

Don Bosco College(Co-Ed)
Yelagiri Hills
Department of Computer Application
Course Outcomes for 2021 Curriculum

SEM I	LANGUAGE	Lecture	Practical	Credit
CLT10	TAMIL I	6	0	4

பயன் :

1. தமிழின் புதுக்கவிதைகள் உள்ளடக்கியபடைப்பிலக்கியங்களை இப்பாடம் அறிமுகம் செய்கிறது
2. தமிழ் இலக்கியத்தில் தேர்தெடுக்கப்பட்டமிகமுக்கியமானசெய்யுட்கள்,கவிதைகள்,கதைகள்.
3. உரைநடைஆகியவற்றைக்கொண்டு இப்பாடம் கட்டமைக்கப்பட்டுள்ளது. மாணாக்கரின் இலக்கியத் தேடலைஉருவாக்குவதும்,

SEM I	GENERAL ENGLISH	Lecture	Practical	Credit
CLE 10	COMMUNICATIVE ENGLISH I	6	0	4

Course Outcome

1. Developed effective communication skills, enabling them to introduce themselves and others, and listen for specific information.
2. Students have developed advanced listening and reading skills, including the ability to extract specific information, understand varying tones, and engage in effective communication
3. Students will have gained the skills to provide and adhere to instructions, request and provide directions, and participate in discussions with linked ideas.
4. Students will have excelled in expressing and responding to opinions while also displaying adeptness in both note-taking and narrative writing, showcasing their essay composition skills.

- Students will have gained proficiency in engaging in group discussions, advanced their ability to interpret diagrammatic information, and demonstrated comprehension of voice in the context of tense in grammar.

SEM I	ENGLISH	Lecture	Practical	Credit
CPE 10	PROFESSIONAL ENGLISH I	6	0	3

Course Outcomes

- Recognise their own ability to improve their own competence in using the language
- Use language for speaking with confidence in an intelligible and acceptable manner and thus participate in any kind of group discussion
- Read independently unfamiliar texts with comprehension
- Write stories or process description without committing error of spelling or grammar
- Analyze and interpret pictorial data with accuracy

SEM I	CORE THEORY	Lecture	Practical	Credit
CCA11	PROGRAMMING IN C	6	0	4

Course Outcomes:

- Explain the concepts of Constants, Variables, and Data Types, Operators and Expressions
- Explain and apply the concepts of Managing Input and Output Operations, Decision Making and Branching, Decision Making and Looping.
- Explain and develop programs using the concepts of Arrays, Character Arrays and Strings, User Defined Functions
- Explain and apply the concepts of Structure and Unions, Pointers, File Management in C
- Explain Fundamental Algorithms, Factoring Methods and create programs for those algorithms

SEM I	ALLIED I	Lecture	Practical	Credit
CAMA15B	MATHEMATICAL FOUNDATIONS I	7	0	3

Course Outcomes

1. Students can be able to demonstrate proficiency in utilizing the symbolic and logical operators
2. To acquire the fundamental concepts of set theory
3. To be familiarize with the Binary operators
4. Students will comprehend the fundamental concepts of differentiation and apply analytical skills to solve mathematical problems
5. Students can be able to gain proficiency in understanding the concepts of two-dimensional analytical geometry

SEM I	CORE PRACTICAL	Lecture	Practical	Credit
CPCA13	C PROGRAMMING LAB	0	3	2

Course Outcomes:

1. Explain the concepts of Constants, Variables, and Data Types, Operators and Expressions
2. Explain and apply the concepts of Managing Input and Output Operations, Decision Making and Branching, Decision Making and Looping.
3. Explain and develop programs using the concepts of Arrays, Character Arrays and Strings, User Defined Functions
4. Explain and apply the concepts of Structure and Unions, Pointers, File Management in C
5. Explain Fundamental Algorithms, Factoring Methods and create programs for those algorithms

SEM I	ENVIRONMENTAL STUDIES	Lecture	Practical	Credit
CES10	ENVIRONMENTAL STUDIES	2	0	2

Course Outcomes:

1. Explain the various natural resources and the impact of man-made fertilizers on the environment.
2. Describe the Ecosystem, Biodiversity and its Conservation.
3. Explain the Environmental Pollution and Management
4. Analyze the Social Issues concerning Human Population such as Environmental ethics, health and the role of IT on the environment and human health
5. Study a simple local ecosystem and prepare a FIELD WORK Report

SEM II	LANGUAGE	Lecture	Practical	Credit
CLT20	TAMIL II	6	0	4

பயன் :

1. மாணவர்கள் வாழ்க்கையில் அறநெறியுடன் வாழ்வதற்கும் மனதை ஒருமுகப்படுத்துவதற்கும் பக்தி இலக்கியங்களும் சிற்றிலக்கியங்களும் மாணவர்களுக்கு பயன்படுகிறது.
2. பக்தி இலக்கியத்தின் வாயிலாக புராணங்களின் முக்கியத்துவத்தையும் தெய்வங்களின் பெருமைகளையும் மாணவர்கள் அறிந்துக்கொள்கிறார்கள்.
3. கடவுளர்களையும் அரசர்களையும் பேரரிலக்கியங்கள் பேசியகாலங்களில் சிற்றிலக்கியங்கள் எளியமக்களின் வாழ்க்கைமுறையைப்பற்றி பேசுகிறது என்பதை மாணவர்கள் அறிந்துக்கொள்கிறார்கள்.
4. மாணவர்கள் வாழ்க்கையில் அறம், ஒழுக்கம் சார்ந்த செயல்பாடுகளில் தங்களை இணைத்துக்கொள்வதற்குப் பக்திமார்க்கம் துணைப் புகின்றது.
5. மாணவர்கள் நாயன்மார்களை கற்பதினால் சிவனுடைய பெருமைகளை அறிந்துக்கொள்கின்றனர்.

SEM II	GENERAL ENGLISH	Lecture	Practical	Credit
CLE20	COMMUNICATIVE ENGLISH II	6	0	4

Course Outcome:

1. Students will effectively listen and respond to complaints in formal situations, demonstrating proficiency in problem-solving through informal discussions, while also enhancing their reading and writing skills
2. Students will develop their writing skills by crafting opinion pieces on various topics, including travel, food, and book/film reviews, as well as analyzing poetry.

3. Students will demonstrate advanced listening skills by engaging with Ted talks and delivering formal presentations with PowerPoint, while also honing their reading and writing abilities by composing complaint emails and reading aloud famous speeches, in addition to expanding their vocabulary through the exploration of one-word substitutions.
4. Participants will excel in both listening and speaking by actively participating in face-to-face and online meetings, engaging in courteous and opinionated discussions, and effectively presenting ideas during meetings, while also refining their reading and writing skills through the analysis of visual texts such as advertisements and drafting short assignments.
5. Students will showcase their proficiency in listening and responding during informal interviews for feature writing, as well as in formal interviews, while also refining their writing skills by composing letters of application, engaging in readers' theatre through script reading, and dramatizing everyday situations and social issues through skits.

SEM II	GENERAL ENGLISH	Lecture	Practical	Credit
CPE20C	PROFESSIONAL ENGLISH II	6	0	3

Course Outcomes:

1. Participate in group discussions and debate on topics with fluency in the language
2. Involve in persuasive communication and indulge in productive dialogues
3. Write professional blogs and Vlogs
4. Write reviews on films and slogans for posters
5. Paraphrase text with appropriate grammar

SEM II	CORE THEORY	Lecture	Practical	Credit
CCA21	C++ AND DATA STRUCTURES	5	0	6

Course Outcomes:

1. Develop simple programs using C++
2. Analyze a given problem, identify its members and methods and convert the same to a class diagram
3. Apply OOP concepts for real world problems and develop solutions using C++ language

4. Apply appropriate data structures for solving specific problems.
5. Design and develop C++ programs for any data structures to perform basic operations.

SEM II	VALUE EDUCATION	Lecture	Practical	Credit
CGA20	VALUE EDUCATION	2	0	2

Course Outcomes:

1. Appreciate human values and gain self-esteem
2. Realize the importance of family and its members particularly women in the society
3. Interpret the ethical values in the context of profession, media, family and personal life.
4. Recognize the values of the society and its impact
5. Formulate the ethical system at the international level and modern trends.

SEM II	SOFT SKILLS	Lecture	Practical	Credit
CSS20	SOFT SKILLS	2	0	1

Course Outcomes:

1. Demonstrate the skills for listening, writing, reading and writing
2. Read and respond to instruction
3. Seek and respond to information in day to day life
4. Correct grammatical and spelling errors
5. Actively engage in formal, in-formal and non-verbal communication

SEM II	CORE PRACTICAL	Lecture	Practical	Credit
CPCA26	C++ AND DATA STRUCTURES LAB	0	3	2

Course Outcomes:

1. Develop simple programs using C++
2. Analyze a given problem, identify its members and methods and convert the same to a class diagram

3. Apply OOP concepts for real world problems and develop solutions using C++ language
4. Apply appropriate data structures for solving specific problems.
5. Design and develop C++ programs for any data structures to perform basic operations.

SEM II	ALLIED I	Lecture	Practical	Credit
CAMA25B	MATHEMATICAL FOUNDATIONS II	7	0	5

Course Outcomes:

1. Students can be able to apply the fundamental principles and operations of matrices in diverse mathematical problems
2. Students gain a deeper comprehension of matrix properties and their relevance in solving mathematical problems
3. Students can be enabled with the fundamental principles of integration in various contexts
4. Students can be able to interpret the basic properties inherent in definite integrals in analyses
5. Students can be able to acquire proficiency in understanding three-dimensional analytical geometry concepts

SEM III	CORE THEORY	Lecture	Practical	Credit
CCA31	JAVA PROGRAMMING	5	0	4

Course Outcomes:

1. Describe Object oriented programming concepts.
2. Write Java Programs using Arrays, Inheritance, Interface and Packages based on requirements.
3. Use String handling, exception handling and Multithreading concepts in Java programs
4. Understanding the usage of files and threads in java
5. Develop a GUI application using Applets

SEM III	CORE THEORY	Lecture	Practical	Credit
CCA32	E-COMMERCE	4	0	4

Course Outcomes:

1. Explain E-Commerce Frameworks and different Traditions from E-Business Applications
2. Elaborate Network infrastructure for E-commerce and its components
3. Identify Firewalls, network Securities and the role of different protocols in network.
4. Explain various EDI Applications
5. List and demonstrate E-Payment options.

SEM III	CORE THEORY	Lecture	Practical	Credit
CCA33	OPERATIONS RESEARCH	5	0	4

Course Outcomes:

- The Student will be able to understand the concepts of optimization and to formulate and Solve Linear Programming problems.
- The Student will be able to understand the concepts of Transportation problem and Assignment problem.
- The Student will be able to understand the concepts of sequencing problems.
- The Student will be able to understand the concepts of PERT-CPM and their applications in product planning control.
- The Student will be able to understand the concepts of Solve the Minimal Spanning Tree Problem, Shortest Route Problem, Maximal Flow Problem and Minimal Cost Capacitated Flow Problem.

SEM III	SKILL BASED SUBJECT	Lecture	Practical	Credit
CSCA34	WEB TECHNOLOGY	3	0	2

Course Outcomes:

1. Indicate the general concepts of HTML scripting language .
2. Summarize the fundamental concepts of VBScript and JavaScript.
3. Develop dynamic web application in JavaScript and VBScript

4. Discuss the basic structure of ASP.Net.
5. Formulate working with ASP.Net controls.

SEM III	CORE PRACTICAL	Lecture	Practical	Credit
CPCA36	JAVA PROGRAMMING LAB	0	4	3

Course Outcomes:

1. Describe Object oriented programming concepts.
2. Write Java Programs using Arrays, Inheritance, Interface and Packages based on requirements.
3. Use String handling, exception handling and Multithreading concepts in Java programs
4. Understanding the usage of files and threads in java
5. Develop a GUI application using Applets

SEM III	ALLIED II	Lecture	Practical	Credit
CACM15C	FINANCIAL ACCOUNTING I	7	0	3

Course Outcomes:

1. To Introduce the basic concepts and conventions to the students, this would help in the development of accounting knowledge.
2. To understand the concept of the Double entry system this helps in preparation of various books of accounts
3. To develop the capability of students to prepare the Final Accounts of a Small Business Concern.
4. To introduce the concept of Single entry system of Accounting which helps them to prepare the accounts from incomplete records.
5. To enhance the Accounting Knowledge by introducing the practical uses of Average Due Date and Bank Reconciliation Statement.

SEM III	NAME	Lecture	Practical	Credit
CNEN34	LANGUAGE SKILLS FOR COMMUNICATION	2	0	2

COURSE OUTCOMES:

1. Students will acquire effective social communication skills.
2. Students will master effective telephone communication skills

SEM IV	CORE THEORY	Lecture	Practical	Credit
CCA41	RELATIONAL DATABASE MANAGEMENT SYSTEM	5	0	4

Course Outcomes:

1. Design conceptual model of a database using relational algebra
2. Retrieve data using relational calculus
3. Create a simple database using the rules of Normalization
4. Create and Retrieve any type of information from database using SQL Commands
5. Write PL/SQL Blocks to insert and retrieve data from database

SEM IV	CORE THEORY	Lecture	Practical	Credit
CCA42	ENTERPRISE RESOURCE PLANNING	4	0	4

Course Outcomes:

1. Describe and discuss about the functionalities and its related technologies of Enterprise resource planning.
2. Discuss the implementation methodology of ERP
3. Identify the various business modules in ERP packages.
4. Explain the various ERP packages from different Companies.
5. Discuss the importance of ERP in present and future.

SEM IV	CORE THEORY	Lecture	Practical	Credit
CCA43	Wireless Data Communications	5	0	4

Course Outcomes:

1. Distinguish the functionality of every layer in the OSI and explain how data communication takes place.
2. Distinguish between 1. The Analog and digital signals 2. The guided and unguided media and select the appropriate media for network setup
3. Identify and correct the errors in data sent using Vertical Redundancy Check, Longitudinal Redundancy check and cyclic redundancy check Differentiate circuit from packet switching and compute the shortest path to a given destination using the metrics given
4. Distinguish the types of Wireless networks and implement the new wireless technologies
5. Identify the protocols of the TCP/IP model, use WWW and implement network security and set up a network using the appropriate devices

SEM IV	CORE PRACTICAL	Lecture	Practical	Credit
BPCA46	RDBMS LAB	0	4	3

Course Outcomes:

1. Design conceptual model of a database using relational algebra
2. Retrieve data using relational calculus
3. Create a simple database using the rules of Normalization
4. Create and Retrieve any type of information from database using SQL Commands
5. Write PL/SQL Blocks to insert and retrieve data from database

SEM IV	ALLIED II	Lecture	Practical	Credit
CACM25C	FINANCIAL ACCOUNTING II	7	0	5

Course Outcomes

1. To understand the branch accounts and its types
2. To have practical knowledge in the preparation departmental accounting
3. To draft the Hire purchase systems
4. To acquire practical knowledge in Partnership accounts of fundamentals and reconstitution of partnership.
5. To acquire practical knowledge in Partnership accounts of Dissolution of partnership firms

SEM V	CORE THEORY	Lecture	Practical	Credit
CCA51	MOBILE APPLICATION DEVELOPMENT	6	0	4

Course Outcomes:

1. Able to install android studio software and its package.
2. Able to work with Android Studio Tool and with its Services in order to create a Mobile Application
3. Able to install android studio software and its package.
4. Able to work with Android Studio Tool and with its Services in order to create a Mobile Application.
5. Able to know the Android Activity and difference services with its usages and Able to work with Input Controls.

SEM V	CORE THEORY	Lecture	Practical	Credit
CCA52	OPERATING SYSTEM	6	0	4

Course Outcomes:

1. Explain architecture, services, types of an operating system
2. Describe process and its scheduling methods
3. Analyze different approaches to handle and know memory management.
4. Examine the mapping techniques and the know how skills of paging memory
5. Explain the File management concepts.

SEM V	CORE THEORY	Lecture	Practical	Credit
CCA53	Design and Analysis of Algorithms	4	0	2

Course Outcomes:

1. To understand various algorithm design techniques
2. To understand the basis of efficient algorithms for all kinds of problems
3. To use a simple approach which tries to find the best solution at every step
4. To provide a general insight into the dynamic programming approach
5. To understand the algorithm design paradigm for discrete and combinatorial optimization problems

SEM V	CORE PRACTICAL	Lecture	Practical	Credit
CPCA56	MOBILE APPLICATION DEVELOPMENT LAB	0	4	3

Course Outcomes:

1. Able to install android studio software and its package.
2. Able to work with Android Studio Tool and with its Services in order to create a Mobile Application
3. Able to install android studio software and its package.
4. Able to work with Android Studio Tool and with its Services in order to create a Mobile Application.
5. Able to know the Android Activity and difference services with its usages and Able to work with Input Controls.

SEM V	CORE PRACTICAL	Lecture	Practical	Credit
CPCA57	OPERATING SYSTEM LAB	0	4	3

Course Outcomes:

1. Explain architecture, services, types of an operating system
2. Describe process and its scheduling methods
3. Analyze different approaches to handle and know memory management.
4. Examine the mapping techniques and the know how skills of paging memory
5. Explain the File management concepts.

SEM V	ELECTIVE I	Lecture	Practical	Credit
CECA54A	DATA MINING	3	0	3

Course Outcomes:

1. They will be able to the define data mining and identify issues that are in data mining concepts
2. They will be able to describe the concepts of OLAP technology and data warehouse architecture

3. They will be able discuss about Data processing Techniques and its efficiency with clear examples.
4. They will be summarize about Decision Tree Induction, Bayesian and Back Propagation.
5. They can illustrate the data mining methodologies

SEM V	ELECTIVE I	Lecture	Practical	Credit
CECA54B	Information Security	3	0	3

Course Outcomes:

1. After studied unit-1, the student will be able to understand the basic concepts of Information Security
2. After studied unit-2, the student will be able to understand the legal, ethical and professional issues in Information Security
3. After studied unit-3, the student will be able to know about risk management
4. After studied unit-4, the student will be able to understand the technological aspects of Information Security
5. After studied unit-5, the student will be able to understand the concepts of Cryptography and Hacking methods

SEM V	ELECTIVE I	Lecture	Practical	Credit
CECA54C	SOFTWARE TESTING	3	0	3

Course Outcomes:

1. Explain Software Project and its life cycle
2. Explain the purpose of Static testing and the technique of performing
3. Explain Defect Bash and the different types of defect bash
4. Explain the Methodology for Performance Testing
5. Explain Buddy, Pair, Exploratory, Iterative, Agile and Extreme Testing

SEM V	NMD	Lecture	Practical	Credit
CSAM50	FOUNDATIONS OF AI&ML	4	2	2

COURSE OUTCOMES:

1. Demonstrate fundamental understanding of the history of artificial intelligence (AI) and its foundations.
2. Comprehend the applications of AI in in business and real world use case scenarios
3. Comprehend the OpenAI and generative models with their applications
4. Gain awareness of usage of AI in computer vision related applications

SEM VI	CORE THEORY	Lecture	Practical	Credit
CCA61	Open Source Software	4	0	4

Course Outcomes:

1. Design a web page using HTML, JavaScript and CSS
2. Explain the Linux Operating system architecture and its commands
3. Write Queries for storing and retrieving data using MYSQL commands.
4. Develop simple web application using PHP

SEM VI	CORE THEORY	Lecture	Practical	Credit
CCA62	PYTHON PROGRAMMING	4	0	4

Course Outcomes:

1. "Differentiate and categorize the essential elements in Python programming. Define the fundamental components of Python programming."
2. "Demonstrate proficiency in utilizing string manipulation methods. Employ appropriate string functions to manipulate and process data."
3. "Analyze the purpose and functionality of functions in Python. Distinguish between tuples and sets and justify their use cases."

4. "Differentiate between lists and other data structures in Python. Demonstrate the use of common list functions for data manipulation."
5. "Illustrate the implementation of objects in Python programming. Apply exception handling mechanisms to enhance the robustness of Python programs."

SEM VI	ELECTIVE II	Lecture	Practical	Credit
CECA63A	BIG DATA ANALYTICS	3	0	3

Course Outcomes:

1. To understand the concept of big data analytics and big data application
2. To study the basic fundamentals of Mining data streams and its type and also apply it into Hadoop
3. Explain the components of Hadoop Eco-System
4. Manage Job Execution using map reduce and Learn to build and maintain reliable, scalable HDFS
5. Distinguish Hive and Pig using bigdata operators /file

SEM VI	ELECTIVE II	Lecture	Practical	Credit
CECA63B	CRYPTOGRAPHY	3	0	3

Course Outcomes:

1. classify the symmetric encryption techniques
2. "Illustrate various Public key cryptographic techniques"
3. "Summarize the intrusion detection and its solutions to overcome the attacks."
4. "Evaluate the authentication and hash algorithms"
5. "Evaluate the authentication and hash algorithms"

SEM VI	ELECTIVE II	Lecture	Practical	Credit
CECA63C	DIGITAL IMAGE PROCESSING	3	0	3

Course Outcomes:

1. After studying unit-1, the student will be able to understand the concepts like MatLab, DIP, electromagnetic spectrum, etc.
2. After studying unit-2, the student will be able to analyze smoothing and sharpening techniques.
3. After studying unit-3, the student will be able to know about image filters.
4. After studying unit-4, the student will be able to gain knowledge about compression techniques.
5. After studying unit-5, the student will be able to know about image representation.

SEM VI	ELECTIVE III	Lecture	Practical	Credit
CECA64A	ARTIFICIAL INTELLIGENCE	3	0	3

Course Outcomes:

1. To recall the fundamentals of artificial intelligence
2. To understand the techniques used for AI
3. To know about knowledge representation.
4. To gain knowledge about fuzzy logic.
5. To evaluate the design of new artificial intelligence and machine learning applications

SEM VI	ELECTIVE III	Lecture	Practical	Credit
CECA64B	SYSTEM SOFTWARE	3	0	3

Course Outcomes:

1. After studying unit-1, the student will be able to analyze CISC and RISC machines.
2. After studying unit-2, the student will be able to know how assemblers are working.
3. After studying unit-3, the student will be able to distinguish Linker and Loader.
4. After studying unit-4, the student will be able to learn macro processor.
5. After studying unit-5, the student will be able to understand the functions of compilers.

SEM VI	ELECTIVE III	Lecture	Practical	Credit
CECA64C	MOBILE COMPUTING	3	0	3

Course Outcomes:

1. To know fundamentals concept of mobile computing
2. To study the specification and functionality of various protocol standard
3. To know the function of routing in mobile computing
4. Understand the ad hoc networks and related concepts.
5. To understand the platforms and protocols used in the mobile environment

SEM VI	SKILL BASED SUBJECT IV	Lecture	Practical	Credit
CECA69C	Cyber Security	4	0	2

Course Outcome:

1. Explain the fundamentals of Information Security
2. Summarize the technologies used in Cyber Security eco-sysstem
3. Write a detailed note on some of the Core Penetration Management Techniques
4. Explain Security Operations Management
5. Explain some of the Web and Mobile security Techniques

SEM VI	CORE PRACTICAL	Lecture	Practical	Credit
CPCA66	PYTHON PROGRAMMING LAB	0	4	2

Course Outcomes:

1. "Differentiate and categorize the essential elements in Python programming. Define the fundamental components of Python programming.
2. "Demonstrate proficiency in utilizing string manipulation methods. Employ appropriate string functions to manipulate and process data."
3. "Analyze the purpose and functionality of functions in Python. Distinguish between tuples and sets and justify their use cases."

4. "Differentiate between lists and other data structures in Python. Demonstrate the use of common list functions for data manipulation."
5. "Illustrate the implementation of objects in Python programming. Apply exception handling mechanisms to enhance the robustness of Python programs."

SEM VI	CORE PRACTICAL	Lecture	Practical	Credit
CPCA67	OPEN SOURCE SOFTWARE LAB	0	4	2

Course Outcomes:

1. Design a web page using HTML, JavaScript and CSS
2. Explain the Linux Operating system architecture and its commands
3. Write Queries for storing and retrieving data using MYSQL commands.
4. Develop simple web application using PHP
5. Develop web application with database transaction through PHP