



# Fatima College

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College with Potential for Excellence (2004 - 2019)

101 - 150 Rank Band in India Ranking 2021 (NIRF)

Mary Land, Madurai - 625 018, Tamil Nadu.



## FATIMA COLLEGE (AUTONOMOUS), MADURAI – 625018 2020 – 2021

**NAME OF THE PROGRAMME: M. Sc INFORMATION TECHNOLOGY**

**PROGRAMME CODE: PSIT**

### PROGRAMME OUTCOMES:

<b>PO 1</b>	Computational Knowledge: acquire knowledge of Computing Fundamentals, Computing Specialization, and Domain Knowledge of proper computing models from defined problems
<b>PO 2</b>	Problem Analysis: identify, invent, research activities to fundamental concepts of Mathematics, Computing Science and Relevant Domains provide solutions for complex computing problems using
<b>PO 3</b>	Design and Development: design and develop a solution for complex problems in domains like Banking, Insurance, Healthcare Systems and Multimedia and Mass Communications.
<b>PO 4</b>	Research Activity: apply Research based knowledge and methodologies to design, analyze and interpretation of data and find the solutions for complex problems by applying right tools
<b>PO5</b>	Professional ethics: understand professional ethics and Cyber regulations and develop the youth with



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	social commitments.
<b>PO 6</b>	Creativity and Entrepreneurship: find out right opportunity for entrepreneurship and create and add value for the betterment of an individual and society at large.

## PROGRAMME SPECIFIC OUTCOMES:

<b>PSO 1</b>	Understand the concepts and applications in the field of Computing Sciences like Web designing and development, Mobile application development, and Network and communication technologies.
<b>PSO 2</b>	Apply the learning from the courses and develop applications for real world problems.
<b>PSO 3</b>	Understand the technological developments in the usage of modern design and development tools to analyze and design for a variety of applications
<b>PSO 4</b>	Communicate in both oral and written forms, demonstrating the practice of professional ethics and the concerns for social welfare.
<b>PSO 5</b>	Demonstrate understanding of the principles and working of the hardware and software aspects of



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	computer systems
<b>PSO 6</b>	Ability to understand the structure and development methodologies of software systems. Possess professional skills and knowledge of software design process. Familiarity and practical competence with a broad range of programming language and open source platforms.
<b>PSO 7</b>	Be acquainted with the contemporary issues, latest trends in technological development and thereby innovate new ideas and solutions to existing problems.

COURSE CODE	COURSE TITLE	COURSE OUTCOMES
19PG1IT1	Data Structures and Algorithm Analysis	CO1: To learn about Linear Data Structures CO2: Develop knowledge on different design techniques CO3: Learn about the non-linear data structures – Trees CO4: To Implement appropriate operations for Graphs and sorting



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		CO5: Implement appropriate operations like sorting and searching techniques.
19PG1IT2	Object Oriented Software Engineering	CO1: Differentiate traditional and object oriented software engineering CO2: Explain various SDLC methods of OOSE CO3: Describe techniques used in OOSE CO4: Explain OOSE testing methods CO5: Analyze and choose necessary method for a particular project
19PG1IT3	Data Storage and Management	CO1: To understand and apply Outline the features of DBMS and Relational Database design CO2: To Design conceptual models of a database using ER model CO3: To implement normalization techniques in database design



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		CO4: To Retrieve information from database by formulating complex SQL Queries. CO5: To Utilize PL/SQL programming to solve problems
19PG1IT4	Distributed Operating System	CO1: Discuss the core concepts of distributed systems. CO2: Analyze various message passing mechanisms with its model. CO3: Identify the inherent difficulties that arise due to distribution of computing resources. CO4: Explain migration with the process management policies. CO5: Explain the basic concepts, design and structure of the LINUX operating system.
19PG1IT5	Lab I : C++ and Data Structure	CO1: Develop solutions for a range of problems using objects and classes. CO2: implementation of constructors, destructors and



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		<p>operator overloading.</p> <p>CO3: Apply fundamental algorithmic problems including type casting, inheritance, and polymorphism</p> <p>CO4: Understand generic Data structures programming like Stack, Queue and Linked List.</p> <p>CO5: Implement the concept of Sorting and Searching techniques</p>
19PG1IT6	LAB II : RDBMS	<p>CO1: Implement Basic DDL, DML and DCL commands.</p> <p>CO2: Develop sub queries and understand their purpose.</p> <p>CO3: Use Aggregate and group functions to summarize data.</p> <p>CO4: Understand the PL/SQL architecture and write PL/SQL code for procedures, triggers, cursors, exception handling etc</p>



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		CO5: Implement the complex queries
19IT1EDC	Business Information System	<p>CO1: understand business organization and role of information technology</p> <p>CO2: To learn about the technology infrastructure</p> <p>CO3: Explain various Intra and Inter organizational system</p> <p>CO4: To learn about Intelligent system for business.</p> <p>CO5: To learn about the Planning, Implementing and Managing strategies of information system</p>
19PG2IT7	Java & J2EE	<p>CO1: To understand the structure and model of the Java programming language.</p> <p>CO2: To explain the concepts of Packages, Interfaces and strings.</p> <p>CO3: To develop software implementing Exception handling mechanisms</p>



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		CO4: To design software for database connectivity and able to design GUI applications CO5: To implement server side programming using SERVLETS
19PG2IT8	Network Security	CO1: To understand the Attacks, Services and Mechanisms. CO2: To explain the concepts cryptography CO3: To understand the concepts of Email and IP security CO4: To know about the web security issues and various protocols CO5: To understand the concepts of virus and firewall .
19PG2IT9	Mobile Application Development Using Android Studio	CO1: Design scripts to meet given interface and media control requirements CO2: Utilize variables, properties and other code





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		<p>elements appropriately to implement the code design</p> <p>CO3: Implement and evaluate techniques for the installation of mobile applications</p> <p>CO4: Explain the principles of technologies which support media production and delivery on a variety of platforms</p> <p>CO5: Evaluate alternative mobile frameworks, and contrast different programming platforms</p>
19PG2IT10A	Cloud Computing	<p>CO1: To understand the fundamental principles of cloud computing and its model</p> <p>CO2: To apply concepts of IAAS, SASS, PAAS</p> <p>CO3: To develop business models that underlie Cloud Computing.</p> <p>CO4: To describe the importance of virtualization in distributed computing</p>



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		CO5: To analyse the importance of cloud security
19PG2IT10B	Multimedia Systems	<p>CO1: To identify and use the elements and principles of design in multimedia.</p> <p>CO2: To understand terminology associated with the concepts, techniques, and processes used throughout the multimedia environment.</p> <p>CO3: To Demonstrate an advanced knowledge of photo editing including: image manipulation, color correction, compositing, toning, and preparing for distribution.</p> <p>CO4: To explain the concepts of importing, exporting, effects, transitions, color correcting, and flow.</p> <p>CO5: To describe Image compression Standards</p>
19PG2IT10C	Management Information System	CO1: To define an information system from both a technical and business perspective and distinguish between computer literacy and information



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		<p>systems literacy.</p> <p>CO2: To assess the relationship between the electronic commerce, electronic business and internet technology.</p> <p>CO3: To identify the major management challenges to building and using information systems in organizations.</p> <p>CO4: To understand managerial risks related to information system organization processing and utilizing</p> <p>CO5: To evaluate the benefits and limitations of enterprise systems and industrial networks.</p>
19PG2IT11	Lab III : Java Programming	<p>CO1: To understand the concept of Object Oriented Programming &amp; Java Programming Constructs.</p> <p>CO2: To practice the concepts of operators, classes, objects, inheritance, packages, Enumeration and</p>



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		<p>various keywords</p> <p>CO3: To apply exception handling mechanisms.</p> <p>CO4: To design the applications of Java &amp; Java applet, Swings and JDBC</p> <p>CO5: To Analyze and implement server side programming using SERVLETS</p>
19PG2IT12	Lab IV: Android Studio	<p>CO1: Develop enterprise-level mobile solutions.</p> <p>CO2: Install and configure Android application development tools</p> <p>CO3: Demonstrate Save State information across important operating system events</p> <p>CO4: Develop advanced application programs using Android</p> <p>CO5: Design and develop mobile applications</p>
19IT2EDC	Animation Software	<p>CO1: Explain the basic concepts in computer graphics.</p>



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		CO2: understand the Alice Environment CO3: Build a program in Alice. CO4: Apply event handlers CO5: Develop 3D animations
19PG3IT13	Digital image processing	CO1: Explain the representation of digital image and its manipulations CO2: Analyze image sampling and quantization requirements and implications CO3: Describe various Transformation and Filtering Techniques CO4: Demonstrate Restoration And Reconstruction models CO5: Utilize Image Compression And Segmentation for efficient storage
19PG3IT14	Python programming	CO1: To understand the structure and model of the



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		<p>python programming language.</p> <p>CO2: To explain the concepts of iterations</p> <p>CO3: To develop software implementing functions</p> <p>CO4: To design software List concepts</p> <p>CO5: To implement Exception handling</p>
19PG3IT15A	Software testing	<p>CO1: Discuss various software application domains and different process model used in software development.</p> <p>CO2: Demonstrate the basics of software quality assurance and defect prevention.</p> <p>CO3: Compare different testing strategies and tactics.</p> <p>CO4: Apply the software testing techniques in commercial environment.</p> <p>CO5: Explain high performance testing using Jmeter.</p>
19PG3IT15B	Data Mining and Data	<p>CO1: Explain the fundamental concept of Data Mining</p>



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	Warehousing	<p>and analyze and evaluate the data cleaning, integration , transformation and reduction techniques</p> <p>CO2: Design multidimensional data using Data Warehouse architecture.</p> <p>CO3: Design and evaluate Classification algorithms</p> <p>CO4: Identify the types of data in Cluster Analysis and categorize the Cluster Methods</p> <p>CO5: Utilize the Data Mining techniques in various real applications and in major issues</p>
19PG3IT15C	Linux Shell Programming	<p>CO: Explain the fundamental concept of Shell Programming</p> <p>CO2: Understand the concepts of file management in Linux</p> <p>CO3: To learn the Linux environment, process and signal</p>



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		CO4: Identify the types of POSIX threads and terminals CO5: Utilize the facilities provided in the concept of text based screens
19PG3IT16A	Big Data Analytics	CO1: Explain Characteristics and challenges of Big Data CO2: Describe Big Data Analytics CO3: Utilize Hadoop for Big Data Technologies CO4: Demonstrate MAPREDUCE Programming CO5: Describe types of Recommendation Systems using Big Data Analytics.
19PG3IT16B	Internet of things	CO1: Explain the basic concepts of IoT CO2: Discuss physical and logical design of IoT enabled technologies CO3: Analyze how and where IoT can be applied CO4: Compare M2M and IoT CO5: Describe the features of Python used for IoT





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		implementation
19PG3IT16C	Mobile Communication	<p>CO1: Understand the infrastructure to develop mobile communication systems</p> <p>CO2: Know the characteristics of different multiple access techniques in mobile communication.</p> <p>CO3: Analyze the measures GSM systems and the entire protocol architecture of GSM.</p> <p>CO4: Understand the GPRS technologies and architecture for communication using Mobile Devices</p> <p>CO5: Monitoring the Security issues in Mobile Computing.</p>
19PG3IT17	Lab V: Digital Image Processing Tool	<p>CO1: Demonstrate Fundamental Steps involved in Digital Image Processing</p> <p>CO2: Analyze and use Mathematical Tools for Digital</p>



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		<p>Image Processing</p> <p>CO3: Apply Intensity Transformation functions and Spatial filtering methods</p> <p>CO4: Utilise Colour Image Processing with different Colour Models</p> <p>CO5: Implement Image Segmentation Techniques and Image Compression Techniques using Huffman , Golomb and Arithmetic coding algorithms</p>
19PG3IT18	Lab VI: Python Programming	<p>CO1: To understand the concept of Python Programming Constructs.</p> <p>CO2: To practice the concepts of operators, classes, objects, inheritance, packages ,Enumeration and various keywords</p> <p>CO3: To apply exception handling mechanisms.</p> <p>CO4: To design the applications of Java &amp; Java applet, Swings and JDBC</p>



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		CO5: To Analyze and implement server side programming using SERVLETS
19PG3ITSI1	Summer Internship	<p>CO1: Identify employment contacts leading directly to a full-time job following course completion</p> <p>CO2: Create communication, interpersonal and other soft skills essential for the job interview process</p> <p>CO3: Analyse the project requirements and engages in continuing professional development</p> <p>CO4: Analyze a problem and identify the computing requirements appropriate to its solution.</p> <p>CO5: Utilizing a new software tool.</p>
19PG4IT19	Project Work & Viva Voce	<p>CO1: Discuss project development and the associated business processes</p> <p>CO2: Plan as an individual or in a team in development of technical projects.</p> <p>CO3: Communicate with engineers and the community</p>



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		<p>at large in written and oral forms.</p> <p>CO4: Create effective communication skills for presentation</p> <p>CO5: Analyse problems and formulate solutions</p>
19PG4IT20	SSP : R-Programming	<p>CO1: To understand the structure and model of the R-programming language.</p> <p>CO2: To explain the concepts of iterations</p> <p>CO3: To develop software implementing functions</p> <p>CO4: To design software Data set concepts</p> <p>CO5: To implement Exception handling</p>