SRI RAMAKRISHNA MISSION VIDYALAYA COLLEGE OF ARTS AND SCIENCE
(AUTONOMOUS), COIMBATORE - 641 020
Bachelor of Computer Applications (BCA)

Programme Educational Objectives

- ❖ This program will prepare the students to become successful graduates with technical and life skills.
- ❖ Motivating them to present their ideas clearly by communicating effectively in team as well as an individual.
- ❖ To make them set goals, standard values and stand as a role model by holding responsibilities as a good leader, successfully guide the team and accomplished the desired goals.
- ❖ They will meet the needs of the advanced industries expectation.
- ❖ To develop the skills of upgrading themselves by getting updated time to date and continue to implement throughout their career and follow ethical values in their own field.

Program Outcomes

- ❖ Ability to apply the knowledge of Mathematics and Science to develop real time systems.
- ❖ Ability to design and conduct Experiments / Practical's.
- ❖ Ability to function on Multidisciplinary teams.
- ❖ Ability to communicate effectively and engage in lifelong learning.
- ❖ Students recognize the need for continuing Professional development, ethical and social issues and responsibilities.

Programme Specific Outcome:

- ❖ Apply the knowledge of mathematics and computing fundamentals to various real life applications for any given requirement

- ❖ Design applications for any desired needs with appropriate considerations for any specific need on societal and environmental aspects.

- ❖ Integrate and apply efficiently the contemporary IT tools to all computer applications.
- ❖ Solve and work with a professional context pertaining to ethics, social, cultural and cyber regulations

- ❖ Function effectively both as a team leader and team member on multi-disciplinary projects to demonstrate computing and management skills communicate effectively and present technical information in oral and written reports.

Course Title: PROGRAMMING IN C   Course Code: 20UCA1C01

COURSE OUTCOMES

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

CO No.	CO Statement	Knowledge Level
CO1	Learn the concepts of C programming	K1
CO2	Identify the logic behind the execution of various applications	K2
CO3	Learn &Analyse and discover bugs in the program	K1&K4
CO4	Develop an application using memory management functions, Pointers, Strings, Structures and Arrays.	K3
CO5	Apply the concepts to solve a real-time problem	K3

K1 – Recall, remember;   K2 – Understand;   K3 – Apply;   K4 – Analyze

MAPPING

COS	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	S	S	S	L	S	S	M	L	L
CO2	M	S	M	M	L	S	M	M	L	L
CO3	S	S	M	S	L	S	S	S	S	L
CO4	S	S	M	S	L	S	S	S	S	L
CO5	S	S	M	S	L	M	M	L	M	L

S- Strong; M-Medium; L-Low

Course Title   : Allied Mathematics -I   Course Code : 20UCA1AL1
COURSE OUTCOMES (CO)

CO1	Applying problem solving techniques to solve algebraic and transcendental equations.	K3
CO2	Understanding the concept of measures of central tendency, measures of dispersion.	K2

CO3	Analyzing the concepts of correlation and regression.	K4
CO4	Knowing to solve simultaneous linear algebraic equations.	K2 & K3

K1 – Remember; K2 – Understand; K3 – Apply; K4 - Analyze

	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	S	L	M	L	S	S	S	S	L
CO2	S	S	M	M	L	S	M	S	M	L
CO3	S	S	L	M	M	S	S	S	M	L
CO4	S	S	M	L	M	S	S	L	M	S

S – Strong;   M – Medium;   L - Low

Course Title: Core Practical 1: Programming in C   Course Code: 20UCA1CP1

COURSE OUTCOMES

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

CO No.	CO Statement	
CO1	Recall the mathematical functions while creating a program	K1
CO	Understand the fundamental programming concepts	K2
CO3	Illustrate the programming technique to analyze software problems	K4
CO4	Apply the concepts to find solution for the problems	K3
CO5	Design and develop the simple application.	K4

K1 – Recall, remember;   K2 – Understand;   K3 – Apply;   K4 – Analyze

MAPPING

COS	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	S	S	M	L	S	M	M	L	L
CO2	S	S	M	S	L	S	M	M	L	L
CO3	S	S	M	S	L	S	M	M	L	L
CO4	S	S	M	M	L	S	M	M	L	L
CO5	S	S	L	M	L	S	M	M	L	L

S- Strong; M-Medium; L-Low

Course Title: PC Software   **Course Code: 20UCA1CP2**

COURSE OUTCOMES

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

CO No.	CO Statement	Knowledge Level
CO1	Learn and Understanding the concepts of Basic Computer Skills, Internet	K1& K2
CO2	Ability to perform documentation skills	K2 &K3
CO3	Applying knowledge in Spreadsheet and Presentation Skills	K3& K4

K1 – Recall, remember;   K2 – Understand;   K3 – Apply;   K4 – Analyze

MAPPING

COS	PO1	PO2	PO3	PO4	PO5		PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	M	S	S	S		S	L	M	L	L
CO2	S	M	S	S	S		S	L	M	L	L
CO3	S	M	S	S	S		S	L	M	L	L

S- Strong; M-Medium; L-Low

Course Title: Object Oriented Programming with C++   Course Code: 20UCA2C03

COURSE OUTCOMES

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

CO No.	CO Statement	Knowledge Level
CO1	Ability to understand the datatypes and control structures.	K2
CO2	Understanding and implementing the concepts.	K2& K3
CO3	Ability to demonstrate the use of overloading and inheritance	K3
CO4	Deploying polymorphism using pointers and virtual functions	K3
CO5	Ability to understand and implement the features of C++ including file handling and exception handling.	K2 &K4

K1 – Recall, remember;   K2 – Understand;   K3 – Apply;   K4 – Analyze

MAPPING

COS	PO1	PO2	PO3	PO4	PO5		PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	S	S	S	L		S	S	M	L	L

CO2	M	S	M	M	L	S	M	M	L	L
CO3	S	S	M	S	L	S	S	S	S	L
CO4	S	S	M	S	L	S	S	S	S	L
CO5	S	S	M	S	L	M	M	L	M	L

S- Strong; M-Medium; L-Low

Course Title   : Allied Mathematics II   Course Code : 20UCA2AL2
COURSE OUTCOMES (CO)

CO1	Understanding the basic concepts of probability theory.	K2
CO2	Applying the concepts of formal languages and automata.	K3 & K4
CO3	To know the basic ideas of normal forms.	K1
CO4	Analyzing the use of probability distributions.	K4

K1 – Remember; K2 – Understand; K3 – Apply; K4 - Analyze

	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	S	M	L	M	S	S	M	S	L
CO2	S	S	M	S	L	S	M	S	M	M
CO3	S	S	L	M	M	S	M	S	M	L
CO4	S	S	S	L	M	S	S	L	M	S

S – Strong;   M – Medium; L - Low

Course Title: IT Essentials   Course Code: 20UCA2C04

COURSE OUTCOMES

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

CO No.	CO Statement	Knowledge Level
CO1	Understanding the concepts of Computer components and OS Installation	K2
CO2	Understanding the functionalities importance of Device manager and software installation	K2 & K3
CO3	Acquiring knowledge onnetwork configuration.	K3 & K4

K1 – Recall, remember;   K2 – Understand;   K3 – Apply;   K4 – Analyze

MAPPING

COS	PO1	PO2	PO3	PO4	PO5		PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	M	M	M	M		M	M	S	M	L
CO2	M	M	L	M	M		M	M	S	M	L
CO3	M	M	L	M	L		S	S	S	M	L

S- Strong; M-Medium; L-Low

Course Title:Core Practical 2:Object Oriented Programming with C++

Course Code: 20UCA2C04

COURSE OUTCOMES

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

CO No.	CO Statement	Knowledge Level
CO1	Ability to write a simple program using class.	K2
CO2	Learn and Apply control Structure for mathematicalproblems	K1 & K3
CO3	Ability to develop programs to solve mathematical problems	K2 &K4
CO4	Capability of developing programs using OOP concepts.	K2&K3
CO5	Capable of developing programs using pointers and virtual functions.	K2&K3&K4

K1 – Recall, remember;   K2 – Understand;   K3 – Apply;   K4 – Analyze

MAPPING

COS	PO1	PO2	PO3	PO4	PO5		PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	M	M	M	L		S	M	M	M	L
CO2	S	S	M	S	L		S	M	M	M	L
CO3	S	M	M	S	L		S	M	M	L	L
CO4	S	M	S	S	L		S	M	M	L	L
CO5	S	M	M	M	L		S	M	M	L	L

S- Strong; M-Medium; L-Low

Course Title: Java Programming **Course Code: 20UCA3C05**

COURSE OUTCOMES

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

CO No.	CO Statement	Knowledge Level
CO1	Understanding the concepts of the core Java and apply in simple programs.	K1&K2
CO2	Identifying the logic behind process handling by using threads.	K2
CO3	Identifying the concept behind Network Programming.	K2
CO4	Developing an application for Server side Programming.	K3
CO5	Applying the concept to solve real-time problems.	K3&K4

K1 – Recall, remember;   K2 – Understand;   K3 – Apply;   K4 – Analyze

MAPPING

COS	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	S	M	M	L	S	S	M	M	L
CO2	S	S	L	M	L	S	S	M	M	L
CO3	S	S	L	M	L	S	S	M	M	L
CO4	S	S	M	M	L	S	S	S	M	L
CO5	S	S	M	M	L	S	S	S	S	L

S- Strong; M-Medium; L-Low

Course Title: Core 6 – Data Structures using C++   **Course Code: 20UCA3C06**

COURSE OUTCOMES

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

CO No.	CO Statement	Knowledge Level
CO1	Ability to analyze algorithms and algorithm correctness	K1
CO2	Ability to apply in stack, queue and linked list in data structure	K2
CO3	Ability to have knowledge of tree and graphs concepts	K2
CO4	Ability to work with various searching and sorting techniques	K3
CO5	Able to understand the concept of Indexing and Hashing Techniques	K4

K1 – Recall, remember;   K2 – Understand;   K3 – Apply;   K4 – Analyze

MAPPING

COS	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	S	L	M	L	S	S	M	M	L
CO2	S	S	L	M	L	S	S	M	M	L

CO3	S	S	L	M	L	S	S	M	M	L
CO4	S	S	L	M	L	S	S	M	M	L
CO3	S	S	L	M	L	S	S	S	M	L

S- Strong; M-Medium; L-Low

Course Title: Core 7 – Operating System   **Course Code: 20UCA3C07**

COURSE OUTCOMES

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

CO No.	CO Statement	Knowledge Level
CO1	Ability to understand about basic concepts of Operating System, its functions and services.	K1& K2
CO2	Understanding about Process Management, CPU scheduling, File handling and I/O operations.	K2& K3
CO3	Ability to understand about memory management	K2 & K3
CO4	Understanding about of mass storage structure	K3
CO5	Acquiring basic knowledge about OS like Linux and Windows 7	K4

K1 – Recall, remember;   K2 – Understand;   K3 – Apply;   K4 – Analyze

MAPPING

COS	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	M	L	M	L	S	M	M	L	L
CO2	S	S	L	M	L	S	M	M	L	L
CO3	S	S	L	M	L	S	M	M	L	L
CO4	S	S	L	M	L	S	M	M	L	L
CO3	S	S	L	M	L	S	M	M	L	L

S- Strong; M-Medium; L-Low

Course: Operation Research   **Course Code: 20UCA3AL3**

COURSE OUTCOMES

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

CO No.	CO Statement	Knowledge Level
CO1	remembering the formulation of Business Problems.	K1
CO2	understanding the methods of problem solving	K2
CO3	applying the mathematical calculations in Industrial Problems.	K3
CO4	analyzing mathematical methods and applications.	K4

K1 – Recall, remember;   **K2 – Understand;**   **K3 – Apply;**   **K4 – Analyze**

MAPPING

COS	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	L	M	M	L	L	L	L	L	L
CO2	M	M	M	L	L	M	M	L	L	L
CO3	M	M	M	M	L	L	L	L	L	L
CO4	M	M	M	M	L	L	L	L	L	L

S- Strong; M-Medium; L-Low

Course Title: Core Practical 3: Java Programming Lab   **Course Code: 20UCA3CP3**

COURSE OUTCOMES

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

CO No.	CO Statement	Knowledge Level
CO1	Understanding the fundamental programming concepts	K1
CO2	Ability to understand and applying process handling method by multithreading while developing a program.	K1 &K2
CO3	Applying the Concept of java to solve the network related problems.	K2 &K3
CO4	Ability to develop an application for Server side Programming.	K2 &K3
CO5	Able to apply the concept to solve real-time problems.	K4

K1 – Recall, remember;   **K2 – Understand;**   **K3 – Apply;**   **K4 – Analyze**

MAPPING

COS	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	L	M	M	L	L	L	L	L	L
CO2	S	M	M	L	L	M	M	L	L	L
CO3	S	M	M	M	L	L	L	L	L	L
CO4	S	M	M	M	L	L	L	L	L	L
CO5	S	M	M	L	L	L	L	L	L	L

S- Strong; M-Medium; L-Low

Course Title: Core Practical 3: Data Structure using C++ Lab

Course Code: 20UCA3CP4

COURSE OUTCOMES

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

CO No.	CO Statement	Knowledge Level
CO1	Ability to analyze algorithms and algorithm correctness.	K1
CO2	Ability to perform searching and sorting techniques.	K1 &K2
CO3	Ability to accomplish stack, queue and linked list operation.	K2 &K3
CO4	Ability to have knowledge about file concepts.	K2 &K3
CO5	Apply the data structure concepts to solve real-time problems.	K4

K1 – Recall, remember;   K2 – Understand;   K3 – Apply;   K4 – Analyze

MAPPING

COS	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	L	M	M	L	L	L	L	L	L
CO2	M	M	M	L	L	M	M	L	L	L
CO3	M	M	M	M	L	L	L	L	L	L
CO4	M	M	M	M	L	L	L	L	L	L
CO5	M	M	M	M	L	L	L	L	L	L

S- Strong; M-Medium; L-Low

Course Title: Core 8 – Visual Programming (C#.Net)   Course Code: 20UCA4C08

COURSE OUTCOMES

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

CO No.	CO Statement	Knowledge Level
CO1	Ability to work with the basic C sharp console Program to Create Console Applications	K1
CO2	Ability to make familiar to develop C sharp windows application	K1 &K2
CO3	Ability to work with ADO.Net and its Application	K2 &K3
CO4	Ability to have knowledge of Database Connectivity and Report Generation using C Sharp.	K2 &K3
CO5	Ability to working with ASP.Net and its Basic Programs.	K4

K1 – Recall, remember;   K2 – Understand;   K3 – Apply;   K4 – Analyze

MAPPING

COS	PO1	PO2	PO3	PO4	PO5		PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	M	L	L	L		M	L	M	L	L
CO2	M	S	L	M	L		M	M	M	L	L
CO3	S	M	M	M	L		S	M	M	L	L
CO4	M	S	M	S	L		M	S	S	M	L
CO5	S	S	L	M	L		S	M	M	L	L

S- Strong; M-Medium; L-Low

Course Title: Relational Database Management System   Course Code: 20UCA4C09

   COURSE OUTCOMES

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

CO No.	CO Statement	Knowledge Level
CO1.	know and practice the data models and schemas in DBMS	K1
CO2.	develop the database designs and apply normalization techniques to normalize the database	K1 &K2
CO3.	use SQL to structure the database to handle data	K2 &K3
CO4.	use the PL/SQL to create, secure, populate, maintain, and query a database.	K2 &K3
CO5	get an opportunity in various positions of database administration	K4

K1 – Recall, remember;   K2 – Understand;   K3 – Apply;   K4 – Analyze

MAPPING

COS	PO1	PO2	PO3	PO4	PO5		PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	L	M	M	L		L	L	L	L	L
CO2	M	M	M	L	L		M	M	L	L	L
CO3	M	M	M	M	L		L	L	L	L	L
CO4	M	M	M	M	L		L	L	L	L	L
CO5	M	M	M	M	L		L	L	L	L	L

S- Strong; M-Medium; L-Low

Course Title: Allied 4 - Fundamentals of Accounting   **Course Code: 20UCA4AL4**

COURSE OUTCOMES

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

CO No.	CO Statement	Knowledge Level
CO1.	understand the role of basic Accounting Concepts and Conventions.	K1
CO2.	preparation financial statements in accordance with Generally Accepted Accounting Principles.	K1 &K2
CO3.	demonstrate knowledge of each step in the various subsidiary books of accounting.	K2 &K3
CO4.	support at a basic level the recording and reporting of cost accounting information for business.	K2 &K3
CO5.	demonstrate an understanding the Budgeting and types of Budget preparation.	K4

K1 – Recall, remember;   K2 – Understand;   K3 – Apply;   K4 – Analyze

MAPPING

COS	PO1	PO2	PO3	PO4	PO5		PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	L	M	M	L		L	L	L	L	L
CO2	M	M	M	L	L		M	M	L	L	L
CO3	M	M	M	M	L		L	L	L	L	L
CO4	M	M	M	M	L		L	L	L	L	L
CO5	M	M	M	M	L		L	L	L	L	L

S- Strong; M-Medium; L-Low

Course Title: Core Practical 5: Visual Programming Lab (C#.Net)

Course Code: 20UCA4CP5

COURSE OUTCOMES

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

CO No.	CO Statement	Knowledge Level
CO1	work with the basic concepts of C sharp console applications	K1
CO2	have knowledge about Array and String Function in c sharp console	K1 &K2
CO3	understand basic concepts about c sharp windows application with programs	K2 &K3
CO4	understand about ADO.Net using Database Connectivity Programs	K2 &K3
CO5	have knowledge to do some real time projects	K4

K1 – Recall, remember;   K2 – Understand;   K3 – Apply;   K4 – Analyze

COS	PO1	PO2	PO3	PO4	PO5		PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	L	L	M	L		S	M	M	L	L
CO2	S	S	L	M	L		S	S	L	L	L
CO3	S	M	M	M	L		S	M	S	M	L
CO4	S	M	S	S	L		S	S	S	S	L
CO5	S	S	M	M	L		S	S	S	M	L

S- Strong; M-Medium; L-Low

Course Title: Core Practical 6:- RDBMS Lab   **Course Code: 20UCA4CP6**

COURSE OUTCOMES

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

CO No.	CO Statement	Knowledge Level
CO1	Ability to perform DDL, DML commands in a database	K1
CO2	Ability to have knowledge about various operations like set operations, relational and logical operations	K1 &K2
CO3	Ability to understand the inbuilt functions like number functions, character functions, date functions	K2 &K3
CO4	Ability to understand the PL/SQL structure and operations	K2 &K3
CO5	Ability to apply PL/SQL concepts to solve real time problems.	K4

K1 – Recall, remember;   K2 – Understand;   K3 – Apply;   K4 – Analyze

MAPPING

COS	PO1	PO2	PO3	PO4	PO5		PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	L	M	M	L		L	L	L	L	L
CO2	M	M	M	L	L		M	M	L	L	L
CO3	M	M	M	M	L		L	L	L	L	L
CO4	M	M	M	M	L		L	L	L	L	L
CO5	M	M	M	M	L		L	L	L	L	L

S- Strong; M-Medium; L-Low

Course Title: Web Technology (HTML5, Bootstrap, PHP &MySQL)

Course Code: 20UCA5C10

COURSE OUTCOMES

CO No.	CO Statement	Knowledge Level
CO1	Ability to design web page using HTML5.	K1
CO2	Understanding the Features of CSS and Bootstrap CSS and how to apply this in the web page.	K1 &K2
CO3	Understanding the concept of Server Side Scripting language PHP and MySql. Ability to write code in PHP and save the data into the MySql database Table.	K2 &K3
CO4	Understanding the concept of Java Script in web programming.	K2 &K3
CO5	Ability to understand the functional dependencies of AJAX in PHP	K4

K1 – Recall, remember;   K2 – Understand;   K3 – Apply;   K4 – Analyze

MAPPING

COS	PO1	PO2	PO3	PO4	PO5		PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	L	M	M	L		L	L	L	L	L
CO2	M	M	M	L	L		M	M	L	L	L
CO3	M	M	M	M	L		L	L	L	L	L
CO4	M	M	M	M	L		L	L	L	L	L
CO5	M	M	M	M	L		L	L	L	L	L

S- Strong; M-Medium; L-Low

Course Title: Python Programming   Course Code: 20UCA5C11

COURSE OUTCOMES

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

CO No.	CO Statement	Knowledge Level
CO1.	understanding the methodologies and essentials of Python programming.	K2
CO2.	understanding the basic concepts of python modules and packages.	K2
CO3.	create simple prediction programs using Python.	K1
CO4.	interpret and analyse the real time datasets with python packages.	K3 & K4
CO5.	understand the concept of Scikit Learn	K2

K1 – Recall, remember;   K2 – Understand;   K3 – Apply;   K4 – Analyze

MAPPING

COS	PO1	PO2	PO3	PO4	PO5		PSO1	PSO2	PSO3	PSO4	PSO5
CO1	L	M	L	M	L		S	M	S	M	L

CO2	M	M	L	M	L	S	M	S	S	L
CO3	L	M	M	L	L	M	L	S	S	L
CO4	S	S	M	M	L	S	M	M	M	L
CO5	L	M	M	L	L	S	M	S	L	L

S- Strong; M-Medium; L-Low

Course Title : Computer Networks   Course Code: 20UCA5C12

COURSE OUTCOMES

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

CO No.	CO Statement	Knowledge Level
CO1	understanding the concepts of functions, components, and models of the computer networks	K2
CO2	understanding the concepts of IP addressing and subnetting calculation	K2 & K3
CO3	identifying the different types of routing protocols and metrics	K3 & K4
CO4	understanding the functionalities of VLAN and inter-VLAN routing	K3 & K4
CO5	apply Packet Tracer tool to implement advanced Networking Concept	K3 & K4

K1 – Recall, remember;   K2 – Understand;   K3 – Apply;   K4 – Analyze

MAPPING

COS	PO1	PO2	PO3	PO4	PO5		PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	S	M	L	L		M	S	M	M	L
CO2	S	S	M	L	L		S	S	S	M	L
CO3	S	S	M	L	L		S	S	S	M	L
CO4	S	S	M	L	L		S	S	S	M	L
CO5	S	M	M	L	L		S	S	M	M	L

S- Strong; M-Medium; L-Low

Course Title: Core Practical 7: Web Technology Lab (HTML5, Bootstrap, PHP &MySql)

Course Code: 20UCA5CP7

COURSE OUTCOMES:

CO No.	CO Statement	Knowledge Level
CO1	ability to design web page using HTML5.	K1
CO2	understanding the Features of CSS and Bootstrap CSS and how to apply this in the web page.	K2 &K3
CO3	apply the concept of Server Side Scripting language PHP and MySql.	K3

CO4	understand the JavaScript basics and apply the validation in HTML forms.	K2 &K3
CO5	ability to understand the functional dependencies of AJAX in PHP.	K2

K1 – Recall, remember; K2 – Understand; K3 – Apply; K4 – Analyze

MAPPING

COS	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	L	M	M	L	L	L	L	L	L
CO2	M	M	M	L	L	M	M	L	L	L
CO3	M	M	M	M	L	L	L	L	L	L
CO4	M	M	M	M	L	L	L	L	L	L
CO5	M	M	M	M	L	L	L	L	L	L

S- Strong; M-Medium; L-Low

Course Title: Core Practical 8: Python Programming Lab   Course Code: 20UCA5CP8

COURSE OUTCOMES:

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

CO No.	CO Statement	Knowledge Level
CO1	understand the essentials of Python programming	K2
CO2	do basic programs using python modules and packages	K1 & K2
CO3	create simple algorithms with and without using packages	K3
CO4	interpret algorithm and visualize the results with real time datasets	K3 & K4

K1 – Recall, remember; K2 – Understand; K3 – Apply; K4 – Analyze

MAPPING

COS	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	L	M	M	L	M	L	M	L	L
CO2	M	M	L	M	L	S	M	S	S	L
CO3	L	M	M	L	L	M	L	S	S	L
CO4	S	S	M	M	L	S	M	M	M	L

S- Strong; M-Medium; L-Low

CourseTitle : Software Engineering   **Course Code: 20UCA6C13**

COURSE OUTCOMES

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

CO No.	CO Statement	Knowledge Level
CO1	apply software engineering techniques.	K3
CO2	develop, maintain and evaluate software systems.	K3& K4
CO3	produce efficient, reliable, robust and cost-effective software solutions.	K4
CO4	perform independent research and analysis.	K3& K4
CO5	work as an effective member of software engineering team.	K3& K4

K1 – Recall, remember;   K2 – Understand;   K3 – Apply;   K4 – Analyze

MAPPING

COS	PO1	PO2	PO3	PO4	PO5		PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	M	S	S	L		M	L	M	S	L
CO2	S	S	L	S	L		S	M	M	L	L
CO3	S	S	L	S	L		S	L	S	L	L
CO4	M	M	L	M	L		S	S	S	M	L
CO5	M	S	M	M	L		S	S	S	S	L

S- Strong; M-Medium; L-Low

Course Title: Android Programming   **Course Code: 20UCA6C14**

COURSE OUTCOMES

CO No.	CO Statement	Knowledge Level
CO1	Understanding the basic concept of Android .	K2
CO2	Understanding the basic idea to create android application	K2&K3
CO3	Understand the concept of user interface design.	K3
CO4	Understand the concept of performing user interface events	K2& K3
CO5	Understanding about foundations of Flutter Programming	K2

K1 – Recall, remember;   K2 – Understand;   K3 – Apply;   K4 – Analyze

MAPPING

COS	PO1	PO2	PO3	PO4	PO5		PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	S	M	S	L		S	S	M	S	L
CO2	S	S	M	L	L		M	M	L	M	L

CO3	S	S	M	M	L		M	M	L	L	L
CO4	S	S	M	M	L		M	M	L	M	L
CO5	S	S	M	M	L		M	M	L	L	L

S- Strong; M-Medium; L-Low

Course Title: Cloud Computing   **Course Code: 20UCA6C15**

COURSE OUTCOMES

CO No.	CO Statement	Knowledge Level
CO1	Aware of the basic concepts of Cloud Computing	K1
CO2	Understanding the basic concepts of Web Services in Cloud Computing..	K2
CO3	Creating simple Cloud Data Center and Service oriented Architecture in cloud computing.	K3
CO4	Interpret and analyse the Protecting and controlling federation and Future of Federation.	K4
CO5	Understanding about security in Cloud and Virtual Machine Security	K2

K1 – Recall, remember;   **K2 – Understand;**   **K3 – Apply;**   **K4 – Analyze**

MAPPING

COS	PO1	PO2	PO3	PO4	PO5		PSO1	PSO2	PSO3	PSO4	PSO5
CO1	L	S	M	S	L		S	S	M	M	L
CO2	M	S	M	M	L		M	M	M	M	L
CO3	S	S	M	S	L		M	M	M	M	L
CO4	S	M	M	M	L		M	M	S	M	L
CO5	M	M	M	S	L		S	M	M	S	L

Course Title: Core Practical 9: Android Programming Lab   **Course Code: 20UCA6CP9**

COURSE OUTCOMES

CO No.	CO Statement	Knowledge Level
CO1	Understanding the basic android application.	K2
CO2	Implement simple applications with Notifications and alarms.	K2
CO3	Analyze the android locations with map.	K4
CO4	Apply the android concepts to solve real time problems	K3
CO5	Implementing the SQLite Database connectivity	K3

K1 – Recall, remember;   **K2 – Understand;**   **K3 – Apply;**   **K4 – Analyze**

MAPPING

COS	PO1	PO2	PO3	PO4	PO5		PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	M	M	M	M		S	S	M	M	M

CO2	S	S	S	M	M		S	M	L	L	L
CO3	S	S	M	M	M		S	L	L	M	M
CO4	S	S	M	M	M		M	S	M	L	L
CO5	M	M	M	M	M		M	L	L	M	L

S- Strong; M-Medium; L-Low

Course Title:Elective : 1- Cyber Security   Course Code: 20UCA5EA1

COURSE OUTCOMES

CO No.	CO Statement	Knowledge Level
CO1	Understanding basic Mathematical tools for cryptography concepts	K1 & K2
CO2	Understanding the concept of AES, Blowfish algorithm and its applications.	K1 & K2
CO3	Analyzing the concept of public key cryptosystems.	K4
CO4	Understanding the concept of Digital Signature Algorithms	K2 & K3
CO5	Understanding the concept of and Firewall and its applications	K2&K3

K1 – Recall, remember;   K2 – Understand;   K3 – Apply;   K4 – Analyze

MAPPING

COS	PO1	PO2	PO3	PO4	PO5		PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	L	M	S	M		L	L	L	L	L
CO2	M	S	M	L	L		M	M	M	L	L
CO3	S	M	S	S	S		L	M	M	M	M
CO4	M	L	M	S	M		S	L	M	S	M
CO5	S	L	M	S	M		L	L	L	L	L

S- Strong; M-Medium; L-Low

Course Title :Elective – 1 :Embedded System   Course Code: 20UCA5EB1

COURSE OUTCOMES

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

CO No.	CO Statement	Knowledge Level
CO1	Ability to describe the differences between the general computing system and embedded system.	K2
CO2	Become aware of the architecture of processor and its	K2

		programming aspects.	
	CO3	Become aware of interrupts.	K1&K2
	CO4	Design real time embedded system using the concepts of RTOS.	K3
	CO5	Analyze various examples of embedded system based on processor.	K4

K1 – Recall, remember;   K2 – Understand;   K3 – Apply;   K4 – Analyze

MAPPING

COS	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	L	S	M	L	L	L	L	L	L
CO2	S	M	M	L	L	M	M	L	L	L
CO3	S	M	L	M	L	L	L	L	L	L
CO4	S	M	M	L	L	L	M	M	M	L
CO5	S	M	M	M	L	L	L	L	L	L

S- Strong; M-Medium; L-Low

Course Title: Elective : Compiler Design   Course Code: 20UCA5EC1

COURSE OUTCOMES

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

CO No.	CO Statement	Knowledge Level
CO1	understanding the concepts of Compilers and lexical analysis.	K2
CO2	identifying the logics of symbol tables and parsing, top down translation.	K1
CO3	analyzing the concepts of S&L attribute and type checking	K4
CO4	analyzing the run generation and code generation.	K4
CO5	applying the concepts to solve the problem for Code optimization.	K2 & K3

K1 – Recall, remember;   K2 – Understand;   K3 – Apply;   K4 – Analyze

MAPPING

COS	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	M	M	L	M	S	M	L	L	M
CO2	M	M	L	M	L	M	L	M	L	L
CO3	S	M	S	L	M	S	L	L	L	M
CO4	M	M	M	L	M	S	M	L	M	L

CO5	S	S	L	M	L		M	L	S	M	M

S- Strong; M-Medium; L-Low

Course Title: Elective :Graphics and Multimedia   Course Code: 20UCA5ED1

COURSE OUTCOMES

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

CO No.	CO Statement	
CO1	understanding the concepts of concepts of Multimedia.	K1
CO2	identifying the logics of Graphical Techniques.	K2
CO3	aAnalysing the concepts of audio and video file usage Techniques	K3
CO4	understanding the concepts of Multimedia Techniques	K4
CO5	applying the concepts to understand basic photoshop tool techniques.	K3& K2

K1 – Recall, remember;   K2 – Understand;   K3 – Apply;   K4 – Analyze

MAPPING

COS	PO1	PO2	PO3	PO4	PO5		PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	S	M	S	L		S	L	M	M	L
CO2	S	S	S	M	L		S	M	L	S	L
CO3	S	S	M	M	L		S	M	L	M	L
CO4	S	M	S	M	L		M	S	L	M	L
CO5	S	M	S	M	L		M	M	S	M	L

S- Strong; M-Medium; L-Low

Course Title: Elective : Client / Server Computing   Course Code: 20UCA5EE1

COURSE OUTCOMES

CO No.	CO Statement	Knowledge Level
CO1	Ability to understand the concepts of client server network	K1 & K2
CO2	Ability to understand the anatomy of a client and server program	K1 & K2
CO3	Understanding the concept of Middleware and Distributed security	K2 & K3
CO4	Ability to understand SQL databases servers	K2 & K3
CO5	Understand the concept of Group Ware component, distributed objects and CORBA	K2

K1 – Recall, remember;   K2 – Understand;   K3 – Apply;   K4 – Analyze

MAPPING

COS	PO1	PO2	PO3	PO4	PO5		PSO1	PSO2	PSO3	PSO4	PSO5

CO1	S	S	L	M	L		S	S	S	L	L
CO2	M	S	L	S	L		S	S	S	M	L
CO3	L	M	L	M	L		S	S	M	L	L
CO4	S	L	L	M	L		M	S	L	L	L
CO5	S	S	M	M	L		S	S	S	M	L

S- Strong; M-Medium; L-Low

Course Title: Elective : Data Mining and warehousing   Course Code: 20UCA5EA2

COURSE OUTCOMES

CO No.	CO Statement	Knowledge Level
CO1	Preprocess the data for mining applications.	K1
CO2	Apply the association rules for mining the data.	K2
CO3	Design and deploy appropriate classification techniques.	K2 & K3
CO4	Cluster the high dimensional data for better organization of the data	K3 & K4
CO5	Evaluate various mining techniques on complex data objects.	K4

K1 – Recall, remember;   K2 – Understand;   K3 – Apply;   K4 – Analyze

MAPPING

COS	PO1	PO2	PO3	PO4	PO5		PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	L	M	M	M		S	L	M	L	M
CO2	M	M	M	S	M		M	M	L	L	M
CO3	M	M	S	M	M		M	L	M	L	L
CO4	S	M	M	M	L		M	L	M	L	M
CO5	M	L	M	L	L		S	M	L	M	L

S- Strong; M-Medium; L-Low

Course Title: Elective : Advanced Networks   Course Code: 20UCA5EB2

COURSE OUTCOMES

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

CO No.	CO Statement	Knowledge Level
CO1.	understand configuration of application and transport layer protocol	K1 & K2

CO2.	understanding the concepts of MAC, Port address and IP addressing, calculation of subnetting.	K2 & K1
CO3.	understand the concepts and configuration of static, dynamic routing	K2 & K3
CO4.	understand the working principles of VPN and wireless communication	K2 & K3
CO5.	understand the concepts of QoS and network security	K3 & K4

K1 – Recall, remember;   K2 – Understand;   K3 – Apply;   K4 – Analyze

MAPPING

COS	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	S	M	L	L	M	S	M	M	L
CO2	S	S	M	L	L	S	S	S	M	L
CO3	S	S	M	L	L	S	S	S	M	L
CO4	S	S	M	L	L	S	S	S	M	L
CO5	S	M	M	L	L	S	S	M	M	L

S- Strong; M-Medium; L-Low

Course Title: Elective: Distributed Computing Systems   Course Code: 20UCA5EC2

COURSE OUTCOMES

CO No.	CO Statement	Knowledge Level
CO1.	Understanding the concepts of Distributed Computing Systems	K1 & K2
CO2.	Implementation of Distributed Systems	K2 & K1
CO3.	Distributed system modeling	K2 & K3
CO4.	Applications of Distributed Computing in Databases	K2 & K3
CO5.	Programming language design and algorithm for distributed computing	K3 & K4

K1 – Recall, remember;   K2 – Understand;   K3 – Apply;   K4 – Analyze

MAPPING

COS	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	S	M	M	M	M	M	M	L	L
CO2	S	S	M	M	M	S	M	S	M	L
CO3	M	M	M	M	L	M	M	M	M	L
CO4	M	M	M	M	L	M	M	M	M	L
CO5	M	L	M	M	L	M	M	M	L	L

S- Strong; M-Medium; L-Low

Course Title: Elective: Geographical Information System   Course Code: 20UCA5ED2

COURSE OUTCOMES

CO No.	CO Statement	Knowledge Level
CO1	Apply the concept of GIS and spatial data.	K1 & K2
CO2	Apply the usage of GIS in this current world.	K2 & K1
CO3	Handling GIS spatial data, database and datasets.	K2 & K3
CO4	Understanding the measurement in GIS, Queries, Reclassification, analysis ..etc.	K2 & K3
CO5	Understanding physical and environmental, spatial, cartographic processed output.	K3 & K4

K1 – Recall, remember;   K2 – Understand;   K3 – Apply;   K4 – Analyze

MAPPING

COS	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	L	M	M	L	L	L	L	L	L
CO2	M	M	M	L	L	M	M	L	L	L
CO3	M	M	M	M	L	L	L	L	L	L
CO4	M	M	M	M	L	L	L	L	L	L
CO5	M	M	M	M	L	L	L	L	L	L

S- Strong; M-Medium; L-Low

Course Title: Elective : Design and Analysis of Algorithm   Course Code: 20UCA5EE2

COURSE OUTCOMES

CO No.	CO Statement	Knowledge Level
CO1	Apply the concept of Divide and Conquer, Finding Maximum and minimum.	K1 & K2
CO2	Apply the usage of Greedy method, Knapsack problem.	K2 & K1
CO3	Handling concept of Back tracking methods.	K2 & K3
CO4	Understanding the usage of Branch and bound methods.	K2 & K3
CO5	Understanding physical Lower bound Theory	K3 & K4

K1 – Recall, remember;   K2 – Understand;   K3 – Apply;   K4 – Analyze

MAPPING

COS	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	L	M	M	L	L	L	L	L	L
CO2	M	M	M	L	L	M	M	L	L	L

CO3	M	M	M	M	L	L	L	L	L	L
CO4	M	M	M	M	L	L	L	L	L	L
CO5	M	M	M	M	L	L	L	L	L	L

S- Strong; M-Medium; L-Low