Programme: B. Sc. Computer Science

SEMESTER- I			
Core – I	**C Programming**		
Code: 18UCSC11	**Hrs / week : 4**	**Hrs / Semester: 60**	**Credits : 4**

Course outcome:

CO No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	draw the flow chart for the given problem and algorithm	1	Un
CO-2	describe the various operators and library functions and to define I/O functions	3	Un
CO-3	compare and contrast loops	4	An
CO-4	implement recursion	8	Ap
CO-5	understand the concept of storage classes	9	Un
CO-6	implement different operations on arrays	3	Ap
CO-7	develop an application using pointer.	5	Cr
CO-8	develop application using structure and pointers	10	Cr

SEMESTER- I			
Allied – I	**Discrete Mathematics**		
Code: 18UCSA11	**Hrs / week : 4**	**Hrs / Semester: 60**	**Credits :3**

Course Outcome:

CO.No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	define basic principles of sets and operations in sets	4	Re
CO-2	demonstrate relations	4	Ap
CO-3	apply counting principles	8	Ap
CO-4	compute the shortest path	8	Cr
CO-5	create an argument using logical notation and evaluate if it is valid or not.	1	Cr
CO-6	apply logical reasoning to solve a variety of problems.	8	Ap
CO-7	model problems in computer science using graphs and trees and traverse them depending on the problem.	8	Ap
CO-8	construct spanning tree and traverse trees and graphs.	5	Cr

SEMESTER - I			
Ability Enhancement Course - Value Education			
Code : 18UAVE11	**Hrs/Week : 2**	**Hrs / Semester: 30**	**Credits : 2**

Unit I : Introduction

Value education and its Relevance to present day – Meaning of Value Education – Education and its role – Leading a fulfilling life of universal values

Unit II : Cultivation of Personal Values

Personal Values– Truth - Honesty and Integrity – Love –Compassion – Gratitude - Courage – Optimism – Friendship

Unit III : Elimination of Negative Emotions

Overcome fear – Jealousy is harmful – Sources of jealousy - Jealousy and compulsiveness- Be an optimist – Gossip is Dynamite – Anger

Unit IV : Family Values

Familial Responsibilities –Five Basic Functions of a Mother - Fathers' role in the family - Five Duties of Children to Parents - Indian Cultural Values

Unit V : Spiritual Value

Cultivating Good Manners – Being Persuasive – Being authentic – Professional Ethics – Work Culture – Code of Conduct

SEMESTER- II			
Core II	**C++ Programming**		
Code: 18UCSC21	**Hrs / week : 4**	**Hrs / Semester: 60**	**Credits : 4**

Course outcome:

CO No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	know about object oriented features.	8	Un
CO-2	understand the various operators and i/o functions	3	Re
CO-3	write program using inline and friend function and to implement overloading constructor	3	Cr, AP
CO-4	understand array of objects and to demonstrate operator overloading	8,9	Un, AP
CO-5	compare different inheritance methods	3	An
CO-6	develop linked list	5	Cr
CO-7	understand virtual function	8	Un
CO-8	create an application using file operations	10	Cr

SEMESTER- II			
Allied II	**Digital Principles**		
Code: 18UCSA21	**Hrs / week : 4**	**Hrs / Semester: 60**	**Credits : 3**

Course Outcome:

CO.No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	understand various number systems and boolean functions.	9	Un
CO-2	apply various methods to simplify boolean function.	4	Cr
CO-3	construct digital circuits for boolean functions with logic gates.	6	Cr
CO-4	design combinational circuits with logic gates.	6	Cr
CO-5	apply classical techniques for the logical design of combinational and sequential circuits	6	Ap
CO-6	define sequential logic circuits.	6	Re
CO-7	understand the basic operation of flip-flops.	2	Re
CO-8	understand the various registers-transfer methods .	2	Re

SEMESTER- III			
Core – III	**Java Programming**		
Code: 18UCSC31	**Hrs / week : 5**	**Hrs / Semester: 75**	**Credits : 4**

Course Outcome:

CO No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	know the various operators , Class and Methods of Java	1	Re
CO-2	analyze the concept of Exception -Handling	2	An
CO-3	describe multi threading	4	Un
CO-4	discuss the Basics of Applet Concept	1	Re
CO-5	apply Event Handling Mechanisms	4	Ap
CO-6	implement AWT Controls	4	Ap
CO-7	design JDBC Package	4	Cr
CO-8	create an application using RMI	10	Cr

SEMESTER- III			
Allied III	**Data Structures**		
Code: 18UCSA31	**Hrs / week : 4**	**Hrs / Semester: 60**	**Credits : 3**

Course Outcome:

CO No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	analyze efficiency of algorithms	1	An
CO-2	compare various search methods	4	An
CO-3	choose the appropriate data structure needed to solve the problem.	4	Ap
CO-4	design stacks and queues	4	Cr
CO-5	discuss applications of stack and queue	6	Un
CO-6	create an expression tree for an expression and evaluate it.	3	Cr
CO-7	implement graph traversals	3	Ap
CO-8	compare and contrast sorting methods	4	An

SEMESTER- III			
Core Skill Based	**Microprocessors**		
Code: 18UCSS31	**Hrs / week : 4**	**Hrs / Semester: 60**	**Credits : 4**

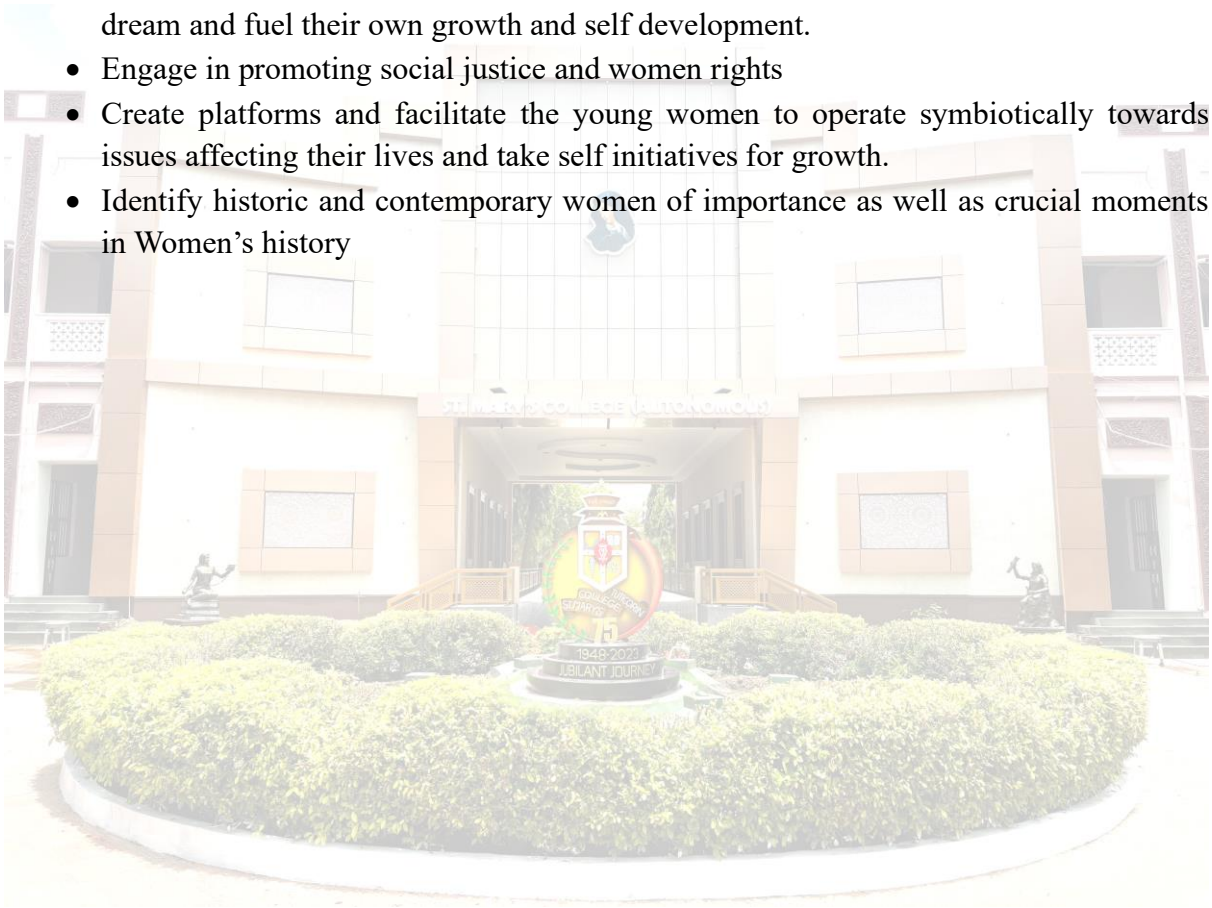
Course Outcome:

CO No.	Upon completion of this course, students will be able to	PSO Mapped	CL
CO-1	explain basic components and structure of Microprocessor and Microcomputers	1	Un
CO-2	describe 8085 Microprocessor and Memory Interfacing.	2	Un
CO-3	explain 8085 Microprocessor Programming model.	3	Un
CO-4	explain various categories of 8085 Microprocessor instruction set.	2	Un
CO-5	execute simple Assembly language Programs.	3	Ap
CO-6	explain various Assembly language programming techniques.	3	Un
CO-7	develop Assembly language Programs.	4	Cr
CO-8	explain interrupts in 8085 Microprocessor and high performance Processors.	1	Un

Semester – III			
Women's Synergy			
Code : 18UAWS31	**Hrs/ Week : 2**	**Hrs/Sem:30**	**Credits : 2**

Course Outcome

- To know about Women's health issues including menstruation, pregnancy, child birth etc, thereby taking care of themselves.
- Create awareness about their own biases, fears and comfort levels and encourage to dream and fuel their own growth and self development.
- Engage in promoting social justice and women rights
- Create platforms and facilitate the young women to operate symbiotically towards issues affecting their lives and take self initiatives for growth.
- Identify historic and contemporary women of importance as well as crucial moments in Women's history



SEMESTER- IV			
Core V	**Python Programming**		
Code: 18UCSC41	**Hrs / week :5**	**Hrs / Semester: 75**	**Credits :4**

Course Outcome:

CO No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	explain what is python and why it is a powerful	2	Un
CO-2	distinguish various python objects	1	An
CO-3	apply decision and repetition structures in program design.	1	An
CO-4	demonstrate the use of Python lists and dictionaries	1	Ap
CO-5	demonstrate how to read and write files Programs in Python	2	Ap
CO-6	develop Python programs using files.	5	Cr
CO-7	identify the errors in csv files using and rectify.	6	Ap
CO-8	write python programs to solve problems	10	Cr

SEMESTER- IV			
Core – VI	**RDBMS**		
Code: 18UCSC42	**Hrs / week :6**	**Hrs / Semester: 90**	**Credits :4**

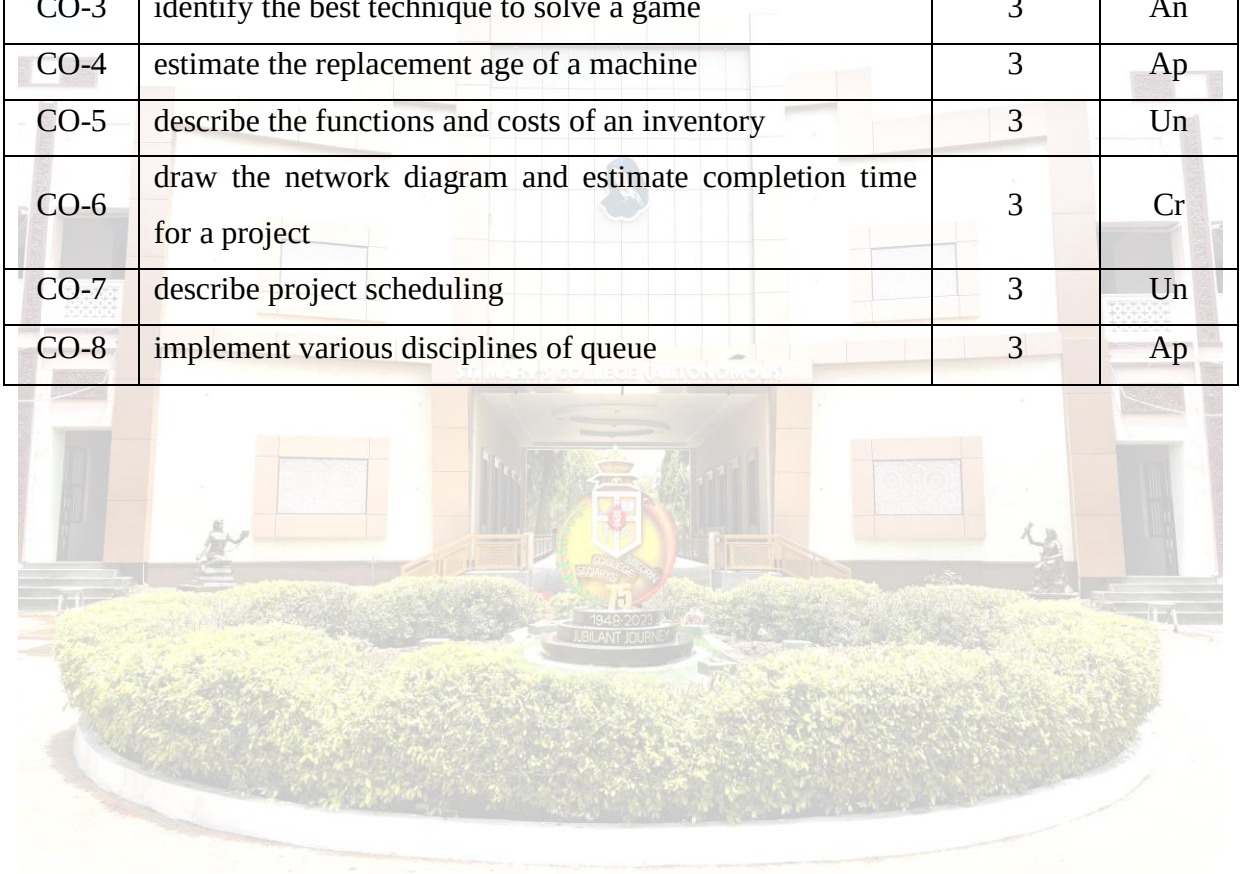
Course Outcome:

CO No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	understand database concepts and database management system software	5	Un
CO-2	apply Formal Relational Query Languages	5	Ap
CO-3	demonstrate an application's data requirements using conceptual modeling tools like ER diagrams and Database Design	5	An
CO-4	implement normalization techniques	6	Ap
CO-5	compare the various storage media and Implement the file structures	6	Ap
CO-6	apply transaction and concurrency control	6	Ap
CO-7	implement Database System Architectures	10	Ap
CO-8	design databases for different databases	10	Cr

SEMESTER- IV			
Allied – IV	**Resource Management Techniques**		
Code: 18UCSA41	**Hrs / week :4**	**Hrs / Semester: 60**	**Credits :3**

Course Outcome:

CO No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	define operation research	1	Re
CO-2	formulate optimization problems	1	Cr
CO-3	identify the best technique to solve a game	3	An
CO-4	estimate the replacement age of a machine	3	Ap
CO-5	describe the functions and costs of an inventory	3	Un
CO-6	draw the network diagram and estimate completion time for a project	3	Cr
CO-7	describe project scheduling	3	Un
CO-8	implement various disciplines of queue	3	Ap



Semester - V			
Common Core	**Computer Oriented Numerical Methods**		
Code: 18UCCC51	**Hrs/Week: 6**	**Hrs/Sem: 90**	**Credits : 4**

Course Outcome:

CO. No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	find numerical solution of a problem in all aspects and apply these methods to practical implementation as reliable and efficient.	3	Re
CO-2	recognize and apply appropriate principles and concept relevant to Numerical Analysis.	3	Ap
CO-3	discover the most appropriate estimate for the missing data.	3	Cr
CO-4	analyze the errors obtained in the numerical solutions of problems.	3	An
CO-5	use appropriate numerical methods, determine the solutions to given problems.	3	Ap
CO-6	demonstrate the method of interpolation and find the solution for the data.	3	Un
CO-7	develop their calculation skills.	3	Cr
CO-8	differentiate Gauss Jacobi iteration and Gauss Seidal Iteration method.	3	An

SEMESTER- V			
Core – VIII	**Operating Systems**		
Code: 18UCSC52	**Hrs / week :4**	**Hrs / Semester: 60**	**Credits :4**

Course Outcome:

CO No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	define Operating System Structure and the various operations , process of operating system	1	Re
CO-2	analyze the Various Scheduling Algorithms of Process Management	6	An
CO-3	explain the concept of Deadlock.	6	Re
CO-4	implement the various allocation methods of Memory Management	6	Ap
CO-5	access Methods and File allocation Methods	6	Re
CO-6	compare the scheduling algorithms of disk	6	An
CO-7	discuss about open source software	9	Un
CO-8	compare Linux with other operating system	6	An

SEMESTER- V			
Core – IX	**Programming With PHP and MySQL**		
Code: 18UCSC53	**Hrs / week :4**	**Hrs / Semester: 60**	**Credits :4**

Course Outcome:

CO No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	explain the variable usage in PHP	1	Un
CO-2	creating forms with conditional statements	1	Cr
CO-3	describe about arrays, files, cookies and functions.	2	Un
CO-4	create an application using file operation	4	Cr
CO-5	implement the concept of oracle in Mysql query	7	Ap
CO-6	explain the concept Grouping data, filtering, Aggregate function	7	Un
CO-7	explain the concept of the sub queries, joining tables,set operator and full text searching	7	Ap
CO-8	develop PHP program with database connectivity .	7	Cr

Semester - V			
SEMESTER- V			
Core – Integral I	**Data Mining**		
Code: 18UCSI51	**Hrs / week : 4**	**Hrs / Semester: 60**	**Credits :4**

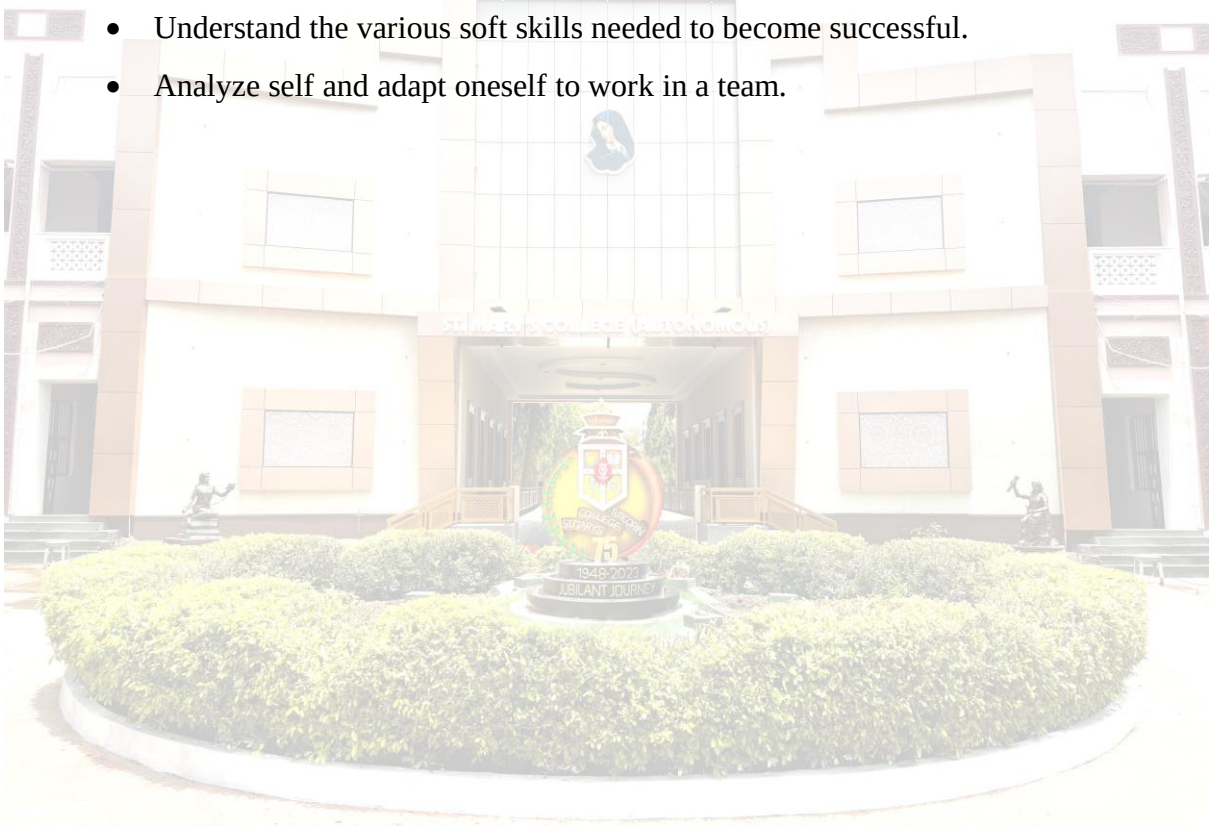
Course Outcome:

CO No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	define data mining process and the various data mining techniques	1	Re
CO-2	apply market basket analysis	7	Ap
CO-3	compare different classification methods	7	An
CO-4	implement cluster analysis	7	Ap
CO-5	create an ODS	7	Cr
C0-6	discuss about data warehousing	6	Re
CO-7	compare and contrast OLAP AND OLTP	7	An
CO-8	describe various search engines .	10	Un

Common Skill Based Core	Computer for Digital Era and Soft Skills		
Code : 18UCSB51	**Hrs / Week : 2**	**Hrs / Sem : 30**	**Credits : 2**

Course Outcome

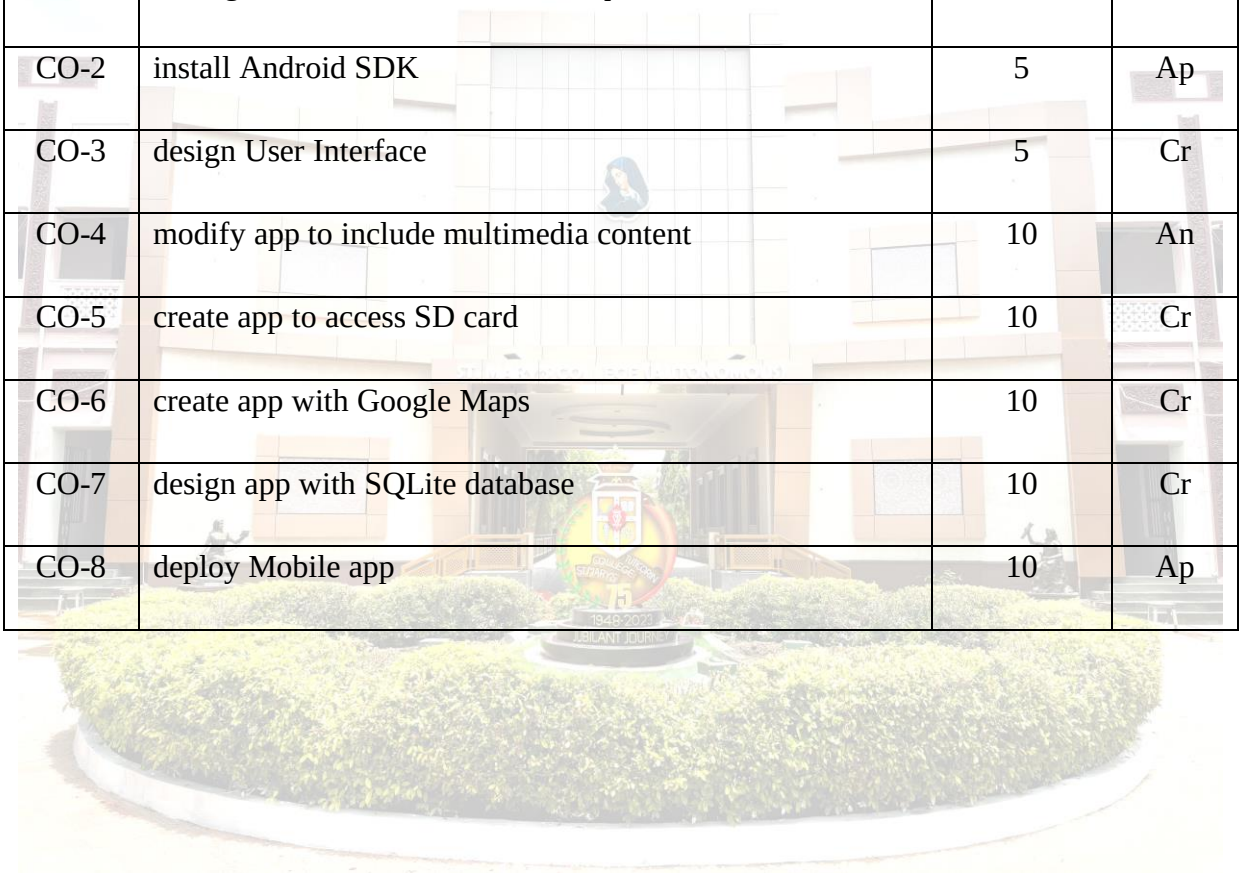
- Identify different types of computer systems.
- Classify various types of software being used.
- Compare various digital payments and use them in day to day life.
- Recognise the innovative technologies IoT and integrate it in various fields.
- Analyze various social networking platforms and use them efficiently.
- Distinguish various cyber attacks and apply preventive measures.
- Understand the various soft skills needed to become successful.
- Analyze self and adapt oneself to work in a team.



SEMESTER VI			
Core – X	**Android Programming**		
Code: 18UCSC61	**Hrs / week :5**	**Hrs / Semester: 75**	**Credits :4**

Course Outcome:

CO No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	distinguish different mobile techniques	2	Re
CO-2	install Android SDK	5	Ap
CO-3	design User Interface	5	Cr
CO-4	modify app to include multimedia content	10	An
CO-5	create app to access SD card	10	Cr
CO-6	create app with Google Maps	10	Cr
CO-7	design app with SQLite database	10	Cr
CO-8	deploy Mobile app	10	Ap



SEMESTER VI			
Core – XI	**Software Engineering**		
Code: 18UCSC62	**Hrs / week :4**	**Hrs / Semester: 60**	**Credits :4**

Course Outcome:

CO No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	describe the concepts of Software Engineering.	1	Un
CO-2	describe Software Life Cycle Model	1	Un
CO-3	discuss Project Management	2	Ap
CO-4	discuss software Requirement and specification	2	Ap
CO-5	explain Software Design Process	3	Un
CO-6	describe User Interface Designing	3	Un
CO-7	explain software Testing and Software Reliability	3	Un
CO-8	Discuss Software Quality Management System	3	Un

SEMESTER VI			
Core – XII	**Computer Networks**		
Code: 18UCSC63	**Hrs / week :5**	**Hrs / Semester:75**	**Credits :4**

Course Outcome:

CO No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	define Network and the various types of Network	1	Re
CO-2	demonstrate the model of Network	1	An
CO-3	analyze the structure of Switch and the Protocols.	2	An
CO-4	discuss Connection devices by using Wired LANs	2	Ap
CO-5	discuss the Network layer and Transport Layer in routing and TELNET	6	Re
CO-6	describe the various routing algorithms in network layer	8	Un
CO-7	define Network Security and other aspects of Security	5	Re
CO-8	acquire the basic knowledge of layers of OSI model	5	Re

SEMESTER VI			
Core – Integral II	**Cloud Computing**		
Code: 18UCSI61	**Hrs / week :4**	**Hrs / Semester: 60**	**Credits :4**

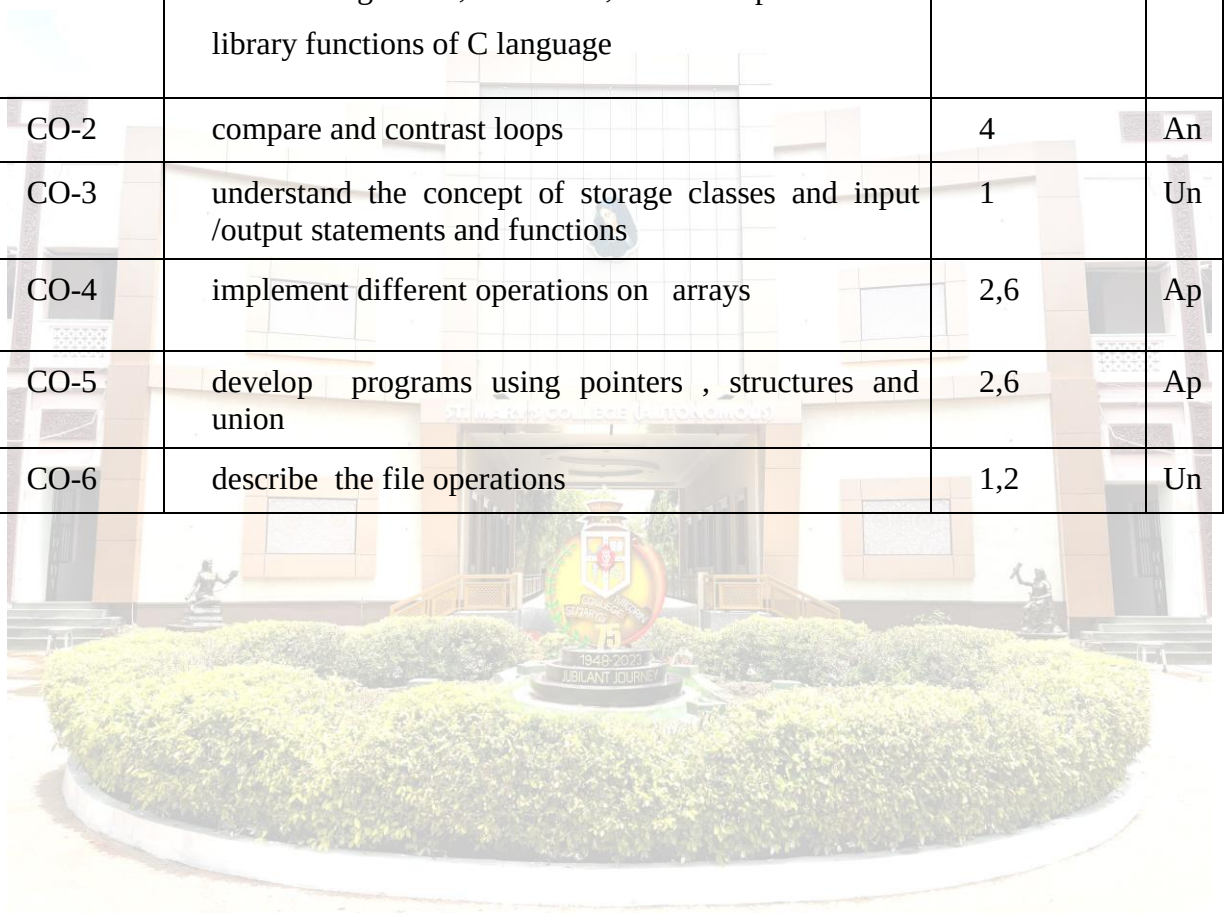
Course Outcome:

CO No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	define cloud computing	1	Re
CO-2	describe the characteristics of cloud	2	Un
CO-3	identify the technical foundations of cloud system architecture	2	An
CO-4	characterize the distinction between infrastructure, platform, software and service	7	An
CO-5	illustrate the use of load balancing techniques	7	Ap
CO-6	attempt to generate new ideas and innovations in cloud computing	7	Cr
CO-7	compare and contrast the various web services	10	An
CO-8	demonstrate the usage of mail services	10	An

Semester I			
Core – I	**C Programming**		
Course Code:21UCSC11	**Hrs / week : 4**	**Hrs / Semester: 60**	**Credits : 4**

Course outcome:

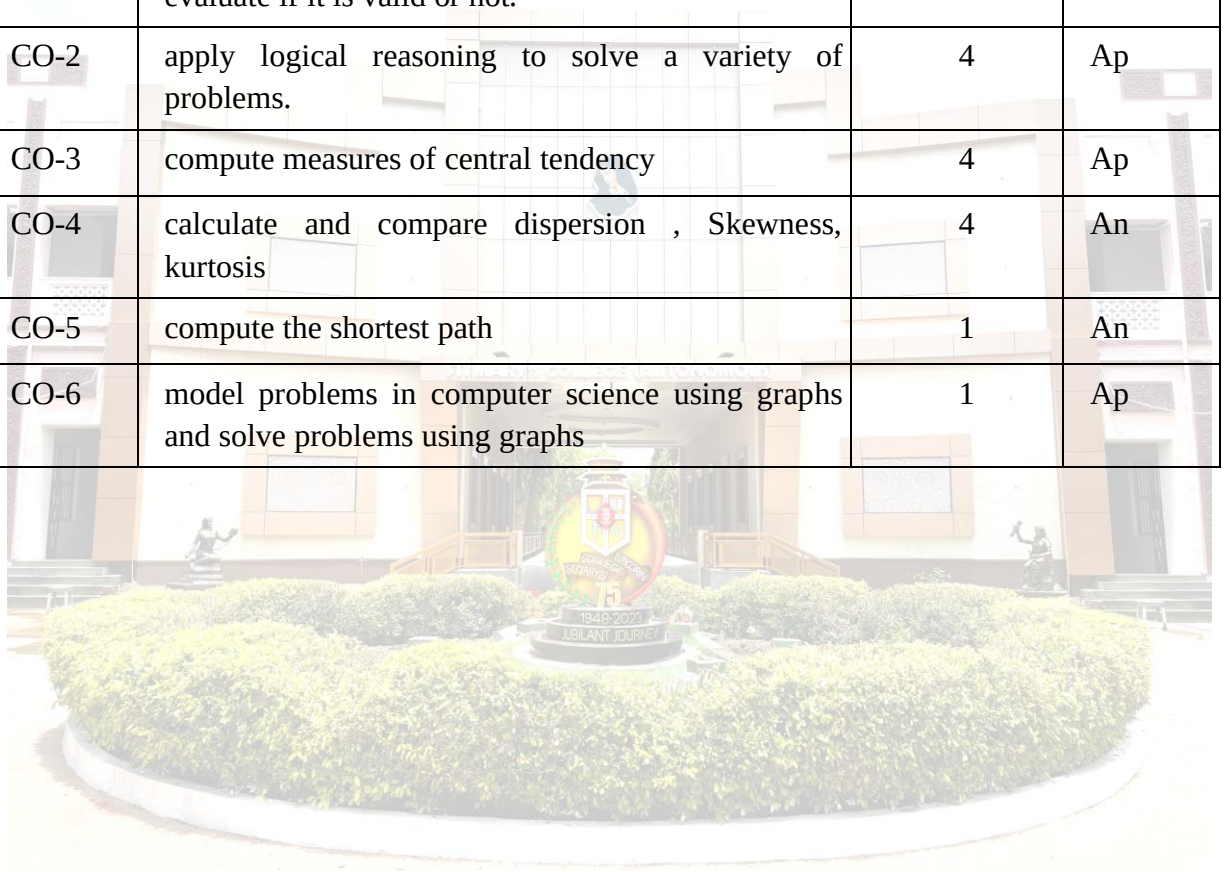
CO No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	describe algorithm, flowchart, various operators and library functions of C language	1	Un
CO-2	compare and contrast loops	4	An
CO-3	understand the concept of storage classes and input /output statements and functions	1	Un
CO-4	implement different operations on arrays	2,6	Ap
CO-5	develop programs using pointers , structures and union	2,6	Ap
CO-6	describe the file operations	1,2	Un



SEMESTER- I			
Allied – I	**Mathematics for Computer Science**		
Course Code: 21UCSA11	**Hrs / week :3**	**Hrs / Semester: 45**	**Credits :3**

Course Outcomes:

CO.No.	Upon completion of this course, students will be able to	PSOs addressed	CL
CO-1	create an argument using logical notation and evaluate if it is valid or not.	1	Cr
CO-2	apply logical reasoning to solve a variety of problems.	4	Ap
CO-3	compute measures of central tendency	4	Ap
CO-4	calculate and compare dispersion , Skewness, kurtosis	4	An
CO-5	compute the shortest path	1	An
CO-6	model problems in computer science using graphs and solve problems using graphs	1	Ap



SEMESTER- I			
Skill Enhancement Course-I Professional English for Computer Science –I			
Course Code: 21UCSPE1	**Hrs / week :2**	**Hrs / Semester: 30**	**Credits :2**

Course Outcomes:

CO.No	Upon completion of this course, students will be able to	PSOs addressed	CL
CO-1	recognise their own ability to improve their own competence in using the language	7	Un
CO-2	use language for speaking with confidence in an intelligible and acceptable manner.	3	An
CO-3	understand the importance of reading for life	3	Un
CO-4	write simple sentences without committing error of spelling or grammar	7	An
CO-5	develop critical thinking skills and get culturally aware of the target situation	4	Cr
CO-6	develop communicative skill for professional collaboration	7	Cr

SEMESTER - I			
Ability Enhancement Course -Value Education			
Code : 21UAVE11	**Hrs/Week : 2**	**Hrs / Semester: 30**	**Credits : 2**

Unit I: Introduction to Value Education

Concept of Values -Types of Values- Approaches to values - Benefits of Value Education-Characteristics of Values

Unit II: Human Values

Human Values -Sources of Human Values - Love - Compassion - Gratitude - Courage - Optimism - Forgiveness- the need and urgency to reinforce Human Values

Unit III: Social Values

Role of family and society in teaching values - Role of educational institutions in inculcating values-Three general functions of education for society-Self-Reflection- Our society's needs - Social Responsibilities of a student

Unit IV: Spiritual Values

Spiritual Values - Spiritual Development -Moral Development - Importance of Spiritual Values - Cultivation of Spiritual Values -Five most common spiritual values - Spiritual Resources

Unit V: Values for Life Enrichment

Goal Setting - Building relationship - Friendship - Love relationship - Family relationship - Professional relationship Interpersonal Relationship -Essential Life Skills that Help in Students Future Development-Life Enrichment Skills Domain

Books for Reference:

1. Sneha M. & K. Pushpanadham Joshi. *Value Based Leadership in Education Perspective and Approaches,* Anmol Publications Pvt. Limited, 2002.

2. Venkataiah.N. *Value Education,* APH Publishing, 1998

3. Pramod Kumar M. *A Handbook on Value Education*, Ramakrishna Mission Institute of Culture (RMIC) 2007

4. Jagdosh Chand, *Value Education*, Shipra Publication 2007

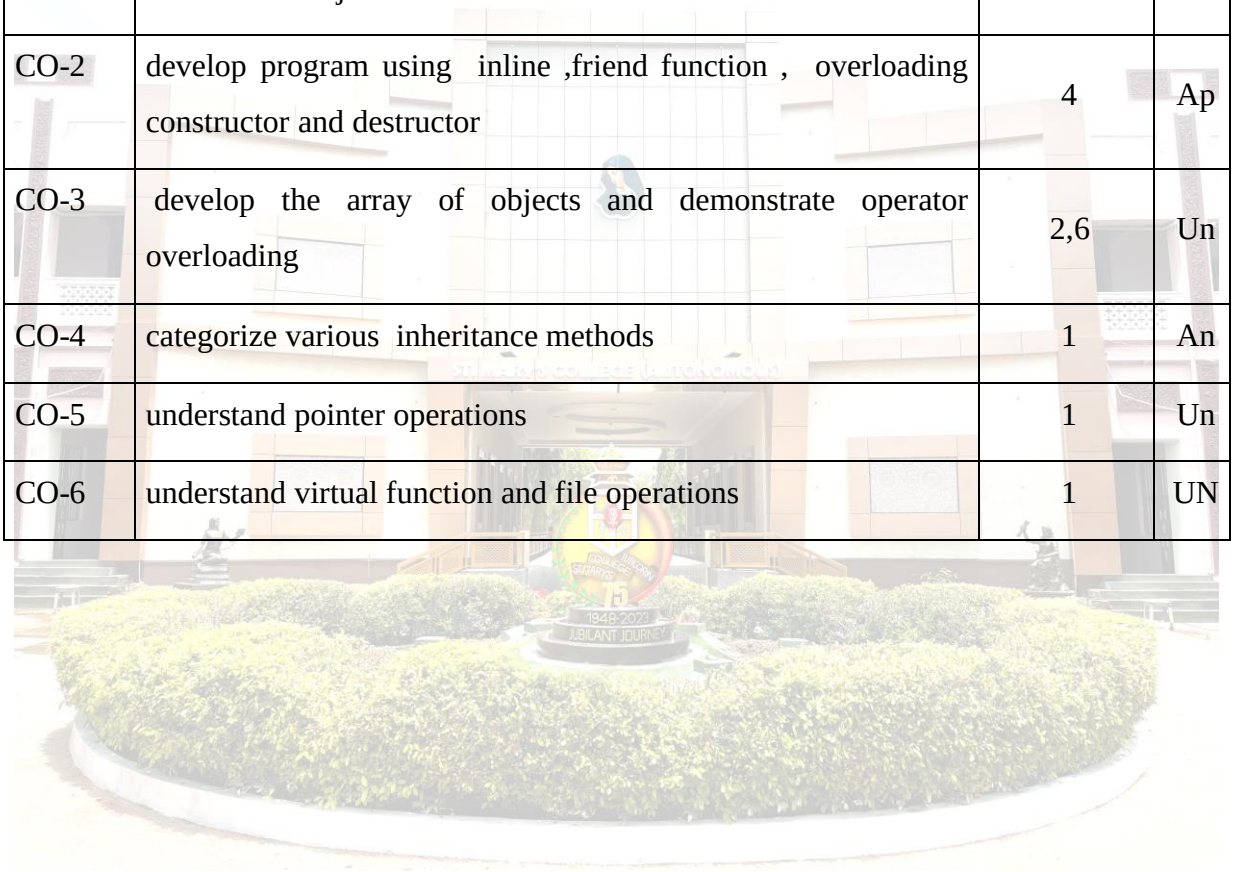
5. Indrani Majhi (Shit) Ganesh Das, *Value Education*, Laxmi Publication Pvt. Ltd., 2017

6. Arumugam, N. S. Mohana, Lr.Palkani, *Value Based Education*, Saras Publication2014

SEMESTER- II			
Core II	**C++ Programming**		
Course Code: 21UCSC21	**Hrs / week : 4**	**Hrs / Semester: 60**	**Credits : 4**

Course outcome:

CO No.	Upon completion of this course, students will be able to	PSO Addressed	CL
CO-1	know about object-oriented features.	1	Un
CO-2	develop program using inline ,friend function , overloading constructor and destructor	4	Ap
CO-3	develop the array of objects and demonstrate operator overloading	2,6	Un
CO-4	categorize various inheritance methods	1	An
CO-5	understand pointer operations	1	Un
CO-6	understand virtual function and file operations	1	UN



SEMESTER II			
Allied II	**Digital Electronics**		
Course Code: 21UCSA21	**Hrs / week : 3**	**Hrs /Semester:45**	**Credits : 3**

Course Outcome:

CO No.	Upon completion of this course, students will be able to	PSO Addressed	CL
CO-1	understand various number systems and boolean functions.	1	Un
CO-2	apply various methods to simplify boolean function.	4	Ap
CO-3	construct digital circuits for boolean functions with logic gates.	4	Cr
CO-4	design combinational circuits with logic gates.	4	Cr
CO-5	define sequential logic circuits.	1	Re
CO-6	analyse the operation of various flip-flops.	1	An

SEMESTER- II			
Skill Enhancement Course-II	**Professional English for Computer Science –II**		
Course Code: 21UCSPE2	**Hrs / week :2**	**Hrs / Semester: 30**	**Credits :2**

Course Outcome:

CO.No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	understand the basic objective of the course and obtain strong professional vocabulary for its application at different platforms	7	Un
CO-2	apply the knowledge for writing purposes such as Presentation, drafting and project report etc.	5	Ap
CO-3	evaluate the correct and error-free writing by being well-versed in rules of English grammar and cultivate relevant technical style of communication and presentation.	7	Ev
CO-4	apply techniques for developing inter-personal communication and to respond questions at a formal interview	5,7	Ap
CO-5	apply critical thinking skills to face everyday life situations.	4	Ap
CO-6	develop strategic competence that will help in efficient communication	3, 7	Ap

SEMESTER- III			
Core – III	**Java Programming**		
Course Code: 21UCSC31	**Hrs / week : 4**	**Hrs / Semester: 60**	**Credits : 4**

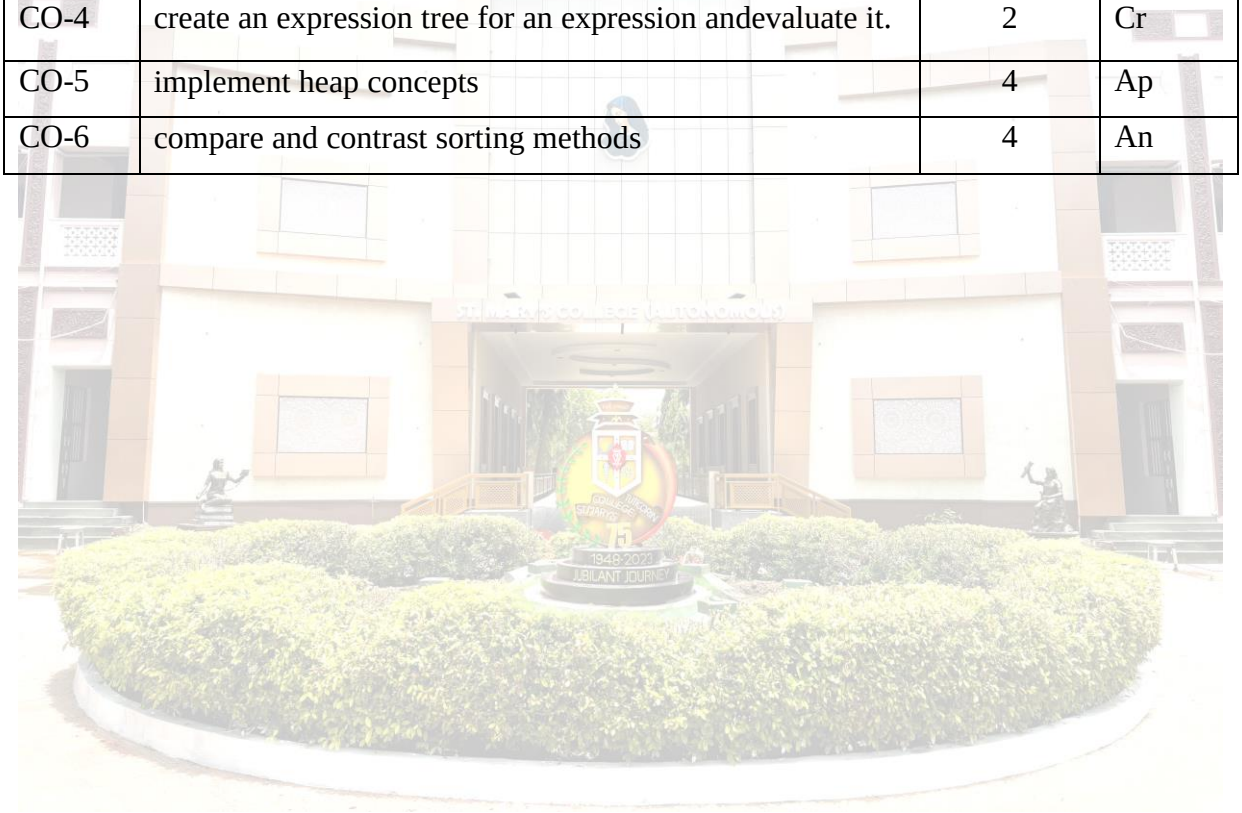
Course Outcome:

CO.No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	knowledge of the structure and model of the Java programming language	1,2	Re
CO-2	develop reusable programs using the concepts of inheritance, polymorphism, interfaces and packages.	2	An
CO-3	apply the concepts of Multithreading and Exception handling to develop efficient and error free codes.	2	Un
CO-4	design event driven GUI .	6	Ap
CO-5	Develop web related applications	8	Ap
CO-6	Develop applications using JDBC	6,8	Ap

SEMESTER- III			
Allied III	**Data Structures**		
Course Code: 21UCSA31	**Hrs / week : 3**	**Hrs / Semester: 45**	**Credits : 3**

Course Outcome:

CO No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	compare various search methods	4	An
CO-2	implement hashing methods	4	Ap
CO-3	discuss applications of stack	1	Un
CO-4	create an expression tree for an expression andevaluate it.	2	Cr
CO-5	implement heap concepts	4	Ap
CO-6	compare and contrast sorting methods	4	An



SEMESTER- III			
Skill Based Elective	**Microprocessors**		
Course Code: 21UCSS31	**Hrs / week : 2**	**Hrs / Semester: 30**	**Credits : 2**

Course Outcome:

CO No.	Upon completion of this course, students will be able to	PSO Mapped	CL
CO-1	explain basic components and structure of Microprocessor and Microcomputers	1	Un
CO-2	describe 8085 Microprocessor and Memory Interfacing.	1	Un
CO-3	classify the various 8085 Microprocessor instruction set.	1	Un
CO-4	develop Assembly language Programs for various arithmetic operations	2	Ap
CO-5	develop Assembly language Programs for time delays	1	Ap
CO-6	. understand stack and subroutine operations in 8085	2	Un

SEMESTER- III			
Skill Based Elective 2	**E- Commerce**		
Course Code: 21UCSS32	**Hrs / week :2**	**Hrs / Semester: 30**	**Credits: 2**

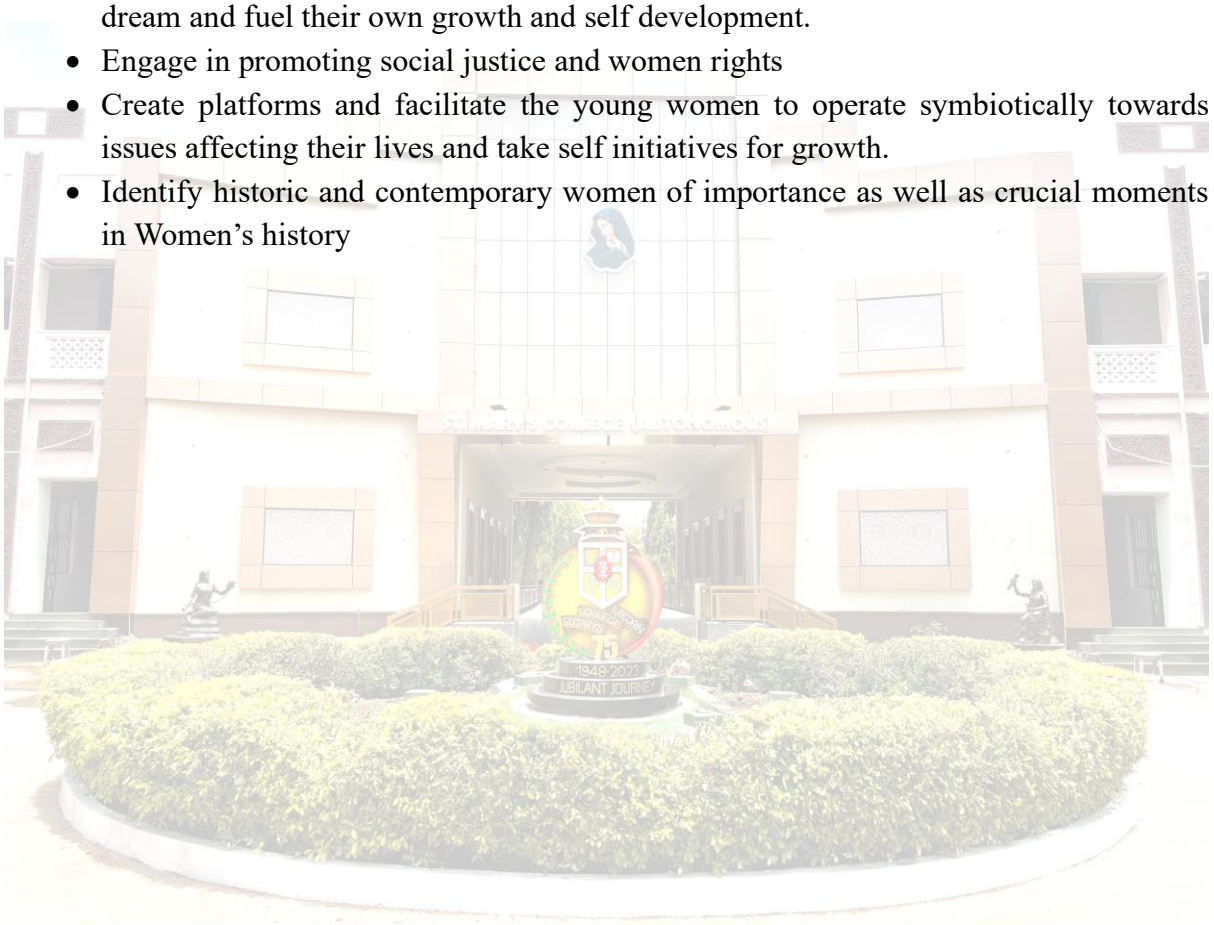
Course Outcome:

CO No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	Explain what is E-Commerce	6	Un
CO-2	Compare different business models of E-commerce	6	An
CO-3	Differentiate E-marketing versus traditional marketing	4	Ap
CO-4	Facilitate online marketing	5	Ap
CO-5	Implement E-advertising	5,8	Cr
CO-6	Devise security for E-Commerce	3	Cr

Semester – III			
Women's Synergy			
Code : 21UAWS31	**Hrs/ Week : 2**	**Hrs/Sem:30**	**Credits : 2**

Course Outcome

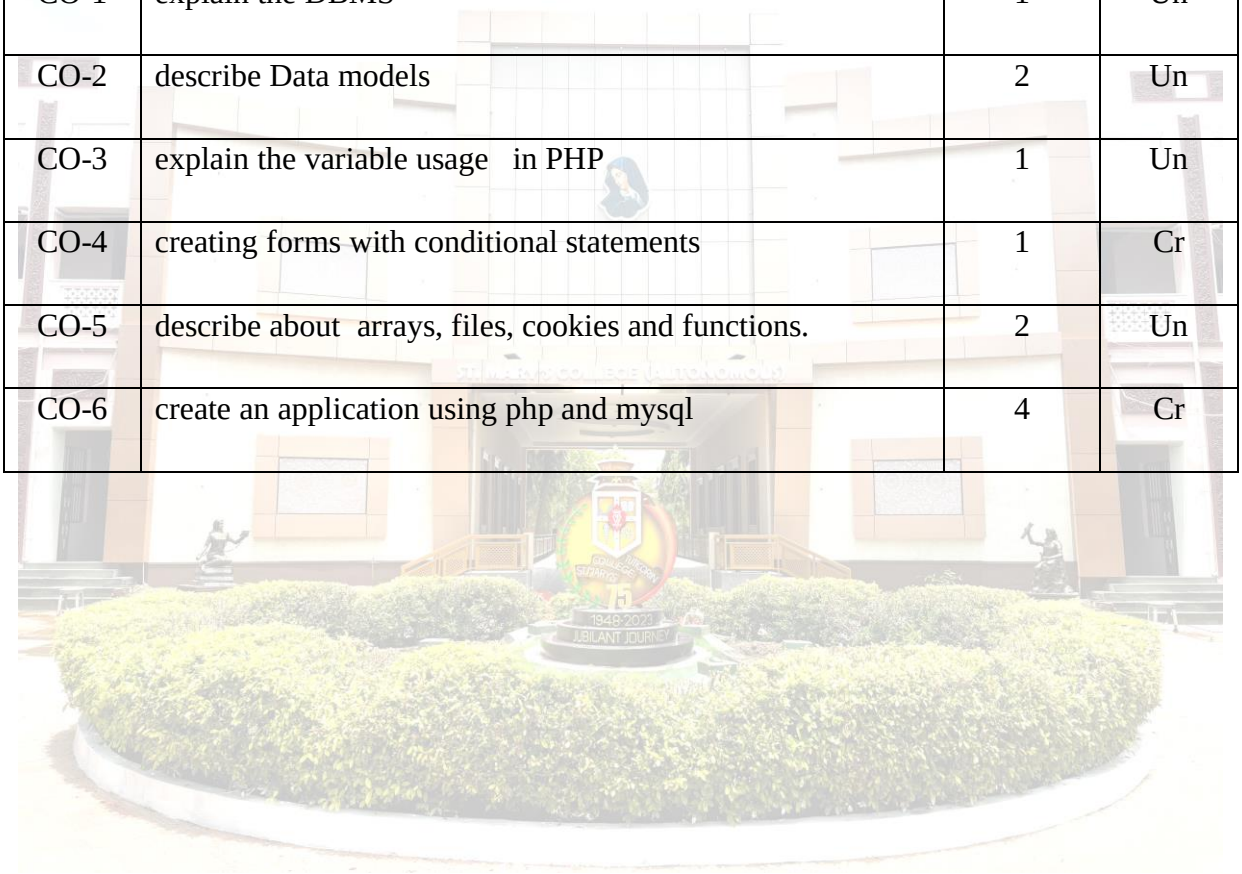
- To know about Women's health issues including menstruation, pregnancy, child birth etc, thereby taking care of themselves.
- Create awareness about their own biases, fears and comfort levels and encourage to dream and fuel their own growth and self development.
- Engage in promoting social justice and women rights
- Create platforms and facilitate the young women to operate symbiotically towards issues affecting their lives and take self initiatives for growth.
- Identify historic and contemporary women of importance as well as crucial moments in Women's history



SEMESTER- IV			
CORE IV	**RDBMS with PHP and MySQL**		
Code: 21UCSC41	**Hrs / week :4**	**Hrs / Semester: 60**	**Credits :4**

Course Outcomes:

CO No.	Upon completion of this course, students will be able to	PSO Mapped	CL
CO-1	explain the DBMS	1	Un
CO-2	describe Data models	2	Un
CO-3	explain the variable usage in PHP	1	Un
CO-4	creating forms with conditional statements	1	Cr
CO-5	describe about arrays, files, cookies and functions.	2	Un
CO-6	create an application using php and mysql	4	Cr



SEMESTER- IV			
Allied – IV	**Big Data Analytics**		
Course Code: 21UCSA41	**Hrs / week :3**	**Hrs / Semester: 45**	**Credits :3**

Course Outcome:

CO No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	understand the concept of Big Data	1	Un
CO-2	describe Big data Analytics	4	Un
CO-3	explain Big Data Analytics Process	4	Un
CO-4	understand Machine Learning	6	Un
CO-5	understand artificial Intelligence	6	Un
CO-6	explain the Applications of Big Data	5,8	Ap

SEMESTER- IV			
Skill Based Elective 2	**Cyber Security**		
Course Code: 21UCSS42	**Hrs / week :2**	**Hrs / Semester: 30**	**Credits: 2**

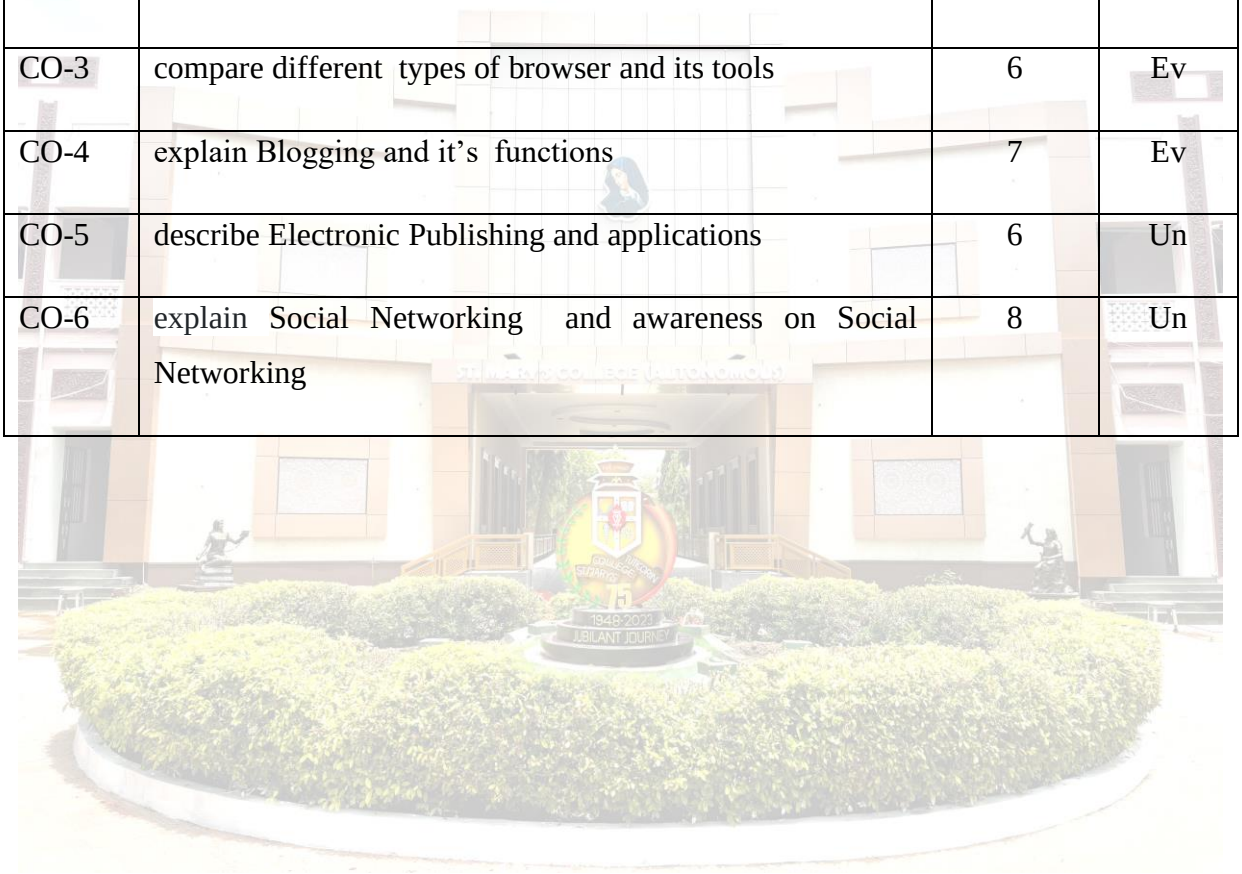
Course Outcome:

CO.No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	identify how security issues in cyberspace raise ethical concerns	3	Un
CO-2	adapting Artificial Intelligence Ethics	6,8	Cr
CO-3	acquire the knowledge of Cyber laws, regulations in information Society	3	Un
CO-4	identify and explore the different types of Cyber Crimes	8	Un
CO-5	appraise the Cyber offences	5	Ev
CO-6	assess Cyber Bullying and digital literacy for protecting children from bullying.	8	Ap

SEMESTER-IV			
Part IV Non Major Elective	**Introduction To Internet**		
Course Code:21UCSN41	**Hrs/week:2**	**Hrs/sem:30**	**Credits: 2**

Course Outcomes:

CO No.	Upon completion of this course, students will be able to	PSOs addressed	CL
CO-1	outline the History of Internet	1	Un
CO-2	understand about E-mail and how it works	6	Un
CO-3	compare different types of browser and its tools	6	Ev
CO-4	explain Blogging and it's functions	7	Ev
CO-5	describe Electronic Publishing and applications	6	Un
CO-6	explain Social Networking and awareness on Social Networking	8	Un



Semester -V			
Common Core VII	**Computer Oriented Numerical Methods**		
Course Code: 21UCMC51	**Hrs/Week: 6**	**Hrs/Sem: 90**	**Credits : 5**

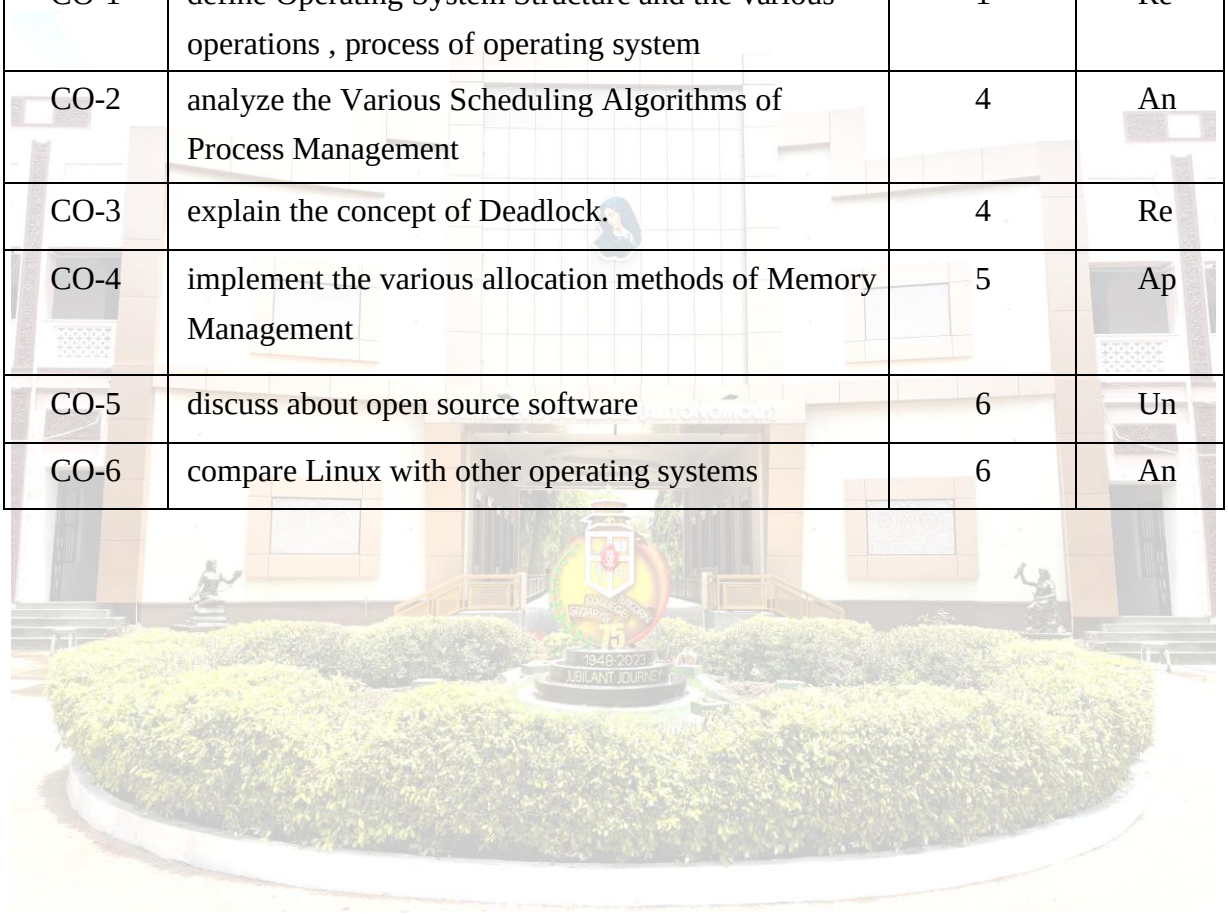
Course Outcome:

CO. No.	Upon completion of this course, students will be able to	PSO Addressed	CL
CO-1	recognize and apply appropriate principles and concepts relevant to Numerical Analysis.	6	Ap
CO-2	discover the most appropriate estimate for the missing data.	4	Cr
CO-3	analyze the errors obtained in the numerical solutions of problems.	4	An
CO-4	demonstrate the method of interpolation and find the solution for the data.	6	Un
CO-5	analyze and visualize data	4	An
CO-6	create and control simple plot and user-interface graphics objects in MATLAB	2,8	Cr

SEMESTER- V			
Core – VIII	**Operating Systems**		
Course Code: 21UCSC51	**Hrs / week :4**	**Hrs / Semester: 60**	**Credits :4**

Course Outcome:

CO No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	define Operating System Structure and the various operations , process of operating system	1	Re
CO-2	analyze the Various Scheduling Algorithms of Process Management	4	An
CO-3	explain the concept of Deadlock.	4	Re
CO-4	implement the various allocation methods of Memory Management	5	Ap
CO-5	discuss about open source software	6	Un
CO-6	compare Linux with other operating systems	6	An



SEMESTER- V			
Core IX	**Python Programming**		
Course Code:21UCSC52	**Hrs / week :4**	**Hrs / Semester: 60**	**Credits :4**

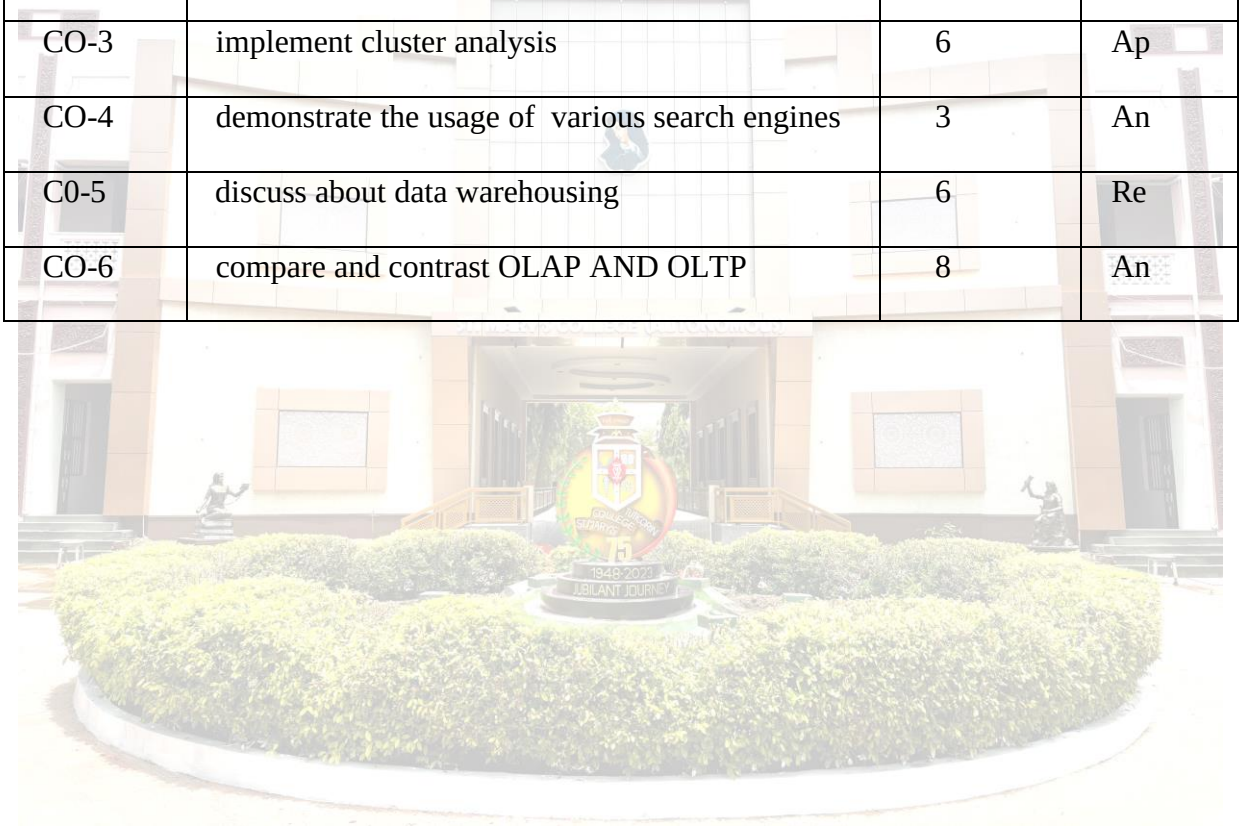
Course Outcome:

CO No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	explain what is python and how to execute python programs	2	Un
CO-2	distinguish various python objects	1	An
CO-3	apply decision and repetition structures in program design.	2	An
CO-4	demonstrate the use of Python lists and dictionaries	1	Ap
CO-5	demonstrate how to read and write files Programs in Python	2	Ap
CO-6	develop Python programs using files.	5	Ap

SEMESTER- V			
Core – Elective I	**Data Mining**		
Course Code: 21UCSE51	**Hrs / week : 4**	**Hrs / Semester: 60**	**Credits :4**

Course Outcome:

CO No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	implement Apriori algorithm	2	Ap
CO-2	compare different classification methods	4	An
CO-3	implement cluster analysis	6	Ap
CO-4	demonstrate the usage of various search engines	3	An
C0-5	discuss about data warehousing	6	Re
CO-6	compare and contrast OLAP AND OLTP	8	An



SEMESTER- V			
Core – Elective I	**Introduction to IoT**		
Course Code: 21UCSE52	**Hrs / week : 4**	**Hrs / Semester: 60**	**Credits :4**

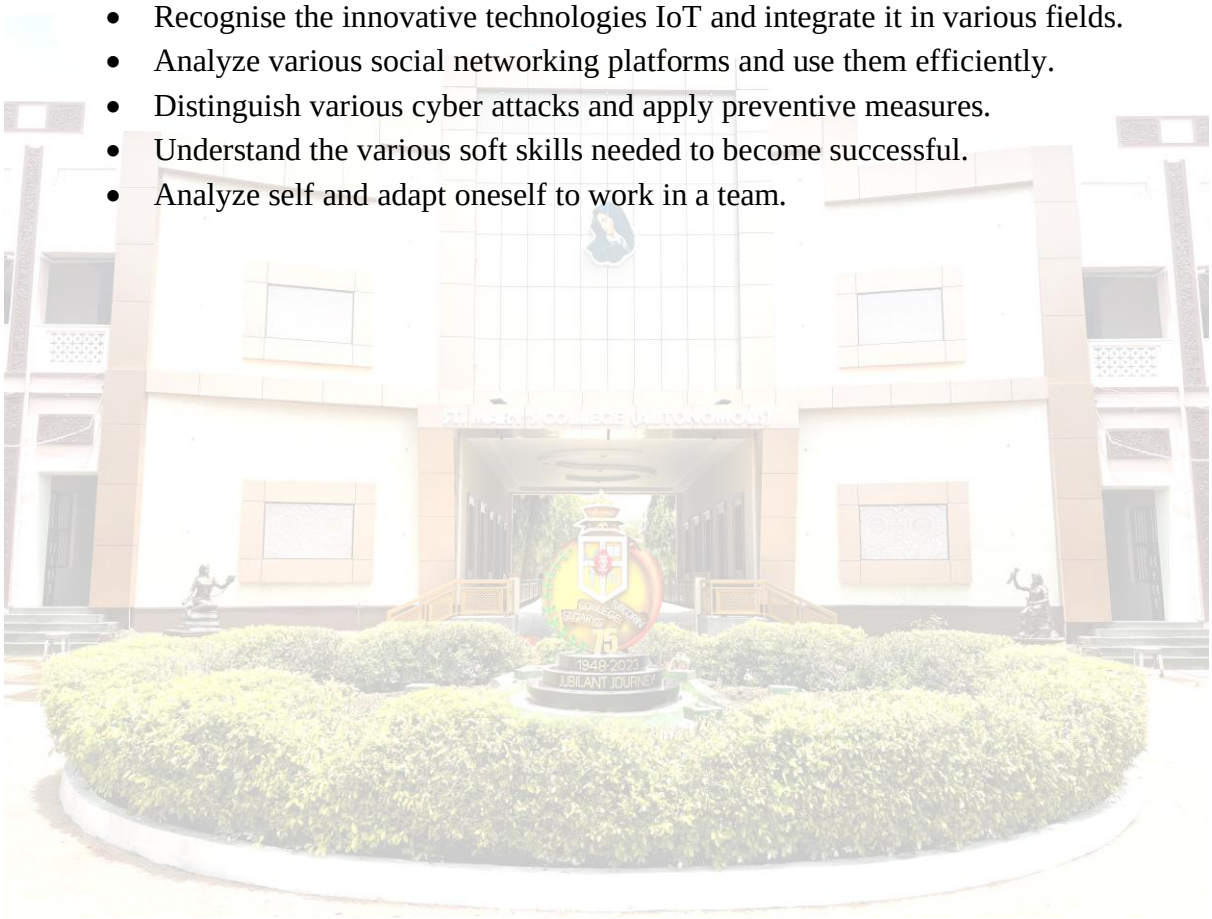
Course Outcome:

CO No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	understand and recall the characteristics and enabling technologies of IoT	8	Re
CO-2	analyse the appropriate transport protocols, addressing and identification techniques suitable for IoT Domain	6	An
CO-3	explore the apt cloud services and cloud service providers for IoT based Smart services	8	Ap
C0-4	discuss about challenges and obstacles of IoT	8	An
CO-5	compare and contrast fog and cloud computing	4	An
CO-6	describe IoT based Application to Monitor Water Quality	3	Un

Semester - V			
Common Skill Based Core	**Computer for Digital Era and Soft Skills**		
Code : 21UCSB51	**Hrs / Week : 2**	**Hrs / Sem : 30**	**Credits : 2**

Course Outcome

- Identify different types of computer systems.
- Classify various types of software being used.
- Compare various digital payments and use them in day to day life.
- Recognise the innovative technologies IoT and integrate it in various fields.
- Analyze various social networking platforms and use them efficiently.
- Distinguish various cyber attacks and apply preventive measures.
- Understand the various soft skills needed to become successful.
- Analyze self and adapt oneself to work in a team.



SEMESTER VI			
Core – X	**.NET Programming**		
Course Code: 21UCSC61	**Hrs / week :5**	**Hrs / Semester: 75**	**Credits :4**

Course Outcome:

CO No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	understand .NET framework	1	Re
CO-2	develop console applications with c#	2	Ap
CO-3	create web server applications using ASP.NET	6	Cr
CO-4	implement validation controls	2	Ap
CO-5	design applications with server controls	2	Cr
CO-6	develop databases using ADO.NET	2, 8	Ap

SEMESTER VI			
Core – XI	**Software Engineering**		
Course Code: 21UCSC62	**Hrs / week :5**	**Hrs / Semester: 75**	**Credits :4**

Course Outcomes:

CO No.	Upon completion of this course, students will be able to	PSO Mapped	CL
CO-1	describe Software development Process	1	Un
CO-2	discuss software Requirements and Architectural Design	1,3	Un
CO-3	explain Reliability and Safety Engineering	6	Un
CO-4	understand component models and architectural patterns for distributed and embedded systems.	1	Un
CO-5	explain engineering principles and techniques in software development.	2	Un
CO-6	discuss Software Quality Management System	1	Un

SEMESTER VI			
Core – XII	**Computer Networks**		
Course Code: 21UCSC63	**Hrs / week :5**	**Hrs / Semester:75**	**Credits :4**

Course Outcome:

CO No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	define Network and the various types of Network	1	Re
CO-2	analyze the structure of Switch and the Protocols.	4	An
CO-3	discuss Connection devices by using Wired LANs	1	Ap
CO-4	describe the various routing algorithms in network layer	4	Un
CO-5	define Network Security and other aspects of Security	1	Re
CO-6	acquire the basic knowledge of layers of OSI model	1	Re

SEMESTER VI			
Core – Elective II	**Cloud Computing**		
Course Code: 21UCSE61	**Hrs / week :4**	**Hrs / Semester: 60**	**Credits :4**

Course Outcome:

CO No.	Upon completion of this course, students will be able to	PSO addressed	CL
CO-1	examine the characteristics of cloud	3	An
CO-2	identify the technical foundations of cloud system architecture	3	An
CO-3	characterize the distinction between infrastructure , platform, software and service	6	An
CO-4	illustrate the use of load balancing techniques	5	Ap
CO-5	compare and contrast the various web services	8	An
CO-6	demonstrate the usage of mail services	7	An

SEMESTER VI			
Core – Elective II	**Mobile Computing**		
Course Code: 21UCSE62	**Hrs / week :4**	**Hrs /Semester: 60**	**Credits :4**

Course Outcomes:

CO No.	Upon completion of this course, students will be able to	PSO Mapped	CL
CO-1	distinguish different mobile techniques	8	Re
CO-2	install Android SDK	6	Ap
CO-3	design User Interface	5	Cr
CO-4	modify app to include multimedia content	6	An
CO-5	create app with Google Maps	3	Cr
CO-6	design messaging app	5	Cr

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