DEPARTMENT OF COMPUTER SCIENCE –UNAIDED SYLLABUS (2018-2019)

Programme Outcomes (PO)

PO No.	**Upon completion of B.Sc. Degree programme, the graduates will be able to:**
PO-1	Understand the fundamental domain knowledge for developing effective computing solutions.
PO-2	Acquire skills in mathematics required to solve computing problems.
PO-3	Acquire knowledge to build a career in software industry.
PO-4	Empower students to deal with the technicalities and issues with authorized knowledge of database and analytical skills.
PO-5	Acquire skills in research or industry related to particular discipline.
PO-6	Understand the concept of Internet and its developing applications.
PO-7	Build leadership skills through projects.
PO-8	Develop competence in process and product standards.
PO-9	Graduates are provided with practical, hands-on training and project experience to meet the industrial needs.

Programme Specific Outcomes (PSO)

PSO No.	**Upon completion of B.Sc. Computer Science Degree programme, the graduates will be able to:**	**Mapping**
PSO-1	Acquire sufficient programming skill through various concepts of computer languages.	PO-3
PSO-2	Apply mathematical concepts in solution of common computing application.	PO-2
PSO-3	Acquire skills in the areas of programming, multimedia, animation, web designing, networking and to acquire knowledge in various domain based electives.	PO-3
PSO-4	Illustrate effectively and to improve their competency skills to solve real time problems.	PO-1
PSO-5	Employ modern computer languages and applications for their successful career, to create platforms to become an entrepreneur.	PO-8
PSO-6	Explain data distribution process with networking concepts.	PO-6
PSO-7	Build Skills to create Web Pages with various technologies.	PO-6
PSO – 8	Describe the nature of software development process, testing and effective document preparation.	PO-9
PSO- 9	Understand the standard techniques for solving problem on a computer including programming techniques.	PO-5
PSO-10	Acquire basic knowledge of computer organization, digital computers and logical circuits.	PO-2
PSO-11	Apply various techniques for the representation of information in computers.	PO-1
PSO-12	Determine new computing technologies and encouraging self learning activities.	PO-9
PSO-13	Evaluate various real life situations by resorting the key issues and factors.	PO-7
PSO-14	Analyze a problem, and identify and define the computing requirements appropriate to its solution.	PO-2

PSO-15	Design, implement, and evaluate a computer-based system, process, component, or programme to meet desired needs.	PO-4
PSO-16	Apply current techniques, skills, and tools necessary for computing practice with an understanding of the limitations.	PO-9

Course Outcomes (CO)

C Programming

CO No.	Upon completion of this course, students will be able to:	PSO addressed	Blooms taxonomy
CO-1	Understand the concept of algorithm.	2	U
CO-2	Compare and contrast loop.	15	U
CO-3	Implement recursion.	2	U
CO-4	Describe the various operators and library function.	1,2	AP
CO-5	Demonstrate the concept of storage class, structure, pointers and union.	15	AP

Discrete Mathematics

CO No.	Upon completion of this course, students will be able to:	PSO addressed	Blooms taxonomy
CO-1	Define basic principles of sets and operation in sets.	2	RE
CO-2	Compute the shortest path.	6	AP
CO-3	Apply Logical reasoning to solve a variety of problems.	6	AP
CO-4	Determine computing principles.	2	AP
CO-5	Demonstrate Sets and Relations.	2	CR

C Programming Practical

CO No.	Upon completion of this course, students will be able to:	PSO addressed	Blooms taxonomy
CO-1	Understand the concept of algorithm.	2	U
CO-2	Compare and contrast loop.	15	U
CO-3	Implement recursion.	2	U

CO-4	Describe the various operators and library function.	1,2	AP
CO-5	Demonstrate the concept of structure, pointers and union.	15	AP

Office Automation

CO No.	Upon completion of this course, students will be able to:	PSO addressed	Blooms taxonomy
CO-1	Understand the concept of manipulation of relay office information needed for accomplishing basic tasks.	1	U
CO-2	Apply the concept of mail merge.	7	AP
CO-3	Analyze business productivity and optimize existing office procedure which saves time.	5	AN
CO-4	Create and Edit spreadsheet document and files and images.	3	CR
CO-5	Apply skills in enhancing the PowerPoint slides with animation and sound effects.	3	AP

Office Automation Practical

CO No.	Upon completion of this course, students will be able to:	PSO addressed	Blooms taxonomy
CO-1	Understand the concept of word for typing letters, Editing and printing.	1	U
CO-2	Apply the concept of mail merge, Header, Footer, Bookmark, Endnotes and	7	AP
CO-3	Acquire the knowledge for presentation with different design and styles.	5	AN
CO-4	Create spreadsheet document with macros, Goal Seek and Scenario concept.	3	CR
CO-5	Apply the concept of presentation with animation and sound effects.	3	AP

Object Oriented Programming with C++

CO No.	Upon completion of this course, students will be able to:	PSO addressed	Blooms taxonomy
CO-1	Understand the Basic concepts of OOPS.	5	U
CO-3	Apply the concept of object, array of object, and object as function arguments.	1,9	AP
CO-2	Demonstrate the concept of constructor and destructor.	1,9	AP

CO-4	Illustrate the inheritance concept to reduce the development time of software and reusability.	7	AP
CO-5	Discuss the file concepts in C++.	9	U

Digital Principles and Application

CO No.	Upon completion of this course, students will be able to:	PSO addressed	Blooms taxonomy
CO-1	Understand fundamentals of number system, binary codes and Boolean algebra to minimize logic expression.	2	U
CO-2	Evaluate k-map to minimize and optimize logic functions.	10	E
CO-3	Acquire knowledge about various logic gates and logic families.	11	U
CO-4	Analyze the circuits of logic families.	10	AN
CO-5	Understand and apply the basic concepts of multiplexer and flip flop.	10	U

Object Oriented Programming with C++

CO No.	Upon completion of this course, students will be able to:	PSO addressed	Blooms taxonomy
CO-1	Understand the concept of algorithm.	5	U
CO-3	Apply the concept of classes and objects.	1,9	AP
CO-2	Apply the concept of Array within the class and nesting of member functions.	1,9	AP
CO-4	Implement the concept of arrays, operators and constructors.	7	AP
CO-5	Demonstrate the concept of files.	9	AP

Flash

CO No.	Upon completion of this course, students will be able to:	PSO addressed	Blooms taxonomy
CO-1	Understand the high-performance and console-quality images.	3,7	U
CO-2	Create animation, audio, and other advanced forms of content interactivity.	3	CR
CO-3	Create an interactive website.	7	CR

CO-4	Develop the different timeline effects and different layers.	7	AP
CO-5	Create an animation to the object.	12	CR

Flash Practical

CO No.	Upon completion of this course, students will be able to:	PSO addressed	Blooms taxonomy
CO-1	Understand the working of Key Frames for working of an object.	3,7	U
CO-2	Create a Draggable Movie Clip.	3	CR
CO-3	Create a button and apply the timeline effects.	7	CR
CO-4	Create an object and apply Tweening.	7	AP
CO-5	Create an animated object.	12	CR

Java Programming

CO No.	Upon completion of this course, students will be able to :	PSO addressed	Blooms taxonomy
CO-1	Understand the basic concepts of object oriented programming.	1	U
CO-2	Explain the concepts of vector, interface and packages.	5	U
CO-3	Explore Applets and HTML.	7	AN
CO-4	Estimate Exception Handling.	1	AN
CO-5	Create graphics object.	7	AP

Computer Graphics

CO No.	Upon completion of this course, students will be able to:	PSO addressed	Blooms taxonomy
CO-1	Understand the characteristics and functioning of common graphics input and output devices, graphics processors.	3	U
CO-2	Compare standard graphics devices at various levels.	3	E

CO-3	Create programs to implement standard graphics output primitives using standard approaches and algorithms.	2	C
CO-4	Apply 2D transformations to display various graphic effects including motion.	9	AP
CO-5	Analyze 2D viewing and its function for handling clipping operations.	9	AN
CO-6	Classify the concept of parallel and perspective projection on 3D viewing and visible surface detection algorithms.	9	AN

Operation Research

CO No.	Upon completion of this course, students will be able to:	PSO addressed	Blooms taxonomy
CO-1	Understand the concept of theories and algorithms to model.	2	U
CO-2	Solve the mathematical optimization problems.	2	AP
CO-3	Apply to real life decision making problems.	14	AP
CO-4	Evaluate the concept of queuing theory.	2	E
CO-5	Evaluate the concept of network scheduling.	2	E

Java Programming Practical

CO No.	Upon completion of this course, students will be able to:	PSO addressed	Blooms taxonomy
CO-1	Understand the concept of writing an algorithm.	1	U
CO-2	Implement the concept of Inheritance and arrays.	5	AP
CO-3	Create a Vector class and Wrapper Class.	7	CR
CO-4	Implement the concept of package.	1	AP
CO-5	Demonstrate the Events and Graphics Class.	7	AP

Web Design

CO No.	Upon completion of this course, students will be able to:	PSO addressed	Blooms taxonomy
CO-1	Understand the basics of internet.	7	U

CO-2	Describe the HTML Tags.	7	U
CO-3	Acquire skills in DHTML.	3	AN
CO-4	Create Websites using Forms.	3,7	CR
CO-5	Apply the HTML tags to create Frames.	3	AP

XML Programming

CO No.	Upon completion of this course, students will be able to:	PSO addressed	Blooms taxonomy
CO-1	Understand XML, DTD and XML Schema.	3	U
CO-2	Analyze XML Tree Structure.	7	AN
CO-3	Determine the XSLT Basics.	3	AP
CO-4	Evaluate the Web Services.	7	E
CO-5	Analyze XSLT web services to see X path.	7	AN

Web Design Practical

CO No.	Upon completion of this course, students will be able to:	PSO addressed	Blooms taxonomy
CO-1	Understand about HTML Tags.	7	U
CO-2	Learn Hyperlink in web design.	7	AN
CO-3	Demonstrate Ordered List and Unordered List.	3	AP
CO-4	Illustrate Inline Styles and Nested frames.	3,7	AP
CO-5	Create Registration Form for websites.	7	CR

XML Practical

CO No.	Upon completion of this course, students will be able to:	PSO addressed	Blooms taxonomy
CO-1	Understand the XML Tags.	7	U
CO-2	Create XML Document using Microsoft Access and Microsoft Excel.	7	U

CO-3	Develop skills in Internal and External DTD creation.	3	CR
CO-4	Create Web Services using .NET.	3,7	CR
CO-5	Apply the XML for parsing XML document.	3	AN

Unix and Shell Programming

CO No.	Upon completion of this course, students will be able to:	PSO addressed	Blooms taxonomy
CO-1	Understand the architecture of networking and basic commands of unix.	10	U
CO-2	Implement various file processing commands used in unix.	1	AP
CO-3	Apply regular expression to perform pattern matching using utilities like grep, sed and awk.	1	AP
CO-4	Determine the process management using system call.	15	U
CO-5	Constructs various shell scripts for simple application.	15	AP

Unix and Shell Programming Practical

CO No.	Upon completion of this course, students will be able to:	PSO addressed	Blooms taxonomy
CO-1	Understand the concept of writing the Shell Programming.	10	U
CO-2	Apply the concept of Simple Inheritance.	1	AP
CO-3	Apply the Concept of Files in Unix.	1	AP
CO-4	Construct Loops.	15	AP
CO-5	Evaluate the concept of create, move, copy and remove files.	10	E

Operating System

CO No.	Upon completion of this course, students will be able to:	PSO addressed	Blooms taxonomy
CO-1	Understand different views of operating system, threads, mutual exclusion and deadlock.	10	U

CO-2	Discuss CPU Scheduling.	10	U
CO-3	Describe file management and Unix process management.	1	U
CO-4	Demonstrate system call.in OS.	14	AP
CO-5	Understand on a basis of memory management, static, dynamic partition.	10	U

Data Structures in C

CO No.	Upon completion of this course, students will be able to:	PSO addressed	Blooms taxonomy
CO-1	Understand basic data structure for storage and retrieval of ordered and unordered data.	11	U
CO-2	Implement algorithms for creation, insertion, deletion, searching and sorting of each data structure.	4	AP
CO-3	Analyze and compare algorithms efficiency.	11	AN
CO-4	Acquire knowledge about trees.	11	U
CO-5	Implement the concept of Graphs	4	AP

PHP

CO No.	Upon completion of this course, students will be able to:	PSO addressed	Blooms taxonomy classification
CO-1	Understand the PHP script.	1	U
CO-2	Evaluate Arrays, String and Date Function.	16	E
CO-3	Determine Object-Oriented Design principles in PHP.	3	U
CO-4	Implement the concept of Database to connect, to fetch, store, and update persistent information.	5	AN
CO-5	Acquire skills in using current Web Technologies.	7	U

PHP Practical

CO No.	Upon completion of this course, students will be able to:	PSO addressed	Blooms taxonomy
CO-1	Understand the concept of writing PHP script.	1	U
CO-2	Demonstrate the concept of array.	16	AP
CO-3	Apply the concept of database with PHP.	3	AP
CO-4	Demonstrate the concept of Strings.	5	AP
CO-5	Demonstrate the concept of file.	16	AP

Active Server Page

CO No.	Upon completion of this course, students will be able to:	PSO addressed	Blooms taxonomy
CO-1	Understand the concepts of Web development.	3	U
CO-2	Develop a data driven web application.	3	CR
CO-3	Acquire knowledge about ASP components and objects.	7	U
CO-4	Discuss the concept of HTML with ASP.	7	U
CO-5	Create database connectivity with ASP.	5	CR

Active Server Page Practical

CO No.	Upon completion of this course, students will be able to:	PSO addressed	Blooms taxonomy
CO-1	Demonstrate the concept of cookies.	3	U
CO-2	Apply concepts application and session in ASP.	3	AP
CO-3	Acquire knowledge in ASP components.	7	U
CO-4	Demonstrate Query String, Drives and Folders.	7	U
CO-5	Apply Database with ASP.	5	AP

PC Hardware and Trouble Shooting

CO No.	Upon completion of this course, students will be able to:	PSO addressed	Blooms taxonomy
CO-1	Understand the Knowledge contained in the computer maintenance and repair standard.	10	U
CO-2	Understand the problem of troubleshooting.	14	U
CO-3	Discuss various failure process items in PC systems.	10	AP
CO-4	Diagnose the trouble shooting levels.	10	AN
CO-5	Demonstrate the maintenance of basic personal computer hardware and OS.	10	U

PC Hardware and Trouble Shooting Practical

CO No.	Upon completion of this course, students will be able to:	PSO addressed	Blooms taxonomy
CO-1	Understand the various components of the Computer.	10	U
CO-2	Understand the problem of PC.	14	U
CO-3	Discuss the installation of software and drives.	10	AP
CO-4	Diagnose the trouble shooting levels.	10	AN
CO-5	Diagnose the CMOS password.	10	AN

Python Programming

CO No.	Upon completion of this course, students will be able to:	PSO addressed	Blooms taxonomy
CO-1	Understand python application.	1	U
CO-2	Analyze the python object types.	1	AN
CO-3	Demonstrate file access in python.	1	AP
CO-4	Analyze the object oriented concepts in python.	3	AN

CO-5	Illustrate the concept of Exception Handling in Python	16	AP

Python Programming Practical

CO No.	Upon completion of this course, students will be able to:	PSO addressed	Blooms taxonomy
CO-1	Understand to write python program.	1	U
CO-2	Construct Looping Statements.	1	AN
CO-3	Demonstrate String function in python.	1	AP
CO-4	Apply list, tuple, dictionary and modules in python.	3	AP
CO-5	Demonstrate Exception Handling in Python	1	U

Software Engineering

CO No.	Upon completion of this course, students will be able to :	PSO addressed	Blooms taxonomy
CO-1	Understand various concepts and requirements of a software.	2	U
CO-2	Demonstrate Functional and Non Functional requirements	4	U
CO-3	Apply the concept of software models in a software.	8	AP
CO-4	Interpret the concept of System models.	8	U
CO-5	Apply the techniques of Verification and Validation.	8	AP

J2EE

CO No.	Upon completion of this course, students will be able to :	PSO addressed	Blooms taxonomy
CO-1	Understand the concepts of designing and developing dynamic, database-driven application using J2EE.	5	U
CO-2	Demonstrate how to connect to any JDBC-compliant database, and perform hands on practice with a database to create database-driven connectivity.	6	U
CO-3	Develop a small project independently.	15	CR

CO-4	Demonstrate the advanced J2EE concepts using Servlet.	16	U
CO-5	Make use a RMI in J2EE concepts.	16	AP

Microprocessor

CO No.	Upon completion of this course, students will be able to :	PSO addressed	Blooms taxonomy
CO-1	Understand the basic architecture of 16 and 32 bit microprocessor.	10	U
CO-2	Analyze the assembly language programming in Microprocessor 8085.	1	AN
CO-3	Illustrate the concept of CISC and RISC based Microprocessors.	10	U
CO-4	Demonstrate the concept of Stack and Subroutine.	16	U
CO-5	Analyze the concept of multi core processors.	10	AN

J2EE Practical

CO No.	Upon completion of this course, students will be able to :	PSO addressed	Blooms taxonomy
CO-1	Explain the database connection.	7	U
CO-2	Apply the concept of Insertion0	7	AP
CO-3	Illustrate the concept of JSP.	3	U
CO-4	Demonstrate the concept of Servlet.	7	U
CO-5	Interpret the concept of RMI.	7	U

VB.NET

CO No.	Upon completion of this course, students will be able to :	PSO addressed	Blooms taxonomy
CO-1	Understand .NET Framework and describe some of the major enhancements to the new version of Visual Basic.	3	U
CO-2	Examine the basic structure of a Visual Basic.NET project and use main features of the integrated development environment.	3	AN
CO-3	Create applications using Microsoft Windows Forms and with use of ADO.	4	CR

CO-4	Apply server-side applications with the use of ADO.NET, ASP.NET and Web Services.	5	AP
CO-5	Apply the OOPS concept in console application.	3	AP

Android Programming

CO No.	Upon completion of this course, students will be able to :	PSO addressed	Blooms taxonomy
CO-1	Understand the Anatomy of an Android Application.	12	U
CO-2	Apply the concept of Android to develop an Android Application.	16	AP
CO-3	Analyze user interface design techniques.	7	AN
CO-4	Discuss Android Software Development Process.	7	CR
CO-5	Design and Develop the bulletproof Android.	16	CR

VB.NET Practical

CO No.	Upon completion of this course, students will be able to :	PSO addressed	Blooms taxonomy
CO-1	Illustrate about the picture animation using Image list.	7	U
CO-2	Discuss about the menus and built-in-dialogs.	3	CR
CO-3	Demonstrate the concept of Exception handling.	7	U
CO-4	Apply the concept of Polymorphism and Inheritance using Console Application.	7	AP
CO-5	Develop a webpage using VB.NET Controls.	3	CR

Android Practical

CO No.	Upon completion of this course, students will be able to :	PSO addressed	Blooms taxonomy
CO-1	Understand the basic concepts of Android Application to display a message.	15	U
CO-2	Create a user login page.	3	CR
CO-3	Experiment with various Event Listeners.	7	AP
CO-4	Create a dialog box and alert messages.	16	CR
CO-5	Create an animation.	7	CR

Mobile Communications

CO No.	Upon completion of this course, students will be able to :	PSO addressed	Blooms taxonomy
CO-1	Understand the fundamentals of mobile computing function.	6	U
CO-2	Analyze the Architecture of Mobile Computing.	6	AN
CO-3	Discuss the concept of Bluetooth, RFID.	16	CR
CO-4	Illustrate the concept of GSM.	12	U
CO-5	Understand the concept of WAP.	15	U

Data Communication and Networking

CO No.	Upon completion of this course, students will be able to :	PSO addressed	Blooms taxonomy
CO-1	Understand the concepts of network topologies.	6	U
CO-2	Illustrate the concept of OSI Model.	12	U
CO-3	Explain about transmission media and protocols.	13	U
CO-4	Understand the concept of CSMA/CD and Token Ring.	6	U
CO-5	Apply the concept of Cryptography in presentation layer.	6	AP

C# Programming

CO No.	Upon completion of this course, students will be able to :	PSO addressed	Blooms taxonomy
CO-1	Understand the concepts of .NET Framework.	3	U
CO-2	Apply the concept of OOPS in C#.	1	AP
CO-3	Discuss about Methods in C#.	1	CR
CO-4	Apply about Classes and Objects in C# programming.	8	AP
CO-5	Construct Interfaces in C# programming.	15	AP

C# programming Practical

CO No.	Upon completion of this course, students will be able to :	PSO addressed	Blooms taxonomy
CO-1	Create an Electricity bill using switch statement.	2	CR
CO-2	Demonstrate the concept of Recursion.	9	U
CO-3	Illustrate Constructor Overloading.	11	U
CO-4	Utilize the concept of Interfaces.	9	CR
CO-5	Apply the concepts of files.	12	AP

RDBMS with ORACLE

CO No.	Upon completion of this course, students will be able to :	PSO addressed	Blooms taxonomy
CO-1	Understand database concepts and database management system software.	12	U
CO-2	Utilize the concept of Algebra and Relational Algebra Operations.	2	AP
CO-3	Define the basis of SQL Queries.	9	RE
CO-4	Demonstrate the SQL * Plus Menus.	15	U
CO-5	Discuss about PL/SQL.	15	CR

RDBMS with SQL SERVER

CO No.	Upon completion of this course, students will be able to :	PSO addressed	Blooms taxonomy
CO-1	Understand the concept of Database system.	6	U
CO-2	Analyze the architecture of DBMS.	6	AN
CO-3	Apply the SQL Queries in the concept of Normalization.	7	AP
CO-4	Discuss Operations in the Relational model.	16	CR
CO-5	Understand various keys used in RDBMS.	7	U

RDBMS with ORACLE Practical

CO No.	Upon completion of this course, students will be able to :	PSO addressed	Blooms taxonomy
CO-1	Create tables in Oracle.	1	CR
CO-2	Make use of constraints in Oracle.	1	AP
CO-3	Discuss the Operators and Functions.	9	CR
CO-4	Understand the concepts of PL/SQL programs.	11	U
CO-5	Apply the PL/SQL concepts with procedures and functions.	12	AP

RDBMS with SQL SERVER Practical

CO No.	Upon completion of this course, students will be able to :	PSO addressed	Blooms taxonomy
CO-1	Create Tables in SQL SERVER.	6	CR
CO-2	Make use of constraints in SQL SERVER.	6	AP
CO-3	Make use of keys in SQL SERVER.	7	AP
CO-4	Apply Sub Queries in SQL SERVER.	16	AP
CO-5	Apply Relational Model in SQL SERVER.	7	AP

Internet of Things

CO No.	Upon completion of this course, students will be able to :	PSO addressed	Blooms taxonomy
CO-1	Understand the basic concepts of IOT and enabling Technologies.	12	U
CO-2	Classify the Domain Specific IOTs.	12	U
CO-3	Demonstrate the characteristics and applications of IoT and M2M.	3	U
CO-4	Illustrate generic methodology and design for IoT .	16	U
CO-5	Discuss IoT physical devices and End Points.	16	CR

Project

CO No.	Upon completion of this course, students will be able to :	PSO addressed	Blooms taxonomy
CO-1	Identify the potential areas of research in the software field.	12	AP
CO-2	List out the data from various sources like real data.	5	RE
CO-3	Interpret the concept of online software model.	3	U
CO-4	Experiment with real data in the software.	16	AP
CO-5	Create and develop the software.	11	CR