Ankushrao Tope College, Jalna (M.S.)

Course Outcomes

Department : B.C.A. (Science)

COs: BCA (Science)

CA101-T-Computer Fundamental:

On successful completion of the course, the students will be able to….

CO1: To familiarize students with computer environment.

CO2: To familiarize learners with the basics of Operating System and business communication tools.

CO3: To identify parts of computer system.

CO4: To explain functioning of computer components.

CO5: To explain the process of problem solving using computers.

CO6: To design an algorithmic solution for a given problem.

CA102-T- Digital Electronics:

On successful completion of the course, the students will be able to….

CO1: To familiar with concepts of digital electronics.

CO2: To learn number systems and their representation.

CO3: To understand basic logic gates, Boolean algebra and K-maps.

CO4: To study arithmetic circuits, combinational circuits and sequential circuits.

CO5: To study comparative aspects of logic families.

CA103-T- 8086 Microprocessor:

On successful completion of the course, the students will be able to….

CO1: To understand basic architecture of 16 bit microprocessors.

CO2: To understand interfacing of 16 bit microprocessor with memory and peripheral chips involving system design.

CO3: To understand techniques for faster execution of instructions and improve speed of operation and performance of microprocessors.

CO4: To understand microprocessor instruction sets, assembly language programming.

CO5: To write programs to run on 8086 microprocessor based systems.

CA104-T-Programming in C –I:

On successful completion of the course, the students will be able to….
CO1: To enable students to learn a programming language.

CO2: To apply problem solving techniques.

CO3: To write programs in C language.

CO4: To read, understand and trace the execution of programs written in C language.

CO5: To write the C code for a given algorithm.

CO6: To implement programs with pointers, arrays, perform pointer arithmetic, and apply the pre-processor.

CO7: To write programs using derived data types.

CA105-T -Communication skills:

On successful completion of the course, the students will be able to….
CO1: To demonstrate preparation and research skills for oral presentations.

CO2: To develop proper listening skills.

CO3: To articulate and enunciate words and sentences clearly and efficiently.

CO4: To enhance confidence and clarity in public speaking projects.

CO5: To demonstrate ability to gather information and apply it to persuade or articulate one's own point of view.

Goal Two: Written Communication

On successful completion of the course, the students will be able to….

CO1: To understand the rules of spelling and grammar.

CO2: To read, analyze text and apply ideas in writing.

CO3: To organize thoughts in a manner that emphasizes flow and paragraph development.

CO4: To acquire proper footnoting and bibliography skills.

CO5: To understand writing techniques and styles based on the communication medium.

Course code: CA106-T - Mathematical Foundation:

On successful completion of the course, the students will be able to….

CO1: To distinguish between statement logic and predicate logic.

CO2: To visualize data numerically and/or graphically.

CO3: To evaluate mathematical principles and logic design.

CO4: To apply induction, proof techniques towards solving recurrences and problems in elementary algebra, adapt, and design elementary deterministic and randomized algorithms to solve computational problems.

CO5: To illustrate the basic terminology of functions, relations, and sets and demonstrate knowledge of their associated operations and understanding of mathematical modeling with appropriate examples.

CO6: To demonstrate effectively mathematical ideas/results verbally or in writing and apply the knowledge of computing and mathematics.

CO7: To understand functions and distinguish different types of functions.

CO8: To identify and describe different relations.

CO9:   To explain graphs to formulate computational problems.

CO10: To develop ability to solve recurrence relations.

107P - Office Suite Practical (LAB):

On successful completion of the course, the students will be able to….
CO1: Demonstrate mechanics and uses of word tables to organize and present data.

CO2: Demonstrate working knowledge of using Word's themes and clip art to create a variety of visual

effects.

CO3: Demonstrate working knowledge of Word's advanced formatting techniques and presentation

styles.

CO4: Demonstrate applicable knowledge and uses of accepted business style formatting conventions.

CO5: Create and design a spreadsheet for general office use.

CO6: Demonstrate the basic mechanics of creating a power point presentation.

CA107P - Digital Electronics Practical (LAB)

On successful completion of the course, the students will be able to….
CO1: Understand and apply use of analog signals to represent digital values in logic families, including

characterization of the noise margins.

CO2: Create appropriate truth table from a description of a combinational logic function.

CO3: Create a gate-level implementation of a combinational logic function described by a truth table

using and/or/inv gates.

CO4: Evaluate combinational and sequential logic designs using metrics.

CA109-P - Microprocessor-I (8086) Practical (LAB):

On successful completion of the course, the students will be able to….

CO1:   Intel 8086 microprocessor architecture and real mode memory addressing.

CO2:   Intel microprocessor addressing modes.

CO3:   Assembly language programming and debugging.

CO4:   Arithmetic calculations using 8086 microprocessor kit.

CO5:   Transfer of data and exchange of data between various memory units.

CA110-P - C Programming-I Practical (LAB)

On successful completion of the course, the students will be able to….

CO1: Understand the fundamentals of C-programming.

CO2: Choose loops and decision making statements to solve the problem.

CO3:   Implement different operations on arrays.

CO4: Basic mathematical calculations.

CA201-T - Data Structures:

On successful completion of the course, the students will be able to….

CO1:   Students are able to choose appropriate data structure as applied to specified problem definition.

CO2: Students can handle operations such as searching, insertion, deletion, traversing mechanism etc. on

various data structures.

CO3: Students can apply concepts learned in various domains like DBMS, compiler construction etc.

CO4:   Students can use linear and non-linear data structures like stacks, queues, linked list etc.

CA202-T -Operating System:

On successful completion of the course, the students will be able to….

CO1: To understand functions, structures and history of operating systems.

CO2: To understand design issues associated with operating systems.

CO3: To understand process management concepts including scheduling, synchronization, and deadlocks.

CO4: To familiarize with multithreading.

CO5: To study concepts of memory management including virtual memory.

CO6: To understand resources sharing among the users.

CO7: To understand master issues related with file system interface, implementation and management.

CO8: To familiarize with protection and security mechanisms.

CO9: To familiarize with various types of operating systems including UNIX.

CA203-T - I.T. Tools & Web Designing –I:

On successful completion of the course, the students will be able to….

CO1: To learn understand the basics of internet and web designing.

CO2: To understand architecture of browser, server, web page, web sites & clients.

CO3: To know about internet domains, protocols, browser and server communication.

CO4: To know the basic knowledge of HTML and DHTML language for web

page development.

CO5: To understand concepts of internet programming using JavaScript.

CA204-T - C-Programming-II:

On successful completion of the course, the students will be able to….

CO1: To understand creation of user defined functions for specific task in C language.

CO2: To understand about functions and its types and working.

CO3: To understand use of user defined data types such as structures & unions.

CO4: To enable students for dealing with memory using pointers.

CO5: To get information about library functions and storage classes in C language.

CO6: To get knowledge about preprocessor directives and different operators used in C-language.

CO7: To deal with files stored on computer memory using file handling.

CA205-T - Communication Skill –II:

On successful completion of the course, the students will be able to….

CO1: To demonstrate preparation and acquire skills for oral presentations.

CO2: To develop proper listening skills.

CO3: To articulate and enunciate words and sentences clearly and efficiently.

CO4: To show confidence and clarity in public speaking projects.

CO5: To demonstrate ability to gather information and apply it to persuade or articulate.

Goal Two: Written Communication

CO1: To understand the rules of spelling and grammar.

CO2: To read and analyze text and enable learner to summarize ideas in writing.

CO3: To organize thoughts in a manner that emphasizes flow and paragraph development.

CO4: To learn proper footnoting and bibliography skills.

CO5: To understand different writing techniques and styles based on communication medium being used.

CO6: To develop group communication skill.

CO7: To develop listening comprehension, reading comprehension and vocabulary.

CA206-T -Numerical Methods:

On successful completion of the course, the students will be able to….

CO1: To demonstrate understanding of common numerical methods and their application to obtain approximate solutions to intractable mathematical problems.

CO2: To apply numerical methods to obtain approximate solutions to mathematical problems.

CO3: To derive numerical methods for various mathematical operations and tasks, such as interpolation, differentiation, integration, the solution of linear and nonlinear equations, and the solution of differential equations.

CO4: To analyze and evaluate the accuracy of common numerical methods.

CA207-P -Data Structure (LAB):

On successful completion of the course, the students will be able to….

CO1: To understand the concepts of dynamic memory management, data types, algorithms, big O notation.

CO2: To understand basic data structures such as arrays,linked lists, stacks and queues.

CO3: To describe hash function and concepts of collision and its resolution methods.

CO4: To solve problem involving graphs, trees and heaps.

CO5: To apply algorithm for solving problems like sorting, searching, insertion and deletion of data.

CA208-P -I.T. Tools & Web Designing – I (LAB):

On successful completion of the course, the students will be able to….

CO1: Explain the history of internet and related internet concepts that are vital in understanding web development.

CO2: Discuss the insights of internet programming and implement complete applications over the web.

CO3: Demonstrate important HTML tags for designing static pages and separate design from content using Cascading Style sheet.

CA209-P- C Programming – II (LAB):

On successful completion of the course, the students will be able to….

CO1: Implement programs with pointers and arrays, perform pointer arithmetic, and the use of pre-processor.

CO2: Write programs that perform operations using derived data types.

CO3: Use pointers and user defined data types.

CO4: Use functions used in C language.

CA210-P - Numerical Method (LAB):

On successful completion of the course, the students will be able to….

CO1: Identify different mathematical problems and reformulate appropriately for numerical data treatment.

CO2: Choose appropriate numerical methods for treatment of a given problem.

CO3: Explain choice of method by accounting for advantages and limitations.

CO4: Choose an algorithm that implies efficient calculations and implement in a programming language, suited for calculations.

CO5: Estimate reliability of results.

CO6: Use functions from the programming language library for efficient calculations and visualization.

CO7: Apply computer science for the solution of practical problems.

CA301-T - Database Management System:

On successful completion of the course, the students will be able to….

CO1: To understand database system, basic concepts, architecture, features, purpose, advantage of DBMS.

CO2: To learn about component of a DBMS: Users, facilities & structure.

CO3: To learning about data modeling & design.

CO4: To learn about entity-relationship data model.

CO5: To understand basics of relational model, normalization, relational algebra.

CO6: To introduce students to oracle s/w.

CA302-T - Mobile Maintenance -I:

On successful completion of the course, the students will be able to….

CO1: To study basic electronics and microcomputers.

CO2: To enable learners to handle mobile phones with the knowledge of testing batteries and battery charger.

CO3: To gain the knowledge of different mobile phones and also able to handle it.

CO4: To identify different chips and crystals on mobile PCB board.

CO5: To understand motherboard and different softwares for mobile repairing.

CA303-T - Principle of Management:

On successful completion of the course, the students will be able to….

CO1: To understand basic concepts, scope, importance and evaluation of management.

CO2: To handle administrative section by applying work authority and responsibility.

CO3: To learn functions of management such as planning, organizing, staffing and so on.

CO4: To understand human factors in business administration and organization.

CO5: To enable learners to control and coordinate with colleagues.

CA304-T -Programming in CPP:

On successful completion of the course, the students will be able to….

CO1: To acquire an understanding of basic object oriented concepts and issues involved in effective class design.

CO3: To write C++ programs that use object oriented concepts such as information hiding, constructors, destructors and inheritance.

CA305-T - Personality Development:

On successful completion of the course, the students will be able to….

CO1: To develop and exhibit and accurate sense of self.

CO2: To develop and nurture a deep understanding of personal motivation.

CO3: To develop an understanding of practice of personal and professional responsibility.

CO4: To enhance self-confidence.

CO5: To identify, understand, and apply contemporary theories of leadership to a wide range of situations and interactions.

CO6: To develop and articulate personal philosophy of leadership.

CO7: To understand concepts of democratic leadership and processes.

CA306-T -Statistical Method:

On successful completion of the course, the students will be able to….

CO1: To prepare for competitive examinations.

CO2: To apply statistics in real life.

CO3: To understand and calculate various types of averages and variations.

CO4: To understand application of discrete& continuous probability distributions to various business problems.

CO5: To understand organization, management, and data presentation.

CO6: To carry out exercises and small projects incorporatingdata presentation.

CO7: To demonstrate ability to write reports of statistical analysis giving summaries and conclusions using nontechnical language.

CA307-P - Programming in C++ &aDBMS (LAB):

On successful completion of the course, the students will be able to….

CO1: Use C++ functions and concepts related to good modular design.

CO2: Apply one-dimensional and two-dimensional arrays.

CO3: Use C++ structures.

CO4: Understand pointers and reference parameters.

CO5: Use text file input/output

CO6: Understand C++ classes.

CO7: Explain features of database management systems.

CO8: Design conceptual models of a database using ER modeling.

CO9: Understand basics of relational model, normalization, relational algebra.

CO10: Understand basics of oracle s/w.

CA308P- Mobile Maintenance-I & SM using Excel (LAB):

On successful completion of the course, the students will be able to….

CO1: To understand the basic internal structure of mobile phones.

CO2: To learn how to connect the mobile chips and battery.

CO3: To explain different types of mobile phones with its IC's.

CO4: To learn applications and security issues of mobile phones.

CO5: To draw the different graphical representation of the raw data in statistical method using excel.

CO6: To differentiate graphs.

CO7: To describe the quantitative results easily.

CO8: To handle statistical functions of excel.

CA401-T - Advance Database Management System:

On successful completion of the course, the students will be able to….

CO1: Student will able to deal with database system using SQL to manipulate data.

CO2: Understanding of physical storage of data.

CO3: Understanding of architecture of database system.

CO4: Learning about transaction processing and concurrency control. 136

CA402-T - Advance Mobile Repairing:

On successful completion of the course, the students will be able to….

CO1:   Student will understand of mobile phone technology.

CO2:   Student will be familiarized with microchip and microprocessor technology.

CO3:   Student will get practical training of handling various components of mobile phone.

CO4:   Learning of circuit diagram of mobile phone with complete software installation.

CO5:   Student will be able to find the fault in hardware and software.

CO6: Student can read the track of mobile phone.

CA403-T - Software Project Management:

On successful completion of the course, the students will be able to….

CO1:   To manage selection and initiation of individual projects and of portfolios of projects in enterprise.

CO2:   Implement processes for successful resource, communication, risk and change management.

CO3:   To conduct project planning activities that accurately forecast project costs, timelines, and quality.

CO4:   To demonstrate effective project execution and control techniques that result in successful

projects.

CO5:   To conduct project closure activities and obtain formal project acceptance.

CO6: To demonstrate a strong working knowledge of ethics and professional responsibility.

CO7:   To demonstrate effective organizational, leadership and skills for managing projects, project

teams, and stakeholders.

CA404-T - Core Java

On successful completion of the course, the students will be able to….

CO1:   To implement object oriented programming concepts.

CO2:   To use and create packages and interfaces in a Java program.

CO3:   To use graphical user interface in Java programs.

CO4: To create applets.

CO5: To implement exception handling in Java.

CO6: To implement multithreading.

CO7: To use Input/output streams.

CO8: To handle security implementations in Java.

CA405-T - Aptitude and Logical Reasoning:

On successful completion of the course, the students will be able to….

CO1: To prepare for competitive examinations.

CO2: To evaluate critically various real life situations by resorting to analysis of key issues and factors.

CO3: To read in between the lines and understand language structures.

CO4: To demonstrate principles involved in solving mathematical problems and reducing the time taken

for performing job functions.

100 CA406-T - Linear Programming Problem (LPP):

On successful completion of the course, the students will be able to….

CO1: To know the role of linear programming.

CO2: To understand applications of linear programming.

CO3: To define LPP and formulate the LPP in general and graphical form.

CO4: To understand methods of LPP.

CO5: To learn transportation and assignment problems using simple steps.

CA407-T - Programming in Java &Adv. DBMS using SQL (LAB):

On successful completion of the course, the students will be able to….

CO1: Understand structure and model of Java programming language.

CO2: Use the Java programming language for various programming technologies.

CO3: Evaluate user requirements for software functionality required to decide whether the Java programming language can meet user requirements.

CO4: Propose the use of certain technologies by implementing in Java programming language to solve a given problem.

CO5: Choose an engineering approach to solve problems, starting from the acquired knowledge of programming and knowledge of operating systems.

CO6: Define database system concepts and apply normalization to the database.

CO7: Explain the basic processing and optimization techniques for high level query.

CO8: Describe different transaction processing concepts and use different concurrency control techniques.

CO9: Discuss different types of databases such as object oriented and distributed databases.

CO10: Identify different types of database failures and techniques to recover from such failures.

CO11: Discuss advanced database technologies and products used in enterprise.

CA408-T - Mobile Maintenance-II & Mini project (LAB):

On successful completion of the course, the students will be able to….
CO1: Know various features of mobile phones.

CO2: Handle internal part of mobile.

CO3: Handle software's of mobile phones.

CO4: Formulate a real world problem and develop its requirements. 139

CO5: Develop a design solution for a set of requirements.

CO6: Test and validate conformance of the developed prototype against the original requirements of problem.

CO7: Work as a responsible member and possibly a leader of a team in developing software solutions.

CO8: Express technical and behavioral ideas and thought in oral settings.

CO9: Prepare and conduct oral presentations.

CO10:Self learn new tools, algorithms, and/or techniques that contribute to software solution of the project.

CO11: Generate alternative solutions, compare them & select optimum one.

CA501-T - Software Project Management II:

On successful completion of the course, the students will be able to….

CO1: To recognize, trace and resolve IT related crises using project management software.

CO2: To identify the impact of IT projects on the performance of organizations.

CO3: To manage the phases and infrastructure of IT projects.

CO4: To develop strategies to calculate risk factors involved in IT projects.

CO5: To use project management software to control the design, implementation, closure, and evaluation of IT projects.

CO6: To estimate, plan, calculate, and adjust project variables.

CA502-T - Computer Graphics-I:

On successful completion of the course, the students will be able to….

CO1: To learn basic concepts in computer graphics which includes different input-output devices and graphics file formats.

CO2: To use different functions of graphics for creating objects.

CO3: To be able to move an object from one place to another, rotate, scale, reflect the object easily.

CO4: To generate character / alphabets using various methods.

CA503-T- Core Java-II:

On successful completion of the course, the students will be able to….

CO1: To understand input/output stream used in java.

CO2: To learn different utilities in java language.

CO3: To have an overview of database access and details for managing information using JDBC API.

CO4: To enable learners to write simple GUI interfaces for a computer program, to interact with users, and understand event-based GUI handling principles.

CO5: To learn use of Java applets for creating interactive web programs: Fonts, color, graphics, and animation. CO6: To understand use of Java applets to create interactive web programs by sending and receiving parameters in an applet.

CA504-T- Data Warehousing:

On successful completion of the course, the students will be able to….
CO1: To evaluate models of OLAP and data pre-processing.

CO2: To enlist algorithms used in information analysis of data mining techniques.

CO3: To demonstrate the knowledge retrieved through solving problems.

CA506-T - Data Communication & Networks

On successful completion of the course, the students will be able to….
CO1: To understand types of networks, technologies and applications of networks.

CO2: To understand types of addresses and data handling.

CO3: To understand networking models, protocols and functionality of each layer.

CO4: To learn basics of networking hardware and tools.

CO5: To understand wired and wireless networks, their types, functionality of layer.

CO6: To understand the importance of network security and cryptography.

Course Code: CA507-T- Beginners Programming with PHP

On successful completion of the course, the students will be able to….
CO1: To understand server-side programming works on the web.

CO2: To learn PHP Basic syntax for variable types and calculations.

CO3: To create conditional structures.

CO4: To store data in arrays.

CO5: To use PHP built-in functions for creating custom functions.

CA509-P - Pr. Based on Comp. Graphics & Pr. Based on Core Java-II (LAB):

On successful completion of the course, the students will be able to….
CO1: To study and make an object based on graphical functions.

CO2: To learn drawing of different shapes using various algorithms.

CO3: To handle various movements of an object for animation - translate, rotate, scaling and reflection.

CO4: To understand input/output stream in Java.

CO5: To learn utilities in Java language.

CO6: To have an overview of database access and details for managing information using the JDBC API.

CO7: To write simple GUI interfaces for a computer program, interact with users, and understand the event-based GUI handling principles.

CO8: To learn use of Java applets to create interactive web programs: Fonts, color, graphics, and animation.

CO9: To learn use of Java applets to create interactive web programs by sending and receiving parameters in an Applet.

CA510-P -Pr. Based on DCN & Pr. Based on PHP (LAB):

On successful completion of the course, the students will be able to….
CO1: To describe standard network models.

CO2: To understand guided transmission media.

CO3: To analyze error detection and error correction codes.

CO4: To understand the concepts behind medium access control sub layer.

CO5: To understand working of server-side programming on the web.

CO6: To learn PHP basic syntax for variable types and calculations.

CO7: To create conditional structures.

CO8: To store data in arrays.

CO9: To use PHP built-in functions and creating custom functions.

CA601-T - Software Testing and Quality Assurance:

On successful completion of the course, the students will be able to….

CO1: Students will be able to identify benefits and the needs to enforce software quality.

CO2: Students will be able to differentiate between quality control, quality management and quality assurance.

CO3: Students will be able to discuss different software quality factors models.

CO4: Students learn systematic approach to the development, operation, maintenance, and retirement of software.

CO5: To understand methods and tools of testing and maintenance of software's.

CO6: Student can understand the use of resources to develop software, reduce cost of software and quality maintenance of software.

CA602-T - Computer Graphics-II

On successful completion of the course, the students will be able to….

CO1: Student will understand three dimensional (3-D) basic concepts.

CO2: Students will be able to perform different operations on an object such as 3D-rotation, scaling and translation.

CO3: Students can clip objects using different methods/algorithms.

CO4: To understand curves and fractals concept.

CO5: To enable students to identify and describe different color models for defining an object.

CO6: To understand the concept of animation and implement in real time applications.

CA603-T- Java Server Pages (JSP)

On successful completion of the course, the students will be able to….
CO1: Students will understand Java server pages by its life cycle.

CO2: Students can learn different scripting tags.

CO3: Students can understand different tags helpful to the server pages such as directive tags, action tags

and also depth knowledge of Java Beans.

CO4: To handle database access to JSP page.

CO5: To understand JSTL, Core and XML tag library.

Code: CA604-T - Data Mining:

On successful completion of the course, the students will be able to….
CO1: To build basic terminology.

CO2: To display a comprehensive understanding of different data mining tasks and the algorithms most

appropriate for addressing them.

CO3: To evaluate models/algorithms with respect to accuracy.

CO4: To demonstrate capacity to perform a self-directed piece of practical work that requires the

application of data mining techniques.

CO5: To analyze critically the results of data mining exercise.

CO6: To develop hypotheses based on the analysis of results and test them.

CO7: To understand a data mining solution to a practical problem.

CA606-T - Cloud computing:

On successful completion of the course, the students will be able to….

CO1: Students can learn cloud computing fundamentals with cloud services.

CO2: Students can learn different cloud computing technologies and their applications.

CO3: Students can understand key enabling technologies for virtual private clouds and their applications.

CO4: Students can understand different role of networks in cloud computing.

CO5: Students can learn architecture of cloud and data-intensive technologies along with their characteristics and system architecture for cloud computing.

Course Code: CA607-T - Advanced Programming with PHP:

On successful completion of the course, the students will be able to….

CO1: To maintain state using cookies, session variables, hidden form fields and query strings.

CO2: To use PHP to manipulate files.

CO3: To identify and handle errors that can occur while programming with PHP.

CO4: To introduce to OOP (Object Oriented Programming) in PHP.

CO5: To understand use of an object-oriented API to access SQL to SELECT, INSERT, UPDATE and DELETE data from tables.

CO6: To use phpMyAdmin utility to administer the MySQL database.

CO7: To use OOP in PHP to define and use classes.

Code: CA609-P - Pr. Based on PHP & JSP (LAB)

On successful completion of the course, the students will be able to….

CO1: To identify and handle the types of errors that can occur whileprogramming with PHP.

CO2: To introduce learners to OOP (Object Oriented Programming) in PHP.

CO3: To use an object-oriented API to access SQL to SELECT, INSERT,

UPDATE and DELETE data from tables.

CO4: To use phpMyAdmin utility to administer the MySQL database.

CO5: To use OOP in PHP to define and use classes.

CO6: To choose an engineering approach to solve problems, starting from the acquired knowledge of programming and knowledge of operating systems.

CO7: To implement programming using various action tags in JSP.

CO8: To understand scripting tag manipulations.

CO9: To learn JSP & Java beans.

CO10: To study session API in JSP.

CO11: To understand database access to JSP page.

CO12: To study SQL tagged library and function tag library in JSP.

CA610P - Major Project:

On successful completion of the course, the students will be able to….

CO1: To formulate a real world problem and develop its requirements.

CO2: To develop a design solution for a set of requirements.

CO3: To test and validate conformance of the developed prototype against the original requirements of a problem.

CO4: To work as a responsible member and a leader of a team in developing software solutions.

CO5: To express technical, behavioral ideas and thought in oral settings.

CO6: To participate in and possibly moderate, discussions that lead to make decisions.

CO8: To express technical ideas, strategies and methodologies in written form.

CO9: To prepare and conduct oral presentations.

CO10: To learn new tools, algorithms, and/or techniques those contributes to software solution of the project.

CO11: To generate alternative solutions, compare them and select the optimum one.