



Koneru Lakshmaiah Education Foundation

(Category -1, Deemed to be University estd. u/s. 3 of the UGC Act, 1956)

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Department of Computer Science and Applications

Program: BCA

Academic Year :2021-2022


Course Code	Course Title	Co.No.	Description of the Course Outcomes
20UC1101	Integrated Professional English	CO1	Understand the concepts of grammar to improve communication, reading, and writing skills
		CO2	Demonstrate required knowledge over Dos and Don'ts of speaking in the corporate context. Demonstrate ability to face formal situations / interactions.
		CO3	Understand the varieties of reading and comprehend the tone and style of the author. Skim and scan effectively and appreciate rhetorical devices
		CO4	Apply the concepts of writing to draft corporate letters, emails, and memos
21CA1104	Mathematics for Computer Science	CO1	Fundamental concept .Solve problems of matrices
		CO2	Formulate differential calculus, differentiation rules and identify a method for solving and interpreting the results.
		CO3	Formulate physical laws and relations mathematically in the form of second/higher order differential equations and identify a method for solving and interpreting the results.
		CO4	Formulate partial differential equations and identify method for solving PDE's
		CO5	Verify the solution of problems through MATLAB.

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21CA1101	Programming Solving Through Programming	CO1	Explain different concepts of C programming, used to create programs.
		CO2	Discuss about different data types and control structures
		CO3	Demonstrate the working of functions, arrays and pointers
		CO4	Identify the working of different file handling methods
		CO5	Develop programs using basic and advanced concepts of C language
21CA1205	Operating Systems	CO1	Discuss the working of an operating system, with its features, uses, and other functionalities.
		CO2	Describe process and storage management and how OS performs various functionalities
		CO3	Identify the purpose of different process synchronization and management methods
		CO4	Organize security and file system management in an operating system.
21Ca2109	Software Engineering	CO1	Discuss the need for following a well structured format for the development of software applications
		CO2	Illustrate how to reduce the complexity to transition from one phase in software development to another.
		CO3	Summarize different testing concepts
		CO4	Identify how to manage a software development project
21CA1102	Computer Organization & Architecture	CO1	Understand basic of computer and number system
		CO2	Understanding of Boolean Algebra and Logic gates
		CO3	Understanding of K Map 2
		CO4	Understanding of Combinational and Sequential Circuits 2
20UC1202	English Proficiency	CO1	Demonstrating different interpersonal skills for employability
		CO2	Distinguishing business essential skills
		CO3	Classifying social media and corporate communication skills
		CO4	Applying analytical thinking skills

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21UC0009	Ecology & Environment	CO1	Understand the importance of Environmental education and conservation of natural resources.
		CO2	Understand the importance of ecosystems and biodiversity.
		CO3	Apply the environmental science knowledge on solid waste management, disaster management and EIA process.
21CA1207	Object Oriented Programming Using Java	CO1	Discuss different object oriented concepts, features and its application through java.
		CO2	Apply the java concepts to create standalone desktop applications.
		CO3	Identify the different predefined classes and methods in packages
		CO4	Apply java concepts to create UI oriented applications, along with database manipulation.
		CO5	Develop applications using java concepts, swings and JDBC
21CA1206	Data Structures	CO1	Discuss various data structures and explain how they can be used for searching and sorting elements
		CO2	Identify the pros and cons of different searching and sorting algorithms
		CO3	Experiment with working of different data structures and their applications
		CO4	Summarize the working of linked lists, trees and graphs
		CO5	Develop programs to demonstrate the functionality of different data structures, sorting algorithms, searching algorithms.
21CA2111	Computer Networks	CO1	Discuss how to establish a connection among various devices. Explain the different networking concepts and devices that are used today for establishing connectivity.

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		CO2	Outline the functionalities of different network protocols
		CO3	Describe different WAN technologies, topologies and other basic networking concepts.
		CO4	Explain how to troubleshoot a network.
21UC0010	Universal Human Values & Professional Ethics	CO1	Understand and identify the basic aspiration of human beings
		CO2	Envisage the roadmap to fulfill the basic aspiration of human beings.
		CO3	Analyze the profession and his role in this existence.
21CA2110	Database Management System	CO1	Discuss the importance of creating and maintaining an error free database.
		CO2	Apply different SQL commands to manipulate a database
		CO3	Apply normalize a database
		CO4	Apply transaction concepts in a database
		CO5	Develop database tables and manipulate them using SQL queries
21CA2112	Web Development using Python	CO1	Understand basic programming skills in core Python
		CO2	Apply basic principles of Python programming language
		CO3	Implement database and GUI applications.
		CO4	Develop program Python applications
		CO5	Develop the skill of designing Graphical user Interfaces in Python
21CA1103	Essentials of Information Technology	CO1	Understand the architectural design of a computer, hardware peripherals and various concepts of Operating systems
		CO2	Understand Programming fundamentals Analyze User interface designs
		CO3	Understanding concepts and fundamentals of Computer networks.

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		CO4	Understanding Software attributes, Specifications and Software Requirement Specification Document
		CO5	Analyze and Explore data through Word Processing, Spreadsheet applications and Presentations
21CA1208	Mobile Application Development	CO1	Identify various concepts of mobile programming that make it unique from programming for other platforms
		CO2	Critique mobile applications on their design pros and cons
		CO3	Utilize rapid prototyping techniques to design and develop sophisticated mobile interfaces
		CO4	Program mobile applications for the Android operating system that use basic and advanced phone features
		CO5	Deploy applications to the Android marketplace for distribution.
21CA2213	Java Full Stack Development	CO1	Apply JDBC API and JUnit Testing Framework to build Console and Web Applications
		CO2	Understand the concepts of XML and Implement Servlets and JSP to build web applications. Implement Spring and Spring Boot Concepts with GraphQL to build Enterprise Level applications.
		CO3	Analyze the design of linear data structures for real world problems.
		CO4	Analyze alternate algorithm techniques to solve optimization related problems in the real-world scenario.
		CO5	Create real time applications using JAVA API
21CA2214	Object Oriented Analysis & Design	CO1	Have Knowledge in evolution and foundations of OO Model and its elements.

K. Laxman Kumar


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		CO2	Identify relationship between classes and objects.
		CO3	Know importance of classification and can identify classes and objects
		CO4	Knowledge in syntax and semantics of UML.
		CO5	Create real time applications using UML
21CA2115(PE1)	Cloud Architecture	CO 1	Understand the main concepts, key technologies, strengths and limitations of cloud computing.
		CO 2	Understanding the Cloud Architecture and infrastructure of cloud computing
		CO 3	Understanding the cloud services.
		CO 4	Will be able to understand and define the multi-tenant cloud architecture, its advantage and requirements.
		CO 5	Will be able to explain the core issues of cloud computing such as security and service management.
21CA2119(PE1)	DATA WAREHOUSING & MINING	CO1	Understand stages in building a Data Warehouse
		CO2	Apply pre processing techniques for data cleansing and Analyze multi-dimensional modelling techniques
		CO3	Analyze and evaluate performance of algorithms for Association Rules.
		CO4	Analyze Classification and Clustering algorithms
21CA2216(PE2)	Cloud Information Security	CO5	Evaluate mining techniques like classification, clustering and association rules on data objects
		CO 1	Explain importance of Information Security in the Cloud Context
		CO 2	Discuss various concepts of cloud security

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		CO 3	Develop the cloud vulnerabilities and threats
		CO 4	Identify how cloud and Security works in a seamless model
21CA2220(PE2)	Statistics For Data Science	CO1	Understand the basic concepts of statistics and explains the various methods of descriptive data collection and analysis
		CO2	Understand the probability distribution of a random variable, based on real-world situation, and use it to compute expectation and variance
		CO3	Construct the relationship between two variables and construct the linear and non-linear regression lines for the given data
		CO4	Apply basic concepts of statistics and explains the various methods of descriptive data collection and analysis
21CA3127(PE3)	Ethical Hacking	CO 1	Explain the concepts and types of Ethical Hacking
		CO 2	Using tools create hack in scenarios
		CO 3	Experiment with how to perform web hacking
		CO 4	Develop report writing and mitigation
		CO 5	Apply the concepts of ethical hacking using tools and techniques
21CA3130(PE3)	Big Data Analytics	CO1	To understand the basic concept of BigData, different types of Data
		CO2	To understand architecture of Hadoop and YARz
		CO3	To understand about Processing and Storage Layer of Hadoop, internal concept of MapReduce
		CO4	You will understand the concept of Master and Slave Architecture
		CO5	You will learn about cluster management using YARN

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21CA3228(PE4)	Cloud Web Services	CO 1	Understand the model of Cloud Computing As A Service
		CO 2	Understand the Networking Basics required for cloud services
		CO 3	Demonstrate the Control of workflow in cloud services
		CO 4	Explain the method of fault tolerance in cloud
		CO 5	Experiment with the cloud
21CA3229(PE5)	Design and Development of Cloud Application	CO 1	Understand the basic concept of hybrid cloud
		CO 2	Understand the management of hybrid cloud in terms of development and deployment
		CO 3	Plan the establishment of hybrid plan
		CO 4	Apply the usage of Azure as a platform for hybrid cloud
		CO 5	Create Applications using AWS cloud
21CA3232(PE5)	Machine Learning	CO1	To understand the basic concepts of statistical learning methods and models
		CO2	To understand the importance of supervised learning in classifying class labels for prediction
		CO3	To understand the different algorithms related to classification techniques
		CO4	To Understand the assumptions in estimating regression coefficients using OLS

K. Lakshmaiah
Academic Professor I/C

T. Soma
HOD-CSA

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