0	Credits: 3
After the completion of this course, the students should be able to				
1	Compare the benefits of centralized system versus distributed systems and define the Architectural requirements for distributed environment.			
2	Formulate a case study on Inter Process Communication using Java RMI			
3	Analyze the concepts of Operating system architecture, File Service architecture, Name Services and the Domain Name System.			
4	Classify the cryptographic algorithms and identify which suits best for securing the distributed system.			
5	Design case study on Global Name Service, X.500 Directory Service and CORBA Services.			
Course Outcome	Year / semester I/I Sem	Subject Name (Subject Code) RESEARCH METHODOLOGY (AUDIT COURSE) (M18MC01)	No.of Hours L: 2 T: 0 P: 0	Credits:2
After the completion of this course, the students should be able to				
1	Acquire knowledge on Research Design and statistical methods in research.			
2	Analyze the various methods in Data Collection, Data Organization and different approaches of Data Representation.			
3	Understand all the basic concepts required to prepare a. Research synopsis b. Dissertation c. Writing a good research proposal			
4	Understand the Process of Patent and Copyrights in Research.			
5	Interpret the Scope of Patent Rights and Administration of Patent System.			
Course Outcome	Year / semester I/I Sem	Subject Name (Subject Code) ENGLISH FOR RESEARCH PAPER WRITING (Audit Course-I) (M18AC01)	No.of Hours L: 2 T: 0 P:	Credits: 2

After the completion of this course, the students should be able to				
1	Obtain complete knowledge on Definition of a research paper, Purpose of writing any research paper , its Scope and Benefits.			
2	Understand the standard English formats .for scripting the best research paper.			
3	Analyze all the Qualitative and Quantitative Research Methodologies and the ethics of plagiarism.			
4	Explain the detailed process of writing and publishing any research paper and perform a case study on paper writing.			
5	Gain knowledge about National and International Journals and Publications.			
Course Outcome	**Year / semester I/I Sem**	**Subject Name (Subject Code) COMPUTER NETWORKS AND NETWORK PROGRAMMING LAB (LABORATORY-I)(M18CN06)**	**No.of Hours L: 0 T: 0 P: 4**	**Credits: 2**
After the completion of this course, the students should be able to				
1	Understand using shell scripts and apply for interactive file-handling shell program			
2	Make use of shell scripts for writing code for all basic programs like finding GCD, Factorial, generate multiplication table and design simple calculator.			
3	Practice Implementing UNIX commands using system calls in C .			
4	Develop client server programming in C using Unix Domain Sockets.			
Course Outcome	**Year / semester I/I Sem**	**Subject Name (Subject Code) INTERNET OF THINGS LAB(M18CN07)**	**No.of Hours L: 0 T: 0 P:4**	**Credits: 2**
After the completion of this course, the students should be able to				
1	Demonstrate the starting of Raspberry Pi and practice Linux commands in command terminal window.			
2	Develop and run all basic python programs on Raspberry Pi			
3	Build real time applications on Light an LED using Python programming			
4	Experiment with implementation of intruder system and various sensors like temperature, humidity, smoke.			
Course Outcome	**Year / semester I/I Sem**	**Subject Name (Subject Code) TCP/IP Protocol suit Lab(M18CN07)**	**No.of Hours L: 0 T: 0 P:4**	**Credits: 2**
After the completion of this course, the students should be able to				
1	Identify and differentiate the various TCP/IP protocol suites and explore the OSI Model.			
2	Understand the major technologies like IP Addressing, Sub netting , Super netting and Routing of IP Packets.			
3	Differentiate between Rlogin and Telnet protocols for remote connections and execution of commands.			
4	Summarize the different File Transfer Protocols.			
Course Outcome	**Year / semester 2 I/I Sem**	**Subject Name (Subject Code) No. of Android Application Development**	**Hours L: 0 T: 0 P:4**	**Credits:**

	Lab (M18CN07)
After the completion of this course, the students should be able to	
1	Demonstrate Android Operating System development framework and life cycle of Android Applications
2	1. Perform Experiments on a. Using intents to launch Activities, dial a number or to send SMS. b. Creating and Displaying notifications, Toasts.
3	Make use of SQLite (Android built in database implementation) to perform different operations like insert, delete, retrieve and update on databases.
4	Gain a complete knowledge on advanced concepts like creating and using of alarms, finding and showing locations on maps and updating location.

Course Outcome	**Year / semester I/II Sem**	**Subject Name (Subject Code) NETWORK SECURITY (M18CN08)**	**No. of Hours L: 3 T: 0 P:0**	**Credits: 3**

1	Gain a complete knowledge on types of security attacks, services and mechanisms.			
2	Demonstrate the Conventional Encryption Principles..			
3	Demonstrate the Public key cryptography principles and Digital signatures Certificates.			
4	Take up projects on Email privacy system and compare Pretty Good Privacy (PGP) and S/MIME.			
5	Build a model of Firewall and test the security issues			
Course Outcome	**Year / semester I/II Sem**	**Subject Name (Subject Code) WIRELESS NETWORKS (CORE COURSE – V) (M18CN09)**	**No.of Hours L: 3 T: 0 P: 0**	**Credits3**
After the completion of this course, the students should be able to				
1	Identify the importance and advantage of a wireless network over the wired network			
2	Understand the architecture and different layers of wireless Local Area Network(LAN), PAN's and MAN's.			
3	Acquire knowledge in physical, data link ,network and transport layer of wireless internet networking models.			
4	Classify the network and routing protocols for AD-HOC Wireless Network			
5	Compare the applications of wireless sensor networks with MANET with respect to design challenges.			
Course Outcome	**Year / semester I/II Sem**	**Subject Name (Subject Code) DIGITAL WATERMARKING AND STEGANOGRAPHY(PROGRAM ELECTIVE-III) (M18CN10)**	**No.of Hours L: 3 T: 0 P: 0**	**Credits: 3**

After the completion of this course, the students should be able to				
1	Understand the importance of information hiding and analyze the methods of steganography and watermarking.			
2	Explain the different watermarking models and how they can be used for message coding.			
3	Classify the Perceptual Models and compare the Robust watermarking approaches.			
4	Determine the various Security & Authentication issues related to watermarking model.			
5	Understand the different steganography techniques and their applications for information security.			
Course Outcome	**Year / semester I/II Sem**	**Subject Name (Subject Code) SECURITY THREATS (PROGRAM ELECTIVE-III) (M18CN11)**	**No.of Hours L: 3 T: 0 P: 0**	**Credits: 3**
After the completion of this course, the students should be able to				
1	Gain a complete knowledge on Sources of security threats, vulnerabilities and consequences of threats.			
2	Identify system level, network level and server level security threats.			
3	Understand the threats on internet like Email threats, Web threats and how they lead to cyber crime.			
4	Interpret the several Authorization and Authentication methods like Firewalls, IDS,			

	Log Files, Honey Pots to handle security threats.			
5	Classify the different security models, trusted systems for physical and infra structure security.			
Course Outcome	**Year / semester I/II Sem**	**Subject Name (Subject Code) IT SECURITY METRICS (PROGRAM ELECTIVE-III) (M18CN14)**	**No.of Hours L: 3 T: 0 P: 0**	**Credits: 3**
After the completion of this course, the students should be able to				
1	Develop methods to design effective security metrics and determine if the metrics are good or not using the Goal-Question-Metric (GQM) paradigm.			
2	Perform a case study on the five step process for Designing the Security Measurement Project.			
3	Summarize the different security operations and process of Measuring Compliance and Conformance.			
4	Identify the parameters for measuring the security cost and value.			
5	Take up projects on security improvement programs and security process management.			
Course Outcome	**Year / semester I/II Sem**	**Subject Name (Subject Code) BIOMETRICS (PROGRAM ELECTIVE-IV) (M18CN13)**	**No.of Hours L: 3 T: 0 P: 0**	**Credits: 3**
After the completion of this course, the students should be able to				
1	Understand the history, types, architecture and Applications of Biometric System.			

2	Acquire advanced knowledge in Biological Biometrics like Face Recognition, Retina and Iris Biometrics.			
3	Identify the advantages and disadvantages of Using Vein Pattern of Palm, Fingerprint biometrics and Hand Geometry.			
4	Conduct a detailed survey on currently available biometric systems and Make a study on how Watermarking Techniques and Image Enhancement Techniques can be used in biometrics and identify the future scope.			
5	Implement practically any one of the biometric authentication system and Explore the different cryptography techniques which can improve the working of biometric systems.			
Course Outcome	**Year / semester I/II Sem**	**Subject Name (Subject Code) CYBER SECURITY (PROGRAM ELECTIVE– IV) (M18CN12)**	**No.of Hours L: 3 T: 0 P: 0**	**Credits: 3**
After the completion of this course, the students should be able to				
1	Understand the different kinds of security attacks, services and mechanisms.			
2	Define a internetwork security model and identify the TCP, UDP session hijacking.			
3	Identify and classify the different types of attacks and suggest appropriate conventional encryption algorithms to be applied.			
4	Gain complete knowledge in number system and areas of applications in public key cryptography algorithms.			
5	Interpret the importance of digital signatures, digital Certificates, Certificate Authority for electronic document transfer on internet.			
Course	**Year / semester**	**Subject Name (Subject Code) SECURITY ASSESMENTAND**	**No.of Hours**	**Credits: 3**

Outcome	**I/II Sem**	**RISK ANALYSIS (PROGRAM ELECTIVE-IV) (M18CN15)**	**L: 3 T: 0 P: 0**	
After the completion of this course, the students should be able to				
1	Understand the nature, types and attributes of information and its role in business information system.			
2	Classify and differentiate between the working of different information systems like TPC, MIS, DSS, EIS, and ES.			
3	Interpret all the phases of Systems Development Life Cycle and incorporate them in building a secure information system.			
4	Gain a complete knowledge about COBIT (Control Objectives for Information and Related Technologies) framework for information technology (IT) management and IT governance.			
5	Demonstrate performance and parallel testing on Concurrent Audit modules/Embedded audit modules of an information system.			
Course Outcome	**Year / semester I/II Sem**	**Subject Name (Subject Code) STRESS MANAGEMENT (AUDIT COURSE) (M18AC02)**	**No.of Hours L: 2 T: 0 P: 0**	**Credits: 0**

After the completion of this course, the students should be able to				
1	Maintain a stress awareness log. Include identification of causes, symptoms, and analysis of effects.			
2	Gather information on current stress management techniques and evaluate personal relevance.			
3	Practice specific techniques, track effectiveness, and revise to meet personal preferences.			
4	Create an adaptable stress management plan for academic success incorporating selected techniques.			
5	Analyze to improve the Self Development Skills.			
Course Outcome	**Year / semester I/II Sem**	**Subject Name (Subject Code) NETWORK SECURITY LAB(M18CN16)**	**No.of Hours L: 0 T: 0 P: 4**	**Credits: 2**
After the completion of this course, the students should be able to				
1	Implement Simplified DES Algorithm for encryption and decryption and also check how to break the DES coding.			
2	Apply the RSA the public key cryptography algorithm to transfer data securely across any network.			
3	Verify the correctness of the Email system using digital signatures by using a mail agent and also verify email authentication using S/MIME.			
4	Examine the working of Sniffers for network communication monitoring.			
Course Outcome	**Year /semester I/II Sem**	**Subject Name (Subject Code) SECURITY THREATS LAB (M18CN17)**	**No. of Hours L: 0 T: 0 P: 4**	**Credits: 2**
After the completion of this course, the students should be able to				
1	Understand and make use of tools like Ettercap tool for network protocol analysis and security auditing and Open Vulnerability Assessment System (VAS) for vulnerability scanning and management			
2	Demonstrate the working of working of Suricata the real time intrusion detection,			

	prevention and network security monitoring tool.			
3	Analyze the working of OSSIM- Open Source Security Information and Event Management (SIEM).			
4	Install and use Study Cuckoo Sandbox to classify different types of malicious files and websites in Windows, OS X, Lunix, and Android virtualized environments.			
Course Outcome	**Year /semester I/II Sem**	**Subject Name (Subject Code) Cyber security Lab (M18CN17)**	**No. of Hours L: 0 T: 0 P: 4**	**Credits: 2**
After the completion of this course, the students should be able to				
1	Understand the different kinds of security attacks, services and mechanisms.			
2	Identify and classify the different types of attacks and suggest appropriate conventional encryption algorithms to be applied.			
3	Gain complete knowledge in number system and areas of applications in public key cryptography algorithms			

4	Demonstrate IP ecurity architecture and explain h w Pretty Good Privacy (PGP) and S/MIME provide Email privacy. .			
Course Outcome	**Year /semester I/II Sem**	**Subject Name (Subject Code) Digital Watermarking and Stenography Lab (M18CN17)**	**No. of Hours L: 0 T: 0 P: 4**	**Credits: 2**
After the completion of this course, the students should be able to				
1	Understand the importance of information hiding and analyze the methods of steganography and watermarking.			
2	Explain the different watermarking models and how they can be used for message coding.			
3	Determine the various Security & Authentication issues related to watermarking model.			
4	Understand the different steganography techniques and their applications for information security.			
Course Outcome	**Year /semester I/II Sem**	**Subject Name (Subject Code) Mini Project (M18CN18)**	**No.of Hours L: 0 T: 0 P: 2**	**Credits: 2**
After the completion of this course, the students should be able to				
1	Perceive, plan and execute a mini project as an individual or in a team in development of mini project			
2	Prepare a technical report based on the Mini project.			
3	Develop effective communication skills for presentation of mini project related activities			
4	Demonstrate technical seminar based on the Mini Project work carried out.			
Course Outcome	**Year /semester I/III Sem**	**No.of Hours Subject Name (Subject Code) DATAWAREHOUSE AND DATAMINING (Program Elective-V) (M18CN19)**	**L: 3 T: 0 P:0**	**Credits:3**
After the completion of this course, the students should be able to				
1	Understand the need of Data warehouse for storage and data mining for knowledge discovery.			
2	Explain the different data pre-processing methods and why they are necessary and how they improve the quality of data mining results.			
3	Understand the Association Rule Mining Techniques			
4	Gain knowledge on different data mining algorithms, Association rules, Classifications and prediction and cluster analysis.			
5	Apply appropriate data mining techniques to solve real world problems.			

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Course Outcome	Year / semester I/III Sem	Subject Name (Subject Code) WEB SEARCH AND INFORMATION RETRIEVAL (Program Elective-V) (M18CN20)	No. of Hours L: 3 T: 0 P:0	Credits:3
After the completion of this course, the students should be able to				
1	Understand the importance of Search Engines for Information Retrieval.			
2	Acquire knowledge on Basic Building Blocks of any search engine and how they really work for retrieving the required information.			
3	Analyze the importance of Crawls and Feeds and their nature of work and also the importance of removing noise to improve the search process.			
4	Demonstrate the different Ranking and Indexing techniques followed by the search engines and also identify the different interfaces supported.			
5	Relate the web search with the social search and meta search using Bag of Words.			
Course Outcome	Year / semester I/III Sem	Subject Name (Subject Code) DATABASE SECURITYAND ACCESS CONTROL(PROGRAM ELECTIVE- V) (M18CN21)	No.of Hours L:3 T:0 P:0	Credits:3
1	Gain complete knowledge on database security problems and make a study on level security models.			
2	Understand the concepts of User Identification/Authentication and trusted computer systems in level 2 security models.			
3	Classify the different design issues related to a. Security Software and Secure Operating System b. Secure DBMS and Security Packages c. Statistical Database Protection & Intrusion Detection Systems			
4	Interpret the IDES, RETISS and ASES System Discovery.			
5	Analyze the Orion Model , ajodia and Kogan's Model under the level 2 models for database systems protection.			
Course Outcome	Year / semester I/III Sem	Subject Name (Subject Code) ADVANCED OPTIMIZATION TECHNIQUES (OPEN ELECTIVE) (M18MA01)	No.of Hours L: 3 T: 0 P: 0	Credits: 3
After the completion of this course, the students should be able to				
1	Describe problem clearly, identify and analyze the individual functions.			
2	Analyze study on solving optimization problem.			
3	Translate verbal formula on optimization problem.			
4	Design algorithms, reliably to find an approximate solution.			
5	Discovery, study, understand and solve optimization techniques using algorithms.			
Course Outcome	Year / semester I/III Sem	Subject Name (Subject Code) WASTE MANAGEMENT (OPEN ELECTIVE) (M18SE27)	No.of Hours L: 3 T: 0 P: 0	Credits: 3
After the completion of this course, the students should be able to				
1	Evaluate the subject from the technical, legal and economical points .			

2	Learn solid waste management.			
3	Describe environment for sound management.			
4	Understand a municipal solid waste management system.			
5	Plan a solid waste management system for decision makers.			
Course Outcome	**Year / semester I/III Sem**	**Subject Name (Subject Code) EMBEDDED SYSTEM DESIGN (OPEN ELECTIVE)**(M18VL07)	**No.of Hours L: 3 T: 0 P: 0**	**Credits: 3**
After the completion of this course, the students should be able to				
1	Explain the different embedded system design techniques and the metrics or challenges in designing them.			
2	Understand the complete architecture of 8051 and Advanced Processor.			
3	Demonstrate Software programming in Assembly language and High Level Language.			
4	Classify the different Real Time Operating System (RTOS), RTOS Vx Works, Windows CE.			
5	Understand the Embedded Software Development Process and Tools.			
Course Outcome	**Year / semester I/III Sem**	**Subject Name (Subject Code)** DISSERTATION PHASE-I(M18CN22)	**No.of Hours L: 0T: 0 P:20**	**Credits:10**
After the completion of this course, the students should be able to				
1	Define the problem.			
2	Find a problem.			
3	Motivate the team.			
4	Discuss with team and theoretical concepts			
5	Demonstrate the requirements			
6	Integrate the ideas			
7	Choose appropriate methodology			
8	Infer different hypothesis and questions			
Course Outcome	**Year / semester I/IV Sem**	**Subject Name (Subject Code)** DISSERTATION PHASE-II(M18CS23)	**No.of Hours L: 0T: 0 P:32**	**Credits:16**
After the completion of this course, the students should be able to				
1.	Communicate it clearly			
2.	Summarize the background literature			
3.	Outline the various research methods.			
4.	Propose a solution to the problem.			
5.	Apply the methods according to the needs.			
6.	Select and collect the data.			
7.	Conduct the response ethically			
8.	Analyze the empirical data.			

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