FATIMA COLLEGE

(Autonomous)
Affiliated to Madurai Kamaraj University
Re-Accredited with 'A++' by NAAC (Cycle - IV)
Mary Land, Madurai - 625018, Tamil Nadu

AQAR – QUALITATIVE METRIC

2022 - 2023

Criterion 1 - Curricular Aspects

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme specific outcomes (PSOs) and Course Outcomes (COs), of the Programmes offered by the Institution.

Name of the Programme: B. Sc.INFORMATION TECHNOLOGY

Programme Outcomes:

PO 1	Apply acquired scientific knowledge to solve complex issues.
PO 2	Attain Analytical skills to solve complex cultural, societal and environmental issues.
PO 3	Employ latest and updated tools and technologies to analyse complex issues.
PO 4	Demonstrate Professional Ethics that foster Community, Nation and Environment Building Initiatives.

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Programme Specific Outcomes:

PSO 1	Apply computational techniques and software principles for designing of software systems.
PSO 2	Develop efficient and effective software systems using modern computer techniques.
PSO 3	Acquire fundamental concepts, methods and practices of Information Technology to develop theoretical and practical skill sets.
PSO 4	Justify the optimum technique to allocate memory resources, processors, I/O peripherals to provide optimal programmatic solution to a real world problem.
PSO 5	Support to gain skills on basic as well as trendy software languages and packages to design web sites, web apps, mobile apps and real time software projects.
PSO 6	Promote the students to generalize and distinguish the characters of different systems for different environment.
PSO 7	Trigger the students to enroll in to the research areas of IT industry like cloud computing and data analytics.
PSO 8	Able to become entrepreneur and to pursue career in IT industries.

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Course Outcomes:

Course Code	Course Title	Nature Of The Course (Local/National/Regional/Global)	Course Description	Course Outcomes
21I1CC1	Programming In C	Global	This course content plays a vital role in building the fundamental knowledge in programming.	CO1: Understand the basic concepts in Computer and C Programming. CO2: Identify and Apply different construct available for iteration such as 'for', 'while' and 'do-while'. CO3: Understand various storage concepts. CO4: Develop C programs using functions. CO5: Summarize the concepts of Pointers and Files.
21I1CC2	Lab In C Programming	Global	This course content plays a vital role in	CO1: Know the concept of Problem solving. CO2: Implement various concepts in C.

			building the basic programming skill in C language.	CO3: Apply the concepts of Functions, Structures and Unions in C program. CO4: Make use of pointers using C programs. CO5: Apply and Use the file concepts in C programs.
21I1NME	Image Editing Tools	Global	This course content enables other Major students to strengthen and increase the understanding of basis Multimedia application Software's.	CO1: Construct simple vector graphics using basic drawing elements and shape commands. CO2: Apply basic shape commands and image effects in processing raster format pictures CO3: Understand the basic tools for editing images. CO4: Develop effective graphics for both web and print media. CO5: Apply layer features and layer management techniques for creating Web

				pages and Invitations.
21I2CC3	Data Structures Using C++	Global	This course introduces the basic concepts of C++. It also aims at facilitate the students to know the Data Structure concepts.	CO1: Understand how to apply the major OOPs concepts to implement encapsulation, inheritance and polymorphism CO2: Implement an achievable practical application and analyse issues related to object-oriented techniques in the C++ programming language CO3: Handle operations like searching, insertion, deletion, traversing mechanism etc. on various data structures. CO4: Use linear and non-linear data structures like Stacks, Queues, and Linked List. CO5: Analyse various Searching and Sorting Techniques using C++.
21I2CC4	Lab -II - Data	Global	This course enables	CO1: Implement an achievable practical

	Structures Using C++		students to identify, formulate all techniques of software development in the C++ Programming Language and demonstrate these techniques.	application on object-oriented techniques in the C++ programming language CO2: Implement linear and non-linear data structures like Stacks, Queues, linked list. CO3: Demonstrate the concept of classes and their types by using C++ objects. CO4: Apply the concept of polymorphism and inheritance in C++ CO5: Implement practical applications by applying Searching and Sorting Techniques using C++.
21I2NME	Image Editing Tool	Global	This course content is enables other disciplined students to strengthen and	CO1: Construct simple vector graphics using basic drawing elements and shape commands. CO2: Apply basic shape commands and

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			increase the understanding of basis Multimedia application software like Photoshop and Corel Draw.	image effects in processing raster format pictures CO3: Understand the basic tools for editing images. CO4: Develop effective graphics for both web and print media. CO5: Apply layer features and layer management techniques for creating Web pages and Invitations.
19I3CC5	Database Management Systems	Global	This course introduces database design and creation using DBMS software. It also imparts various concepts in database management	CO1: Explain the structure and model of the relational database system. CO2: Design multiple tables and use group functions, sub queries. CO3: Design a database based on a data model considering the normalization to a specified level. CO4: Develop E- R model-based tables. CO5: Evaluate different PL/SQL blocks.

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			system.	
19I3CC6	Lab III RDBMS	Global	This course gives hands on experience in relational database management system.	CO1: Explain Various SQL Commands. CO2: Write SQL queries to user specifications CO3: Design database schema considering normalization and relationships within database. CO4: Develop PL/SQL Programs. CO5: Develop triggers, procedures and Cursors.
19P3ACI3	Digital Principles And Computer Architecture	Global	The course content plays a vital role in making the students to understand the basic digital components	CO1: Explain about digital logic circuits CO2: Compute simple arithmetic operations for fixed-point and floating-point addition and subtraction. CO3: Understand various digital components. CO4: Construct an instruction set capable of performing a specified set of

				operations.
				CO5: Demonstrate a memory system for a given set of specifications.
22I3SB1	Automation Skills	Global	This course trains students how to use MS Office applications use in office work such as creating professional-quality documents, store, organize and analyze information, arithmetic operations, functions and create dynamic slide presentations with	CO1: Use Word to prepare organizational documents. CO2: Design financial & other business applications requiring mathematical calculations using spread sheet software. CO3: Develop various charts--pie, bar, line, column, & area using spread sheet software. CO4: Create Dynamic presentations with animation. CO5:Demonstrate presentations with narration and images.

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			animation, narration, images, and much more, digitally and effectively.	
21I4CC7	Programming In Java	Global	This course enables the students to build object-oriented java programs using the concept of abstraction, encapsulation, exception handling, packages, interfaces, threads and AWT controls.	CO1: Understand the concepts of Object-Oriented Programming & Java Programming Constructs. CO2: Understand basic concepts of Java such as operators, classes, objects, inheritance, packages, Enumeration and various keywords. CO3: Understand the concept of exception handling and Input/output operations. CO4: Design Java & Java applet-based applications.

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			It also imparts the ability to develop projects in java with JDBC connectivity.	CO5: Analyse & Design the concept of Event Handling and Abstract Window Toolkit.
21I4CC8	Lab IV – Programming In Java	Global	This course gives hands on experience, practices the concepts of java programming language, and develops solutions for real world problems.	CO1: Implement Object Oriented programming concept using operators and control Structures. CO2: Design java programs using inheritance, interfaces and packages. CO3: Implement exception handling mechanism and multithreading concept. CO4: Design Java applet-based applications. CO5: Design applications to Handle Events using AWT components.

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19I4SB2	Analytical Skills	Global	This course content plays a vital role for clearing any competitive exam and it covers all the Quantitative Aptitude topics and an in-depth understanding of this subject.	CO1: Understand the short cut methods. CO2: Apply general mathematical techniques. CO3: Develop their critical thinking. CO4: Recall the formulas. CO5: Solve the sums by applying shortcut methods with time management.
22I5CC9	.Net Programming	Global	This course introduces .NET Framework and imparts various concepts in .NET framework	CO1: Explain the .NET framework. CO2: Apply C# concepts in developing software solutions based on user requirements. CO3: Design basic GUI applications using .NET. CO4: Demonstrate advanced features of ASP.NET programming.

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				CO5: Develop windows application and web applications in .NET framework analyzing user requirements.
22I5CC10	Lab V: .Net Programming	Global	This course gives hands on experience in C# Programming with dot net.	CO1: Understand various application types. CO2: Create dynamic window application. CO3: Use asp.net controls in web application. CO4: Build interactive Web pages. CO5: Use XML in web application.
19I5CC11	Software Engineering	Global	This course introduces the basic steps involved in Software Development Life Cycle (SDLC).	CO1: Understand how to plan a software project. CO2: Analyse the cost estimate and problem complexity using various estimation techniques. CO3: Prepare the SRS, Design document, Project plan of a given software system. CO4: Apply Software design and

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				implementation ideas in S/W project development. CO5: Generate test cases using White Box testing and Black Box testing.
19I5CC12	Operating Systems	Global	This course content plays a vital role in making the students to understand the basic operating system concept.	CO1: Describe the evolution, types, structure and functions of operating systems. CO2: Explain techniques involved in concurrency and deadlock. CO3: Describe memory management and processor scheduling used in operating systems. CO4: Implement disk scheduling algorithm for a given scenario. CO5: Execute Linux basic commands and shell scripts.

19I5ME1	Data Mining	Global	This course introduces the basic concepts, principles, methods, implementation techniques, and applications of data mining.	CO1: Identify data mining tools and techniques in building intelligent machines. CO2: Understand different pre-processing techniques. CO3: Analyse various data mining algorithms while applying in real time applications. CO4: Compare various supervised and unsupervised learning techniques in data mining. CO5: Illustrate the mining techniques like association, classification and clustering.
19I5ME2	Network Security	Global	The course covers the basics of the science of encryption and network security	CO1: Understand the basic concepts of security. CO2: Analyze various cryptographic algorithms while applying practically. CO3: Identify Asymmetric based

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			technology.	cryptographic algorithms.
				CO4: Compare different internet security protocols.
				CO5: Summarize the concepts of firewall and IP security.
21I5SB3	Excel Using VBA	Global	This course is designed to learn the best practices followed in industries to develop simple projects.	CO1: Understand fundamentals of VBA
				CO2: Apply different conditional logics and loops
				CO3: Build forms with interactivity
				CO4: Apply Events and Setting in Excel sheets.
				CO5: Develop Procedures and Array concepts.
22I5SB4	Image Manipulation	Global	This course introduces the	CO1: Construct simple vector graphics by using basic drawing elements and shape

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	Tools		concepts and tools for design, create and manipulate images for integration in publication layout and web output by using the software tool.	commands. CO2: Apply basic shape commands and image effects in processing raster format pictures. CO3: Design and edit images using image-editing tool. CO4: Apply layer features for creating images for web and print. CO5: Develop effective graphics for both web and print media.
22I6CC13	Python Programming	Global	This course is designed to introduce the python programming language. The focus of the course is to	CO1: Identify the basic concepts of python program. CO2: Apply the Input and output statements in python. CO3: Analyze the usage of function control structure. CO4: Describe String, List and Tuples. CO5: Create Python Dictionary and Files.

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			provide students with an introduction to programming, utilities, multitasking, GUI and network applications.	
22I6CC14	Lab VI: Python Programming	Global	This course content plays a vital role in building the basic programming skill in Python.	CO1: Demonstrate the basic concepts of variables expressions. CO2: Develop basic python programs with I/O operations. CO3: Develop programs with function control structure. CO4: Apply strings and lists in python. CO5: Develop python programs with files.

19I5CC12	Data Communication And Networking	Global	This course is to provide information about various data communication techniques like switching and networking concepts which includes layers and their corresponding protocols.	CO1: Describe the components of a data communications system CO2: Identify key considerations in selecting various switching techniques and various transmission media in networks CO3: Describe the various types of Protocols in Network layer and their features CO4: Illustrates the functionality of transport layer and their corresponding protocols. CO5: Analyse different usage of application layer protocols.
22I6ME3	Cloud Technology	Global	This course facilitates the students to understand, analyze	CO1: Understand fundamental concepts of cloud service and deployment models. CO2: Identify the importance of virtualization along with their

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			the various applications of cloud tool and also provide solutions for cloud security and storage.	technologies. CO3: Analyse different cloud computing Services. CO4: Analyse the components and the security in cloud. CO5: Illustrate different design & develop backup strategies for cloud data based on features.
21I6ME4	Mobile Communication	Global	This course gives the ability to acquire the knowledge about the technologies in mobile computing and its security issues.	CO1: Understand the infrastructure to develop mobile communication systems. CO2: Identify the characteristics of different multiple access techniques in mobile communication. CO3: Analyse the measures GSM systems and the entire protocol architecture of GSM. CO4: Understand the GPRS technologies and architecture for communication using

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				Mobile Devices.
				CO5: Illustrate the Security issues in Mobile Computing.
19I6ME5	Information Storage And Management	Global	This course provides a comprehensive understanding of the various storage infrastructure components in classic and virtual environments. It enables the students to make informed decisions in an increasingly complex IT environment.	CO1: Know the concepts of Storage and Data structure Environment based on growth and challenges in IT. CO2: Understand data protection by using related and recent techniques. CO3: Identify the parameters of managing and monitoring the storage infrastructure and manage the solutions. CO4: Know backup and archival data in both classic and virtualized environment. CO5: Analyse, Monitoring and managing the storage infrastructure in cloud environments.

19I6ME6	Computer Graphics	Global	This course is designed to facilitate to understand, design and implementation of pictorial data and will make the students to be a successful Graphics programmer.	CO1: Understand the need and concepts of computer graphics. CO2: Describe the procedure for points, lines and Circle. CO3: Analyse various attributes of output primitives. CO4: Illustrate two-dimensional geometric transformation. CO5: Analyse windowing and clipping concepts.
22I6SB5	Web Programming Using PHP	Global	This course is designed to facilitate to build dynamic Web applications.	CO1: Describe fundamentals of webin PHP scripts to handle HTML forms. CO2: Describe the importance regular expressions including modifiers, operators, and metacharacters CO3: Create PHP programs that use various PHP library functions, and that manipulate files and directories

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				CO4: Analyze and solve various database tasks using the PHP language. CO5: Analyze and solve common Web application tasks by writing PHP programs.
21I6SB6	Fundamentals Of Android Programming	Global	This course introduces to learn basic Android programming concepts and build a variety of apps by using the concepts Android Architecture Components	CO1: Able to Install Java Development Toolkit. CO2: Install and configure Android application development tools CO3: Design and develop user Interfaces for the Android platform. CO4: Identify the Application & Layouts Concepts. CO5: Save state information across important operating system events.