

PG DEPARTMENT OF COMPUTER SCIENCE (SF)

M. Sc. COMPUTER SCIENCE

BATCH 2019-2021

NGM COLLEGE

VISION

Our dream is to make the College an institution of excellence at the national level by imparting quality education of global standards to make students academically superior, socially committed, ethically strong, spiritually evolved and culturally rich citizens to contribute to the holistic development of the self and society.

MISSION

Training students to become role models in academic arena by strengthening infrastructure, upgrading curriculum, developing faculty, augmenting extension services and imparting quality education through an enlightened management and committed faculty who ensure knowledge transfer, instill research aptitude and infuse ethical and cultural values to transform students into disciplined citizens in order to improve quality of life.

PG DEPARTMENT OF COMPUTER SCIENCE

VISION

Exploring innovative approaches to enhance learning opportunities through the integration of technology and to develop more responsive strategies for adapting curriculum and changing demands in the Computing Profession.

MISSION

To provide strong theoretical foundation complemented with extensive practical training. Provide a learning ambience to enhance innovations, problem solving skills, leadership qualities, team spirit, and ethical responsibilities

Programme Outcomes

PO1. Develop core competence in computer science and prepare the students to take up a career in the IT industry as well as in research and development.

PO2. Ability to inculcate various thrust areas of computer science with sound knowledge of theory and hands-on practical skills.

Programme Specific Outcomes

PSO1: Ability to design, implement and evaluate a computer based systems, process, component or program to meet desired needs.

PSO2: Ability to analyze advantages and disadvantages of different computer science methods within professionally and academically complex areas to compete with new variants of acquired methods.

PSO3: Ability to employ in industry, government or entrepreneurial endeavors to demonstrate professional advancement through significant technical achievements and expanded leadership responsibilities.

PSO4: To provide foundation for research into the theory and practice of programming and design of computer based systems.

PSO5: To present knowledge, experience, reasoning methods and design and implementation techniques that are robust and forward looking.

Course: Angular JS - 19PCS313

CO1	To recollect the fundamental concepts of javascript
CO2	To get the idea about AngularJS framework and Model View Controller(MVC)
CO3	To deploy the programs using filters, modules, controllers and directives
CO4	To review the various services and server communications
CO5	To validate the forms by using model binding

Course: Digital Image Processing - 19PCS314

CO1	Get broad exposure and understanding of various applications of image processing in industry, medicine, and defense and other applications.
CO2	To be familiar with basic concepts of two-dimensional signal acquisition, sampling, and quantization
CO3	To implement the fundamental image enhancement algorithms such as histogram modification, contrast manipulation, and edge detection
CO4	To analyze programming skills in image compression, segmentation and restoration techniques.
CO5	To access MRI scanned digital images and process using MATLAB

Course: Internet of Things- 19PCS315

CO1	To remember web services to access/control IoT devices
CO2	To understand the portable IoT using Raspberry Pi
CO3	To deploy use of IoT application and connect to the cloud

CO4	To analyze various protocols for IoT
CO5	To evaluate Real World IoT Design Constraints, Industrial Automation in IoT.

Course: Programming Lab-VI: Angular JS- 19PCS316

CO1	To implement the programs for filters, modules, controllers and directives
CO2	To evaluate the applications by applying the services, routes and animations
CO3	To validate the forms by using model binding and events

Course: Programming Lab-VII : Digital Image Processing using MATLAB - 19PCS317

CO1	To implement the fundamental image enhancement algorithms such as histogram modification, contrast manipulation, and edge detection.
CO2	To analyze programming skills in image compression, segmentation and restoration techniques.
CO3	To access MATLAB tools for image processing

Course: ELECTIVE – II: Artificial Intelligence and Expert Systems- 19PCS3E1

CO1	To remember basic exposition to the goals and methods of Artificial Intelligence
CO2	To understand the various searching techniques, constraint satisfaction problem and example problems- game playing techniques.
CO3	To apply these techniques in applications which involve perception, reasoning and learning.
CO4	To analyze and design a real world problem for implementation and

	understand the dynamic behavior of a system.
CO5	To evaluate and design a real world problem for implementation and understand the dynamic behavior of a system

Course: ELECTIVE – II: Machine Learning- 19PCS3E2

CO1	To remember main areas of Machine Learning; supervised and unsupervised.
CO2	To understand a wide variety of learning algorithms.
CO3	To apply a variety of learning algorithms to data
CO4	To analyze how to perform evaluation of learning algorithms and model selection
CO5	To design and implement various machine learning algorithms in a wide range of real-world applications

Course: ELECTIVE – II: Embedded Systems- 19PCS3E3

CO1	To remember the differences between the general computing system and the embedded system, also recognize the classification of embedded systems.
CO2	To understand the RTOS and its programming aspects.
CO3	To apply the of design real time embedded systems using the concepts of RTOS
CO4	To Analyze various examples of embedded systems based on ATOM processor
CO5	To evaluate hardware fundamentals, interrupts, RTOS environment Basic design, embedded software Lifecycle, Software development tools.

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Course: Design & Analysis of Computer Algorithms - 20PCS101

CO1	To remember worst case running times of algorithms using asymptotic analysis
CO2	To understand divide-and-conquer paradigm, dynamic-programming paradigm, greedy paradigm and branch and bound strategies and apply them for the appropriate problems
CO3	To analyze major graph algorithms and to employ graphs to model engineering problems
CO4	To validate divide-and-conquer paradigm and explain when an algorithmic

	design situation calls for it. Recite algorithms that employ this paradigm
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Course: Internet of Things - 20PCS102

CO1	To remember web services to access/control IoT devices
CO2	To understand the portable IoT using Raspberry Pi
CO3	To deploy use of IoT application and connect to the cloud
CO4	To analyze various protocols for IoT
CO5	To evaluate Real World IoT Design Constraints, Industrial Automation in IoT.

Course: Advanced Database Management Systems- 20PCS103

CO1	To remember the underlying principles of Relational Database Management System.
CO2	To understand relational data model and ER with EER mapping
CO3	To deploy the concepts of various databases and its applications
CO4	To the design and implement various Databases with normalization
CO5	To evaluate and develop a database application system as part of a team

Course: Data Mining and Warehousing- 20PCS104

CO1	To remember the basic concepts of Data Mining and Data Warehouse Techniques
CO2	To get the idea of raw data to make it suitable for various data mining algorithms
CO3	To execute and measure interesting patterns from different kinds of databases

CO4	To analyze the techniques of clustering, classification, association finding, feature selection and visualization to real world data
CO5	To evaluate the performance of different data-mining algorithms

Course: Programming Lab-I: Design and Analysis of Algorithms & Advanced DBMS- 20PCS105

CO1	To implement appropriate data structure for given contextual problem
CO2	To analyze complexities of various data structure algorithms
CO3	To prove appropriate data structure is applied to specified problem definition

Course: Programming Lab –II: Internet of Things- 20PCS106

CO1	To implement IOT to different applications
CO2	To analyze the revolution of Internet in Mobile Devices, Cloud & Sensor Networks
CO3	To design IoT applications in different domain and be able to analyze their performance

Course: Advanced Java Programming - 20PCS207

CO1	To recollect different classes, constructors and methods of Swing components
CO2	To get an idea to construct an enterprise application using Java Beans
CO3	To deploy RMI programs for real world applications
CO4	To analyze session tracking using Session objects and Cookies
CO5	To validate server side java programs using Servlets and JSP

Course: Advanced Networks- 20PCS208

CO1	To recollect OSI and TCP/IP layers and their tasks. Interpret and explain physical, logical and port addresses
CO2	To comprehend Standard Ethernet and Mapping techniques
CO3	To deploy Logical addressing and discuss the format of Ipv4 and Ipv6 addresses
CO4	To analyze the problems and solutions associated with delivery and forwarding of packets
CO5	To present knowledge on Mobile IP, Client-Server interactions

Course: Cloud and Big Data Analytics - 20PCS209

CO1	To remember the fundamental concepts of big data
CO2	To understand the applications using Map Reduce Concepts
CO3	To deploy the concept of Virtualization and design of cloud Services
CO4	To analyze the big data using intelligent techniques
CO5	To present the broad perceptive of cloud architecture and model

Course: Programming Lab -III : Advanced Java Programming- 20PCS210

CO1	To implement server side validations with session and database using JDBC
CO2	To analyze web application using Servlet, Java Server Pages and RMI
CO3	To validate Swing component events in an application

Course: Programming Lab-IV: Networks- 20PCS211

CO1	To implement the features of Networks to design and deploy computer networks.
CO2	To analyze the various routing techniques helps the students to fix up the shortest path routes for packets in the network
CO3	To Understand the various routing techniques helps in analyzing and interpreting the quality of networks.

Course: ELECTIVE – I: Software Agents - 20PCS2E1

CO1	To remember the principles and fundamentals of designing agents
CO2	To understand the agent framework
CO3	To deploy the agents for assisting the users in day to day activities
CO4	To analyze the various issues in the security of agents
CO5	To validate the authentication for agents

Course: ELECTIVE- I: Computing Technologies -20PCS2E2

CO1	To understand the architecture and concept of different Cloud models SaaS, PaaS, Web Services and On-Demand Computing
CO2	To provide a strong fundamental concepts in the underlying principle of cloud virtualization , cloud storage, data management and data visualization
CO3	To implement various applications by utilizing cloud platforms such as Google AppEngine and Amazon's web services(AWS)
CO4	To analyze various Grid computing technologies such as OGSA and OGSI
CO5	To Create application by utilizing cloud platforms such as Google app Engine and Amazon Web Services

Course: ELECTIVE – I : Mobile Computing - 20PCS2E3

CO1	To remember the features and challenges of mobile devices, native app development frameworks, hybrid app development frameworks
CO2	To understand and select appropriate framework for developing applications based on the problem requirements
CO3	Apply the UI components, multimedia usage, location based services, data storage mechanisms for the given problem
CO4	Design an application based on the user requirements
CO5	Be able to apply problem solving approaches to work challenges and make decisions using sound engineering methodologies

Course: Non-Major Elective I: Multimedia Packages Lab- 20PCS2N1

CO1	To implement the concepts of Image segmentation and video segmentation
CO2	To analyze the concepts of Storage models and Access Techniques of Multimedia devices
CO3	To access Text, Audio Text and Audio tools

Course: Non-Major Elective I: Web Designing Lab - 20PCS2N2

CO1	To apply critical thinking skills to design and create websites
CO2	To analyze and write a well formed / valid XML document
CO3	To access and analyze website performance by interpreting analytics to measure site traffic, SEO, engagement, and activity on social media