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	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'. 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	Global	This course content plays a vital role in building the basic programming skill in C language.	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	Global	This course content enables other Major students to strengthen and increase the understanding of basis Multimedia application	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

			Software's.	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++	Global	To impart the basic concepts of data structures and algorithms 2 To understand concepts about searching and sorting techniques 3 To Understand basic concepts about stacks,	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

			queues, lists, trees and graphs 4 To understanding about writing algorithms and step by step approach in solving problems with the help of fundamental data structures.	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++	Global	This course enables students to identify, formulate all techniques of software development in the C++ Programming Language and demonstrate these techniques.	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	Global	This course content enables other Major students to strengthen and increase the understanding of basis Multimedia application Software's.	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.
COURSE CODE	**COURSE TITLE**	**NATURE OF THE COURSE (LOCAL/ NATIONAL/ REGIONAL/ GLOBAL)**	**COURSE DESCRIPTION**	**COURSE OBJECTIVES**
I3CC5	Relational Database Management Systems	Global	This course introduces database design and creation using DBMS software. It also imparts various concepts in 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. • Develop E- R model-based tables. • Evaluate different PL/SQL blocks.

I3CC6	Lab –III - RDBMS	Global	This course gives hands on experience in relational database management system.	• 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	Global	Analyse a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.	• 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	Global	This course content plays a vital role in making the students to	• Explain about digital logic circuits. • Compute simple arithmetic operations for fixed-point and floating-point

			understand the basic digital components.	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	Global	This course trains students how to use MS Office applications use in office work such as creating professional-quality documents; store, organize and analyse information; arithmetic operations and functions; and create dynamic slide presentations with animation, narration,	• Use Word to prepare organizational documents. • Design financial & other business applications requiring mathematical calculations using spread sheet software. • Develop various charts--pie, bar, line, column, & area using spread sheet software. • Create Dynamic presentations with animation. • Demonstrate presentations with

			images, and much more, digitally and effectively.	narration and images.
I4CC8	Programming in Java	Global	This course enables the students to build object-oriented java programs using the concept of abstraction, encapsulation, exception handling, packages, interfaces, threads and AWT controls. It also imparts the ability to develop projects in java with JDBC connectivity.	• 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	Global	This course gives hands on experience, practices the concepts of java	• Implement Object Oriented programming concept using operators and control Structures.

			programming language, and develops solutions for real world problems.	• 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	Global	This course content plays a vital role in making the students to understand the basic operating system concept.	• 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	Enterprise Resource Planning	Global	This Course provide a contemporary and forward-looking on the theory and practice of Enterprise Resource Planning Technology to focus on a strong emphasis upon practice of theory in Applications and Practical oriented approach	• Make basic use of Enterprise software, and its role in integrating business functions • Analyse the strategic options for ERP identification and adoption. • Design the ERP implementation strategies.
I4SB2	Quantitative Aptitude	Global	This course content plays a vital role for clearing any competitive	• Understand the short cut methods. • Apply general mathematical techniques. • Develop their critical thinking.

			exam and it covers all the Quantitative Aptitude topics and an in-depth understanding of this subject.	• Recall the formulas. • Solve the sums by applying shortcut methods with time management
I5CC11	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	• 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

			different web extensions and web services standards	
I5CC12	Lab V - Web Technology Lab	Global	This course gives hands on experience in Web development Technologies.	• Explain Various HTML tags. • 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	Global	This course is to provide information about various data communication techniques like switching and networking concepts which includes layers	• 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

			and their corresponding protocols.	layer and their corresponding protocols. • 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.	• 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	Global	This course introduces the basic steps involved	• Understand how to plan a software project.

			in Software Development Life Cycle (SDLC).	• 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	Global	This course provides a comprehensive understanding of the various storage infrastructure components in classic and virtual environments. It enables the students to make	• 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.

			informed decisions in an increasingly complex IT environment.	• Know backup and archival data in both classic and virtualized environment. • Analyse, Monitoring and managing the storage infrastructure in cloud environments.
I5ME2	Multimedia Technologies	Global	To understand the characteristics of different media; understand the representations of different multimedia data; understand different data formats; be able to take into considerations in multimedia system designs	• 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	Global	This course introduces	• Construct simple vector graphics by

	Software		the concepts and tools for design, create and manipulate images for integration in publication layout and web output by using the software tool.	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 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	• 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

			website to the server.	Sheets Create Database connectivity.
I6CC16	.Net Programming	Global	To describe the concepts of logic preparation; to recognize and explain the benefits of procedural, event driven, and object-oriented languages.	• 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 VI - .Net Programming Lab	Global	This course covers the concepts touser for developing interactive web pages using ASP.Net. Able to performing Database operations for Windows Form and web	• 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.

			applications	
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, focussing on the various vulnerabilities of systems.	• 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	Global	Support to gain skills on basic as well as trendy software languages and packages to design web sites, web	• Gather software requirement specifications and prepare design for real time problems

			apps, Mobile apps and real time software projects.	
I6ME3	Cloud Computing	Global	This course facilitates the students to understand, analyse the various applications of cloud tool and also provide solutions for cloud security and storage.	• 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	Global	This course gives the ability to acquire the knowledge about the technologies in mobile	• Understand the infrastructure to develop mobile communication systems. • Identify the characteristics of different

			computing and its security issues.	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	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.	• 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	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.	• 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	Global	This course is designed to facilitate different animation techniques in 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	Global	Use basic selection tools and edge refinement to isolate and edit parts of an image. Manipulate layers through ordering, positioning, scaling, rotation, and adjustments. Create composite images that demonstrate advanced selection and layering techniques.	• 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

2018 - 2019

COURSE CODE	COURSE TITLE	NATURE OF THE COURSE (LOCAL/ NATIONAL/ REGIONAL/ GLOBAL)	COURSE DESCRIPTION	COURSE OBJECTIVES
I1CC1	Computer Fundamentals & C Programming	Global	This course content plays a vital role in building the basic concepts in computers and the fundamental knowledge in 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	Global	This course content plays a vital role in building the basic	• Know the concept of Problem solving. • Implement various concepts in C • Apply the concepts of Functions,

			programming skill in C language.	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	Global	This course content enables other Major students to strengthen and increase the understanding of basis Multimedia application Software's.	• 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	Global	This course introduces	• Understand how to apply the major

	&C++ Programming		the basic concepts of C++. It also aims at facilitate the students to know the Data Structure concepts.	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. • Use linear and non-linear data structures like Stacks, Queues, and Linked List. • Analyse various Searching and Sorting Techniques using C++.
I2CC4	Lab II - C++ Lab	Global	This course enables students to identify, formulate all techniques	• Implement an achievable practical application on object-oriented techniques in the C++ programming

			of software development in the C++ Programming Language and demonstrate these techniques.	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	Global	This course content enables other Major students to strengthen and increase the understanding of basis Multimedia application Software's.	• 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	Global	This course introduces database design and creation using DBMS software. It also imparts various concepts in 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. Develop E- R model-based tables. • Evaluate different PL/SQL blocks.
I3CC6	Lab IV - RDBMS Lab	Global	This course gives hands on experience in relational database management system.	• 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	Global	Analyse a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.	• 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	Global	This course content plays a vital role in making the students to understand the basic digital components.	• 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	Global	This course trains students how to use MS Office applications use in office work such as creating professional-quality documents; store, organize and analyse information; arithmetic operations and functions; and create dynamic slide presentations with animation, narration, images, and much more, digitally and effectively.	• Use Word to prepare organizational documents. • Design financial & other business applications requiring mathematical calculations using spread sheet software. • Develop various charts--pie, bar, line, column, & area using spread sheet software. • Create Dynamic presentations with animation. • Demonstrate presentations with narration and images.
I4CC8	Programming in Java	Global	This course enables the students to build object-	• Understand the concepts of Object-Oriented Programming & Java

			oriented java programs using the concept of abstraction, encapsulation, exception handling, packages, interfaces, threads and AWT controls. It also imparts the ability to develop projects in java with JDBC connectivity.	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	Global	This course gives hands on experience, practices the concepts of java programming language, and develops solutions for real world problems.	• 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.
I4CC10	Operating Systems	Global	To understand the main components of an OS & their Students will able to: 1. Describe the important computer system resources and the functions. 2. To study the process management and scheduling.3. To understand various issues in Inter Process Communication (IPC) and the role of OS in	• 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.

			IPC. 4. To understand the concepts and implementation Memory management policies and virtual memory. 5. To understand the working of an OS as a resource manager, file system manager, process manager, memory manager and I/O manager and methods used to implement the different parts of OS	
I4AC4	Enterprise Resource	Global	This Course provide a contemporary and	• Make basic use of Enterprise software, and its role in integrating business

	Planning		forward-looking on the theory and practice of Enterprise Resource Planning Technology to focus on a strong emphasis upon practice of theory in Applications and Practical oriented approach	functions • Analyse the strategic options for ERP identification and adoption. • Design the ERP implementation strategies.
I4SB2	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.	• 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	Global	To acquire knowledge	• Implement interactive web page(s) using

			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 standards	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	Global	This course is designed to enable the students to:	• Integrate frontend and backend web technologies in distributed systems. • Facilitate interface between frontend

			1. Understand the web technologies to create adaptive web pages for web application. 2. use CSS to implement a variety of presentation effects to the web application 3. know the concept and implementation of cookies as well as related privacy concerns 4. Develop a sophisticated web application	and backend of a web application
I5CC13	Data Communication And Networking	Global	This course is to provide information about various data	• Describe the components of a data communications system • Identify key considerations in selecting

			communication techniques like switching and networking concepts which includes layers and their corresponding protocols.	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	Global	This course introduces the basic concepts, principles, methods, implementation techniques, and applications of data mining.	• 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	Global	This course introduces the basic steps involved in Software Development Life Cycle (SDLC).	• 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	Global	This course provides a comprehensive understanding of the	• Know the concepts of Storage and Data structure Environment based on growth and challenges in IT.

			various storage infrastructure components in classic and virtual environments. It enables the students to make informed decisions in an increasingly complex IT environment.	• 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 cloud environments.
I5ME2	Multimedia Technologies	Global	To understand the characteristics of different media; understand the representations of different multimedia data; understand different data formats; be able to take into	• 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.

			considerations in multimedia system designs	• This subject contributes to developing student critical thinking through lectures and lab exercises on solving problems.
I5SB3	Image Designing Software	Global	This course introduces the concepts and tools for design, create and manipulate images for integration in publication layout and web output by using the software tool.	• 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	Global	To Identify Dreamweaver fundamentals to create	• Design a complete website Able to include to audio, video, flash, java

	Dreamweaver		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.	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	Global	To describe the concepts of logic preparation; to recognize and explain the benefits of procedural, event driven, and object-oriented languages.	• 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	Global	This course covers the concepts touser for	• Create user interactive web pages using ASP.Net.

			developing interactive web pages using ASP.Net. Able to performing Database operations for Windows Form and web applications	• Create simple data binding applications using ADO.Net connectivity. • Performing Database operations for Windows Form and web applications.
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, focussing on the various vulnerabilities of systems.	• 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	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.	• Gather software requirement specifications and prepare design for real time problems
I6ME3	Cloud Computing	Global	This course facilitates the students to understand, analyse the various applications of cloud tool and also provide solutions for cloud security and storage.	• 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	Global	This course gives the ability to acquire the knowledge about the technologies in mobile computing and its security issues.	• 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	Global	This course is designed to facilitate to understand, design and implementation of pictorial data and will	• Understand the need and concepts of computer graphics. • Describe the procedure for points, lines and Circle. • Analyse various attributes of output

			make the students to be a successful Graphics programmer.	primitives. • Illustrate two-dimensional geometric transformation. • 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.	• 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	Global	This course is designed to facilitate different animation techniques in	• Understand basic concepts in Alice. • Construct a scene. • Build program in Alice using looping

			animation software	and branching. • Apply event handlers in alike. • Develop 3D animations.
I6SB6	Image Editing Software	Global	Use basic selection tools and edge refinement to isolate and edit parts of an image. Manipulate layers through ordering, positioning, scaling, rotation, and adjustments. Create composite images that demonstrate advanced selection and layering techniques.	• 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

2017 - 2018

COURSE CODE	COURSE TITLE	NATURE OF THE COURSE (LOCAL/ NATIONAL/ REGIONAL/ GLOBAL)	COURSE DESCRIPTION	COURSE OBJECTIVES
I1CC1	Computer Fundamentals & C Programming	Global	This course content plays a vital role in building the basic concepts in computers and the fundamental knowledge in 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	Global	This course content plays a vital role in building the basic	• Know the concept of Problem solving. • Implement various concepts in C

			programming skill in C language.	• 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	Global	This course content enables other Major students to strengthen and increase the understanding of basis Multimedia application Software's.	• 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	Global	This course introduces the basic concepts of C++. It also aims at facilitate the students to know the Data Structure concepts.	• 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. • Use linear and non-linear data structures like Stacks, Queues, and Linked List. • Analyse various Searching and Sorting Techniques using C++. •

I2CC4	Lab II - C++ Lab	Global	This course enables students to identify, formulate all techniques of software development in the C++ Programming Language and demonstrate these techniques.	• 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	Global	This course content enables other Major students to strengthen and increase the	• Construct simple vector graphics using basic drawing elements and shape commands. • Apply basic shape commands and image

			understanding of basis Multimedia application Software's.	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	Global	This course introduces database design and creation using DBMS software. It also imparts various concepts in 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. • Develop E- R model-based tables. • Evaluate different PL/SQL blocks.

I3CC6	Lab IV - RDBMS Lab	Global	This course gives hands on experience in relational database management system.	• 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	Global	Analyse a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.	• 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	Global	This course content plays a vital role in making the students to	• Explain about digital logic circuits. • Compute simple arithmetic operations for fixed-point and floating-point

			understand the basic digital components.	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	Global	This course trains students how to use MS Office applications use in office work such as creating professional-quality documents; store, organize and analyse information; arithmetic operations and functions; and create dynamic slide presentations with animation, narration,	• Use Word to prepare organizational documents. • Design financial & other business applications requiring mathematical calculations using spread sheet software. • Develop various charts--pie, bar, line, column, & area using spread sheet software. • Create Dynamic presentations with animation. • Demonstrate presentations with

			images, and much more, digitally and effectively.	narration and images.
I4CC8	Programming in Java	Global	This course enables the students to build object-oriented java programs using the concept of abstraction, encapsulation, exception handling, packages, interfaces, threads and AWT controls. It also imparts the ability to develop projects in java with JDBC connectivity.	• 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	Global	This course gives hands on experience, practices the concepts of java	• Implement Object Oriented programming concept using operators and control Structures.

			programming language, and develops solutions for real world problems.	• 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	Global	To understand the main components of an OS & their Students will able to: 1. Describe the important computer system resources and the functions. 2. To study the process management and scheduling.3. To	• 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

			understand various issues in Inter Process Communication (IPC) and the role of OS in IPC. 4. To understand the concepts and implementation Memory management policies and virtual memory. 5. To understand the working of an OS as a resource manager, file system manager, process manager, memory manager and I/O manager and methods used to implement the different	different storage management technologies. • Identify the need to create the special purpose operating system.

			parts of OS	
I4AC4	Enterprise Resource Planning	Global	This Course provide a contemporary and forward-looking on the theory and practice of Enterprise Resource Planning Technology to focus on a strong emphasis upon practice of theory in Applications and Practical oriented approach	• Make basic use of Enterprise software, and its role in integrating business functions • Analyse the strategic options for ERP identification and adoption. • Design the ERP implementation strategies.
I4SB2	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	• 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

			in-depth understanding of this subject.	
I5CC11	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 standards	• 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	Global	This course is designed to enable the students to: 1. Understand the web technologies to create adaptive web pages for web application. 2. Use CSS to implement a variety of presentation effects to the web application 3. know the concept and implementation of cookies as well as related privacy concerns 4. Develop a sophisticated web application	• Integrate frontend and backend web technologies in distributed systems. • Facilitate interface between frontend and backend of a web application
I5CC13	Data Communication	Global	This course is to provide information about	• Describe the components of a data

	and Networking		various data communication techniques like switching and networking concepts which includes layers and their corresponding protocols.	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	Global	This course introduces the basic concepts, principles, methods, implementation techniques, and applications of data mining.	• 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	Global	This course introduces the basic steps involved in Software Development Life Cycle (SDLC).	• 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	Global	This course provides a	• Know the concepts of Storage and Data

	Storage And Management		comprehensive understanding of the various storage infrastructure components in classic and virtual environments. It enables the students to make informed decisions in an increasingly complex IT environment.	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 cloud environments.
I5ME2	Multimedia Technologies	Global	To understand the characteristics of different media; understand the representations of different multimedia data; understand	• 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

			different data formats; be able to take into considerations in multimedia system designs	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	Global	This course introduces the concepts and tools for design, create and manipulate images for integration in publication layout and web output by using the software tool.	• 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	Global	At the end of the course the student will learn basic concepts of 2D Animation, Storyboarding and create animated digital multimedia content for media using the tools and techniques as available in the Adobe Flash software	• Utilize several Flash toolsandtacticslearnedthroughoutthecourse toproduceaninteractiveflash-basedwebsite. • Demonstrate the ability to effectively utilize the timeline and motion tween affects to produce animation
I6CC16	.Net Programming	Global	To describe the concepts of logic preparation; to recognize and explain the benefits of procedural, event driven, and object-oriented languages.	• 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	Global	This course covers the concepts touser for developing interactive web pages using ASP.Net. Able to performing Database operations for Windows Form and web applications	• 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	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	• Understands the basic concepts of security • Analyse various cryptographic algorithms while applying practically. • Identify Asymmetric based cryptographic algorithms • Compares different internet security

			in this day and age, focussing on the various vulnerabilities of systems.	protocols • 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.	• Gather software requirement specifications and prepare design for real time problems
I6ME3	Cloud Computing	Global	This course facilitates the students to understand, analyse the various applications of cloud tool and also provide solutions for	• Understand fundamental concepts of cloud service and deployment models. • Identify the importance of virtualization along with their technologies. • Analyse different cloud computing

			cloud security and storage.	Services. • Analyse the components and the security in cloud. • Illustrate different design & develop backup strategies for cloud data based on features.
I6ME4	Mobile Computing	Global	This course gives the ability to acquire the knowledge about the technologies in mobile computing and its security issues.	• 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 &Computer Graphics	Global	Describe and explain basic principles of digital image processing. Design and implement algorithms that perform basic image processing (e.g. noise removal and image enhancement). Design and implement algorithms for advanced image analysis (e.g. image compression, image segmentation). 4. Assess the performance of image processing algorithms and systems.	• Analyze general terminology of digital image processing. • Examine various types of images, intensity transformations and spatial filtering. • Develop Fourier transform for image processing in frequency domain. 4. Evaluate the methodologies for image segmentation, restoration etc. • Implement image process and analysis algorithms. • Apply image processing algorithms in practical applications.
I6ME6	Internet & E-Commerce	Global	Presents concepts and skills for the strategic	• To examine in detail what is meant by the term ‘e-commerce’

			use of e-commerce and related information technology from three perspectives: business to consumers, business-to-business, and intra-organizational.	• 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	Global	This course is designed to facilitate different animation techniques in 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	Introduction To 3D Animation-Blender	Global	This course will focus on all of the core aspects of the software and to know about the	• Create models with basic skills • Use the blender interface • Use the most common modifiers to

			concepts of The Interface, Modelling, Modifiers, Animation, & Materials.	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

2016-2017

COURSE CODE	COURSE TITLE	NATURE OF THE COURSE (LOCAL/ NATIONAL/ REGIONAL/ GLOBAL)	COURSE DESCRIPTION	COURSE OBJECTIVES
I1CC1	Programming In C	Global	The course is designed to provide complete knowledge of C language. Students will be able to develop logics which will help them to create programs, applications in C. Also by	• Design, implement, test, debug, and document programs in identify and Apply different construct available for iteration such as 'for', 'while' and 'do-while'.

			learning the basic programming constructs they can easily switch over to any other language in future.	• 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
I1CC2	C Lab	Global	The course is designed to provide complete knowledge of C language. Students will be able to develop logics which will help them to create programs, applications in C. Also by learning the basic programming constructs they can easily switch over to any other language in future.	• 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 files
I1NME1	Multimedia Applications	Global	This course content enables other Major students to strengthen and increase the understanding of basis Multimedia application Software's.	• 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	Global	This course provides in-depth	• Perform object-oriented

	Programming in C++		coverage of object-oriented programming principles and techniques using C++ which include classes, overloading, data abstraction, information hiding, encapsulation, inheritance, polymorphism, file processing concepts.	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	Global	This course enables students to identify, formulate all techniques of software development in the C++ Programming Language and demonstrate these techniques.	• 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	Global	This course content enables other Major students to strengthen and increase the understanding of basis Multimedia application Software's.	• 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 Database Management System	Global	This course introduces database design and creation using DBMS software. It also imparts various concepts in 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. • Develop E- R model-based tables. • Evaluate different PL/SQL blocks.

I3CC6	RDBMS Lab	Global	This course gives hands on experience in relational database management system.	• 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	Global	Analyse a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.	• 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	Global	This course content plays a vital role in making the students to understand the basic digital components.	• 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	Introduction to Visual Communication	Global	To know about the basics of communication. To learn and acquire the art of visual communication. To understand and relate the importance of	• To learn about the history & evolution of Communication. • Students understand Nature & functions of Visual Communication

			visual communication. To gain knowledge about the basic of Visual Communication.	• Students acquire knowledge on different types of perception & illusion.
I4CC8	Programming in Java	Global	This course enables the students to build object-oriented java programs using the concept of abstraction, encapsulation ,exception handling, packages, interfaces, threads and AWT controls. It also imparts the ability to develop projects in java with JDBC connectivity.	• 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	Global	This course gives hands on experience, practices the concepts of java programming language, and develops solutions for real world problems.	• 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.
I4CC10	Operating Systems	Global	To understand the main components of an OS & their Students will able to:	• Describe the evolution, types, structure and Understand the process management policies

			1. Describe the important computer system resources and the functions. 2. To study the process management and scheduling.3. To understand various issues in Inter Process Communication (IPC) and the role of OS in IPC. 4. To understand the concepts and implementation Memory management policies and virtual memory. 5. To understand the working of an OS as a resource manager, file system manager, process manager, memory manager and I/O manager and methods used to implement the	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.

			different parts of OS	
I4AC4	Data Structures	Global	This course enables the students to know the fundamental concept of data structures and to emphasize the importance of data structures in developing and implementing efficient 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.
I4SB2	Introduction to Advertisement	Global	To Develop an advertising plan and present and defend it persuasively.	• Identify and understand the various advertising media. • Demonstrate an understanding of how an advertising agency operates.
I5CC11	Web Technology	Global	To acquire knowledge and skills for creation of web site considering both client and	• Implement interactive web page(s) using HTML, CSS and JavaScript.

			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 standards	• 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	Global	This course is designed to enable the students to: 1. Understand the web technologies to create adaptive web pages for web application. 2. useCSS to implement a variety of presentation effects to the web application 3. know the concept and	• Integrate frontend and backend web technologies in distributed systems. • Facilitate interface between frontend and backend of a web application

			implementation of cookies as well as related privacy concerns 4. Develop a sophisticated web application	
I5CC13	Data Communication And Networking	Global	This course is to provide information about various data communication techniques like switching and networking concepts which includes layers and their corresponding protocols.	• 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 and Data Warehousing	Global	To study the methodology of engineering legacy databases for data ware housing and data mining to derive business rules for decision support systems. To analyze the data, identify the problems, and choose the relevant models and algorithms to apply	• 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.
I5CC15	Software Engineering	Global	This course introduces the basic steps involved in Software Development Life Cycle (SDLC).	• 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 Image Processing & 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.	• 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.
I5ME2	Information Security	Global	To understand the characteristics of different media; understand the representations of different multimedia data; understand different data formats; be able to take into considerations in multimedia system designs	• 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	Introduction To Media	Global	Covers the basics of planning, creating, using, and placing	• Demonstrate an understanding of the overall role advertising

			advertising in the business world.	plays in the business world. • Demonstrate an understanding of advertising strategies and budgets.
I5SB4	Introduction To 2D Animation Flash	Global	At the end of the course the student will learn basic concepts of 2D Animation, Storyboarding and create animated digital multimedia content for media using the tools and techniques as available in the Adobe Flash software	• Utilize several Flash tools and staticslearnedthroughoutthecou rsetoproduceaninteractiveflash-basedwebsite. • Demonstrate the ability to effectively utilize the timeline and motion tween affects to produce animation
I6CC16	.Net Programming	Global	To describe the concepts of logic preparation; to recognize and explain the benefits of procedural, event driven, and object-oriented languages.	• 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	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	• 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	Global	To understand the characteristics of different media; understand the representations of different	• It contributes to having students practice their communication skills and demonstration ability

			multimedia data; understand different data formats; be able to take into considerations in multimedia system designs	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.
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.	• Gather software requirement specifications and prepare design for real time problems
I6ME3	Cloud Computing	Global	This course facilitates the students to understand,	• Understand fundamental

			analyse the various applications of cloud tool and also provide solutions for cloud security and storage.	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	Global	This course gives the ability to acquire the knowledge about the technologies in mobile computing and its security issues.	• 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	Enterprise Resource Planning	Global	This Course provide a contemporary and forward-looking on the theory and practice of Enterprise Resource Planning Technology to focus on a strong emphasis upon practice of theory in Applications and Practical oriented approach	• Make basic use of Enterprise software, and its role in integrating business functions • Analyse the strategic options for ERP identification and adoption. • Design the ERP implementation strategies.

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.	• 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 3D Animation Alice Green Foot	Global	This course is designed to facilitate different animation techniques in 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	Introduction to 3D Animation Blender	Global	This course will focus on all of the core aspects of the software and to know about the concepts of The Interface, Modelling, Modifiers, Animation, & Materials.	• 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

2015-2016

COURSE CODE	COURSE TITLE	NATURE OF THE COURSE (LOCAL/ NATIONAL/ REGIONAL/ GLOBAL)	COURSE DESCRIPTION	COURSE OBJECTIVES
I1CC1	Programming In C	Global	The course is designed to provide complete knowledge of C language. Students will be able to develop logics which will help them to create programs, applications in C. Also by learning the basic programming constructs they can easily switch over to any other language in future.	• 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	Global	To make the student learn a programming language.• To learn problem solving techniques. • To teach the student to write programs in C and to solve the problems..	• 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. • Write programs that perform operations using derived data types in programs. • Apply and Use the file concepts in C programs
I1CC3	Data Structures And Algorithms	Global	This course enables the students to know the	• To define basic static and dynamic data structures and

			fundamental concept of data structures and to emphasize the importance of data structures in developing and implementing efficient algorithms.	relevant standard algorithms • Explain stack, queue, dynamically linked lists, trees, graphs, heap, priority queue, hash tables, sorting algorithms, min-max algorithm.
I1AC1	Digital Principles And Computer Architecture	Global	This course content plays a vital role in making the students to understand the basic digital components.	• 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.
I1NME1	Multimedia Applications	Global	This course content enables other Major students to strengthen and increase the understanding of basis Multimedia application Software's.	• 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++	Global	This course provides in-depth coverage of object-oriented programming principles and	• Perform object-oriented programming to develop solutions to problems

			techniques using C++ which include classes, overloading, data abstraction, information hiding, encapsulation, inheritance, polymorphism, file processing concepts.	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	Global	This course enables students to identify, formulate all techniques of software development in the C++ Programming Language and demonstrate these techniques.	• Implement an achievable practical application on object-oriented techniques in the C++ programming language • Demonstrate the concept of classes and their types by using C++ objects. • Apply the concept of polymorphism and inheritance

				in C++
I2NME2	Multimedia Applications	Global	This course content enables other Major students to strengthen and increase the understanding of basis Multimedia application Software's.	• 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	Global	This course introduces database design and creation using DBMS software. It also	• Explain the structure and model of the relational database system.

	System		imparts various concepts in database management 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.
I3CC7	RDBMS Lab	Global	This course gives hands on experience in relational database management system.	• 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	Global	To Develop an advertising plan and present and defend it persuasively.	• Identify and understand the various advertising media. • Demonstrate an understanding of how an advertising agency operates.
I4CC8	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	• 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

			different web extensions and web services standards	framework
I4CC9	Web Technology Lab	Global	This course is designed to enable the students to: 1. Understand the web technologies to create adaptive web pages for web application. 2. Use CSS to implement a variety of presentation effects to the web application 3. know the concept and implementation of cookies as well as related privacy concerns 4. Develop a sophisticated web application	• Integrate frontend and backend web technologies in distributed systems. • Facilitate interface between frontend and backend of a web application
I4CC10	Operating Systems & Linux	Global	This course content plays a vital role in making the students to understand the	• Describe the evolution, types, structure and functions of operating systems.

			basic operating system concept and about Linux.	• 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	Global	To help the students to develop cognizance of the importance of human behaviour. To enable students to describe how people behave under different conditions and understand why people behave as they do. To provide the students to analyse specific strategic human resources demands for future	• Demonstrate the applicability of the concept of organizational behaviour to understand the behaviour of people in the organization. • Demonstrate the applicability of analysing the complexities associated with management of individual behaviour in the

			action. To enable students to synthesize related information and evaluate options for the most logical and optimal solution such that they would be able to predict and control human behaviour and improve results.	organization. • Analyse the complexities associated with management of the group behaviour in the organization. • Demonstrate how the organizational behaviour can integrate in understanding the motivation (why) behind behaviour of people in the organization.
I4SB2	Introduction To Global Pagemaker		Design eye-catching flyers and ads Demonstrate marketable desktop publishing skills Use white space to create readable and attractive newsletters	• Select and import appropriate graphics for aesthetics and concept clarification • Create scan able pages by careful arrangement of text and graphics • Proofread document text, catching all spelling and

			Import, resize, and manipulate both clip-art and photo graphics	grammar errors • Apply a report template to a multi-page document • Demonstrate the use of common PageMaker shortcut keyboard commands
I5CC11	Software Engineering	Global	This course introduces the basic steps involved in Software Development Life Cycle (SDLC).	• 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.
I5CC12	Data Communication and Networking	Global	This course is to provide information about various data communication techniques like switching and networking concepts which includes layers and their corresponding protocols.	• 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
I5CC13	Data Mining and Data	Global	To study the methodology of engineering legacy databases	• Enable students to understand and implement classical

	Warehousing		for data warehousing and data mining to derive business rules for decision support systems. 2. To analyze the data, identify the problems, and choose the relevant models and algorithms to apply	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	Global	This course enables the students to build object-oriented java programs using the concept of abstraction, encapsulation ,exception	• Understand the concepts of Object-Oriented Programming & Java Programming Constructs. • Understand basic concepts of Java such as operators, classes,

			handling, packages, interfaces, threads and AWT controls. It also imparts the ability to develop projects in java with JDBC connectivity.	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.
I5CC15	Java Lab	Global	This course gives hands on experience, practices the concepts of java programming language, and develops solutions for real world problems.	• 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	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.	• 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.
I5ME2	Multimedia and	Global	This course content enables	• Construct simple vector

	Its Applications		other Major students to strengthen and increase the understanding of basis Multimedia application Software's.	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	Global	This course introduces the concepts and tools for design, create and manipulate images for integration in publication layout and web output by using the software tool.	• 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	Introduction to Flash	Global	At the end of the course the student will learn basic concepts of 2D Animation, Storyboarding and create animated digital multimedia content for media using the tools and techniques as available in the Adobe Flash software	• Utilize several Flash tools and staticslearnedthroughoutthecou rsetoproduceaninteractiveflash-basedwebsite. • Demonstrate the ability to effectively utilize the timeline and motion tween affects to produce animation
I6CC16	Data Mining and Data	Global	This course introduces the basic concepts, principles,	• Identify data mining tools and techniques in building

	Warehousing		methods, implementation techniques, and applications of data mining.	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	Global	To understand the characteristics of different media; understand the representations of different multimedia data; understand different data formats; be able to take into considerations in	• 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

			multimedia system designs	the way computing systems are developed and used. • This subject contributes to developing student critical thinking through lectures and lab exercises on solving problems.
I6CC18	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.	• Gather software requirement specifications and prepare design for real time problems
I6ME3	Mobile Computing	Global	This course gives the ability to acquire the knowledge about the technologies in mobile computing and its security issues.	• 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.
I6ME4	Cloud Computing	Global	This course facilitates the students to understand, analyse the various applications of cloud tool and also provide solutions for cloud security and storage.	• 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.
I6ME5	System Analysis And Design	Global	This module aims to as to introduce variety of new software used by analysts, designers to manage projects, analyse and document **systems**, **design** ne w **systems** and implement their plans	• On completion of this course the student should be able to: Explain what systems are and how they are developed. ... • The need for and value of a formalized step-by-step approach to the analysis, design, and implementation of computer information systems. • Use tools and techniques for

				process and data modelling
I6ME6	TCP/IP	Global	Build an understanding of the fundamental concepts of computer networking. Familiarize the student with the basic taxonomy and terminology of the computer networking area. Introduce the student to advanced networking concepts, preparing the student for entry Advanced courses in computer networking. Allow the student to gain expertise in some specific areas of networking such as the design and maintenance of individual networks.	• TCP/IP protocols, ports, sockets, and data encapsulation. Describe the process of packet fragmentation and reassembly. • key features and functions of TCP and UDP. Use Wire shark to identify ICMP request and reply packets.

I6SB5	Introduction To 3Ds Max	Global	The primary objective of this course is to teach students the essentials of working 3D using an array of features. and tools. Getting Started. • Touring the 3ds Max Design User Interface. Animation. • Learning General Principles Rendering. • Creating and Positioning Camera	• Use the Interface. • 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	Introduction To Image J	Global	After this **course** participants should be able to: Perform basic image handling, manipulation and visualisation	• Use the built-in features of the ImageJ software package to view, process and calibrate images and measure quantities of interest manually