

 Criterion : II – Teaching-Learning and Evaluation
 Metric : 2.6.1 – Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and Course Outcomes (COs) – B.Sc. INFORMATION TECHNOLOGY
 Year : 2015 - 2020



FATIMA COLLEGE (AUTONOMOUS), MADURAI – 625018

NAME OF THE PROGRAMME: B. SC INFORMATION TECHNOLOGY

PROGRAMME CODE: USIT

PROGRAMME OUTCOMES:

The learners will be able to

- **PO1:** Apply acquired scientific knowledge to solve complex issues.
- **PO2:** Attain Analytical skills to solve complex cultural, societal and environmental issues.
- **PO3:** Employ latest and updated tools and technologies to analyse complex issues.
- **PO4:** Demonstrate Professional Ethics that foster Community, Nation and Environment Building Initiatives.

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 enrol 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

2019-2020

COURSE CODE	Course Title	COURSE OUTCOMES
19I1CC1	Fundamentals of Computing	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'.
		CO 3: Understand various storage concepts.CO 4: Develop C programs using functions.





		CO 5: Summarize the concepts of Pointers and Files.
19I1CC2	Lab I - Programming in C	CO1: Know the concept of Problem solving.
		CO 2: Implement various concepts in C
		CO 3: Apply the concepts of Functions, Structures and Unions in
		C program
		CO 4: Make use of pointers using C programs.
		CO 5: Apply and Use the file concepts in C programs
19I1NME	Multimedia Applications	CO 1: Construct simple vector graphics using basic drawing
	ä	elements and shape commands.
	AT N	CO 2: Apply basic shape commands and image effects in
		processing raster format pictures
		CO 3: Understand the basic tools for editing images.
		CO 4: Develop effective graphics for both web and print media.





		CO 5: Apply layer features and layer management techniques for creating Web pages and Invitations.
19I2CC3	Data Structures using C++	 CO 1: Understand how to apply the major OOPs concepts to implement encapsulation, inheritance and polymorphism CO 2: Implement an achievable practical application and analyse issues related to object-oriented techniques in the C++ programming language CO 3: Handle operations like searching, insertion, deletion, traversing mechanism etc. on various data structures. CO 4: Use linear and non-linear data structures like Stacks, Queues, and Linked List. CO 5: Analyse various Searching and Sorting Techniques using C++.
19I2CC4	Lab -II - Data Structures Using C++	CO 1: Implement an achievable practical application on object- oriented techniques in the C++ programming language



		 CO 2: Implement linear and non-linear data structures like Stacks, Queues, linked list. CO 3: Demonstrate the concept of classes and their types by using C++ objects. CO 4: Apply the concept of polymorphism and inheritance in C++ CO 5: Implement practical applications by applying Searching and Sorting Techniques using C++
19I2NME	Multimedia Applications	 CO 1: Construct simple vector graphics using basic drawing elements and shape commands. CO 2: Apply basic shape commands and image effects in processing raster format pictures CO 3: Understand the basic tools for editing images. CO 4: Develop effective graphics for both web and print media. CO 5: Apply layer features and layer management techniques for creating Web pages and Invitations.

- ATADURAL
- Criterion: II Teaching-Learning and EvaluationMetric: 2.6.1 Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and
Course Outcomes (COs) B.Sc. INFORMATION TECHNOLOGYYear: 2015 2020



COURSE CODE	COURSE TITLE	COURSE OBJECTIVES
I3CC5	Relational Database management Systems	 Explain the structure and model of the relational database system. Design multiple tables and use group functions, sub queries. Design a database based on a data model considering the normalization to a specified level. Develop E- R model-based tables. Evaluate different PL/SQL blocks.
I3CC6	Lab –III - RDBMS	 Explain Various SQL Commands. Write SQL queries to user specifications Design database schema considering normalization and relationships within database. Develop PL/SQL Programs. Develop triggers, procedures and Cursors.
I3CC7	Trends in Information Technology	• Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the





		program's discipline.Communicate effectively in a variety of professional contexts
I3AC3	Digital Principles and Computer Architecture	 Explain about digital logic circuits. Compute simple arithmetic operations for fixed-point and floating-point addition and subtraction. Understand various digital components. Construct an instruction set capable of performing a specified set of operations. Demonstrate a memory system for a given set of specifications.
I3SB1	Ms Office Package	 Use Word to prepare organizational documents. Design financial & other business applications requiring mathematical calculations using spread sheet software. Develop various chartspie, bar, line, column, & area using spread sheet software. Create Dynamic presentations with animation. Demonstrate presentations with narration and images.



I4CC8	Programming In Java	• Understand the concepts of Object-Oriented Programming &
		Java Programming Constructs.
		• Understand basic concepts of Java such as operators, classes,
		objects ,in heritance, packages, Enumeration and various
		keywords.
		• Understand the concept of exception handling and
		Input/output operations.
		 Design Java & Java applet-based applications.
		• Analyse& Design the concept of Event Handling and Abstract
		Window Toolkit.
I4CC9	Lab IV - Java Lab	• Implement Object Oriented programming concept using
	A	operators and control Structures.
	V) KIN	• Design java programs using inheritance, interfaces and
		packages.
		• Implement exception handling mechanism and multithreading
		concept.
		Design Java applet-based applications.





		• Design applications to Handle Events using AWT components.
I4CC10	Operating Systems	• Describe the evolution, types, structure and Understand the
		process management policies and scheduling of processes by CPU
		• Evaluate the requirement for process synchronization and
		coordination handled by operating system
		• Describe and analyze the memory management and its
		allocation policies.
		• Identify use and evaluate the storage management policies with
		respect to different storage management technologies.
	Res la	• Identify the need to create the special purpose operating system.
I4AC4	Enterprise Resource	• Make basic use of Enterprise software, and its role in
	Planning	D integrating business functions
		• Analyse the strategic options for ERP identification and
		adoption.
		• Design the ERP implementation strategies.



I4SB2	Quantitative Aptitude	• Understand the short cut methods.
		• Apply general mathematical techniques.
		Develop their critical thinking.
		• Recall the formulas.
		• Solve the sums by applying shortcut methods with time
		management
I5CC11	Web Technology	• Implement interactive web page(s) using HTML, CSS and
		JavaScript.
		• Design a responsive web site using HTML5 and CSS
		• To gain ability to develop responsive web applications.
		• To explore different web extensions and web services standards
	Å 📐	• To be familiarized with PHP web framework
I5CC12	Lab V - Web Technology	Explain Various HTML tags.
	Lab	• Design WebPages with advanced HTML controls.
		Design Web pages using CSS
		Develop client side Scripting using JavaScript





		Develop WebPages with XML.
I5CC13	Data Communication and Networking	 Describe the components of a data communications system Identify key considerations in selecting various switching techniques and various transmission media in networks Describe the various types of Protocols in Network layer and their features Illustrates the functionality of transport layer and their corresponding protocols. Analyse different usage of application layer protocols
I5CC14	Data Mining Concepts	 Identify data mining tools and techniques in building intelligent machines. Understand different pre-processing techniques. Analyse various data mining algorithms while applying in real time applications. Compare various supervised and unsupervised learning techniques in data mining. Illustrate the mining techniques like association, classification





		and clustering.
I5CC15	Software Engineering	 Understand how to plan a software project. Analyse the cost estimate and problem complexity using various estimation techniques. Prepare the SRS, Design document, Project plan of a given software system.
		 Apply Software design and implementation ideas in S/W project development. Generate test cases using White Box testing and Black Box testing.
I5ME1	Information Storage and Management	 Know the concepts of Storage and Data structure Environment based on growth and challenges in IT. Understand data protection by using related and recent techniques. Identify the parameters of managing and monitoring the storage infrastructure and manage the solutions. Know backup and archival data in both classic and virtualized





			environment.
		•	Analyse, Monitoring and managing the storage infrastructure in
		A	cloud environments.
I5ME2	Multimedia Technologies	•	It contributes to having students practice their communication
			skills and demonstration ability with project presentation.
		•	It contributes to forming the global outlook that can affect the
			way computing systems are developed and used.
		•	This subject contributes to developing student critical thinking
		T	through lectures and lab exercises on solving problems.
I5SB3	Image Designing Software	5	Construct simple vector graphics by using basic drawing
			elements and shape commands.
	Ċ,	•	Apply basic shape commands and image effects in processing
	SIN	D	raster format pictures
		٠	Design and edit images using image-editing tool.
		•	Apply layer features for creating images for web and print.
		•	Develop effective graphics for both web and print media.



I5SB4	Web Design Using Dreamweaver	 Design a complete website Design WebPages with audio, video, flash, java applets and images. Design different layout styles which includes backend programming Applying variety of Fonts Design Forms, Frames, Tables Design Cascading Styles Sheets Create Database connectivity.
I6CC16	.Net Programming	 To explain the basics of GUI design work with Visual Basic Forms, Tool Box controls and Properties; To be able to design and create Windows programs using the Visual Basic .NET programming language; To design and program using classes a completely documented Visual Basic .NET project
I6CC17	Lab VINet Programming Lab	 Create user interactive web pages using ASP.Net. Create simple data binding applications using ADO.Net connectivity.





		• Performing Database operations for Windows Form and web applications.
I6CC18	Information Security	 Understands the basic concepts of security Analyse various cryptographic algorithms while applying practically. Identify Asymmetric based cryptographic algorithms Compares different internet security protocols Summarize the concepts of firewall and IP security
I6CC19	Project Lab	• Gather software requirement specifications and prepare design for real time problems
I6ME3	Cloud Computing	 Understand fundamental concepts of cloud service and deployment models. Identify the importance of virtualization along with their technologies. Analyse different cloud computing Services. Analyse the components and the security in cloud.





	Illustrate different de	esign & develop backup strategies for cloud
	data based on feature	es.
I6ME4	Mobile Computing • Understand the infrast systems. Identify the charactechniques in mobile • Identify the charactechniques in mobile • Analyse the measure architecture of GSM. • Understand the GI communication using • Illustrate the Security • Illustrate the Security	structure to develop mobile communication acteristics of different multiple access communication. es GSM systems and the entire protocol PRS technologies and architecture for g Mobile Devices. y issues in Mobile Computing.
I6ME5	Computer Graphics Computer Graphics Understand the need Describe the procedu Analyse various attrib Illustrate two-dimens Analyse windowing an	and concepts of computer graphics. are for points, lines and Circle. butes of output primitives. sional geometric transformation. nd clipping concepts.



I6ME6	Internet & E-Commerce	 To examine in detail what is meant by the term 'e-commerce' examine some typical distributed applications detail some of the problems that are encountered when developing distributed applications describe briefly some of the technologies that are used to support distributed applications
I6SB5	3d Animation Software	 Understand basic concepts in Alice. Construct a scene. Build program in Alice using looping and branching. Apply event handlers in alike. Develop 3D animations.
I6SB6	Image Editing Software	 Design layouts for web pages, Paper Adverts, Broachers, CD Covers, Package Designing Event and Exhibition stall Designs, Pop Ups Touch Ups Colour corrections Paintings, Drawings Converting B/W photo





	to colour

LEAD

2018 - 2019

COURSE CODE	Course Title	COURSE OBJECTIVES
I1CC1	Computer Fundamentals &	• Understand the basic concepts in Computer & C Programming.
	C Programming	• Identify and Apply different construct available for iteration
		such as 'for', 'while' and 'do-while'.
		Understand various storage concepts.
	781	• Develop C programs using functions. Summarize the concepts
	à.	of Pointers and Files.
I1CC2	C Programming Lab	• Know the concept of Problem solving.
		Implement various concepts in C
		• Apply the concepts of Functions, Structures and Unions in C
		program
		• Make use of pointers using C programs.





		• Apply and Use the file concepts in C programs
I1NME1	Multimedia Applications	 Construct simple vector graphics using basic drawing elements and shape commands. Apply basic shape commands and image effects in processing raster format pictures Understand the basic tools for editing images. Develop effective graphics for both web and print media. Apply layer features and layer management techniques for
		creating Web pages and Invitations.
I2CC3	Data Structures &C++ Programming	 Understand how to apply the major OOPs concepts to implement encapsulation, inheritance and polymorphism Implement an achievable practical application and analyse issues related to object-oriented techniques in the C++ programming language Handle operations like searching, insertion, deletion, traversing mechanism etc. on various data structures.





			and Linked List.
		•	Analyse various Searching and Sorting Techniques using C++.
I2CC4	Lab II - C++ Lab		 Implement an achievable practical application on object- oriented techniques in the C++ programming language Implement linear and non-linear data structures like Stacks, Queues, linked list. Demonstrate the concept of classes and their types by using C++ objects. Apply the concept of polymorphism and inheritance in C++ Implement practical applications by applying Searching and Sorting Techniques using C++
I2NME2	Multimedia Applications	•	Construct simple vector graphics using basic drawing elements and shape commands. Apply basic shape commands and image effects in processing raster format pictures Understand the basic tools for editing images. Develop effective graphics for both web and print media.





		• Apply layer features and layer management techniques for creating Web pages and Invitations.
I3CC5	Relational Data Base Management Systems	 Explain the structure and model of the relational database system. Design multiple tables and use group functions, sub queries. Design a database based on a data model considering the normalization to a specified level. Develop E- R model-based tables. Evaluate different PL/SQL blocks.
I3CC6	Lab IV - RDBMS Lab	 Explain Various SQL Commands. Write SQL queries to user specifications Design database schema considering normalization and relationships within database. Develop PL/SQL Programs. Develop triggers, procedures and Cursors.
I3CC7	Trends in Information	• Design, implement, and evaluate a computing-based solution to





	Technology	meet a given set of computing requirements in the context of the program's discipline.Communicate effectively in a variety of professional contexts
I3AC3	Digital Principles and Computer Architecture	 Explain about digital logic circuits. Compute simple arithmetic operations for fixed-point and floating-point addition and subtraction. Understand various digital components. Construct an instruction set capable of performing a specified set of operations. Demonstrate a memory system for a given set of specifications.
I3SB1	Ms Office Package	 Use Word to prepare organizational documents. Design financial & other business applications requiring mathematical calculations using spread sheet software. Develop various chartspie, bar, line, column, & area using spread sheet software. Create Dynamic presentations with animation. Demonstrate presentations with narration and images.



I4CC8	28 Programming in Java	 Understand the concepts of Object-Oriented Programming & Java Programming Constructs. Understand basic concepts of Java such as operators, classes, objects inheritance packages. Enumeration and various
		keywords.
		• Understand the concept of exception handling and Input/output operations.
		• Design Java & Java applet-based applications.
		• Analyse& Design the concept of Event Handling and Abstract
		Window Toolkit.
I4CC9 Lab IV- Java Lab	Lab IV- Java Lab	• Implement Object Oriented programming concept using operators and control Structures.
	ATV	• Design java programs using inheritance, interfaces and packages.
		• Implement exception handling mechanism and multithreading concept.
		Design Java applet-based applications.





		• Design applications to Handle Events using AWT components.
I4CC10	Operating Systems	• Describe the evolution, types, structure and Understand the
		process management policies and scheduling of processes by CPU
		• Evaluate the requirement for process synchronization and
		coordination handled by operating system
		• Describe and analyze the memory management and its
		allocation policies.
		• Identify use and evaluate the storage management policies with
		respect to different storage management technologies.
	Res la	• Identify the need to create the special purpose operating system.
I4AC4	Enterprise Resource	• Make basic use of Enterprise software, and its role in
	Planning	D integrating business functions
		• Analyse the strategic options for ERP identification and
		adoption.
		• Design the ERP implementation strategies.



I4SB2	Quantitative Aptitude	 Understand the short cut methods. Apply general mathematical techniques. Develop their critical thinking. Recall the formulas. Solve the sums by applying shortcut methods with time management
I5CC11	Web Technology	 Implement interactive web page(s) using HTML, CSS and JavaScript. Design a responsive web site using HTML5 and CSS To gain ability to develop responsive web applications. To explore different web extensions and web services standards To be familiarized with PHP web framework
I5CC12	Web Technology Lab	 Integrate frontend and backend web technologies in distributed systems. Facilitate interface between frontend and backend of a web application

		TUTCLE	Self Study Report (SSN
Criterion	: II - Teaching-Learning and Evaluation		Fatina College
Metric	: 2.6.1 – Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and		
	Course Outcomes (COs) - B.Sc. INFORMATION TECHNOLOGY		
Year	: 2015 - 2020		
	Criterion Metric Year	Criterion: II – Teaching-Learning and EvaluationMetric: 2.6.1 – Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and Course Outcomes (COs) – B.Sc. INFORMATION TECHNOLOGYYear: 2015 - 2020	Criterion : II – Teaching-Learning and Evaluation Metric : 2.6.1 – Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and Course Outcomes (COs) – B.Sc. INFORMATION TECHNOLOGY Year : 2015 - 2020

I5CC13	Data Communication and Networking	 Describe the components of a data communications system Identify key considerations in selecting various switching techniques and various transmission media in networks Describe the various types of Protocols in Network layer and their features Illustrates the functionality of transport layer and their corresponding protocols. Analyse different usage of application layer protocols
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A COLLEGE	Criterion	: II – Teaching-Learning and Evaluation	Fatina College
	Metric	: 2.6.1 – Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and	
		Course Outcomes (COs) - B.Sc. INFORMATION TECHNOLOGY	
MADURAL	Year	: 2015 - 2020	

I5CC15	Software Engineering		Understand how to plan a software project.
			Analyse the cost estimate and problem complexity using various
			estimation techniques.
		•	Prepare the SRS, Design document, Project plan of a given
			software system.
		•	Apply Software design and implementation ideas in S/W project
			development.
		·	Generate test cases using White Box testing and Black Box
			testing.
I5ME1	Information Storage and	•	Know the concepts of Storage and Data structure Environment
	Management		based on growth and challenges in IT.
	A	•	Understand data protection by using related and recent
	V) KIN	D	techniques.
		•	Identify the parameters of managing and monitoring the storage
			infrastructure and manage the solutions.
			Know backup and archival data in both classic and virtualized environment.





	•	Analyse, Monitoring and managing the storage infrastructure in cloud environments.
I5ME2	Multimedia Technologies	It contributes to having students practice their communication skills and demonstration ability with project presentation. It contributes to forming the global outlook that can affect the way computing systems are developed and used. This subject contributes to developing student critical thinking through lectures and lab exercises on solving problems.
I5SB3	Image Designing Software	Construct simple vector graphics by using basic drawing elements and shape commands. Apply basic shape commands and image effects in processing raster format pictures Design and edit images using image-editing tool. Apply layer features for creating images for web and print. Develop effective graphics for both web and print media.
I5SB4	Web Design Using	Design a complete website Able to include to audio, video, flash,





	Dreamweaver	java applets and images.
		• Design different layout styles which includes backend programming
		• Applying variety of Fonts Design Forms, Frames, Tables Design Cascading Styles Sheets Create Database connectivity.
I6CC16	.Net Programming	 To explain the basics of GUI design work with Visual Basic Forms, Tool Box controls and Properties; To be able to design and create Windows programs using the Visual Basic .NET programming language; To design and program using classes a completely documented Visual Basic .NET project
I6CC17	.Net Programming Lab	 Create user interactive web pages using ASP.Net. Create simple data binding applications using ADO.Net connectivity. Performing Database operations for Windows Form and web applications.



I6CC18	Information Security	• Understands the basic concepts of security
		 Analyse various cryptographic algorithms while applying practically. Identify Asymmetric based cryptographic algorithms Compares different internet security protocols Summarize the concepts of firewall and IP security
I6CC19	Project Lab	• Gather software requirement specifications and prepare design for real time problems
I6ME3	Cloud Computing	 Understand fundamental concepts of cloud service and deployment models. Identify the importance of virtualization along with their technologies. Analyse different cloud computing Services. Analyse the components and the security in cloud. Illustrate different design & develop backup strategies for cloud data based on features.



I6ME4	Mobile Computing	 Understand the infrastructure to develop mobile communication systems. Identify the characteristics of different multiple access techniques in mobile communication. Analyse the measures GSM systems and the entire protocol architecture of GSM. Understand the GPRS technologies and architecture for communication using Mobile Devices.
		• Illustrate the Security issues in Mobile Computing.
I6ME5	Computer Graphics	 Understand the need and concepts of computer graphics. Describe the procedure for points, lines and Circle. Analyse various attributes of output primitives. Illustrate two-dimensional geometric transformation. Analyse windowing and clipping concepts.
I6ME6	Internet & E-Commerce	 To examine in detail what is meant by the term 'e-commerce' examine some typical distributed applications



		detail	some of the problems that are encountered when
		develop	ing distributed applications
		describ	e briefly some of the technologies that are used to
		support	distributed applications
I6SB5	3d Animation Software	Unders	and basic concepts in Alice.
		Constru	ict a scene.
		Build p	rogram in Alice using looping and branching.
		Apply e	vent handlers in alike.
		Develop	3D animations.
I6SB6	Image Editing Software	Design	layouts for web pages, Paper Adverts, Broachers, CD
		Covers,	Package
	9	Designi	ng Event and Exhibition stall Designs, Pop Ups Touch
	ATV ATV	Ups	LIGHT
		Colour	corrections Paintings, Drawings Converting B/W photo
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2017 - 2018

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I1CC1	Computer Fundamentals & C Programming	 Understand the basic concepts in Computer & C Programming. Identify and Apply different construct available for iteration such as 'for', 'while' and 'do-while'. Understand various storage concepts. Develop C programs using functions. Summarize the concepts of Pointers and Files.
I1CC2	C Programming Lab	 Know the concept of Problem solving. Implement various concepts in C Apply the concepts of Functions, Structures and Unions in C program Make use of pointers using C programs. Apply and Use the file concepts in C programs
I1NME1	Multimedia Applications	• Construct simple vector graphics using basic drawing elements



					and shape commands.
				•	Apply basic shape commands and image effects in processing
					raster format pictures
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				•	Develop effective graphics for both web and print media.
				•	Apply layer features and layer management techniques for
					creating Web pages and Invitations.
I2CC3	Data	Structures	&C++		Understand how to apply the major OOPs concepts to
	Program	mming			implement encapsulation, inheritance and polymorphism
					Implement an achievable practical application and analyse
				2	issues related to object-oriented techniques in the C++
					programming language
		9		•	Handle operations like searching, insertion, deletion, traversing
		AIV		mechanism etc. on various data structures.	
			•	Use linear and non-linear data structures like Stacks, Queues,	
			and Linked List.		
			Y	•	Analyse various Searching and Sorting Techniques using C++.



I2CC4	Lab II - C++ Lab	• Implement an achievable practical application on object- oriented techniques in the C++ programming language
		• Implement linear and non-linear data structures like Stacks,
		Queues, linked list.
		• Demonstrate the concept of classes and their types by using
		C++ objects.
		• Apply the concept of polymorphism and inheritance in C++
		• Implement practical applications by applying Searching and
		Sorting Techniques using C++
I2NME2	Multimedia Applications	 Construct simple vector graphics using basic drawing elements and shape commands. Apply basic shape commands and image effects in processing raster format pictures Understand the basic tools for editing images. Develop effective graphics for both web and print media. Apply layer features and layer management techniques for creating Web pages and Invitations.



I3CC5	Relational Data Base Management Systems	 Explain the structure and model of the relational database system. Design multiple tables and use group functions, sub queries. Design a database based on a data model considering the normalization to a specified level. Develop E- R model-based tables. Evaluate different PL/SQL blocks.
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I3SB1	MS Office Package	 Use Word to prepare organizational documents. Design financial & other business applications requiring mathematical calculations using spread sheet software. Develop various chartspie, bar, line, column, & area using spread sheet software. Create Dynamic presentations with animation. Demonstrate presentations with narration and images.
I4CC8	Programming in Java	• Understand the concepts of Object-Oriented Programming &



			Java Programming Constructs.
		•	Understand basic concepts of Java such as operators, classes,
			objects, inheritance, packages, Enumeration and various
			keywords.
		•	Understand the concept of exception handling and
			Input/output operations.
		•	Design Java & Java applet-based applications.
		•	Analyse& Design the concept of Event Handling and Abstract
			Window Toolkit.
		7	
14CC9	Lab IV - Java Lab	-	Implement Object Oriented programming concept using
	287		operators and control Structures.
		•	Design java programs using inheritance, interfaces and
	9		packages.
	AIV AIV	D	Implement exception handling mechanism and multithreading
			concept.
		•	Design Java applet-based applications.
		·	Design applications to Handle Events using AWT components.



I4CC10	Operating Systems	escribe the evolution	on, types, structure and Understand the
	N	rocess management PU	policies and scheduling of processes by
		Evaluate the requir	rement for process synchronization and
		oordination handled	by operating system
		escribe and analy	ze the memory management and its
		llocation policies.	
		dentify use and eval	uate the storage management policies with
	espect to different ste	orage management technologies.	
		dentify the need t	to create the special purpose operating
		ystem.	Test I
I4AC4	Enterprise Resource	lake basic use of	f Enterprise software, and its role in
	Planning	ntegrating business f	functions
		nalyse the strateg	gic options for ERP identification and
		doption.	
		esign the ERP imple	ementation strategies.



I4SB2	Quantitative Aptitude	 Understand the short cut methods. Apply general mathematical techniques. Develop their critical thinking. Recall the formulas. Solve the sums by applying shortcut methods with time management
I5CC11	Web Technology	 Implement interactive web page(s) using HTML, CSS and JavaScript. Design a responsive web site using HTML5 and CSS To gain ability to develop responsive web applications. To explore different web extensions and web services standards To be familiarized with PHP web framework
I5CC12	Web Technology Lab	 Integrate frontend and backend web technologies in distributed systems. Facilitate interface between frontend and backend of a web application

		TUTCLE	Self Study Report (SSN
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Year	: 2015 - 2020		
	Criterion Metric Year	Criterion: II – Teaching-Learning and EvaluationMetric: 2.6.1 – Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and Course Outcomes (COs) – B.Sc. INFORMATION TECHNOLOGYYear: 2015 - 2020	Criterion : II – Teaching-Learning and Evaluation Metric : 2.6.1 – Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and Course Outcomes (COs) – B.Sc. INFORMATION TECHNOLOGY Year : 2015 - 2020

I5CC13	Data Communication and Networking	 Describe the components of a data communications system Identify key considerations in selecting various switching techniques and various transmission media in networks Describe the various types of Protocols in Network layer and their features Illustrates the functionality of transport layer and their corresponding protocols. Analyse different usage of application layer protocols
I5CC14	Data Mining Concepts	 Identify data mining tools and techniques in building intelligent machines. Understand different pre-processing techniques. Analyse various data mining algorithms while applying in real time applications. Compare various supervised and unsupervised learning techniques in data mining. Illustrate the mining techniques like association, classification and clustering.

STIMA COLLES	Criterion	: II - Teaching-Learning and Evaluation	Fatina Colege
	Metric	: 2.6.1 – Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and	
A Company of the second s		Course Outcomes (COs) - B.Sc. INFORMATION TECHNOLOGY	
MADURAL	Year	: 2015 - 2020	Carter and the second s

I5CC15	Software Engineering	•	Understand how to plan a software project.
		•	Analyse the cost estimate and problem complexity using various
		5	estimation techniques.
		•	Prepare the SRS, Design document, Project plan of a given
			software system.
		•	Apply Software design and implementation ideas in S/W project
			development.
		•	Generate test cases using White Box testing and Black Box
			testing.
I5ME1 Information	Information Storage and	5	Know the concepts of Storage and Data structure Environment
	Management		based on growth and challenges in IT.
	A	•	Understand data protection by using related and recent
	V) KIN		techniques.
		•	Identify the parameters of managing and monitoring the storage
			infrastructure and manage the solutions.
			Know backup and archival data in both classic and virtualized environment.





		•	Analyse, Monitoring and managing the storage infrastructure in cloud environments.
I5ME2	Multimedia Technologies	•	It contributes to having students practice their communication skills and demonstration ability with project presentation. It contributes to forming the global outlook that can affect the way computing systems are developed and used. This subject contributes to developing student critical thinking through lectures and lab exercises on solving problems.
I5SB3	Coral Draw		Construct simple vector graphics by using basic drawing elements and shape commands. Apply basic shape commands and image effects in processing raster format pictures Design and edit images using image-editing tool. Apply layer features for creating images for web and print. Develop effective graphics for both web and print media.
I5SB4	2d Animation Flash		Utilize several Flash





		 toolsandtacticslearnedthroughoutthecoursetoproduceaninteractiveflash-basedwebsite. Demonstrate the ability to effectively utilize the timeline and motion tween affects to produce animation
I6CC16	.Net Programming	 To explain the basics of GUI design work with Visual Basic Forms, Tool Box controls and Properties; To be able to design and create Windows programs using the Visual Basic .NET programming language; To design and program using classes a completely documented Visual Basic .NET project
I6CC17	.Net Programming Lab	 Create user interactive web pages using ASP.Net. Create simple data binding applications using ADO.Net connectivity. Performing Database operations for Windows Form and web applications.
I6CC18	Information Security	Understands the basic concepts of security



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		• Analyse various cryptographic algorithms while applying
		practically.
		Identify Asymmetric based cryptographic algorithms
		Compares different internet security protocols
		• Summarize the concepts of firewall and IP security
I6CC19	Project Lab	• Gather software requirement specifications and prepare design
		for real time problems
I6ME3	Cloud Computing	• Understand fundamental concepts of cloud service and
		deployment models.
		• Identify the importance of virtualization along with their
		technologies.
		Analyse different cloud computing Services.
		• Analyse the components and the security in cloud.
		• Illustrate different design & develop backup strategies for cloud
		data based on features.
I6ME4	Mobile Computing	Understand the infrastructure to develop mobile communication



			systems.
		•	Identify the characteristics of different multiple access
			techniques in mobile communication.
	•	Analyse the measures GSM systems and the entire protocol architecture of GSM.	
		•	Understand the GPRS technologies and architecture for
			communication using Mobile Devices.
		·	Illustrate the Security issues in Mobile Computing.
I6ME5	Digital Image Processing		Analyze general terminology of digital image processing.
	&Computer Graphics	F	Examine various types of images, intensity transformations and
	684		spatial filtering.
		•	Develop Fourier transform for image processing in frequency
	9		domain. 4. Evaluate the methodologies for image segmentation,
		DI	restoration etc.
		•	Implement image process and analysis algorithms.
		•	Apply image processing algorithms in practical applications.
I6ME6	Internet & E-Commerce		To examine in detail what is meant by the term 'e-commerce'



		•	examine some typical distributed applications
		•	detail some of the problems that are encountered when
			developing distributed applications
		•	describe briefly some of the technologies that are used to
			support distributed applications
I6SB5 Introduction to Animation Alice Green F	Introduction to 3d Animation Alice Green Foot	•	Understand basic concepts in Alice. Construct a scene.
		~	Build program in Alice using looping and branching.
		•	Apply event handlers in alike.
		de la	Develop 3D animations.
I6SB6	Introduction to 3d Animation-Blender	•	Create models with basic skills
		•	Use the blender interface
		D	Use the most common modifiers to enhance their models
		•	Apply materials to an object and change the colour and specular
			reflection of that material
			create a simple animation with the help of the timeline and render an image
			reflection of that material create a simple animation with the help of the timeline a render an image



 Criterion : II – Teaching-Learning and Evaluation
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2016-2017

COURSE CODE	Course Title		COURSE OBJECTIVES
I1CC1	CC1 Programming in C	•	Design, implement, test, debug, and document programs
			in identify and Apply different construct available for
			iteration such as 'for', 'while' and 'do-while'.
		•	Understand various storage concepts.
		•	Understand how to write and use functions, how the stack
			is used to implement function calls, and parameter
			passing options
Res l	•	Develop C programs using files	
I1CC2	C Lab	•	Design, implement, test, debug, and document programs
	TINDU		in identify and Apply different construct available for
			iteration such as 'for', 'while' and 'do-while'.
		•	Understand various storage concepts.
		•	Understand how to write and use functions, how the stack
			is used to implement function calls, and parameter





			passing options
		•	Develop C programs using files
I1NME1 Multi	Multimedia Applications	·E·	Construct simple vector graphics using basic drawing elements and shape commands. Apply basic shape commands and image effects in processing raster format pictures Understand the basic tools for editing images.
			Develop effective graphics for both web and print media. Apply layer features and layer management techniques for creating Web pages and Invitations.
I2CC3	Object Oriented Programming in C++		Perform object-oriented programming to develop solutions to problems demonstrating usage of control structures, modularity, I/O. and other standard language constructs. Demonstrate adeptness of object-oriented programming in developing solutions to problems demonstrating usage of data abstraction, encapsulation, and inheritance.



I2CC4	C++ Lab	•	Implement an achievable practical application on object-
			oriented techniques in the C++ programming language
		•	Implement linear and non-linear data structures like
		E	Stacks, Queues, linked list.
		•	Demonstrate the concept of classes and their types by
			using C++ objects.
		•	Apply the concept of polymorphism and inheritance in C++
	•	Implement practical applications by applying Searching	
			and Sorting Techniques using C++
I2NME2	Multimedia Applications	アンシーション	Construct simple vector graphics using basic drawing elements and shape commands. Apply basic shape commands and image effects in processing raster format pictures Understand the basic tools for editing images. Develop effective graphics for both web and print media. Apply layer features and layer management techniques for creating Web pages and Invitations.





I3CC5	Relational Management System	Database	C E	Explain the structure and model of the relational database system. Design multiple tables and use group functions, sub queries. Design a database based on a data model considering the
			•	normalization to a specified level. Develop E- R model-based tables. Evaluate different PL/SQL blocks.
I3CC6	RDBMS Lab	KINDU		Explain Various SQL Commands. Write SQL queries to user specifications Design database schema considering normalization and relationships within database. Develop PL/SQL Programs. Develop triggers, procedures and Cursors.
I3CC7	Trends in In Technology	nformation		Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in





		•	the context of the program's discipline. Communicate effectively in a variety of professional
			contexts
I3AC3	Digital Principles and	E.	Explain about digital logic circuits.
	Computer Architecture	•	Compute simple arithmetic operations for fixed-point and
			floating-point addition and subtraction.
	•	Understand various digital components.	
		•	Construct an instruction set capable of performing a
			specified set of operations.
		•	Demonstrate a memory system for a given set of
	8	KL	specifications.
I3SB1	Introduction to Visual	•	To learn about the history & evolution of Communication.
	Communication		Students understand Nature & functions of Visual
			Communication
		•	Students acquire knowledge on different types of
			perception & illusion.



I4CC8	Programming in Java	• Understand the concepts of Object-Oriented Programming
		& Java Programming Constructs.
		• Understand basic concepts of Java such as operators,
		Classes, objects, inheritance, packages, Enumeration and
		various keywords.
		• Understand the concept of exception handling and
	Input/output operations.	
		• Design Java & Java applet-based applications.
		• Analyse& Design the concept of Event Handling and
		Abstract Window Toolkit.
I4CC9	Java Lab	 Implement Object Oriented programming concept using
	a	operators and control Structures.
	AND L	• Design java programs using inheritance, interfaces and
	- ID-	packages.
		• Implement exception handling mechanism and
		multithreading concept.
		Design Java applet-based applications.





		•	Design applications to Handle Events using AWT
			components.
I4CC10	Operating Systems		Describe the evolution, types, structure and Understand the process management policies and scheduling of processes by CPU Evaluate the requirement for process synchronization and coordination handled by operating system Describe and analyze the memory management and its allocation policies. Identify use and evaluate the storage management policies with respect to different storage management technologies. Identify the need to create the special purpose operating system.
I4AC4	Data Structures	•	To define basic static and dynamic data structures and relevant standard algorithms
		•	Explain stack, queue, dynamically linked lists, trees,





		graphs, heap, priority queue, hash tables, sorting algorithms, min-max algorithm.
I4SB2	Introduction to Advertisement	 Identify and understand the various advertising media. Demonstrate an understanding of how an advertising agency operates.
I5CC11	Web Technology	 Implement interactive web page(s) using HTML, CSS and JavaScript. Design a responsive web site using HTML5 and CSS To gain ability to develop responsive web applications. To explore different web extensions and web services standards To be familiarized with PHP web framework
I5CC12	Web Technology Lab	 Integrate frontend and backend web technologies in distributed systems. Facilitate interface between frontend and backend of a web application





I5CC13	Data Communicatio	n and	•	Describe the components of a data communications
	Networking			system
			•	Identify key considerations in selecting various switching
			E	techniques and various transmission media in networks
			•	Describe the various types of Protocols in Network layer
				and their features
			•	Illustrates the functionality of transport layer and their
				corresponding protocols.
				Analyse different usage of application layer protocols
I5CC14	Data Mining and	Data		Enable students to understand and implement classical
	Warehousing			algorithms in data mining and data warehousing; students
	A		\mathcal{Y}	will be able to assess the strengths and weaknesses of the
		INDI	1	algorithms, identify the application area of algorithms, and
		TUDE		apply them.
			•	Students would learn data mining techniques as well as
				methods in integrating and interpreting the data sets and
			\mathcal{D}	improving effectiveness, efficiency and quality for data



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		analysis.
I5CC15	Software Engineering	• Understand how to plan a software project.
		• Analyse the cost estimate and problem complexity using various estimation techniques.
		• Prepare the SRS, Design document, Project plan of a given
		software system.
		• Apply Software design and implementation ideas in S/W
		project development.
		• Generate test cases using White Box testing and Black
	Box testing.	
I5ME1 Digital Ima	Digital Image Processing &	• Understand the need and concepts of computer graphics.
	Computer Graphics	• Describe the procedure for points, lines and Circle.
	TINDL	Analyse various attributes of output primitives.
		• Illustrate two-dimensional geometric transformation.
		• Analyse windowing and clipping concepts.
I5ME2	Information Security	• It contributes to having students practice their



			communication skills and demonstration ability with
			project presentation.
	AA	•	It contributes to forming the global outlook that can affect
		E	the way computing systems are developed and used.
		-	This subject contributes to developing student critical
			thinking through lectures and lab exercises on solving
		problems.	
I5SB3 Introduction to Media	Introduction to Media	•	Demonstrate an understanding of the overall role
	Y	advertising plays in the business world.	
	•	Demonstrate an understanding of advertising strategies	
	AS I	-CL	and budgets.
I5SB4	Introduction to 2d Animation	•	Utilize several Flash tools and
	Flash	1	statics learned throughout the course to produce an interactive f
			lash-basedwebsite.
	٠	Demonstrate the ability to effectively utilize the timeline	
			and motion tween affects to produce animation



I6CC16	.Net Programming	 To explain the basics of GUI design work with Visual Basic Forms, Toolbox controls and Properties; To be able to design and create Windows programs using the Visual Basic .NET programming language; To design and program using classes a completely documented Visual Basic .NET project
I6CC17	.Net Programming Lab	 Create user interactive web pages using ASP.Net. Create simple data binding applications using ADO.Net connectivity. Performing Database operations for Windows Form and web applications.
I6CC18	Multimedia Technologies	 It contributes to having students practice their communication skills and demonstration ability with project presentation. It contributes to forming the global outlook that can affect the way computing systems are developed and used.





	NA	• This subject contributes to developing student critical thinking through lectures and lab exercises on solving problems.
I6CC19	Project Lab	• Gather software requirement specifications and prepare design for real time problems
I6ME3	Cloud Computing	 Understand fundamental concepts of cloud service and deployment models. Identify the importance of virtualization along with their technologies. Analyse different cloud computing Services. Analyse the components and the security in cloud. Illustrate different design & develop backup strategies for cloud data based on features.
I6ME4	Mobile Computing	 Understand the infrastructure to develop mobile communication systems. Identify the characteristics of different multiple access



			techniques in mobile communication.
		•	Analyse the measures GSM systems and the entire
	AA		protocol architecture of GSM.
		•	Understand the GPRS technologies and architecture for
			communication using Mobile Devices.
		•	Illustrate the Security issues in Mobile Computing.
I6ME5	Enterprise Resource Planning	•	Make basic use of Enterprise software, and its role in
			integrating business functions
			Analyse the strategic options for ERP identification and
			adoption.
	A	•	Design the ERP implementation strategies.
I6ME6	Internet & E-Commerce	V	To examine in detail what is meant by the term 'e-
	AINDL		commerce'
		•	examine some typical distributed applications
		•	detail some of the problems that are encountered when
			developing distributed applications
		•	describe briefly some of the technologies that are used to





			support distributed applications
I6SB5	Introduction to 3d Animation Alice Green Foot	•	Understand basic concepts in Alice. Construct a scene. Build program in Alice using looping and branching. Apply event handlers in alike. Develop 3D animations.
I6SB6	Introduction to 3d Animation Blender	· · · · · · · · ·	Create models with basic skills Use the blender interface Use the most common modifiers to enhance their models Apply materials to an object and change the colour and specular reflection of that material create a simple animation with the help of the timeline and render an image





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2015-2016

COURSE CODE	COURSE TITLE	COURSE OBJECTIVES
I1CC1	Programming in C	 Design, implement, test, debug, and document programs in identify and Apply different construct available for iteration such as 'for', 'while' and 'do-while'. Understand various storage concepts. Understand how to write and use functions, how the stack is used to implement function calls, and parameter passing options Develop C programs using Functions & Files concepts.
I1CC2	C Lab	 After Completion of this course the student would be able to Read, understand and trace the execution of programs written in C language. Write the C code for a given algorithm. Implement Programs with pointers and arrays, perform pointer arithmetic, and use the pre-processor.





	NA	 Write programs that perform operations using derived data types in programs. Apply and Use the file concepts in C programs
IICC3	Data Structures and Algorithms	 To define basic static and dynamic data structures and relevant standard algorithms Explain stack, queue, dynamically linked lists, trees, graphs, heap, priority queue, hash tables, sorting algorithms, min-max algorithm.
IIAC1	Digital Principles and Computer Architecture	 Explain about digital logic circuits. Compute simple arithmetic operations for fixed-point and floating-point addition and subtraction. Understand various digital components. Construct an instruction set capable of performing a specified set of operations. Demonstrate a memory system for a given set of specifications.

AA COI			
ATT DE LEAD CE FR	Criterion	: II – Teaching-Learning and Evaluation	Fatima College
	Metric	: 2.6.1 – Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and	
		Course Outcomes (COs) - B.Sc. INFORMATION TECHNOLOGY	
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I1NME1	Multimedia Applications	 Construct simple vector graphics using basic drawing elements and shape commands. Apply basic shape commands and image effects in processing raster format pictures Understand the basic tools for editing images. Develop effective graphics for both web and print media. Apply layer features and layer management techniques for creating Web pages and Invitations.
I2CC4	Object Oriented Programming In C++	 Perform object-oriented programming to develop solutions to problems demonstrating usage of control structures, modularity, I/O. and other standard language constructs. Demonstrate adeptness of object-oriented programming in developing solutions to problems demonstrating usage of data abstraction, encapsulation, and inheritance.
I2CC5	C++ Lab	• Implement an achievable practical application on object- oriented techniques in the C++ programming language





	NA	•	Demonstrate the concept of classes and their types by using C++ objects. Apply the concept of polymorphism and inheritance in C++
I2NME2	Multimedia Applications		Construct simple vector graphics using basic drawing elements and shape commands. Apply basic shape commands and image effects in processing raster format pictures Understand the basic tools for editing images. Develop effective graphics for both web and print media. Apply layer features and layer management techniques for creating Web pages and Invitations.
I3CC6	Relational Database Management System		Explain the structure and model of the relational database system. Design multiple tables and use group functions, sub queries. Design a database based on a data model considering the normalization to a specified level.





		٠	Develop E- R model-based tables.
		•	Evaluate different PL/SQL blocks.
I3CC7	RDBMS Lab	·	Explain Various SQL Commands. Write SQL queries to user specifications Design database schema considering normalization and relationships within database. Develop PL/SQL Programs. Develop triggers, procedures and Cursors.
I3SB1	Introduction to Advertisement		Identify and understand the various advertising media. • Demonstrate an understanding of how an advertising agency operates.
I4CC8	Web Technology		Implement interactive web page(s) using HTML, CSS and JavaScript. Design a responsive web site using HTML5 and CSS To gain ability to develop responsive web applications. To explore different web extensions and web services





			standards
		•	To be familiarized with PHP web framework
I4CC9	Web Technology Lab	E	Integrate frontend and backend web technologies in distributed systems. Facilitate interface between frontend and backend of a web application
I4CC10	Operating Systems & Linux		Describe the evolution, types, structure and functions of operating systems. Explain techniques involved in concurrency and deadlock. Describe memory management and processor scheduling used in operating systems. Implement disk scheduling algorithm for a given scenario. Execute Linux basic commands and shell scripts.
I4AC2	Organizational Behaviour	•	Demonstrate the applicability of the concept of organizational behaviour to understand the behaviour of people in the organization.



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		•	Demonstrate the applicability of analysing the
			complexities associated with management of individual
			behaviour in the organization.
		Ē	Analyse the complexities associated with management of the group behaviour in the organization
			Demonstrate how the organizational behaviour con
		•	Demonstrate now the organizational behaviour can
			integrate in understanding the motivation (why) behind
			behaviour of people in the organization.
I4SB2	4SB2 Introduction to PageMaker		Select and import appropriate graphics for aesthetics and
		Y	concept clarification
		•	Create scan able pages by careful arrangement of text and
			graphics
		•	Proofread document text, catching all spelling and
	AMDL		grammar errors
		•	Apply a report template to a multi-page document
	•	Demonstrate the use of common PageMaker shortcut	
			keyboard commands



I5CC11	Software Engineering	•	Understand how to plan a software project.
		•	Analyse the cost estimate and problem complexity using
			various estimation techniques.
		E	Prepare the SRS, Design document, Project plan of a given
			software system.
		•	Apply Software design and implementation ideas in S/W
			project development.
		•	Generate test cases using White Box testing and Black
			Box testing.
I5CC12	Data Communication and		Describe the components of a data communications
	Networking		system
	A	•	Identify key considerations in selecting various switching
	AND!	1	techniques and various transmission media in networks
	- TDF	•	Describe the various types of Protocols in Network layer
			and their features
		•	Illustrates the functionality of transport layer and their
		J	corresponding protocols.

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		Analyse different usage of application layer protocols
I5CC13	Data Mining and Data Warehousing	 Enable students to understand and implement classical algorithms in data mining and data warehousing; students will be able to assess the strengths and weaknesses of the algorithms, identify the application area of algorithms, and apply them Students would learn data mining techniques as well as
		methods in integrating and interpreting the data sets and improving effectiveness, efficiency and quality for data analysis.
I5CC14	Programming in Java	 Understand the concepts of Object-Oriented Programming & Java Programming Constructs. Understand basic concepts of Java such as operators, classes, objects ,inheritance, packages, Enumeration and various keywords. Understand the concept of exception handling and Input/output operations.



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	N A	 Design Java & Java applet-based applications. Analyse& Design the concept of Event Handling and Abstract Window Toolkit.
I5CC15	Java Lab	 Implement Object Oriented programming concept using operators and control Structures. Design java programs using inheritance, interfaces and packages. Implement exception handling mechanism and multithreading concept. Design Java applet-based applications. Design applications to Handle Events using AWT components.
I5ME1	Digital Image Processing & Computer Graphics	 Understand the need and concepts of computer graphics. Describe the procedure for points, lines and Circle. Analyse various attributes of output primitives. Illustrate two-dimensional geometric transformation. Analyse windowing and clipping concepts.


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I5ME2	Multimedia and its Applications	 Construct simple vector graphics using basic drawing elements and shape commands. Apply basic shape commands and image effects in processing raster format pictures Understand the basic tools for editing images. Develop effective graphics for both web and print media. Apply layer features and layer management techniques for creating Web pages and Invitations.
I5SB3	Introduction to Photoshop & Corel Draw	 Construct simple vector graphics by using basic drawin elements and shape commands. Apply basic shape commands and image effects in processing raster format pictures Design and edit images using image-editing tool. Apply layer features for creating images for web and print. Develop effective graphics for both web and print media.
I5SB4	Introduction to Flash	• Utilize several Flash tools and



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	NA	 staticslearnedthroughoutthecoursetoproduceaninteractivef lash-basedwebsite. Demonstrate the ability to effectively utilize the timeline and motion tween affects to produce animation
I6CC16	Data Mining and Data Warehousing	 Identify data mining tools and techniques in building intelligent machines. Understand different pre-processing techniques.
		 Analyse various data mining algorithms while applying in real time applications. Compare various supervised and unsupervised learning techniques in data mining. Illustrate the mining techniques like association, classification and clustering.
I6CC17	Information Security	 It contributes to having students practice their communication skills and demonstration ability with project presentation. It contributes to forming the global outlook that can affect



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			the way computing systems are developed and used.
		•	This subject contributes to developing student critical
	AA		thinking through lectures and lab exercises on solving
		E	problems.
I6CC18	Project Lab	•	Gather software requirement specifications and prepare
			design for real time problems
I6ME3	Mobile Computing	•	Understand the infrastructure to develop mobile
			communication systems.
		•	Identify the characteristics of different multiple access
		1	techniques in mobile communication.
		•	Analyse the measures GSM systems and the entire
	Å		protocol architecture of GSM.
	AINDU		Understand the GPRS technologies and architecture for
			communication using Mobile Devices.
		•	Illustrate the Security issues in Mobile Computing.
I6ME4	Cloud Computing		Understand fundamental concepts of cloud service and



			deployment models.
		•	Identify the importance of virtualization along with their
	AA		technologies.
		•	Analyse different cloud computing Services.
		-	Analyse the components and the security in cloud.
		•	Illustrate different design & develop backup strategies for
			cloud data based on features.
I6ME5	System Analysis and Design	•	On completion of this course the student should be able
			to: Explain what systems are and how they are developed.
		Y	
		•	The need for and value of a formalized step-by-step
			approach to the analysis, design, and implementation of
	φh (computer information systems.
	TINDL	•	Use tools and techniques for process and data modelling
I6ME6	TCP/IP	•	TCP/IP protocols ports sockets and data encapsulation
			Describe the process of packet fragmentation and
			reassembly
			readdeniory.



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		•	troy factures and functions of TCD and UDD Use Wire
		•	key leatures and functions of fer and obr. Use whe
			shark to identify ICMP request and reply packets.
16SB5	Introduction to 3ds Max		
		•	Use the Interface.
		ته ر	Use Selection and Transformation Tools.
		•	Create and Modify Mesh Objects.
		•	Create and Modify Poly Objects.
		•	Import AutoCAD 2D Files and Model in Max.
		•	Organize AutoCAD Files Using Layers and Planes.
		•	Import Planes from AutoCAD Files to Create 3D Objects
			in Max.
I6SB6	6SB6 Introduction to Image J		
		1	Use the built-in features of the ImageJ software package to
		7	view, process and calibrate images and measure quantities
			of interest manually

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