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Re-Accredited with 'A++' (CGPA 3.61) by NAAC (Cycle- IV)
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

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 CODE: USIT

PROGRAMME OUTCOMES:

PO1	Computer knowledge: Apply the knowledge of science and mathematics to the solution of complex problems
PO2	Development of solutions: Design solutions for IT related problems using latest technologies and implement the solutions to meet the current needs of the Public.







РОЗ	Conduct Investigations of complex problems: Provide valid conclusions using evidence-based knowledge and study methods including design of experiments, analysis and data interpretation, and information synthesis.
PO4	Modern tool usage: Creating, choosing and applying appropriate techniques, resources and current IT technologies like simulation and modelling to complex IT systems with an understanding of limitations.
PO 5	Environment and sustainability: Understand the impact in social and environmental contexts of IT analyst approaches and show the awareness and need for sustainable development.
PO 6	Ethics: Apply ethical principles and adhere to professional ethics and responsibilities and norms of the IT practice.
PO 7	Individual and Team work: Effectively work as an entity, and as a member or leader in various teams, and in multidisciplinary environments.



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PROGRAMME SPECIFIC OUTCOMES:

PSO1	Apply computational techniques and software principles for designing of software systems.
PSO 2	Develop efficient and effective software systems using modern computer techniques
PSO3	Acquire fundamental concepts, methods and practices of Information Technology to develop theoretical and practical skill sets.
PSO4	Justify the optimum technique to allocate memory resources, processors, I/O peripherals to provide optimal programmatic solution to a real-world problem.
PSO5	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.
PSO6	Promote the students to generalize and distinguish the characters of different systems for environment.
PSO7	Trigger the students to enrol in to the research areas of IT industry like cloud computing and data analytics.



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PSO8

Able to become entrepreneur and to pursue career in IT industries

COURSE CODE	Course Title	NATURE OF THE COURSE (LOCAL/NATIONAL/ REGIONAL/ GLOBAL)	Course Description	Course Outcomes
19I1CC1	FUNDAMENTALS OF COMPUTING	GLOBAL	This course content plays a vital role in building the basic concepts in computers and the fundamental knowledge in programming.	CO1: Understand the basic concepts in Computer & 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.
19I1CC2	LAB I - PROGRAMMING IN C	GLOBAL	This course content plays a vital role in building the basic programming skill in C language.	CO1: Know the concept of Problem solving. CO2: Implement various concepts in C 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



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				fileconcepts in C
				programs
19I1NME	MULTIMEDIA APPLICATIONS	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



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								layer	mar	nagement
								techniques	for	creating
								Web p	ages	and
								Invitations.		
19I2CC3	DATA STRUCTURES	GLOBAL	To i	mpart	the	basic	CO1:	Understand	how	to apply
	USING C++		conce	pts	of	data		the major (OOPs	concepts
			struct	ures		and		to	in	nplement
			algori	thms	2	To		encapsulati	on,	
			under	stand	со	ncepts		inheritance		and
			about	sear	rching	and		polymorphi	sm	
			sortin	g tech	niques	3 To	CO2:	Implement	an a	chievable
			Under	rstand		basic		practical a	pplica	tion and
			conce	pts al	out s	stacks,		analyse iss	ues r	elated to
			queue	es, list	s, tree	s and		object-orier	ited	
			graph	s	4	To		techniques	in	the C++
			under	standir	ng	about		programmi	ng lan	iguage



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			,			,			
			writing	algorith	ms and	CO3:	Handle	operations	s like
			step by	step app	roach in		searchin	g, inse	ertion,
			solving	problems	with the		deletion,	trav	ersing
			help of	fundamer	ntal data		mechani	sm etc.	on
			structur	es.			various o	lata structı	ıres.
						CO4:	Use linea	r and non-	linear
							data	structures	like
							Stacks,	Queues,	and
							Linked L	ist.	
						CO5:	Analyse v	arious Sea	rching
							and Sor	ting Techi	niques
							using C+	+.	
19I2CC4	LAB -II - DATA	GLOBAL	This	course	enables	CO1:	Impleme	nt an achi	evable
	STRUCTURES		student	s to	identify,		practical	application	n on
	USING C++		formula	te all ted	chniques		object-or	iented	
			of softw	vare deve	elopment		techniqu	es in the	C++



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			in the C+	+ Progra	mming		programmin	ıg lang	uage
			Language		and	CO2:	Implement	linea	ar and
			demonstra	ate	these		non-linear		data
			technique	s.			structures	like	Stacks,
							Queues, lin	ked list	t.
						CO3:	Demonstrat	e the	concept
							of classes a	nd the	ir types
							by using C+	+ objec	cts.
						CO4:	Apply the	cond	cept of
							polymorphis	sm	and
							inheritance	in C++	
						CO5:	Implemen	nt p	ractical
							applications	by a	pplying
							Searching	and	Sorting
							Techniques	using	C++
19I2NME	MULTIMEDIA	GLOBAL	This co	ourse (content	CO1:	Construct	simple	vector



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APPLICATIONS	enables other Major	graphics using basic
	students to strengthen	drawing elements and
	and increase the	shape commands.
	understanding of basis	CO2: Apply basic shape
	Multimedia application	commands and image
	Software's.	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.



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19I3CC5	DATABASE	GLOBAL	This course introduces	CO1: Explain the structure and
	MANAGEMENT		database design and	model of the relational
	SYSTEMS		creation using DBMS	database system.
			software. It also imparts	CO2: Design multiple tables
			various concepts in	and use group functions,
			database management	sub queries.
			system.	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.
19I3CC6	LAB III RDBMS	GLOBAL	This course gives hands	CO1: Explain Various SQL



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			on	experi	ience	in	Commands.
			relatio	nal	da	tabase	CO2: Write SQL queries to user
			manag	ement	systen	n.	specifications
							CO3: Design database schema
							considering
							normalization and
							relationships within
							database.
							CO4: Develop PL/SQL
							Programs.
							CO5: Develop triggers,
							procedures and Cursors.
	DIGITAL	GLOBAL	Analys	e a	CC	mplex	CO1: Explain about digital logic
1012402	PRINCIPLES AND		compu	ting p	roblen	n and	circuits
19I3AC3	COMPUTER		to ap	ply pr	rincipl	es of	CO2: Compute simple
	ARCHITECTURE		compu	ting	and	other	arithmetic operations for







		1	1			
			relevant	disciplines	to	fixed-point and floating-
			identify s	olutions.		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.
19I3SB1	OFFICE	GLOBAL	This	course tra	ains	CO1: Use Word to prepare
	AUTOMATION		students	how to use	MS	organizational
			Office ap	plications us	e in	documents.
			office w	work such	as	CO2: Design financial & other



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			oreoting pro	ofessional-		husiness applications
			creating pro	olessionai-		business applications
			quality docume	nts; store,		requiring mathematical
			organize and	analyse		calculations using
			information;	arithmetic		spread sheet software.
			operations and	functions;	CO3:	Develop various charts
			and create dyna	amic slide		pie, bar, line, column, &
			presentations	with		area using spread sheet
			animation,	narration,		software.
			images, and m	uch more,	CO4:	Create Dynamic
			digitally and effe	ectively.		presentations with
						animation.
					CO5:	Demonstrate
						presentations with
						narration and images.
19I4CC7	PROGRAMMING IN	GLOBAL	This course en	nables the	CO1: U	Inderstand the concepts
	JAVA		students to bui	ild object-	C	of Object-Oriented
				J		







	oriented java programs	Programming & Java
	using the concept of	Programming Constructs.
		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. CO5: Analyse & Design the concept of Event







			Handling and Abstract Window Toolkit.
19I4CC8	LAB IV PROGRAMMING JAVA	- GLOBAL	This course gives hands on experience, practices the concepts of java programming language, and develops solutions for real world problems. CO2: Design java programs inheritance, interfaces and packages. CO3: 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



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				Handle Events using AWT components.
19I4AC4	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

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				a given scenario. CO5: Execute Linux basic commands and shell scripts.
19I4SB2	QUANTITATIVE APTITUDE	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
ISCC11	WEB TECHNOLOGY	GLOBAL	To acquire knowledge and skills for creation of web site considering both client and server-side Students will able to implement interactive web page(s) using HTML, CSS and JavaScript. Able to design a responsive web site using HTML and CSS. To gain ability to develop responsive web applications. To explore different web extensions and web services	CO1: Implement interactive web page(s) using HTML, CSS and JavaScript. CO2: Design a responsive web site using HTML5 and CSS CO3: To gain ability to develop responsive web applications. CO4: To explore different web extensions and web services standards CO5: To be familiarized with



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			standards	PHP web framework
I5CC12	LAB V - WEB TECHNOLOGY LAB	GLOBAL	This course gives hands on experience in Web development Technologies.	CO1: Explain Various HTML tags. CO2: Design web pages with advanced HTML controls. CO3: Design Web pages using CSS CO4: Develop client side Scripting using JavaScript CO5: Develop web pages with XML.
I5CC13	DATA COMMUNICATION	GLOBAL	This course is to provide information about	CO1: Describe the components of a data

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AND NETWORKING	various	data	communications system
AND NETWORKING	communication techniques like sw and networking co which includes and their corresp protocols.	vitching oncepts layers	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



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				protocols. CO5: Analyse different usage of application layer protocols
I5CC14	DATA MINING CONCEPTS	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.
I5CC15	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



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				techniques.
				teciniques.
				CO3: Prepare the SRS, Design
				document, Project plan
				of a given software
				system.
				CO4: Apply Software design
				and implementation
				ideas in S/W project
				development.
				CO5: Generate test cases
				using White Box testing
				and Black Box testing.
I5ME1	INFORMATION	GLOBAL	This course provides a	CO1: Know the concepts of
	STORAGE AND		comprehensive	Storage and Data
	MANAGEMENT		understanding of the	structure Environment
			various storage	based on growth and

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	infrastructure components in classic and virtual environments. It enables the students to make informed decisions in an increasingly complex IT	challenges in IT. CO2: Understand data protection by using related and recent techniques. CO3: Identify the parameters of managing and
	environments. It enables the students to make informed decisions in an	protection by using related and recent techniques. CO3: Identify the parameters







				infrastructure in cloud environments.
I5ME2	MULTIMEDIA TECHNOLOGIES	GLOBAL	This course provides an understanding of various multimedia tools and its system design considerations.	CO1: Understand the characteristics of different media. CO2: Understand the representations of different multimedia data. CO3: Analyze different data formats. CO4: Identify various multimedia tools. CO5: Understand the System design considerations.



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I5SB3	IMAGE DESIGNING	GLOBAL	This course introduces	CO1: Construct simple vector
	SOFTWARE		the concepts and tools for	graphics by using basic
			design, create and	drawing elements and
			manipulate images for	shape commands.
			integration in publication	CO2: Apply basic shape
			layout and web output by	commands and image
			using the software tool.	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



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				and print media.
I5SB4	WEB DESIGN USING DREAMWEAVER	GLOBAL	To Identify Dreamweaver fundamentals to create websites, create web pages, insert tables and import content into web pages, create reusable site assets. Link web pages and send the website to the server.	CO1: Design a complete website CO2: Design webpages with audio, video, flash, java applets and images. CO3: Design different layout styles which includes backend programming CO4: Applying variety of Fonts Design Forms, Frames, Tables Design Cascading Styles Sheets. CO5: Create Database



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				connectivity.
I6CC16	.NET	GLOBAL	To describe the concepts	CO1: Explain the basics of
	PROGRAMMING		of logic preparation; to	GUI design work with
			recognize and explain the	Visual Basic Forms,
			benefits of procedural,	Tool Box controls and
			event driven, and object-	Properties;
			oriented languages.	CO2: Design and create
				Windows programs
				using the Visual Basic
				.NET programming
				language.
				CO3: Design and program
				using classes a
				completely documented
				Visual Basic .NET
				project.

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				CO4: Demonstrate advanced features of .NET programming. CO5: Develop windows application and web applications in .NET framework analyzing user requirements.
I6CC17	LAB VINET PROGRAMMING LAB	GLOBAL	This course covers the concepts to user for developing interactive web pages using ASP.Net. Able to performing Database operations for Windows Form and web applications	CO1: Understand various application types. CO2: Create simple data binding applications using ADO.Net connectivity. CO3: Performing Database operations for Windows

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				Form and web applications. CO4: Create user interactive web pages using ASP.Net. CO5: Create dynamic window application.
I6CC18	INFORMATION SECURITY	GLOBAL	The course covers the basics of the science of encryption and network security technology. It also provides the knowledge about the various risks that networks are faced with in this day and age,	CO1: Understands the basic concepts of security. CO2: Analyse various cryptographic algorithms while applying practically. CO3: Identify Asymmetric based cryptographic







			focussing on the various vulnerabilities of systems.	algorithms CO4: Compares different internet security protocols CO5: Summarize the concepts of firewall and IP security
I6CC19	PROJECT LAB	GLOBAL	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.	CO1: Gather software requirement specifications and prepare design for real time problems.
I6ME3	CLOUD	GLOBAL	This course facilitates the	CO1: Understand



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COMPUTING	students to und	lerstand,	fundamental concepts of
	analyse the	various	cloud service and
	applications of cl	oud tool	deployment models.
	and also solutions for security and stora	provide cloud	CO2: Identify the importance of virtualization along with their 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.



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I6ME4	MOBILE	GLOBAL	This course gives the	CO1: Understand the
	COMPUTING		ability to acquire the	infrastructure to
			knowledge about the	develop mobile
			technologies in mobile	communication
			computing and its	systems.
			security issues.	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



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				architecture for communication using Mobile Devices. CO5: Illustrate the Security issues in Mobile Computing.
I6ME5	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.
I6ME6	INTERNET & E-COMMERCE	GLOBAL	Presents concepts and skills for the strategic use of e-commerce and related information technology from three perspectives: business to consumers, business-to-business, and intra-organizational.	CO1:Understand the basic concepts of E-commerce. CO2: Examine some typical distributed applications. CO3:Anlyze the details of the problems that are encountered when developing distributed applications.







				CO4: Describe briefly some of the technologies that are used to support distributed applications. CO5: Understand the various e-commerce website development tools.
I6SB5	3D ANIMATION SOFTWARE	GLOBAL	This course is designed to facilitate different animation techniques in animation software	CO1: Understand basic concepts in Alice. CO2: Construct a scene. CO3: Build program in Alice using looping and branching. CO4: Apply event handlers in alike.



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				CO5: Develop 3D animations.
I6SB6	IMAGE EDITING	GLOBAL	This course provides the	CO1: Design layouts for web
	SOFTWARE		knowledge on basic	pages, Paper Adverts,
			selection tools and edge	Broachers, CD Covers,
			refinement to isolate and	Package.
			edit parts of an image.	CO2: Designing Event and
				Exhibition stall Designs,
				Pop Ups Touch Ups.
				CO3: Colour corrections
				Paintings, Drawings
				Converting B/W photo
				to colour.
				CO4: Create composite images
				that demonstrate
				advanced selection and



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		layering techniques.
		CO5: Manipulate layers
		through ordering,
		positioning, scaling,
		rotation, and
		adjustments.