MARIS STELLA COLLEGE (AUTONOMOUS), VIJAYAWADA

A College with Potential for Excellence

ISO 9001: 2015 Certified

PROGRAMME REGISTER

DEPARTMENT OF COMPUTER SCIENCE

INDEX

UG PROGRAMMES OFFERED

S.No.	Programme	Combination offered	Programme Code
1		Mathematics, Physics, Computer Science (MPCs)	303
2		Mathematics, Statistics, Computer Science (MSCs)	304
3	B.Sc.	Mathematics, Electronics, Computer Science (MECs)	306
4		Mathematics, Chemistry, Computer Science (MCCs)	309

PROGRAMME OUTCOMES (POs)

2017-2020

After the completion of the B.Sc programme, graduates will be able to:

PO1: Apply the knowledge of basic concepts and theories in the relevant discipline-based applications.

PO2: Design solutions for discipline-based problems by applying mathematical and computational techniques.

PO3: Communicate effectively via orally, reports writings, PPT presentations, documentations.

PO4: Develop individual and collaborative teamwork skills to work in harmony.

PO5: Adapt to ethical principles and commit to professional ethics.

PO6: Demonstrate the knowledge of Environment and strive for sustainable development.

PO7: Recognize the need for life-long learning for self-direct in the broadest context of Socio-technological changes.

PO8: Apply transferable skills to get employed / pursue higher education.

PROGRAMME SPECIFIC OUTCOMES (PSOs)

2017-2020

PSO1: Explore technical knowledge in diverse areas of Computer Science and experience an environment conducive in cultivating skills for successful career, entrepreneurship and higher studies.

PSO2: Apply knowledge of computing and mathematics appropriate to the discipline and to provide effective solution in the area of computing.

PSO3: Function effectively on teams to accomplish shared computing design, evaluation, or implementation goals.

PSO4: Capable of adapting to new technologies and constantly upgrade their skills with an attitude towards independent and lifelong learning

PSO5: Perform professionally with social, cultural and ethical responsibility as an individual as well as in multifaceted teams with positive attitude.

Course Outcomes (COs)
2017-2020

S.NO	Semester	Course Code	Course Title	Course Outcomes
1	Sem I	COMPC053	**Problem Solving Using Computers**	**CO1:** understand the basic functionality and working of a digital computer, its applications & devices.
				CO2: Analyse a given problem and develop an algorithm to solve the problem
				CO3: Identify and categorize the fundamental programming concepts of Python.
				CO4: Experiment on the 'Python' language constructs and solve some analytical problems.
				CO5: Correlate the higher level concepts of Python and design ,develop and test programs.
2	Sem II	COMPC055	**Database Management Systems**	**CO1:** Differentiate database systems from file systems by enumerating the features provided by database systems and describe each in both function and benefit.
				CO2: Analyze an information storage problem and derive an information model expressed in the form of an entity relation diagram.
				CO3: Demonstrate an understanding of the relational data model and normalization theory.
				CO4: Use an SQL interface of a multi-user relational DBMS package to create, secure, populate, maintain, and query a database.
				CO5: design and implement database projects.

3	Sem III	COMPC072	**Operating Systems**	**CO1:** Demonstrate the important computer system resources and the role of operating system in their management policies, algorithms and classify the evolutions in operating systems.
				CO2: Identify how communication between client-server systems exists in Operating System and different Services and System Calls.
				CO3: Inspect the policies for Process scheduling, mutual exclusion, Deadlock prevention techniques of OS.
				CO4: Analyse memory management and its allocation policies: Paging, Page Replacement algorithms.
				CO5: Create and manage simple file processing operations by using UNIX/Linux utilities, organize directory structures with appropriate security, and develop shell scripts to perform more complex tasks
4	Sem IV	COMPC074	**Analysis of Algorithms & DS using C++**	**CO1:** Understand the fundamental concepts of C++ Programming Language and data structures.
				CO2: Demonstrate the use of various OOPs concepts with the help of programs.
				CO3: Analyze the performance of algorithms.
				CO4: To choose appropriate algorithm design techniques for solving problems.
				CO5: Analyze a few basic algorithms such as searching, sorting and recursive algorithms.
				CO6: Implement operations like searching, insertion, and deletion, traversing mechanism etc. on various

				data structures.
				CO7: To develop knowledge of basic data structures for storage and retrieval of ordered or unordered data. Data structures include: arrays, linked lists, stacks, queues and binary trees.
				CO8: Select appropriate data structures as applied to specified problem definition.
5	Sem V	COMPC076	**Programming in Java**	**CO1:** To summarize the OOPs concepts
				CO2: To explain the features of java
				CO3: To explain about basic Java language syntax and semantics to write Java programs
				CO4: To describe the concepts of data types, variables, conditional and iterative execution methods.
				CO5: To discuss classes and objects, constructor, inheritance, method overloading and riding
				CO6: To demonstrate the use of arrays with program
				CO7: To explain the features of abstract classes and methods, interfaces and packages
				CO8: To explain the various methodologies to handle exception mechanisms
				CO9: To demonstrate the concept of Applet Programming
				CO10: To classify the various file handling concepts
6	SEM V	COMPC077	**Internet Technologies**	**CO1:** Define and demonstrate the component of the Internet, Web Technology and the CSS Features

				CO2: Program the concepts of JavaScript , DHTML
				CO3: Demonstrate the XML and JDBC Features.
				CO4: Discuss and analyse the Introduction to Java Server Pages.
				CO5: Discuss and Apply the Active Server Page concepts
7	Sem VI	COMPC080	**PHP Programming**	**CO1:** Understand basic PHP syntax for variable use and standard language constructs, such as conditionals loops, functions, arrays and classes.
				CO2: Create PHP programs that use PHP library functions and Arrays,
				CO3: Solve common Web application tasks by writing PHP programs using classes, objects, date functions, time functions and regular expressions.
				CO4: Write PHP scripts to handle HTML forms.
				CO5: Construct programs based on files, directories and images.
8	Sem VI	COMPC099	**BigData Technologies**	**CO1:** Understand the importance of big data and its use to solve world's challenges.
				CO2: Illustrate the concept of Hadoop and its application
				CO3: Demonstrate the Hadoop ecosystem and HDFS architecture
				CO4: Apply the basic HDFS commands
				CO5: Analyse reading and writing input formats, mapper, reducer and partitioner
				CO6: Applying the features of YARN in real world

9	**Sem VI**	**COMPC082**	**Software Engineering**	**CO1:** Demonstrate an understanding of and apply current theories, models, and techniques that provide a basis for the software lifecycle.
				CO2: Analyze and categorize the requirements in to functional, non-functional, Domain, System and User requirements.
				CO3: Develop designs that map the requirements of a software project.
				CO4: Generalizing other Aspects; Project Management, Scheduling, Software measures & working in teams.
				CO5: Categorizing and Compare different types of Testing.
10	**Sem VI**	**COMPC083**	**Computer Networks**	**CO1:** Understand different components of computer networks, various protocols, modern technologies and their applications.
				CO2: Identify different types of network topologies and protocols.
				CO3: Describe the functions of each layer in OSI and TCP/IP model.
				CO4: Explain the types of transmission media with real time applications
				CO5: Classify the routing protocols and analyse how to assign the IP addresses for the given network
				CO6: Describe the Session layer design issues and Transport layer services.
				CO7: Explain the functions of Application layer and Presentation layer paradigms and Protocols.
11	**Sem VI**	**COMPC084**	**Multimedia Applications**	**CO1:** Define and use multimedia hardware and software concepts

				CO2: Demonstrate an understanding of the multimedia building blocks
				CO3: Demonstrate still images, sound, and video in Multimedia
				CO4: Apply multimedia tools in developing Flash Animations.
				CO5: Demonstrate Basic Authoring Tools and Basic Software Tools.

Mapping of COs with PSOs

S.NO	Semester	Course Code	Course Title	COs	PSOs
1	Sem I	COMPC053	Problem Solving Using Computers	CO1	PSO1 & PSO2
				CO2	PSO1 & PSO2
				CO3	PSO1 & PSO2
				CO4	PSO1 & PSO2
				CO5	PSO1 & PSO2
2	Sem II	COMPC055	Database Management Systems	CO1	PSO1 & PSO2
				CO2	PSO2
				CO3	PSO2
				CO4	PSO2
				CO5	PSO2, PSO3 & PSO5
3	Sem III	COMPC072	Operating Systems	CO1	PSO1 & PSO2
				CO2	PSO1 & PSO2
				CO3	PSO1 & PSO2
				CO4	PSO1 & PSO2
				CO5	PSO1 & PSO2
4	Sem IV	COMPC074	Analysis of Algorithms & DS using C++	CO1	PSO2
				CO2	PSO2
				CO3	PSO2
				CO4	PSO2

				CO5	PSO2
				CO6	PSO3
				CO7	PSO4 & PSO5
				CO8	PSO1, PSO4 & PSO5
5	Sem V	COMPC076	Programming in Java	CO1	PSO2
				CO2	PSO2
				CO3	PSO1
				CO4	PSO3
				CO5	PSO2, PSO4
				CO6	PSO3
				CO7	PSO2, PSO3
				CO8	PSO4
				CO9	PSO4
				CO10	PSO3
6	Sem V	COMPC077	Internet technologies	CO1	PSO1
				CO2	PSO2
				CO3	PSO4
				CO4	PSO2
				CO5	PSO2
7	Sem VI	COMPC080	PHP Programming	CO1	PSO1 & PSO2
				CO2	PSO1 & PSO2
				CO3	PSO1 & PSO2
				CO4	PSO1 & PSO2

				CO5	PSO1 & PSO2
8	Sem VI	COMPC099	BigData Technologies	CO1	PSO2
				CO2	PSO1, PSO2
				CO3	PSO2, PSO4
				CO4	PSO4, PSO5
				CO5	PSO4
				CO6	PSO4
9	Sem VI	COMPC082	Software Engineering	CO1	PSO2
				CO2	PSO2
				CO3	PSO1 & PSO2
				CO4	PSO3 & PSO5
				CO5	PSO2
10	Sem VI	COMPC083	Computer Networks	CO1	PSO2
				CO2	PSO1, PSO2 &PSO5
				CO3	PSO4
				CO4	PSO4
				CO5	PSO2
				CO6	PSO3
				CO7	PSO4
11	Sem VI	COMPC084	Multimedia Applications	CO1	PSO1
				CO2	PSO2
				CO3	PSO2
				CO4	PSO3
				CO5	PSO3

Mapping of Courses with PSOs

Course	PSO1	PSO2	PSO3	PSO4	PSO5
COMPC053-Problem Solving Using Computers	✓	✓			
COMPC055-Database Management Systems	✓	✓	✓		✓
COMPC072-Operating Systems	✓	✓			
COMPC074-Analysis of Algorithms & DS using C++		✓	✓	✓	✓
COMPC076-Programming in Java	✓	✓	✓	✓	
COMPC077-Internet technologies	✓	✓		✓	
COMPC080-PHP Programming	✓	✓			
COMPC099-BigData Technologies	✓	✓		✓	✓
COMPC082-Software Engineering	✓	✓	✓		✓
COMPC083-Computer Networks	✓	✓		✓	✓
COMPC084-Multimedia Applications	✓	✓	✓		

Mapping of PSOs with POs

PSOs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
PSO1	✓	✓	✓		✓			
PSO2	✓	✓		✓				✓
PSO3	✓	✓						
PSO4	✓	✓		✓	✓	✓		✓
PSO5	✓			✓	✓			

Mapping of Courses with POs

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
COMPC053	✓	✓						
COMPC055	✓	✓		✓				
COMPC072	✓	✓						
COMPC074	✓	✓	✓	✓	✓			
COMPC076	✓	✓	✓					✓
COMPC077	✓	✓				✓		
COMPC080	✓	✓						
COMPC099	✓	✓				✓		✓
COMPC082	✓	✓	✓	✓	✓			
COMPC083	✓	✓	✓		✓			
COMPC084	✓	✓				✓		✓