

Program Name **Bachelor of Computer Applications**

Course Name **C Programming**

Course Code **CA 3107**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Ent)/ None (Use , for more than One)
<b>CO1</b>	understand the concept of hardware , software, and programming languages- low level & high level and OOPs concept.	2	S
<b>CO2</b>	understand the fundamentals of C programming like data types, operator and its precedence, associativity formatted outputs etc.	2	S
<b>CO3</b>	understand and implement the concept of control flow and looping.	2	Emp
<b>CO4</b>	understand and implement the concept of functions and arrays.	3	Emp
<b>CO5</b>	understand and implement the concept of pointer structure and file handling and apply these for real world problems.	3	Em p

Course Name **Discrete Mathematics**

Course Code **CA 3102**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Ent)/ None (Use , for more than One)
<b>CO1</b>	Students should be able to understand the concepts of set along with proofs to prove equality in sets. Various operations on sets, Principle of inclusion and exclusion, and various properties of Relation.	2	S
<b>CO2</b>	Students should be able to understand propositions and then would be able to find out the validity of the argument.	2	Em p
<b>CO3</b>	Students should be able to get complete knowledge of number theory, induction and various operations on integers.	2	S
<b>CO4</b>	Students should be able to understand the concepts of Graphs, Trees and related theorems along with various related algorithms. They will also learn Relation concepts and properties	3	Em p

<b>CO5</b>	Students should be able to solve the problems of Permutation, Probability and Combination. They will learn the concepts of counting theory and techniques.	2	Em p
------------	--	---	------

Course Name **Human Values & Ethics**  
Course Code **PS 3101**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Ent)/ None (Use , for more than One)
<b>CO1</b>	Students should be able to understand the significance of value inputs in a classroom, distinguish between values and skills, understand the need, basic guidelines, content and process of value education, explore the meaning of happiness and prosperity and do a correct appraisal of the current scenario in the society	2	S
<b>CO2</b>	Students should be able to Distinguish between the Self and the Body, understand the meaning of Harmony in the Self the Co-existence of Self and Body.	2	S
<b>CO3</b>	Students should be able to understand the value of harmonious relationship based on trust, respect and other naturally acceptable feelings in human-human relationships and explore their role in ensuring a harmonious society.	3	Em p
<b>CO4</b>	Students should be able to understand the harmony in nature and existence, and work out their mutually fulfilling participation in the nature.	2	Em p
<b>CO5</b>	Students should be able to distinguish between ethical and unethical practices, and start working out the strategy to actualize a harmonious environment wherever they work.	2	S

Course Name **Open source software and Linux**  
Course Code **CA 3104**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Students should be able to use open-source software like Libre office	2	S

<b>CO2</b>	Students should be able to use various Linux command	2	Em p
<b>CO3</b>	Students should be able to use MS word software	2	S

Course Name **C Programming Lab**

Course Code **CA3144**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Students should be able to learn a programming language.	2	S
<b>CO2</b>	Students should be able to learn problem solving techniques.	3	Em p
<b>CO3</b>	Students should be able to write programs in C and to solve the problems.	2	Em p

Course Name **Open Source Software and Linux Lab**

Course Code **CA3143**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Students should be able to use open-source software like Libre office	2	S
<b>CO2</b>	Students should be able to use various Linux command	2	Em p
<b>CO3</b>	Students should be able to use MS word software	2	S

Course Name **Disaster Preparedness & Management**

Course Code **CE 3102**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Understand the basic concepts of disasters and its relationships with development.	2	S
<b>CO2</b>	Understand the approaches of Disaster Risk Reduction (DRR) and the relationship between vulnerability, disasters, disaster prevention and risk reduction.	2	S

<b>CO3</b>	Understand the Medical and Psycho-Social Response to Disasters.	2	S
<b>CO4</b>	Prevent and control Public Health consequences of Disasters.	2	S
<b>CO5</b>	Awareness of Disaster Risk Management institutional processes in India.	2	S

Course Name **Software Engineering**

Course Code **CA 3204**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Understand about Software Engineering and SDLC (Software development life cycle).	2	S
<b>CO2</b>	Understand about the SRS and Characteristics of SRS	2	S
<b>CO3</b>	Understand about various software designing techniques and implementation issues.	2	Em p
<b>CO4</b>	Understand about the different types of software testing techniques	3	Em p
<b>CO5</b>	Understand about the software maintenance	3	Em p

Course Name **Fundamentals of Data Structures**

Course Code **CA 3205**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Students should be able to explain the data structures and its various types. Different operations to be	2	S
<b>CO2</b>	Students should be able to explain and implement stacks and queues and their various operations .	2	Em p
<b>CO3</b>	Students should be able to explain and implement trees and its types with their traversals.	3	Em p
<b>CO4</b>	Students should be able to explain and implement graphs ,trees and also various graph matrices and understand the concept of graph traversals.	3	Em p
<b>CO5</b>	Students should be able to analyze and study various search algorithms.	3	Em p

Course Name **Data Structures Using Advance C Lab**

Course Code **CA 3244**



Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Students should be able to learn about data structures like array, stack, queues and linked list.	2	Emp
<b>CO2</b>	Students should be able to Learn about how to insertion, deletion and traversing operations on data structures.	3	Emp
<b>CO3</b>	Students should be able to Learn about how to Compare various searching and sorting techniques.	3	S

Course Name **United Nations Development Program**  
Course Code **HU 3202**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Students will learn about the Structure, Mission, Vision and Goals of UNDP	2	S
<b>CO2</b>	Equip the students with the knowledge of sustainable livelihoods for inclusive economic growth.	2	S
<b>CO3</b>	Students will learn and explore about the Human Development index to promote well being at all ages.	2	S
<b>CO4</b>	To impart better education on SDGs goals focusing on Gender Equality and Provide Access to Justice to All and Build Effective.	3	N
<b>CO5</b>	Students will develop knowledge regarding environment sustainability.	3	N

Course Name **Mathematics- II**  
Course Code **MA 3209**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Execute fundamental mathematical proofs and ability to verify.	2	S
<b>CO2</b>	Apply basic counting techniques to solve combinatorial problems.	2	Emp

<b>CO3</b>	Comprehend formal logical arguments and expression of mathematical properties formally via the formal language of propositional logic and predicate logic.	2	Emp
<b>CO4</b>	Analyse and manipulate basic mathematical objects such as sets, functions, and relations and will also be able to verify simple mathematical properties that these objects possess.	2	S
<b>CO5</b>	Formulate computer programs (e.g. recursive functions) using mathematical principle.	1	Emp

Course Name **Object Oriented Programming with Java**  
Course Code **CA 3209**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emp)/ None (Use , for more than One)
<b>CO1</b>	Explain how Java provides support for principles of object oriented-programming and the Java	2	S
<b>CO2</b>	Development Environment explanation	2	Emp
<b>CO3</b>	Explain the Java basic constructs and control structures and Packages	2	Emp
<b>CO4</b>	Design and develop application for information storage and exchange using input/output and sockets.	2	S
<b>CO5</b>	Build applications that have an event-driven graphical user interface using the standard Java libraries.	1	Emp

Course Name **Communicative English**  
Course Code **EG 3210**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emp)/ None (Use , for more than One)
<b>CO1</b>	Explain how Java provides support for principles of object oriented-programming and the Java	2	S
<b>CO2</b>	Development Environment explanation	2	Emp
<b>CO3</b>	Explain the Java basic constructs and control structures and Packages	2	Emp

<b>CO4</b>	Design and develop application for information storage and exchange using input/output and sockets.	2	S
<b>CO5</b>	Build applications that have an event-driven graphical user interface using the standard Java libraries.	1	Emp

Course Name **Foundation Course-CAP (Mobile Application)**

Course Code **CA 3211**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Explain the different concepts needed for the proper functioning of a mobile device.	2	S
<b>CO2</b>	Identify different types of applications, the importance of mobile operating system and features of the same.	2	Emp
<b>CO3</b>	Develop Simple Mobile Application using App inventor	2	Emp

#### Critical Thinking & Multi-Cultural

Course Name **Competencies.**

Course Code **CA 3213**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Recognize critical thinking as a process of identifying, analysing, evaluating, and constructing	2	S
<b>CO2</b>	reasoning in deciding what conclusions to draw	2	Emp
<b>CO3</b>	Demonstrate an increased ability to explain an issue or problem comprehensively	2	Emp
<b>CO4</b>	Illustrate an enhanced ability to employ evidence/information in conducting a comprehensive	2	S

#### Title: Object Oriented Programming with Java

Course Name **Lab**

Course Code **CA 3247**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Explain how Java provides support for principles of object oriented-programming and the Java Development Environment	2	S
<b>CO2</b>	Explain the Java basic constructs and control structures and Packages	2	Emp
<b>CO3</b>	Design and develop application for information storage and exchange using input/output and sockets.	2	S
<b>CO4</b>	Build applications that have an event-driven graphical user interface using the standard Java libraries.	1	Emp

Course Name **Disaster Preparedness & Management**  
Course Code **CE 3102**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Students should be able to understand the basics of Object- Oriented programming. Learn the programming basics of C++.	2	S
<b>CO2</b>	Students should be able to understand the concept of Classes, Objects, Polymorphism, Inheritance using C++.	2	Emp
<b>CO3</b>	Students should be able to understand the fundamentals of Arrays and Strings using C++.	2	Emp
<b>CO4</b>	Students should be able to understand and implement the concept of Inheritance using C++.	3	S
<b>CO5</b>	Students should be able to apply the concept of pointer and virtual function in complex programming situations.	3	Emp

Course Name **Object Oriented Programming Using C++**  
Course Code **CA3206**



Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Students should be able to understand the basics of Object- Oriented programming. Learn the programming basics of C++.	2	S
<b>CO2</b>	Students should be able to understand the concept of Classes, Objects, Polymorphism, Inheritance using C++.	2	Emp
<b>CO3</b>	Students should be able to understand the fundamentals of Arrays and Strings using C++.	2	Emp
<b>CO4</b>	Students should be able to understand and implement the concept of Inheritance using C++.	3	S
<b>CO5</b>	Students should be able to apply the concept of pointer and virtual function in complex programming situations.	3	Emp

Course Name **Object Oriented Programming Using C++ Lab**  
Course Code **CA 3243**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Student should be able to implement the concept of oops.	2	Em p
<b>CO2</b>	Student should be able to use class and object in c++.	3	Em p
<b>CO3</b>	Student should be able to test different strings for their comparison	3	S

Course Name **Hardware Maintenance Lab**  
Course Code **CA 3242**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Understand about the different hardware components of an computer and troubleshooting of computer.	2	S
<b>CO2</b>	Able to install different types of operating system and application software.	2	S

<b>CO3</b>	Understand about the SMPS, UPS , Motherboard etc.	2	S
------------	---	---	---

Course Name **Relational Database Management**  
Course Code **CA 3305**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Students should be able to understand about the database, database management system and comparison between DBMS and file oriented.	2	S
<b>CO2</b>	Students should be able to understand and design about RDBMS, EF Codd rules and mapping of ER diagrams.	2	Emp
<b>CO3</b>	Student should be able understand about database normalization and its working with SQL	2	Emp
<b>CO4</b>	Students should be able to understand about object modelling and database designing.	2	S
<b>CO5</b>	Students should be able to understand about transactions processing and various concurrency control techniques.	2	Emp

Course Name **Operating System**  
Course Code **CA 3304**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Understand about the operating system and types of operating system.	2	S
<b>CO2</b>	Understand the concepts of process management with various concurrency control techniques.	2	Emp
<b>CO3</b>	learn and implement the various CPU scheduling algo's and how dead lock occurs and how to preventit.	3	Em p
<b>CO4</b>	Understand the concepts and implementation of Memory management policies and virtual memory.	2	Em p
<b>CO5</b>	Understand the working of file management how data is stored into memory and how it will transmit from one side to another in computer system.	2	S

Course Name **Relational Database Management Lab**



Course Code **CA 3341**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	student should be able to write and execute DDL commands	3	S
<b>CO2</b>	student should be able to write and execute DML command	3	S
<b>CO3</b>	student should be able to write and execute DCL command	3	S

Course Name **Python Programming Lab**

Course Code **CA 3342**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	understand basic principles of Python programming language	2	S
<b>CO2</b>	Implement object oriented concepts	2	Em p
<b>CO3</b>	Implement database and GUI applications.	2	Em p

Course Name **Indian Knowledge System**

Course Code **HU 3201**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	The students will be able to understand the Indian Knowledge System such as historical development, sources and scope.	2	S
<b>CO2</b>	The students will be able to understand the vocabulary system of Indian knowledge system.	2	S
<b>CO3</b>	The students will be able to understand and apply the philosophical foundations and methods of IKS.	3	N
<b>CO4</b>	The students will be able to execute the case studies based on the Indian knowledge system.	3	N
<b>CO5</b>	The students will be able to understand the influence of Indian Knowledge System on world.	2	S

Course Name **Web Programming -CAP-II**  
Course Code **CA 3306**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Create a well-designed and well-formed, professional Website utilizing the most current standards and practices	2	Emp
<b>CO2</b>	Demonstrate knowledge in web technologies including HTML, XHTML, CSS, image-editing software, web authoring software, and client-side scripting	2	Ent
<b>CO3</b>	Create client-side scripts to add interactivity to Web pages	2	S
<b>CO4</b>	Analyze appropriate HTML, CSS, and JavaScript code from public repositories of open-source and free scripts that enhances the experience of site visitors.	3	Emp
<b>CO5</b>	Implement JavaScript code that works in all major browsers (including IE, Mozilla-based browsers such as Firefox, Opera, Konqueror, Safari, Chrome).	3	Emp

Course Name **Python Programming**  
Course Code **CA 3307**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Understand the core programming concepts of Python Programming Language.	2	S
<b>CO2</b>	Apply the Looping and condition statements in Python Programming Language	2	Emp
<b>CO3</b>	Analyze the different options in Data Management in Python Programming Language.	2	Emp
<b>CO4</b>	Evaluate the importance of data transformation and its need in Python Programming Language	2	S
<b>CO5</b>	Develop elementary to advanced statistical methods in Python Programming environment.	1	Emp

Course Name **Web Programming -CAP-II Lab**  
Course Code **CA 3343**



Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Create a well-designed and well-formed, professional Web site utilizing the most current standards and practices	2	Emp
<b>CO2</b>	Demonstrate knowledge in web technologies including HTML, XHTML, CSS, image-editing software, web authoring software, and client-side scripting	2	Emp
<b>CO3</b>	Create client-side scripts to add interactivity to Web pages	2	Emp

Course Name **Programming in Java**  
Course Code **CA 3301**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Student should be able to understand the basics of Java, JDK, JVM, JRE and get to understand the OOPs concepts.	2	S
<b>CO2</b>	Students should be able to create class, object, constructor, packages and polymorphism.	2	Emp
<b>CO3</b>	Students should be able to understand and implement the collection, framework, map, vector.	3	Emp
<b>CO4</b>	Students should be able to understand and implement exception handling and file handling.	3	Emp
<b>CO5</b>	Students should be able to understand Applet, AWT and Swing Programming.	2	S

Course Name **Digital Logic Fundamentals**  
Course Code **CA 3303**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
--------------------------	--------------	----------	---

<b>CO1</b>	Students should be able to understand various Fundamental of Digital Electronics like number systems, inter conversion and binary codes etc.	2	S
<b>CO2</b>	Students should be able to understand the Binary arithmetic ,significance of complements of number, logic gates and NAND NOR implementation	2	Emp
<b>CO3</b>	Students should be able to understand the workingof logic family and their comparison on the basis of power consumption, noise margin , fan in, fan out.	2	Emp
<b>CO4</b>	Students should be able to understand Boolean algebra Laws, solve k-Map for simplification of Boolean functions and implementation of POS and SOP simplification using logic gates.	2	S
<b>CO5</b>	Students should be able design various combinational circuits.	2	S

Course Name **Programming in Java Lab**  
Course Code **CA 3340**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	student should be able to write and execute basic programs of java	3	S
<b>CO2</b>	student should be able to write and execute program of threads	3	S
<b>CO3</b>	student should be able to write and execute basic program of applets	3	S

Course Name **Computer Networks**  
Course Code **CA 3401**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Students should be able to understand the fundamental concepts of computer networking. To master the concepts of protocols, network interfaces, and physical transmission media.	2	S

<b>CO2</b>	Students should be able to understand the terminology and concepts of the OSI reference model and the TCP/IP reference model. Study data link layer concepts, design issues, and protocols.	2	S
<b>CO3</b>	Students should be able to understand topological and routing strategies for an IP based networking infrastructure.	2	Emp
<b>CO4</b>	Students should be able to understand the transport layer services and protocols and gain knowledge about connection establishment and termination.	2	Emp
<b>CO5</b>	Students should be able to understand the use of cryptography and network security.	2	Emp

Course Name **Computer Organization**

Course Code **CA 3402**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Student should be able to understand about the fundamental organization of a computer system	2	S
<b>CO2</b>	Student should be able to understand about Processor Organization Aspects	2	S
<b>CO3</b>	Student should be able to understand about the Instruction flow and functionality of central processing unit.	2	S
<b>CO4</b>	Student should be able to understand about t Input- Output organization	2	S
<b>CO5</b>	The student should able to understand the memory organization components	2	S

Course Name **C# .Net**

Course Code **CA 3405**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Students should able to explain the web designing and life cycle concepts of ASP.Net	2	S
<b>CO2</b>	Students should able to implements GUI applications	3	Em p
<b>CO3</b>	Students should be able to implement the Master Page & Validation Controls programming with C#.	3	Em p

<b>CO4</b>	Students should be able to understand Multimedia and Graphics application with C#.	3	Em p
<b>CO5</b>	Students should be able for designing and developing database with SQL Server 2008.	2	S

Course Name **Computer Network Lab**

Course Code **CA 3440**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	students should be able to Understand computer network basics, IP addressing.	2	S
<b>CO2</b>	students should be able to Acquire knowledge of using simulators for different connections.	2	S
<b>CO3</b>	students should be able to learn about framing techniques.	2	S

Course Name **C# .Net Lab**

Course Code **CA 3442**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Students should be able to Learn about Graphical User Interface concept and its different controls.	2	S
<b>CO2</b>	Students should be able to Understand the different Validation control and master page designing.	2	S
<b>CO3</b>	Students should be able to Learn the database connectivity in detail and concept of array and structure.	2	S

Course Name **Interactive Web Application Development**

Course Code **CA 3406**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Understanding PHP Development Environment and code syntax.	2	Emp
<b>CO2</b>	Understanding different web related features.	2	Ent



<b>CO3</b>	Understanding advance concept OOPS, Database Handling and Ajax programming.	2	S
<b>CO4</b>	Applying Perl code including Control Statements, Arrays, Strings and I/O.	3	Emp
<b>CO5</b>	Applying advance programming concepts like Socket programming and CGI	4	Emp

Course Name **Android Application Development-CAP-III**

Course Code **CA 3407**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Explain Android development environment, Architecture and android components.	2	S
<b>CO2</b>	List and explain the different layouts, user interface elements.	2	Em p
<b>CO3</b>	Understand the android storage and data management techniques.	3	Em p

**Interactive Web Application Development Lab**

Course Name

Course Code **CA 3443**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Create a well-designed and well-formed, professional Web site utilizing the most current standards and practices	2	Emp
<b>CO2</b>	Demonstrate knowledge in web technologies including HTML, XHTML, CSS, image-editing software, web authoring software, and client-side scripting	2	Emp
<b>CO3</b>	Create client-side scripts to add interactivity to Web pages	2	Emp

Course Name **Android Application Development-CAP Lab**

Course Code **CA 3444**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Explain Android development environment, Architecture and android components.	2	S

<b>CO2</b>	List and explain the different layouts, user interface elements.	2	Emp
<b>CO3</b>	Understand the android storage and data management techniques.	3	Emp

Course Name **Web Technology**

Course Code **CA 3403**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Students should be able to understand the fundamentals of PHP.	2	S
<b>CO2</b>	Students should be able to understand various fundamentals of XML.	2	S
<b>CO3</b>	Students should be able to understand and implement the concept of Servlet with JDBC concept.	3	Emp
<b>CO4</b>	Students should be able to understand various fundamentals of JSP.	2	Emp
<b>CO5</b>	Students should be able to understand client side scripting concepts and its implementation.	2	Emp

Course Name **Web Technology Lab**

Course Code **CA 3441**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	students should be able to learn about web technology and gain the skills.	2	S
<b>CO2</b>	students should be able to gain the skills and project-based experience needed for entry into web application and development careers.	3	Emp
<b>CO3</b>	students should be able to develop a dynamic webpage.	3	Emp

Course Name **PHP and MYSQL Programming**

Course Code **CA 3501**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Students should be able to understand the concept of PHD, Decisions and Loop.	2	S
<b>CO2</b>	Students should be able to understand and implement the function from various perspectives in PHP.	2	Emp
<b>CO3</b>	Students should be able to understand the array and its implementation in PHP.	3	Emp
<b>CO4</b>	Students should be able to understand the concept of session, cookies and HTML forms and file directories.	2	S
<b>CO5</b>	Students should be able to understand and implement database connectivity with MySql and understand the concept of exception handling.	3	Emp

Course Name **Mobile Technology**  
Course Code **EE 3503**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Students should be able to understand the fundamentals of Basic Electronics and Mobile phone.	2	S
<b>CO2</b>	Students should be able to understand the hardware & materials of mobile handset.	2	S
<b>CO3</b>	Students should be able to Repair and Diagnose the general problems in Mobile Phone.	3	S
<b>CO4</b>	Students should be able to understand trouble shooting and jumpering techniques.	3	S
<b>CO5</b>	To understand the software application in mobile phone.	2	S

Course Name **MYSQL and PHP Programming Lab**  
Course Code **CA3543**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
--------------------------	--------------	----------	---

<b>CO1</b>	Student should be able to understand of HTML, CSS & JavaScript. Also, able to create website using HTML and CSS & JavaScript.	2	Emp
<b>CO2</b>	Students should be able to change content of web page using Ajax.	3	Emp
<b>CO3</b>	Students should be able to connect to database and insert data in database.	3	Emp

Course Name **Lab on Mobile Technology**  
Course Code **EE3547**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Student should be able to identify different types of mobile cell phones & their components	2	Emp
<b>CO2</b>	Students should be able to use the correct hardware tools to repair mobile cell phones	2	S
<b>CO3</b>	Students should be able to use the disassembling and assembling a mobile cell phone	2	S

Course Name **iOS Application Development CAP-IV**  
Course Code **CA3509**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Understand iOS App UI elements	2	Emp
<b>CO2</b>	Understand iOS App UI elements	2	Ent
<b>CO3</b>	Gain knowledge on how to publish Apps to the Apple App Store	2	S

Course Name **iOS Application Development CAP-IV Lab**  
Course Code **CA3545**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Explain Xcode setup ios application Navigation	2	Emp
<b>CO2</b>	Understand iOS App UI elements	2	Emp
<b>CO3</b>	Gain knowledge on how to publish Apps to the Apple App Store	2	Emp

Course Name **Advanced Python Lab**  
Course Code **CA3544**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Students should be able to Write, Test and Debug Python Programs	2	S
<b>CO2</b>	Students should be able to Implement Conditionals and Loops for Python Programs	3	S
<b>CO3</b>	Students should be able to Use functions and represent Compound data using Lists, Tuples and Dictionaries	3	Em p

Course Name **Intelligent Data Analytics**  
Course Code **CA3601**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Students should be able to identify Big Data and business Implications along with different data categorization and Multidimensional Data Model.	2	S
<b>CO2</b>	Students should be able to understand and analyze Data Analysis Techniques with Level of Measurement & Data Management and Indexing	2	S
<b>CO3</b>	Students should be able to learn and demonstrate various Basic Statistical Analysis Techniques.	3	S
<b>CO4</b>	Students should be able to learn and analyze Data Analysis Technique using Machine Learning.	3	S
<b>CO5</b>	In this students should be able to learn about HDFS Concepts and Interfacing with HDFS & Role of Prescriptive Analytics	2	S

Course Name **Application Testing**  
Course Code **CA3608**



Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	This course is designed to enable a clear understanding and knowledge of the foundations, techniques, and tools in the area of software testing and its practice in the industry.	2	S
<b>CO2</b>	The course will prepare students to be leaders in software testing. Whether you are a developer or a tester, you must test software.	2	Emp
<b>CO3</b>	This course is a unique opportunity to learn strengths and weaknesses of a variety of software testing techniques	3	Emp

Course Name **Mathematics**

Course Code **MA3603**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	To introduce the theoretical concepts of ordinary differential equations , matrix and statistics.	2	S
<b>CO2</b>	Students will able the understand the concepts of differentiation and integration.	2	S
<b>CO3</b>	Students will able the understand the concepts of correlation and regression.	2	S
<b>CO4</b>	Students will able the understand the concepts of second order differential equations with constant coefficient.	2	S
<b>CO5</b>	Students will able the understand the concepts of time series	2	S

Course Name **Multimedia and Animation**

Course Code **CA3503**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
--------------------------	--------------	----------	---

<b>CO1</b>	understand the characteristics of different media; understand the representations of different multimedia data; understand different data formats .Also gain understanding about Computer Graphics.	2	S
<b>CO2</b>	gain understanding about photo-shop fundamentals using various tools and techniques.	2	S
<b>CO3</b>	use various adjustments And retouching tools and techniques to produce Special Effects such as Blurring , Sharpening , Layer Effects and Layer Styles.	2	Emp
<b>CO4</b>	the fundamental skills to produce basic animations and motion graphics using various tools and techniques.	2	Emp
<b>CO5</b>	gain understanding about Flash Software and its related components to produce advance animations and graphics.	3	Emp

Course Name **IT Infrastructure Management**

Course Code **CA3504**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	IT Infrastructure Management	2	Emp
<b>CO2</b>	Service Delivery Process	2	S
<b>CO3</b>	Service Support Process	2	S
<b>CO4</b>	Security Management	2	Emp
<b>CO5</b>	IT Ethics	2	Emp

Course Name **Data Compression Techniques & Algorithms**

Course Code **CA3507**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	To gain a fundamental understanding of data compression methods for text, images, and video.	2	Emp
<b>CO2</b>	To understand related issues in the storage, access and use of large data sets.	2	Emp
<b>CO3</b>	To illustrate the concept of various algorithms for compressing text, audio, image and video.	2	S
<b>CO4</b>	Understand the structural basis for and performance metrics for commonly used lossy techniques.	2	Emp

<b>CO5</b>	Understand conceptual basis for commonly used lossy compression techniques.	1	S
------------	---	---	---

Course Name **Machine Learning Concepts**  
Course Code **CA 3505**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	about Machine Learning	2	S
<b>CO2</b>	Machine Learning Algorithm	3	Em p
<b>CO3</b>	Evaluating Hypotheses	2	Em p
<b>CO4</b>	Computational Learning Theory	2	Em p
<b>CO5</b>	Genetic Algorithm	3	Em p

Course Name **Cloud Computing Foundation**  
Course Code **CA3506**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	understand the use of Cloud Computing Concepts.	2	S
<b>CO2</b>	solve real world application development problems using Google app engine, GKE.	3	Emp
<b>CO3</b>	understand the need of Google cloud storage options	2	Emp
<b>CO4</b>	understand the use of networking and management tools.	2	Emp
<b>CO5</b>	machine learning applications over the cloud.	2	Emp

Course Name **IT Application Security & Privacy**  
Course Code **CA3508**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Understand modern web application development, Web Security Issues	2	Emp
<b>CO2</b>	Apply design and security principles to new problems.	2	Emp



<b>CO3</b>	Analyze and solve real world problems by exploring a web development framework as an implementation example	2	S
<b>CO4</b>	Create dynamically generated web site complete with user accounts	2	Emp
<b>CO5</b>	Create page level security, modular design using css and themes and data driven content	1	Emp

Course Name **E-Commerce**

Course Code **CA3602**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emp)/ None (Use , for more than One)
<b>CO1</b>	understand about Electronic Commerce	2	S
<b>CO2</b>	understand about Electronic Commerce strategies	2	S
<b>CO3</b>	understand about Reference Models	2	Emp
<b>CO4</b>	understand about Electronic Market	2	Emp
<b>CO5</b>	understand about Electronic Business	2	Emp

Course Name **Cryptography and Network Security**

Course Code **CA3603**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emp)/ None (Use , for more than One)
<b>CO1</b>	Students should be able to learn about the Cryptography & Network security, along with different IT/cyber laws to combat cyber crime	2	Emp
<b>CO2</b>	Students should be able to understand and analyze how different cryptographic algorithms and hashing techniques secure data and ensure CIA triad of network security	2	Emp
<b>CO3</b>	Students should be able to understand about various forms of malicious virus threats over internet.	2	S
<b>CO4</b>	Students should be able to learn about firewalls and other intrusion detection techniques.	2	Emp
<b>CO5</b>	Students should be able to learn about Basics, setting of VPN configuration and concepts of exchanging keys, modifying security policy.	2	Emp

Course Name **Digital Image Processing & Analysis**

Course Code **CA3606**



Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Students would be able to develop Mathematical background required for Machine learning architecture algorithmic/ Programming based on real life application using text and speech	2	Emp
<b>CO2</b>	Students would be able to develop the syntax and architecture of word and sentence architecture with its basic copra of Natural Language	2	Emp..
<b>CO3</b>	Students would be able to develop model and parsing the text for language modeling and limitations of these models also explored	2	S
<b>CO4</b>	Students would be able to apply applications of advanced NLP with Deep learning and machine learning framework are developed.	2	Ent
<b>CO5</b>	Students would be able to Find out the future direction and limitation of AI	1	S

Course Name **Introduction to Cyber Laws & Crime**

Course Code **CA 3604**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	understand about Computer security	2	S
<b>CO2</b>	understand about Cyber Law	2	Em p
<b>CO3</b>	understand about Cyber Crime	2	Em p
<b>CO4</b>	understand about Investigating Cybercrime	2	Em p
<b>CO5</b>	understand about Organizational and Human Security	2	S

**Introduction to Mobile Application**

Course Name **Development.**

Course Code **CA3605**



Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Students should be able to learn how to design and develop mobile apps for iphone, ipad and ipod as well as mobile devices types.	2	S
<b>CO2</b>	Students should be able to learn about basic knowledge of mobile application development in C# language and modern mobile operating systems	2	Em p
<b>CO3</b>	Students should be able to understand about data transmission standards	2	Em p
<b>CO4</b>	Students should be able to learn about systems for mobile application distribution	2	Em p
<b>CO5</b>	Students should be able to learn about mobile application development	3	Em p

Course Name **Introduction to Computer Vision**

Course Code **CA3607**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	To introduce students the fundamentals of image formation; To introduce students the major ideas, methods,	2	Emp
<b>CO2</b>	To introduce students the major ideas, methods, and techniques of computer vision and pattern recognition;	2	Emp
<b>CO3</b>	To develop an appreciation for various issues in the design of computer vision and object recognition systems;	2	Emp
<b>CO4</b>	To provide the student with programming experience from implementing computer vision and object recognition applications.	2	Emp
<b>CO5</b>	The Students should be able to build image processing applications	2	Emp

Course Name **Cross Platform Application Development**

Course Code **CA3510**



Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	To introduce students the fundamentals of image formation; To introduce students the major ideas, methods,	2	Emp
<b>CO2</b>	To introduce students the major ideas, methods, and techniques of computer vision and pattern recognition;	2	Emp
<b>CO3</b>	To develop an appreciation for various issues in the design of computer vision and object recognition systems;	2	Emp
<b>CO4</b>	To provide the student with programming experience from implementing computer vision and object recognition applications.	2	Emp
<b>CO5</b>	The Students should be able to build image processing applications	2	Emp

Course Name **JavaScript Frameworks**

Course Code **CA3511**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Student should be able to understand about the fundamental organization of a computer system	2	S
<b>CO2</b>	Student should be able to understand about Processor Organization Aspects	2	S
<b>CO3</b>	Student should be able to understand about the Instruction flow and functionality of central processing unit.	2	S
<b>CO4</b>	Student should be able to understand about t Input- Output organization	2	S
<b>CO5</b>	The student should able to understand the memory organization components	2	S

Course Name **Cross Platform Application DevelopmentLab**

Course Code **CA3546**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
--------------------------	--------------	----------	---

<b>CO1</b>	Students should be able to Write, Test and Debug Python Programs	2	S
<b>CO2</b>	Students should be able to Implement Conditionals and Loops for Python Programs	3	S
<b>CO3</b>	Students should be able to Use functions and represent Compound data using Lists, Tuples and Dictionaries	3	Em p

Course Name **JavaScript Frameworks Lab**  
Course Code **CA3547**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Students should be able to Write, Test and Debug Python Programs	2	S
<b>CO2</b>	Students should be able to Implement Conditionals and Loops for Python Programs	3	S
<b>CO3</b>	Students should be able to Use functions and represent Compound data using Lists, Tuples and Dictionaries	3	Em p

Course Name **Web3.0**  
Course Code **CA3609**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Student should be able to understand about the fundamental organization of a computer system	2	S
<b>CO2</b>	Student should be able to understand about Processor Organization Aspects	2	S
<b>CO3</b>	Student should be able to understand about the Instruction flow and functionality of central processing unit.	2	S
<b>CO4</b>	Student should be able to understand about Input- Output organization	2	S
<b>CO5</b>	The student should be able to understand the memory organization components	2	S

Course Name **Advanced Android Application Development**  
Course Code **CA3610**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Use camera and location api to build Android Apps	1	Emp
<b>CO2</b>	Understand services and receivers to build Android Service Apps	2	Emp
<b>CO3</b>	Implement threads and graphics to build Game kind of Android Apps	5	Emp
<b>CO4</b>	Implement third party api to build rich Android Apps	5	Emp
<b>CO5</b>	Use camera and location api to build Android Apps	1	Emp

Course Name **Web 3.0 Lab**  
Course Code **CA3642**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Developing a solid understanding of the key concepts and principles of Web 3.0.	2	Emp
<b>CO2</b>	Gaining practical experience with Web 3.0 tools and frameworks, and the ability to create decentralized applications.	2	Emp
<b>CO3</b>	Analyzing and evaluating Web 3.0 applications and use cases in various industries.	2	Emp

### Advanced Android Application Development

Course Name **Lab**  
Course Code **CA3643**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Developing a solid understanding of the key concepts and principles of Web 3.0.	2	Emp
<b>CO2</b>	Gaining practical experience with Web 3.0 tools and frameworks, and the ability to create decentralized applications.	2	Emp

<b>CO3</b>	Analyzing and evaluating Web 3.0 applications and use cases in various industries.	2	Emp
------------	--	---	-----