



YENEPOYA

(DEEMED TO BE UNIVERSITY)

Recognized under Sec 3(A) of the UGC Act 1956

Accredited by NAAC with 'A' Grade

YENEPOYA INSTITUTE OF ARTS, SCIENCE, COMMERCE AND MANAGEMENT

PROGRAM OUTCOMES AND COURSE OUTCOMES

UNDERGRADUATE PROGRAM

BACHELOR OF COMPUTER APPLICATIONS

ATTESTED

Dr. Gangadhara Somayaji K.S.
Registrar
Yenepoya (Deemed to be University)
University Road, Deranakatte
Mangalore - 575 018, Karnataka

PROGRAM OUTCOME

UNDERGRADUATE PROGRAM

BCA (BIG DATA ANALYTICS AND CLOUD COMPUTING)

(K=Knowledge, S=Skill, A=Attitude)

- PO 1 Focuses on preparing student for roles pertaining to computer applications and IT industry (K)
- PO 2 To develop professional knowledge and skills in Computer system architecture, internet technologies, cloud computing, big data analytics, artificial intelligence, etc. by adopting learner centered pedagogical practices. (K,S)
- PO 3 To develop competency in students to pursue higher level programmes such as MCA, MBA, etc. (K,S)
- PO 4 To enhance employ ability and to be able to take up challenging job assignments. (K,S,A)
- PO 5 To develop the conceptual and practical skills of the students aimed at the intellectual pursuit of knowledge of Computer system architecture, internet technologies, cloud computing, big data analytics, artificial intelligence. (K,S)
- PO 6 To help understand methods and processes of information technology in every area of activity. (K,S)
- PO 7 To expose them to the areas of application of knowledge in business firms and industrial organizations. (K,S)
- PO 8 To enable them to acquire complete basic and intermediary practical knowledge of various computer science related subjects with the sole purpose of making them self-dependent and easily employable. (K,S,A)
- PO 9 To develop various real time applications using latest technologies and programming languages (K,S)
- PO 10 Demonstrate the ability to identify a business problem, isolate its key components, analyse and assess the salient issues, set appropriate criteria for decision making, and draw appropriate conclusions and implications for proposed solutions. (K,S,A)

ATTESTED



Dr. Gangadhara Somayaji K.S.
Registrar
Yenepoya (Deemed to be University)
University Road, Bengaluru
Mangalore - 575 018, Karnataka

COURSE OUTCOME
UNDERGRADUATE PROGRAM
BCA (BIG DATA ANALYTICS AND CLOUD COMPUTING)

SEMESTER I

Programming Fundamentals Using C++

Name of CO	Description
CO 1	Understand concepts of objects and their significance in real world
CO 2	Investigate software problem in terms of objects and entities
CO 3	Learn to co-relate relationship among different entities involved in a system
CO 4	Develop software in terms of objects, associations, and integrity constraints

Computer System Architecture

Name of CO	Description
CO 1	Ability to understand basic structure of computer.
CO 2	Ability to perform computer arithmetic operations.
CO 3	Ability to understand control unit operations.
CO 4	Ability to understand the concept of cache mapping techniques and I/O

English Communications

Name of CO	Description
CO 1	Ability to understand and improve the communication skill.
CO 2	To know the barriers of communication.
CO 3	Ability enhance reading and writing skills.
CO 4	Ability to improve public speaking and presentaion skills

Hindi

Name of CO	Description
CO 1	Students learn about Hindi letters, use of words , framing sentences and try to make use of correct Hindi language

ATTESTED



Dr. Gangadhara Somayaji K.S.
Registrar
Yenepoya (Deemed to be University)
University Road, Doralakatte
Mangalore - 575 018, Karnataka

- CO 2 Students learn the official and unofficial usage of hindi language orally
- CO 3 To acquire skills in reading , writing , comprehension and communication
- CO 4 Students also acquire the skills of Hindi typing

Kannada

Name of CO	Description
CO 1	Students learn about Kannada letters, use of words , framing sentences and try to make use of correct Kannada language
CO 2	Students learn the official and unofficial usage of Kannada language orally
CO 3	To acquire skills in reading , writing , comprehension and communication
CO 4	Students also acquire the skills of Kannada typing

Soft Skills

Name of CO	Description
CO 1	Honing the communication skills of the student to meet the changing and challenging demands of modern professional environment
CO 2	Reinforcing presentation skills and professionalism
CO 3	Building a strong base for good interpersonal relationship and communication skills
CO 4	Creating awareness about all areas of multiple intelligences

SEMESTER II

Data Structure

Name of CO	Description
CO 1	Acquire knowledge of various types of data structures, operations and algorithms, Sorting and searching operations
CO 2	Analyze the performance of Stack, Queue, Lists, Trees, Hashing, Searching and Sorting techniques
CO 3	Implement all the applications of Data structures in a high-level language
CO 4	Design and apply appropriate data structures for solving computing problems and develop Algorithms using iterative/recursive approach

Programming in Java

Name of CO	Description
CO 1	Ability to write, compile and execute Java programs
CO 2	Ability to build robust applications using Java's object-oriented features
CO 3	Ability to create robust applications using Java class libraries and to develop platform-independent GUIs
CO 4	Ability to read and write data using Java streams and Ability to retrieve data from a relational database with JDBC

ATTESTED


Environmental Science

Name of CO	Description
CO 1	Gaining in-depth knowledge on natural processes that sustain life and govern economy.
CO 2	Predicting the consequences of human actions on the web of life, global economy and quality of human life.
CO 3	Developing critical thinking for shaping strategies (scientific, social, economic and legal) for environmental protection and conservation of biodiversity, social equity and sustainable development.
CO 4	Acquiring values and attitudes towards understanding complex environmental-economic-social challenges, and participating actively in solving current environmental problems and preventing the future ones.

Statistical Techniques With 'R'

Name of CO	Description
CO 1	Select appropriate statistical techniques for summarizing and displaying data and analyze and draw inferences from data using appropriate statistical methods.
CO 2	Analyze the dispersion in the data and draw inference.
CO 3	Understand the concept of a frequency distribution for sample data, and be able to summarize the distribution by diagrams and statistics.
CO 4	Understand correlation and regression, and be able to make predictions and understand their limitations.

SEMESTER III

Database Management System

Name of CO	Description
CO 1	Able to master the basic concepts and understand the applications of database systems and able to construct an Entity-Relationship (E-R) model from specifications and to transform to relational model.
CO 2	Able to construct unary/binary/set/aggregate queries in Relational Algebra and Understand and apply database normalization principles.
CO 3	Able to construct SQL queries to perform CRUD operations on database. (Create, Retrieve, Update, Delete)
CO 4	Understand principles of database transaction management, database recovery, security.

ATTESTED



Object Oriented Analysis

Name of CO	Description
CO 1	Acquire knowledge of basic UML Concepts and terminologies, Life Cycle of Object oriented Development, Modeling Concepts
CO 2	Identify the basic principles of Software modeling and apply them in real world applications
CO 3	Produce conceptual models for solving operational problems in software and IT environment using UML
CO 4	Analyze the development of Object Oriented Software models in terms of Static behaviour, Dynamic behaviour and evaluate and implement various Design patterns

Operating System and Computer Networks

Name of CO	Description
CO 1	Understand the Basics of Computer and Operating Systems Structure
CO 2	Realize the concept of Process Management and Mutual Execution
CO 3	Understand the concepts of the Deadlock and different approaches to memory management
CO 4	Learn the concepts of file system and understand the concepts of Computer Security

Research Methodology

Name of CO	Description
CO 1	Provide an overview of the research process and to familiarize the methods and techniques of research
CO 2	State clearly their research problem and associated research questions arising, including both descriptive and either explanatory or exploratory questions
CO 3	Conduct a literature review of the concepts comprising the research questions and Set out the main elements of a potential research instrument for testing the hypotheses
CO 4	Distinguish between quantitative and qualitative approaches and methods and to enhance the student in designing research report

Web Application Developments

Name of CO	Description
CO 1	To able to develop websites and web based projects

ATTESTED


- CO 2 To be employed on entry-level jobs of PHP based web development in software industry
- CO 3 To develop interactive and dynamic website

SEMESTER IV

Software Engineering

Name of CO	Description
CO 1	Plan and deliver an effective software engineering process, based on development lifecycle models
CO 2	Employ group working skills including general organization, planning and time management and negotiation
CO 3	Capture, document and analyse requirements
CO 4	Translate a requirements specification into an implementable design, a structured and organised process
CO 5	Make effective use of UML, along with design strategies such as defining a software architecture, separation of concerns and design patterns
CO 6	Formulate a testing strategy for a software system, employing techniques such as unit testing, test driven development and functional testing
CO 7	Evaluate the quality of the requirements, analysis and design work done during the module

Mobile Application Development Using Android

Name of CO	Description
CO 1	To define mobile computing and the types of mobile devices
CO 2	To understand the development environments, Architectures and programming paradigms of Windows, Android and iOS devices. & To understand user interface design considerations
CO 3	To develop an understanding of how to design, implement, and debug/test applications for mobile devices
CO 4	To exploit the many capabilities of modern mobile devices to produce creative solutions to everyday challenges
CO 5	Independently manage all phases of mobile project development
CO 6	Develop mobile applications using modern mobile development tools for either the Android
CO 7	Develop applications that effectively combine mobile device capabilities such as communication, computing, and particularly sensing

ATTESTED



Data Warehousing and Mining

Name of CO	Description
CO 1	Examine the types of the data to be mined and present a general classification of tasks and primitives to integrate a data mining system.
CO 2	Apply pre-processing statistical methods for any given raw data
CO 3	Discover interesting patterns from large amounts of data to analyze and extract patterns to solve problems, make predictions of outcomes
CO 4	Comprehend the roles that data mining plays in various fields and manipulate different data mining techniques
CO 5	Select and apply proper data mining algorithms to build analytical applications
CO 6	Evaluate and implement a wide range of emerging and newly-adopted methodologies and technologies to facilitate the knowledge discovery

Entrepreneurship

Name of CO	Description
CO 1	Have the ability to discern distinct entrepreneurial traits
CO 2	Know the parameters to assess opportunities and constraints for new business ideas
CO 3	Understand the systematic process to select and screen a business idea
CO 4	Design strategies for successful implementation of ideas
CO 5	Write a business plan

SEMESTER V

Foundation of Big Data System

Name of CO	Description
CO 1	To gain knowledge about various search methods and visualization techniques.
CO 2	Ability to use various techniques for mining data stream
CO 3	Ability to use programming tools PIG & HIVE in Hadoop ecosystem.

Foundation of Data Analytics

Name of CO	Description
CO 1	To gain knowledge of optimizing business decisions and creating competitive advantage with Data analytics
CO 2	To explore the fundamental concepts of big data analytics

Cloud Computing

ATTESTED



Dr. Gangadhara Somayaji K.S.
Registrar
Yenepeya (Deemed to be University)
University Road, Deralakatte
Mangalore - 575 018, Karnataka

Name of CO	Description
CO 1	Understand the cloud computing delivery model and the enabling technologies
CO 2	Understand the cloud computing platforms, key technology drivers and cloud programming/software environments
CO 3	Identify the need for cloud computing model and compare various key enabling technologies
CO 4	Analyze and choose an appropriate programming environment for building cloud

Cryptography and Network Security

Name of CO	Description
CO 1	Ability to apply methods for authentication, access control, intrusion detection and prevention.
CO 2	Ability to identify and mitigate software security vulnerabilities in existing systems

Programming Using Python

Name of CO	Description
CO 1	Understand and comprehend the basics of python programming
CO 2	Apply knowledge in real time applications
CO 3	Understands about files and its applications

SEMESTER VI

Big Data Analytics With Hadoop

Name of CO	Description
CO 1	Ability to use business intelligence and analytics, which include the use of data, statistical and quantitative analysis, exploratory and predictive models, and evidence-based methods to inform business decisions and actions.
CO 2	To apply select data mining techniques to business decision-making situations

Artificial Intelligence

Name of CO	Description
CO 1	Ability to understand problem solving, reasoning, planning, natural language understanding, computer vision, automatic programming, machine learning, and so on
CO 2	Ability to realize the intelligent human behaviors on a computer

ATTESTED


Industry Academia Interactions

Name of CO	Description
CO 1	Speak confidently with any speakers of English, including native speakers
CO 2	Speak effortlessly in different contexts - informal and formal
CO 3	Think on feet even in difficult circumstances
CO 4	Hold interesting and meaningful conversations with others, including strangers, Listen to others with utmost attention

Processing Real Time Big Data

Name of CO	Description
CO 1	Understand the key issues in big data management and its associated applications in intelligent business and scientific computing
CO 2	Acquire fundamental enabling techniques and scalable algorithms like Hadoop, Map Reduce and NO SQL in big data analytics
CO 3	Interpret business models and scientific computing paradigms, and apply software tools for big data analytics
CO 4	Achieve adequate perspectives of big data analytics in various applications like recommender systems, social media applications etc

ATTESTED



Dr. Gangadhara Somayaji K.S.
Registrar
Yenepoya (Deemed to be University)
University Road, Orakatte
Mangalore - 575 016, Karnataka

Program Outcomes
Undergraduate Program
BCA (Cyber Forensics, Data Analytics and Cyber Security)

(K=Knowledge,S=Skill,A=Attitude)

PO	Description
PO1	Focuses on preparing student for roles pertaining to computer applications and IT industry (K, A)
PO2	To develop professional knowledge and skills in Computer system architecture, internet technologies, cloud computing, big data analytics, artificial intelligence, etc. by adopting learner centered pedagogical practices.(S,A)
PO3	To develop competency in students to pursue higher level programmers such as MCA, MBA, etc. (K,S)
PO4	To develop the conceptual and practical skills of the students aimed at the intellectual pursuit of knowledge of Computer system architecture, internet technologies, cloud computing, big data analytics, artificial intelligence. (K,S)
PO5	To develop the conceptual and practical skills of the students aimed at the intellectual pursuit of knowledge of Computer system architecture, internet technologies, cloud computing, big data analytics, artificial intelligence..(K,S)
PO6	To help understand methods and processes of information technology in every area of activity. (K,S)
PO7	To expose them to the areas of application of knowledge in business firms and industrial organizations..(K,S,A)
PO8	To enable them to acquire complete basic and intermediary practical knowledge of various computer science related subjects with the sole purpose of making them self-dependent and easily employable. (K,S,A)
PO9	To develop various real time applications using latest technologies and programming languages.(K,S,A)
PO10	Demonstrate the ability to identify a business problem, isolate its key components, analyze and assess the salient issues, set appropriate criteria for decision making, and draw appropriate conclusions and implications for proposed solutions.(K,S,A)

ATTESTED


Dr. Gangadhara Somayaji K.S.
Registrar
Yenepoya (Deemed to be University)
University Road, Doyalpatte
Mangalore - 575 018, Karnataka

Course Outcome
Undergraduate Program
BCA (Cyber Forensics, Data Analytics and Cyber Security)

SEMESTER I

	CO	Description
DC01CF-1C1 Fundamentals of Information Technology	CO1	Identify various devices and their working principles.
	CO2	Define various computer applications.
	CO3	Develop programming languages.
DC01CF-1C2 Computer System Architecture	CO1	Ability to understand basic structure of computer.
	CO2	Ability to perform computer arithmetic operations.
	CO3	Ability to understand control unit operations.
	CO4	Ability to understand the concept of cache mapping techniques and I/O.
DC01CF-1C3 Soft Skills & Business Communication	CO1	Honing the communication skills of the student to meet the changing and challenging demands of modern professional environment
	CO2	Reinforcing presentation skills and professionalism
	CO3	Building a strong base for good interpersonal relationship and communication skills.
	CO4	Creating awareness about all areas of multiple intelligences
DC01CF-1C4 Basic Mathematics & Statistics	CO1	To develop the skills of students in applying basic concepts in chosen topics of mathematics that are imperative for effective understanding of application oriented topics.
	CO2	To understand the basic concepts of matrices and know the importance of rank of matrix in data science.
	CO3	To know the importance of equation in data science models and its transformation.
	CO4	To understand the importance of differential calculus in estimation of linear models and to find the optimal values in minima and maxima.

ATTESTED


Dr. Gangadhara Somayaji K.S.
 Registrar
 Yenepoya (Deemed to be University)
 University Road, Doralakshhe
 Mangalore - 575 016, Karnataka

DC01CF-1C5
Social Responsibility and
Community Engagement

- CO1 Gain an understanding of rural life, culture and social realities
- CO 2 Develop a sense of empathy and bonds of mutuality with local community
- CO 3 Appreciate significant contributions of local communities to Indian society and economy.
- CO 4 Learn to value the local knowledge and wisdom of the community.

SEMESTER 2

DC01CF-2C1
Programming
Fundamentals Using
C++

- CO Description**
- CO1 Understand concepts of objects and their significance in real world.
 - CO2 Investigate software problem in terms of objects and entities
 - CO3 Learn to co-relate relationship among different entities involved in a system.
 - CO4 Develop software in terms of objects, associations, and integrity constraints.

DC01CF-2C2
Database Management
System

- CO1 Able to master the basic concepts and understand the applications of database systems and able to construct an Entity-Relationship (E-R) model from specifications and to Transform to relational model.
- CO2 Able to construct unary/binary/set/aggregate queries in Relational Algebra and Understand and apply database normalization principles.
- CO3 Able to construct SQL queries to perform CRUD Operations on database. (Create, Retrieve, Update, Delete)
- CO4 Understand principles of database transaction management, database recovery, security.

DC01CF-2C3
Environmental Studies

- CO1 Gaining in-depth knowledge on natural processes that sustain life and govern economy.
- CO2 Predicting the consequences of human actions on the web of life, global economy and quality of human life.
- CO3 Developing critical thinking for shaping strategies (scientific, social, economic and legal) for environmental protection and conservation of biodiversity, social equity and sustainable development.
- CO4 Acquiring values and attitudes towards understanding complex environmental economic-social challenges, and participating actively in solving current Environmental problems and preventing the future ones.

ATTESTED

Dr. Gangadhara Somayaji K.S.
 Registrar
 Yeneoysa (Deemed to be University)
 University Road, Dorabekatte
 Mangalore - 575 016, Karnataka

DC01CF-2C4 Statistical Techniques With 'R'	CO1	Select appropriate statistical techniques for summarizing and displaying data and analyze and draw inferences from data using appropriate statistical methods.
	CO2	Analyze the dispersion in the data and draw inference.
	CO3	Understand the concept of a frequency distribution for sample data, and be able to summarize the distribution by diagrams and statistics
	CO4	Understand correlation and regression, and be able to make predictions and understand their limitations.
DC01CF-2OE1 Trace evidences in crime scene investigation	CO1	The fundamental principles on which the science of fingerprinting is based.
	CO2	Fingerprints are the most infallible means of identification.
	CO3	The physical and chemical techniques of developing fingerprints on crime scene evidence.
	CO4	The significance of foot prints, Ballistics.
DC01CF-2OE2 Questioned Document Analysis	CO1	The fundamental principles on which the science of fingerprinting is based.
DC01CF-2OE3 Police Administration and Crime Investigative Agencies	CO1	The fundamental principles on which the science of fingerprinting is based.
	CO2	Fingerprints are the most infallible means of Identification.
	CO3	The physical and chemical techniques of Developing fingerprints on crime scene evidence.
	CO4	The significance of foot prints, Ballistics.
DC01CF-2OE4 Swayam	CO1	The fundamental principles on which the science of fingerprinting is based.
	CO2	Fingerprints are the most infallible means of Identification.
	CO3	The physical and chemical techniques of developing fingerprints on crime scene evidence.
	CO4	The significance of foot prints, Ballistics.

ATTESTED


Dr. Gangadhara Somayaji K.S.
Registrar
Yenepoya (Deemed to be University)
University Road, Cooralkatte
Mangalore - 575 012, Karnataka

SEMESTER 3

DC01CF-3C1	CO	Description
Introduction to Cyber Forensics & Cyber Laws	CO1	The student will be able to demonstrate foundational knowledge and skills in forensics
	CO2	The origin of computer forensics and the relationship between law enforcement
	CO3	Electronic evidence and the computing investigation process.
	CO4	To recognize the developing trends in Cyber law and the legislation impacting cyberspace in the current situation.
DC01CF-3C2	CO1	Acquire knowledge of various types of data structures, operations and algorithms, Sorting and searching operations
	CO2	Analyze the performance of Stack, Queue, Lists, Trees, Hashing, Searching and Sorting techniques
	CO3	Implement all the applications of Data structures in a high-level language
	CO4	Design and apply appropriate data structures for Solving computing problems and develop Algorithms Using iterative/recursive approach.
DC01CF-3C3	CO1	Understand the Basics of Computer and Operating Systems Structure.
	CO2	Realize the concept of Process Management and Mutual Execution.
	CO3	Understand the concepts of the Deadlock and different approaches to memory Management.
	CO4	Learn the concepts of file system and understand the concepts of Computer Security
DC01CF-3C4	CO1	Provide an overview of the research process and to familiarize the methods and techniques of research
	CO2	State clearly their research problem and associated research questions arising, including both descriptive and either explanatory or exploratory questions.
	CO3	Conduct a literature review of the concepts comprising the research questions and Set out the main elements of a potential research instrument for testing the hypotheses.
	CO4	Distinguish between quantitative and qualitative approaches and methods and to enhance the student in designing research report.


TESTED
b

Dr. Gangadhara Somayaji K.S.
Registrar
Yenepoya (Deemed to be University)
University Road, Deralakatte
Mangalore - 575 018, Karnataka

DC01CF-3C5 Web Application Developments	CO1	To able to develop websites and web based projects
	CO2	To be employed on entry-level jobs of PHP based web development in software industry
	CO3	To develop interactive and dynamic website

SEMESTER4

DC01CF-4C1 BCF 401 Software Engineering	CO	Description
	CO1	Plan and deliver an effective software engineering process, based on development lifecycle models
	CO2	Employ group working skills including general organization, planning and time management and negotiation
	CO3	Capture, document and analyze requirements
	CO4	Translate a requirements specification into an implementable design, a structured and organized process
	CO5	Make effective use of UML, along with design strategies such as defining a software architecture, separation of concerns and design patterns
	CO6	Formulate a testing strategy for a software system, employing techniques such as unit testing, test driven development and functional testing.
DC01CF-4C2 Biometric Security	CO7	Evaluate the quality of the requirements, analysis and design work done during the module.
	CO1	Understand and analyse biometric systems at the component level.
	CO2	Analyse and design basic biometric system applications.
	CO3	Identify the sociological and acceptance issues associated with the design and Implementation of biometric systems.
DC01CF-4C3 Programming in Java	CO4	Understand various Biometric security issues.
	CO1	Ability to write, compile and execute Java programs
	CO2	Ability to build robust applications using Java's object-oriented features


ATTESTED
 Dr. Gangadhara Somayaji K.S.
 Registrar
 Yenepoya (Deemed to be University)
 University Road, Lakshakatte
 Mangalore - 575 015, Karnataka

	CO3	Ability to create robust applications using Java class libraries and to develop platform-independent GUIs
	CO4	Ability to read and write data using Java streams and Ability to retrieve data from a relational database with JDBC.
DC01CF-4C4 Computer Networks	CO1	Ability to define the architectural principles of computer networking and compare different approaches to organizing networks.
	CO2	Explain key networking protocols and their hierarchical relationship in the context of a conceptual model such as the OSI and TCP/IP framework
	CO3	Identify core networking and infrastructure components and the roles they serve.
DC01CF-4C5 Entrepreneurship	CO1	Have the ability to discern distinct entrepreneurial traits
	CO2	Know the parameters to assess opportunities and constraints for new business idea
	CO3	Understand the systematic process to select and screen a business idea
	CO4	Design strategies for successful implementation of ideas
	CO5	Write a business plan.
DC01CF-4OE1 Forensic Photography and Voice Analysis	CO1	Learn how to take photography.
	CO2	Types of photography used in forensic science
	CO3	To prevent the occurrence of crime
	CO4	To punish the transgressors and the criminals
DC01CF-4OE2 Criminal Laws	CO1	Learn how to take photography.
	CO2	Types of photography used in forensic science
	CO3	To prevent the occurrence of crime
	CO4	To punish the transgressors and the criminals
DC01CF-4OE3 Security and Vigilance in Justice System	CO1	Learn how to take photography.
	CO2	Types of photography used in forensic science
	CO3	To prevent the occurrence of crime
	CO4	To punish the transgressors and the criminals
	CO1	Learn how to take photography.


ATTESTED

Dr. Gangadhara Somayaji K.S.
Registrar
Yenepoya (Deemed to be University)
University Road, Ooralakatte
Mangalore - 575 018, Karnataka

DC01CF-4OE4 Swayam Courses	CO2	Types of photography used in forensic science
	CO3	To prevent the occurrence of crime
	CO4	To punish the transgressors and the criminals

SEMESTER 5

DC01CF-5C1 Preserving and Recovering Digital Evidences	CO	Description
	CO1	It helps to recover, analyze, and preserve computer and related materials in such a manner that it helps the investigation agency to present them as evidence in a court of law.
	CO2	Designing procedures at a suspected crime scene which helps you to ensure that the digital evidence obtained is not corrupted.
DC01CF-5C2 Mobile & Wireless Security	CO1	The course will provide knowledge of information security technology and methods for communication systems that provide services for mobile users by wireless access networks
	CO2	Knowledge and understanding of security mechanisms and protocols in wireless communication networks.
	CO3	Knowledge about some of the models, design principles, mechanisms and solutions used in wireless network security to obtain authentication and key transport protocols.
DC01CF-5C3- Computer Security	CO1	To identify different types of authentication techniques.
	CO2	To understand and analyze different types of Computer viruses such as Trojan horse
DC01CF-5C4 Cryptography and Cyber Security	CO1	Understand and comprehend the basics of python programming
	CO2	Apply knowledge in real time applications
	CO3	Understands about files and its applications
DC01CF-5C5 - Data Analytics	CO1	Apply Python syntax and semantics and be fluent in the use Python flow control and functions.
	CO2	Create and run Python Programs using Lists, Dictionaries and handle File Systems.

ATTESTED

Dr. Gangadhara Somayaji K.S.
Registrar
Yenepoya (Deemed to be University)
University Road, Dhalakatte
Mangalore - 575 015, Karnataka

SEMESTER 6

DC01CF-6C1 - Security Threats & Vulnerabilities	CO	Description
	CO1	Learn how to protect information assets against threats and vulnerabilities, to which the organization's attack surface may be exposed
	CO2	Taken together, threats and vulnerabilities constitute information risk
DC01CF-6C2 – Ethical Hacking and Digital Forensics	CO1	Explain different types of AI Agents.
	CO2	Define various AI search algorithms (uninformed, informed, heuristic, constraint satisfaction, genetic algorithms.
	CO3	Examine the fundamentals of knowledge representation (logic-based, frame-based, semantic nets), inference and theorem proving
DC01CF-6C3 - Computer Forensics	CO1	To understand the basics about digital forensics.
	CO2	To understand about handling of digital crime scene.
	CO3	To understand about digital investigation and evidence.
	CO4	To apply digital forensics to networks for providing security.
DC01CF-6C4 – Project	CO1	A professional portfolio of projects and real experience with data analysis that will give you the necessary confidence to be successful as a Data Analyst.
	CO2	Simulates real problems to have students actively devise solutions.
	CO3	Creates learning opportunities based upon student interest and strengths.
	CO4	Encourages the mastery of technological tools.
DC01CF-6C5 Ethics in Information Technology and Computer Communication	CO1	To ensure the privacy and safety of the computer users.
	CO2	To helps people, use the computer in the right ways.
	CO3	To guarantee that the works that done by someone did not declare by other people

ATTESTED


Dr. Gangadhara Somayaji K.S.
Registrar
Yenepeya (Deemed to be University)
University Road, Daralakaite
Mangalore - 575 018, Karnataka