NAAC – 4th CYCLE – Self Study Report (SSR)

Criterion	: II – Teaching-Learning and Evaluation
Metric	: 2.6.1 – Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and Course Outcomes (COs) – B.C.A. & P.G.D.C.A
Year	: 2015 - 2020

FATIMA COLLEGE (AUTONOMOUS), MADURAI – 625018

B.C.A & P.G.D.C.A

NAME OF THE PROGRAMME: B.C.A   **PROGRAMME CODE: USCA**

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:   To achieve significant understanding of theoretical and programming concepts in key areas of Computer Applications.

PSO 2:   To expand and sharpen practical and problem solving skills to provide solutions to industry, society and

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business problems.

PSO 3:   To apply modern practices and strategies in software project development using open source and other programming environments.

PSO 4:   To inculcate the ability to analyze and interpret problems, make inferences from the resulting data and apply technical skills to solve real time problems.

PSO 5:   To make graduates understand various professional, technical and ethical issues prevailing in the industry

PSO 6:   To gain exposure in preventive, ethical hacking and security technologies in recent trends

PSO 7:   To equip the students to meet the requirement of Corporate world and Industry standards

PSO 8:   To engage in professional development and to pursue post graduate education in the fields of Information Technology and Computer Applications

PSO 9:   To generate ideas of innovation and to identify, formulate and solve problems in software solutions, outsourcing services, public and private sectors

PSO 10:   To engage the students technically on par with the societal and environmental responsibilities added with professional ethics

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Year	: 2015 - 2020

2019 - 2020

COURSE CODE	COURSE TITLE	COURSE OUTCOMES
19J1CC1	PROGRAMMING IN C	CO1: Acquire basic understanding of C programming CO2: Illustrate how arrays and strings are implemented in C CO3: Utilize the knowledge of Functions and Pointers CO4: Analyze the memory management concept in C using structure and Unions CO5: Outline the file operations in C
19J1CC2	LAB IN C PROGRAMMING	CO1: Acquire basic understanding of C programming CO2: Illustrate how arrays and strings are implemented in C CO3: Utilize the knowledge of Functions and Pointers CO4: Analyze the memory management concept in C using structure and Unions CO5: Outline the file operations in C

| 19J1NME | NON MAJOR ELECTIVE – I

MULTIMEDIA LAB – FLASH | CO1: Apply tweens and articulated motions to morph shapes

CO 2:Design, create and edit flash based navigation menus and interactive movies

CO3: Utilize flash components to create interactivity

CO4: Demonstrate load, control and remove movie clips and masks in movie content

CO5:Utilize and understand different sounds and sound formats in flash movies Publish flash movies in numerous formats and contexts in a |
| 19J2CC3 | OBJECT ORIENTED PROGRAMMING IN C++ | CO1: Assess the object – oriented concepts in C++

CO2: Illustrate the usage of Functions in C++

CO3: Analyze advanced features of C++ specifically stream I/O and overloading |

Course Code	Course Title	Course Outcomes
		CO4: Demonstrate on Inheritance and Virtual Classes CO5: Outline the file operations in C++
19J2CC4	LAB IN C++	CO1: Read, understand and trace the execution of programs written in C++ language CO2: Demonstrate class and object functions CO3; Assess operator overloading and function overloading to specific problem definition CO4: Demonstrate file operations in C++. CO5: Write C++ code to demonstrate each concept

Course Code	Course Title	Course Objectives
J3CC7	OPERATING SYSTEMS	• Outline the structure of OS, basic architectural components • Analyze on the different scheduling algorithms and critical section problems

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		• Critique device and resource management techniques by concentrating on deadlocks • Identify and know about memory management techniques • Interpret the mechanisms adopted for file sharing in distributed Applications
J3CC8	RELATIONAL DATABASE MANAGEMENT SYSTEM	• Understand the basic concepts of database and relational database management systems • Analyze the various normalization concepts • Disseminate SQL commands to create tables and indexes • Apply DDL and DML commands in real time applications • Write dynamic queries and programming language SQL to demonstrate the concept of RDBMS
J3AC3	MANAGEMENT INFORMATION SYSTEMS	• Understand the need and basic concept of MIS • Analyze MIS and various functional information system • Analyze MIS information and system concepts

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Year	:	2015 - 2020

		• Outline kinds of decision making techniques
		• Apply business applications of information system
J3CC9	LAB III – RELATIONAL DATABASE MANAGEMENT SYSTEM	• Critique SQL commands to create tables and indexes • Apply DDL and DML commands in real time applications • Understand the needs of triggering applications • Disseminate knowledge of RDBMS and SQL, both in terms of design and implementation usage • Write dynamic queries to demonstrate the concepts of RDBMS
J3SB1	SKILL BASED – I INTRODUCTION TO PHOTOSHOP	• Understand the basic photoshop tools • Outline the resizing options available in photoshop • Explore various rotation operations • Disseminate filter operations in photoshop • Analyze various distort filter operations in photoshop
J4CC10	SOFTWARE ENGINEERING	• Compare the various software models

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		• Use knowledge, techniques, skills and modern tools necessary for software engineering practice • Analyze on the design factors and guidelines • Understand the different types of testing used in software's • Compare the various types of Testing styles
J4CC11	WEB PROGRAMMING	• Select and apply mark-up languages for processing and presenting information in web pages. • Design and implement dynamic websites with good aesthetic sense of designing. • Use fundamental skills to maintain web server services required to host a website. • Prepare the students to write a well formed DB connection • Create WebPages for any application using database connectivity
J4AC4	FINANCIAL ACCOUNTING AND TALLY	• Understand the basic principles of accounting

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Year	: 2015 - 2020

		• Analyze the final accounts and its classification
		• Acquire knowledge in maintaining cash books
		• Disseminate thorough understanding of TALLY package
		• Perform and manage stock and go down entries in the form of vouchers
J4CC12	LAB IV – WEB PROGRAMMING	• Select and apply mark-up languages for processing and presenting information in web pages.
		• Design and implement dynamic websites with good aesthetic sense of designing.
		• Use fundamental skills to maintain web server services required to host a website.
		• Prepare the students to write a well formed DB connection
		• Create WebPages for any application
J4SB2	SKILL BASED – II FINANCIAL ACCOUNTING SOFTWARE PACKAGE –	• Understand the basic concepts of company creation in tally
		• Perform journal, ledger and trial balance entries in tally

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Year	:	2015 - 2020

	TALLY	• Perform tally entries in the form of vouchers • Create and display single and multiple stock groups and stock categories • Explore voucher operations in tally
J5CC11	COMPUTER NETWORKS	• Compare the various software models • Use knowledge, techniques, skills and modern tools necessary for software engineering practice • Analyze on the design factors and guidelines • Understand the different types of testing used in software's • Compare the various types of Testing styles
J5CC12	JAVA PROGRAMMING	• Acquire in depth knowledge in Java programming concepts • Identify and analyze platform independent environment and byte code generation • Build, Execute and Debug java programs along with Exceptions • Design and Implement packages

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	Course Outcomes (COs) – B.C.A. & P.G.D.C.A
Year	: 2015 - 2020

		• Write, Compile and Execute applet programs which includes GUI
J5CC13	LAB V – JAVA PROGRAMMING	• Acquire in depth knowledge in Java programming concepts • Identify and analyze platform independent environment and byte code generation • Build, Execute and Debug java programs along with Exceptions • Design and Implement packages • Write, Compile and Execute applet programs which includes GUI
J5CC14	LAB VI – DOT NET PROGRAMMING	• Use Dot Net Framework along with the features of C# • Create websites to explore database connectivity • Analyze debugging WebPages through case studies • Use the different types of master page creation • Create different dynamic websites for applications
J5ME1	DOT NET PROGRAMMING	• Understand the basic concept of dot net

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		• Outline the control statements in dot net with sample programs • Analyze procedures and structures in dot net with real time examples • Disseminate knowledge in database with dot net • Explore web application with vb.net and asp.net
J5ME2	COMPUTER GRAPHICS	• Outline the need and basic concept of computer graphics • Explore various algorithms and its designs • Analyze the attributes of output primitives • Disseminate knowledge in 2-Dimensional geometric transformations • Explore the concepts of 2-Dimensional viewing
J5SB3	SKILL BASED – III CORELDRAW	• Outline the basic concepts of CorelDraw • Explore drawing and colouring feature in CorelDraw • Disseminate knowledge in mastering with text • Outline the effects of applying in CorelDraw

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Year	: 2015 - 2020

		• Explore how to work with bitmap commands
J5SB4	SKILL BASED – IV PHP	• Demonstrate how server – side programming works on the web • Use PHP built – in functions and creating custom functions • Create a database in phpMyAdmin • Create dynamic web pages • Design websites for various applications
J6CC15	PYTHON	• Identify different Python object types • Discuss how to use indexing and slicing to access data in Python programs • Assess structure and components of a Python program • Write programs to demonstrate loops and decision statements in Python • Build and package in Python modules for reusability
J6CC16	LAB VII – PYTHON LAB	• Identify different Python object types • Discuss how to use indexing and slicing to access data in

		Python programs
		• Assess structure and components of a Python program
		• Write programs to demonstrate loops and decision statements in Python
		• Build and package in Python modules for reusability
J6ME3	ARTIFICIAL INTELLIGENCE	• Outline the needs and concepts of artificial intelligence in day-to-day life
		• Explore various search techniques
		• Disseminate various knowledge representation in AI
		• Explore the uncertainty techniques involved in AI
		• Analyze the learning concepts and methods
J6ME4	DATA MINING	• Analyze data mining algorithms, methods, and tools
		• Identify business applications of data mining
		• Predict quantitative analysis report to make decisions
		• Outline the developing areas web mining, text mining, and

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Year	: 2015 - 2020

		• ethical aspects of data mining
		• Compare the various applications of Data Mining
J6ME5	CLOUD COMPUTING	• Outline problems and evaluate various cloud computing solutions
		• Outline Cloud service and deployment models
		• Identify the architecture and infrastructure of cloud computing including SaaS, PaaS, IaaS, public cloud, private cloud, hybrid cloud and community cloud
		• Predict security issues and formulate recovery mechanisms
		• Understand the concept of virtualization
J6ME6	MOBILE COMPUTING	• Create the infrastructure to develop mobile communication systems
		• Assess the characteristics of emerging technologies in mobile communication
		• Critique new knowledge in the field of computer science by using appropriate search methodologies

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Year	:	2015 - 2020

		• Analyze on the various software kits available • Assess the characteristics of Mobile Components and Applications
J6SB5	SKILL BASED-V-ALICE	• Explore the interface concepts in Alice • Understand how to set the scene and characters in Alice • Analyze the programming skills and expertise • Disseminate various event handling techniques and methods • Assess the characteristics of 3D and billboards and various sound effect options
J6SB6	SKILL BASED LAB-VI LINUX	• Analyze the inner workings of LINUX operating systems • Utilize Linux system to accomplish typical personal, office, technical, and software development tasks • Use Linux utilities to create and manage simple file processing • Use operations, organize directory structures with appropriate security • Formulate shell scripts to perform more complex tasks

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Year	:	2015 - 2020

2018 - 2019

COURSE CODE	COURSE TITLE	COURSE OBJECTIVES
J1CC1	DIGITAL PRINCIPLES AND COMPUTER ORGANIZATION	• Acquire basic knowledge about classification and types of computers • Understand the primary and secondary storage input and output devices • Illustrate the number system with real time examples • Outline the Boolean algebra operations and explore various operations of gates • Explore the working methodologies of flip flop gates and transfer circuits
J1CC2	PROGRAMMING IN C	• Acquire basic understanding of C programming • Illustrate how arrays and strings are implemented in C • Utilize the knowledge of Functions and Pointers

		• Analyze the memory management concept in C using structure and Unions • Outline the file operations in C
J1CC3	LAB I-C	• Acquire basic understanding of C programming • Illustrate how arrays and strings are implemented in C • Utilize the knowledge of Functions and Pointers • Analyze the memory management concept in C using structure and Unions • Outline the file operations in C
J1NME1	NON MAJOR ELECTIVE – I MULTIMEDIA LAB – FLASH	• Apply tweens and articulated motions to morph shapes • Design, create and edit flash based navigation menus and interactive movies • Utilize flash components to create interactivity • Demonstrate load, control and remove movie clips

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Year	: 2015 - 2020

		and masks in movie content • Utilize and understand different sounds and sound formats in flash movies Publish flash movies in numerous formats and contexts in a
J2CC4	DATA STRUCTURES	• Understand the need and basic concepts involved in data structures • Explore the various tree operations in data structures • Outline the various operations of sets and sorting techniques • Analyze the cost and storage of data structures using graphs • Assess the efficiency of different algorithmic techniques
J2CC5	OBJECT ORIENTED PROGRAMMING IN C++	• Assess the object – oriented concepts in C++ • Illustrate the usage of Functions in C++ • Analyze advanced features of C++ specifically stream I/O and overloading • Demonstrate on Inheritance and Virtual Classes

		• Outline the file operations in C++
J2CC6	LAB-II-OBJECT ORIENTED PROGRAMMING IN C++	• Read, understand and trace the execution of programs written in C++ language • Demonstrate class and object functions • Assess operator overloading and function overloading to specific problem definition • Demonstrate file operations in C++. • Write C++ code to demonstrate each concept
J3CC5	OPERATING SYSTEMS	• Outline the structure of OS, basic architectural components • Analyze on the different scheduling algorithms and critical section problems • Critique device and resource management techniques by concentrating on deadlocks • Identify and know about memory management techniques • Interpret the mechanisms adopted for file sharing in

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		distributed Applications
J3CC6	RELATIONAL DATABASE MANAGEMENT SYSTEMS	• Understand the basic concepts of database and relational database management systems • Analyze the various normalization concepts • Disseminate SQL commands to create tables and indexes • Apply DDL and DML commands in real time applications • Write dynamic queries and programming language SQL to demonstrate the concept of RDBMS
J3AC3	MANAGEMENT INFORMATION SYSTEMS	• Understand the need and basic concept of MIS • Analyze MIS and various functional information system • Analyze MIS information and system concepts • Outline kinds of decision making techniques • Apply business applications of information system
J3CC7	LAB III- RELATIONAL DATABASE MANAGEMENT	• Critique SQL commands to create tables and indexes • Apply DDL and DML commands in real time applications

	SYSTEM	• Understand the needs of triggering applications • Disseminate knowledge of RDBMS and SQL, both in terms of design and implementation usage • Write dynamic queries to demonstrate the concepts of RDBMS
J3SB1	INTRODUCTION TO PHOTOSHOP	• Understand the basic photoshop tools • Outline the resizing options available in photoshop • Explore various rotation operations • Disseminate filter operations in photoshop • Analyze various distort filter operations in photoshop
J4CC8	SOFTWARE ENGINEERING	• Compare the various software models • Use knowledge, techniques, skills and modern tools necessary for software engineering practice • Analyze on the design factors and guidelines • Understand the different types of testing used in software's

		• Compare the various types of Testing styles
J4CC9	WEB PROGRAMMING	• Select and apply mark-up languages for processing and presenting information in web pages. • Design and implement dynamic websites with good aesthetic sense of designing. • Use fundamental skills to maintain web server services required to host a website. • Prepare the students to write a well formed DB connection • Create WebPages for any application using database connectivity
J4AC4	FINANCIAL ACCOUNTING AND TALLY	• Understand the basic principles of accounting • Analyze the final accounts and its classification • Acquire knowledge in maintaining cash books • Disseminate thorough understanding of TALLY package • Perform and manage stock and go down entries in the form

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		of vouchers
J4CC10	LAB IV- WEB PROGRAMMING	• Select and apply mark-up languages for processing and presenting information in web pages. • Design and implement dynamic websites with good aesthetic sense of designing. • Use fundamental skills to maintain web server services required to host a website. • Prepare the students to write a well formed DB connection • Create WebPages for any application
J4AC4	FINANCIAL ACCOUNTING AND TALLY	• Understand the basic principles of accounting • Analyze the final accounts and its classification • Acquire knowledge in maintaining cash books • Disseminate thorough understanding of TALLY package • Perform and manage stock and go down entries in the form of vouchers

J4SB2	SKILL BASED – II FINANCIAL ACCOUNTING SOFTWARE PACKAGE-TALLY	• Understand the basic concepts of company creation in tally • Perform journal, ledger and trial balance entries in tally • Perform tally entries in the form of vouchers • Create and display single and multiple stock groups and stock categories • Explore voucher operations in tally
J5CC11	COMPUTER NETWORKS	• Outline the functionalities of OSI reference model • Discuss guided and unguided media and its real time usage and applications • Analyze on the design issues of DLL • Demonstrate various routing algorithms through case studies • Assess real time web and network security mechanisms
J5CC12	JAVA PROGRAMMING	• Acquire in depth knowledge in Java programming concepts • Identify and analyze platform independent environment and

		byte code generation
		• Build, Execute and Debug java programs along with Exceptions
		• Design and Implement packages
		• Write, Compile and Execute applet programs which includes GUI
J5CC13	LAB V- JAVA PROGRAMMING	• Acquire in depth knowledge in Java programming concepts
		• Identify and analyze platform independent environment and byte code generation
		• Build, Execute and Debug java programs along with Exceptions
		• Design and Implement packages
		• Write, Compile and Execute applet programs which includes GUI
J5CC14	LAB VI- DOT NET PROGRAMMING	• Use Dot Net Framework along with the features of C#

		• Create websites to explore database connectivity • Analyze debugging WebPages through case studies • Use the different types of master page creation • Create different dynamic websites for applications
J5ME1	DOT NET PROGRAMMING	• Understand the basic concept of dot net • Outline the control statements in dot net with sample programs • Analyze procedures and structures in dot net with real time examples • Disseminate knowledge in database with dot net • Explore web application with vb.net and asp.net
J5ME2	COMPUTER GRAPHICS	• Outline the need and basic concept of computer graphics • Explore various algorithms and its designs • Analyze the attributes of output primitives • Disseminate knowledge in 2-Dimensional geometric

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Year	: 2015 - 2020

		transformations
		• Explore the concepts of 2-Dimensional viewing
J5SB3	SKILL BASED – III - COREL DRAW	• Outline the basic concepts of CorelDraw
		• Explore drawing and colouring feature in CorelDraw
		• Disseminate knowledge in mastering with text
		• Outline the effects of applying in CorelDraw
		• Explore how to work with bitmap commands
J5SB4	SKILL BASED IV - PHP	• Demonstrate how server – side programming works on the web
		• Use PHP built – in functions and creating custom functions
		• Create a database in phpMyAdmin
		• Create dynamic web pages
		• Design websites for various applications
J6CC15	PYTHON	• Identify different Python object types

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		• Discuss how to use indexing and slicing to access data in Python programs • Assess structure and components of a Python program • Write programs to demonstrate loops and decision statements in Python • Build and package in Python modules for reusability
J6CC16	LAB VII- PYTHON	• Identify different Python object types • Discuss how to use indexing and slicing to access data in Python programs • Assess structure and components of a Python program • Write programs to demonstrate loops and decision statements in Python • Build and package in Python modules for reusability
J6ME3	ARTIFICIAL INTELLIGENCE	• Outline the needs and concepts of artificial intelligence in day-to-day life

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		• Explore various search techniques • Disseminate various knowledge representation in AI • Explore the uncertainty techniques involved in AI • Analyze the learning concepts and methods
J6ME4	DATA MINING	• Analyze data mining algorithms, methods, and tools • Identify business applications of data mining • Predict quantitative analysis report to make decisions • Outline the developing areas web mining, text mining, and ethical aspects of data mining • Compare the various applications of Data Mining
J6ME5	CLOUD COMPUTING	• Outline problems and evaluate various cloud computing solutions • Outline Cloud service and deployment models • Identify the architecture and infrastructure of cloud computing including SaaS, PaaS, IaaS, public cloud, private

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Year	:	2015 - 2020

		• cloud, hybrid cloud and community cloud
		• Predict security issues and formulate recovery mechanisms
		• Understand the concept of virtualization
J6ME6	MOBILE COMPUTING	• Create the infrastructure to develop mobile communication systems
		• Assess the characteristics of emerging technologies in mobile communication
		• Critique new knowledge in the field of computer science by using appropriate search methodologies
		• Analyze on the various software kits available
		• Assess the characteristics of Mobile Components and Applications
J6SB5	SKILL BASED-V-ALICE	• Explore the interface concepts in Alice
		• Understand how to set the scene and characters in Alice
		• Analyze the programming skills and expertise

		• Disseminate various event handling techniques and methods • Assess the characteristics of 3D and billboards and various sound effect options
J6SB6	SKILL BASED LAB-VI LINUX	• Analyze the inner workings of LINUX operating systems • Utilize Linux system to accomplish typical personal, office, technical, and software development tasks • Use Linux utilities to create and manage simple file processing • Use operations, organize directory structures with appropriate security • Formulate shell scripts to perform more complex tasks

2017-2018

COURSE CODE	COURSE TITLE	COURSE OBJECTIVES
J1CC1	PROGRAMMING IN C	• Acquire basic understanding of C programming • Illustrate how arrays and strings are implemented in C • Utilize the knowledge of Functions and Pointers • Analyze the memory management concept in C using structure and Unions • Outline the file operations in C
J1CC2	LAB I-PROGRAMMING IN C	• Acquire basic understanding of C programming • Illustrate how arrays and strings are implemented in C • Utilize the knowledge of Functions and Pointers • Analyze the memory management concept in C using structure and Unions • Outline the file operations in C

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Year	:	2015 - 2020

J1NME1	NON MAJOR ELECTIVE – I MULTIMEDIA LAB – FLASH	- Apply tweens and articulated motions to morph shapes - Design, create and edit flash based navigation menus and interactive movies - Utilize flash components to create interactivity - Demonstrate load, control and remove movie clips and masks in movie content - Utilize and understand different sounds and sound formats in flash movies Publish flash movies in numerous formats and contexts
J2CC3	OBJECT ORIENTED PROGRAMMING IN C++	- Assess the object – oriented concepts in C++ - Illustrate the usage of Functions in C++ - Analyze advanced features of C++ specifically stream I/O and overloading - Demonstrate on Inheritance and Virtual Classes - Outline the file operations in C++

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J2CC4	LAB-II-OBJECT ORIENTED PROGRAMMING IN C++	- Read, understand and trace the execution of programs written in C++ language - Demonstrate class and object functions - Assess operator overloading and function overloading to specific problem definition - Demonstrate file operations in C++. - Write C++ code to demonstrate each concept
J3CC7	RELATIONAL DATABASE MANAGEMENT SYSTEMS	- Understand the basic concepts of database and relational database management systems - Analyze the various normalization concepts - Disseminate SQL commands to create tables and indexes - Apply DDL and DML commands in real time applications - Write dynamic queries and programming language SQL to demonstrate the concept of RDBMS
J3AC3	MANAGEMENT	Understand the need and basic concept of MIS

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Year : 2015 - 2020

	INFORMATION SYSTEMS	• Analyze MIS and various functional information system • Analyze MIS information and system concepts • Outline kinds of decision making techniques • Apply business applications of information system
J3CC8	LAB III- RELATIONAL DATABASE MANAGEMENT SYSTEM	• Critique SQL commands to create tables and indexes • Apply DDL and DML commands in real time applications • Understand the needs of triggering applications • Disseminate knowledge of RDBMS and SQL, both in terms of design and implementation usage • Write dynamic queries to demonstrate the concepts of RDBMS
J3SB1	SKILL BASED –I-CLIENT SIDE SCRIPTING	• Outline the basic HTML tags and its methods • Disseminate the elements of HTML to create a webpage • Explore the methods involved in web publishing • Analyze the methods and functions in JavaScript

		• Disseminate form control operations
J4CC9	WEB PROGRAMMING	• Select and apply mark-up languages for processing and presenting information in web pages. • Design and implement dynamic websites with good aesthetic sense of designing. • Use fundamental skills to maintain web server services required to host a website. • Prepare the students to write a well formed DB connection • Create WebPages for any application using database connectivity
J4AC4	FINANCIAL ACCOUNTING AND TALLY	• Understand the basic principles of accounting • Analyze the final accounts and its classification • Acquire knowledge in maintaining cash books • Disseminate thorough understanding of TALLY package • Perform and manage stock and go down entries in the form of

NAAC – 4ᵗʰ CYCLE – Self Study Report (SSR)

Criterion	: II – Teaching-Learning and Evaluation
Metric	: 2.6.1 – Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and
	Course Outcomes (COs) – B.C.A. & P.G.D.C.A
Year	: 2015 - 2020

		vouchers
J4CC10	LAB IV- WEB PROGRAMMING	• Select and apply markup languages for processing and presenting information in web pages. • Design and implement dynamic websites with good aesthetic sense of designing. • Use fundamental skills to maintain web server services required to host a website. • Prepare the students to write a well formed DB connection • Create WebPages for any application
J4SB2	SKILL BASED LAB II- INTRODUCTION TO PHOTOSHOP	• Understand the basic photoshop tools • Outline the resizing options available in photoshop • Explore various rotation operations • Disseminate filter operations in photoshop • Analyze various distort filter operations in photoshop
J5CC13	COMPUTER NETWORKS	• Outline the functionalities of OSI reference model

		• Discuss guided and unguided media and its real time usage and applications • Analyze on the design issues of DLL • Demonstrate various routing algorithms through case studies • Assess real time web and network security mechanisms
J5CC14	JAVA PROGRAMMING	• Acquire in depth knowledge in Java programming concepts • Identify and analyze platform independent environment and byte code generation • Build, Execute and Debug java programs along with Exceptions • Design and Implement packages • Write, Compile and Execute applet programs which includes GUI
J5CC15	LAB V- JAVA PROGRAMMING	• Acquire in depth knowledge in Java programming concepts • Identify and analyze platform independent environment and

NAAC – 4ᵗʰ CYCLE – Self Study Report (SSR)

Criterion	:	II – Teaching-Learning and Evaluation
Metric	:	2.6.1 – Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and Course Outcomes (COs) – B.C.A. & P.G.D.C.A
Year	:	2015 - 2020

		byte code generation • Build, Execute and Debug java programs along with Exceptions • Design and Implement packages • Write, Compile and Execute applet programs which includes GUI
J5CC16	LAB VI- DOT NET PROGRAMMING	• Use Dot Net Framework along with the features of C# • Create websites to explore database connectivity • Analyze debugging WebPages through case studies • Use the different types of master page creation • Create different dynamic websites for applications
J5ME1	DOT NET PROGRAMMING	• Understand the basic concept of dot net • Outline the control statements in dot net with sample programs • Analyze procedures and structures in dot net with real time

NAAC – 4ᵗʰ CYCLE – Self Study Report (SSR)

Criterion : II – Teaching-Learning and Evaluation

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Year : 2015 - 2020

		• examples
		• Disseminate knowledge in database with dot net
		• Explore web application with vb.net and asp.net
J5ME2	COMPUTER GRAPHICS	• Outline the need and basic concept of computer graphics
		• Explore various algorithms and its designs
		• Analyze the attributes of output primitives
		• Disseminate knowledge in 2-Dimensional geometric transformations
		• Explore the concepts of 2-Dimensional viewing
J5SB3	SKILL BASED III- JAVA SERVER PAGES	• Outline the basic concepts of JSP
		• Explore the JSP components
		• Disseminate knowledge in scripting elements
		• Outline the objects of JSP
		• Explore how to work with database and understand the connectivity

Criterion : II – Teaching-Learning and Evaluation

Metric : 2.6.1 – Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and
Course Outcomes (COs) – B.C.A. & P.G.D.C.A

Year : 2015 - 2020

J5SB4	SKILL BASED IV- PHP	• Demonstrate how server – side programming works on the web • Use PHP built – in functions and creating custom functions • Create a database in phpMyAdmin • Create dynamic web pages • Design websites for various applications
J6CC17	MULTIMEDIA	• Outline the basic concepts of GUI • Explore the building blocks of multimedia • Create images, video and animations in multimedia • Explore the graphics with flash • Disseminate deep knowledge in action scripting
J6CC19	LAB VII-FLASH	• Apply tweens and articulated motions to morph shapes • Design, create and edit flash based navigation menus and interactive movies • Utilize flash components to create interactivity

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Criterion   : II – Teaching-Learning and Evaluation
Metric   : 2.6.1 – Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and
                Course Outcomes (COs) – B.C.A. & P.G.D.C.A
Year   : 2015 - 2020

		• Demonstrate load, control and remove movie clips and masks in movie content • Utilize and understand different sounds and sound formats in flash movies
J6ME3	ARTIFICIAL INTELLIGENCE	• Outline the needs and concepts of artificial intelligence in day-to-day life • Explore various search techniques • Disseminate various knowledge representation in AI • Explore the uncertainty techniques involved in AI • Analyze the learning concepts and methods
J6ME4	DATA MINING AND DATA WAREHOUSING	• Analyze data mining algorithms, methods, and tools • Identify business applications of data mining • Predict quantitative analysis report to make decisions • Outline the developing areas web mining, text mining, and ethical aspects of data mining

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Criterion	: II – Teaching-Learning and Evaluation
Metric	: 2.6.1 – Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and Course Outcomes (COs) – B.C.A. & P.G.D.C.A
Year	: 2015 - 2020

		• Compare the various applications of Data Mining
J6ME5	CLOUD COMPUTING	• Outline problems and evaluate various cloud computing solutions • Outline Cloud service and deployment models • Identify the architecture and infrastructure of cloud computing including SaaS, PaaS, IaaS, public cloud, private cloud, hybrid cloud and community cloud • Predict security issues and formulate recovery mechanisms • Understand the concept of virtualization
J6ME6	MOBILE COMPUTING	• Create the infrastructure to develop mobile communication systems • Assess the characteristics of emerging technologies in mobile communication • Critique new knowledge in the field of computer science by using appropriate research methodologies • Analyze on the various software kits available

NAAC – 4ᵗʰ CYCLE – Self Study Report (SSR)

Criterion	:	II – Teaching-Learning and Evaluation
Metric	:	2.6.1 – Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and Course Outcomes (COs) – B.C.A. & P.G.D.C.A
Year	:	2015 - 2020

		• Assess the characteristics of Mobile Components and Applications
J6SB5	SKILL BASED-V-ANIMATION TECHNIQUE – 1- ALICE	• Explore the interface concepts in Alice • Understand how to set the scene and characters in Alice • Analyze the programming skills and expertise • Disseminate various event handling techniques and methods • Assess the characteristics of 3D and billboards and various sound effect options
J6SB6	SKILL BASED-VI-IMAGE J	• Outline the basic concepts of imageJ • Understand the methods, operations and techniques • Analyze image generation techniques • Illustrate working with macro commands in imageJ • Disseminate plug-ins in imageJ

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Criterion	: II – Teaching-Learning and Evaluation
Metric	: 2.6.1 – Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and Course Outcomes (COs) – B.C.A. & P.G.D.C.A
Year	: 2015 - 2020

2016 - 2017

COURSE CODE	COURSE TITLE	COURSE OBJECTIVES
J1CC1	DIGITAL PRINCIPALS & COMPUTER ORGANIZATION	• Acquire basic understanding of Digital Principles • Illustrate how number systems are implemented in DP • Utilize the knowledge of Gates an Logic Design
J1CC2	PROGRAMMING IN C	• Acquire basic understanding of C programming • Illustrate how arrays and strings are implemented in C • Utilize the knowledge of Functions and Pointers • Analyze the memory management concept in C using structure and Unions • Outline the file operations in C
J1CC3	LAB I- C	• Acquire basic understanding of C programming • Illustrate how arrays and strings are implemented in C • Utilize the knowledge of Functions and Pointers

		• Analyze the memory management concept in C using structure and Unions • Outline the file operations in C
J1NME1	NON MAJOR ELECTIVE – I MULTIMEDIA LAB – FLASH	• Apply tweens and articulated motions to morph shapes • Design, create and edit flash based navigation menus and interactive movies • Utilize flash components to create interactivity • Demonstrate load, control and remove movie clips and masks in movie content • Utilize and understand different sounds and sound formats in flash movies Publish flash movies in numerous formats and contexts .
J2CC4	DATA STRUCTURES & ALGORITHMS	• Assess the concepts in design an analysis. • Illustrate the usage of ADT's • Analyze advanced features of Trees & Graphs

J2CC5	OBJECT ORIENTED PROGRAMMING IN C++	• Assess the object – oriented concepts in C++ • Illustrate the usage of Functions in C++ • Analyze advanced features of C++ specifically stream I/O and overloading • Demonstrate on Inheritance and Virtual Classes • Outline the file operations in C++
J2CC6	LAB-II-OBJECT ORIENTED PROGRAMMING IN C++	• Read, understand and trace the execution of programs written in C++ language • Demonstrate class and object functions • Assess operator overloading and function overloading to specific problem definition • Demonstrate file operations in C++. • Write C++ code to demonstrate each concept
J2CC7	OPERATING SYSTEM	• Analyze on the various Scheduling Algorithms • Disseminate Paging, Segmentation &Deadlocks

NAAC – 4th CYCLE – Self Study Report (SSR)

Criterion : II – Teaching-Learning and Evaluation

Metric : 2.6.1 – Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and Course Outcomes (COs) – B.C.A. & P.G.D.C.A

Year : 2015 - 2020

		• Apply Page Replacement commands in real time applications
J3CC8	RELATIONAL DATABASE MANAGEMENT SYSTEMS	• Understand the basic concepts of database and relational database management systems • Analyze the various normalization concepts • Disseminate SQL commands to create tables and indexes • Apply DDL and DML commands in real time applications • Write dynamic queries and programming language SQL to demonstrate the concept of RDBMS
J3ACG3	GRAPH THEORY	• Understand the need and basic concept of Graph Theory • Analyze the various Numerical Methods • Apply the theorems of Graphs in many applications
J3CC9	LAB III- RELATIONAL DATABASE MANAGEMENT SYSTEM	• Critique SQL commands to create tables and indexes • Apply DDL and DML commands in real time applications • Understand the needs of triggering applications • Disseminate knowledge of RDBMS and SQL, both in terms of

NAAC – 4th CYCLE – Self Study Report (SSR)

Criterion	:	II – Teaching-Learning and Evaluation
Metric	:	2.6.1 – Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and
		Course Outcomes (COs) – B.C.A. & P.G.D.C.A
Year	:	2015 - 2020

		design and implementation usage • Write dynamic queries to demonstrate the concepts of RDBMS
J3SB1	SKILL BASED –I-PC SOFTWARE LAB	• Outline the basic formatting features of MS Package • Disseminate the elements of Word, Excel and PowerPoint • Explore the methods involved in Mail Merging & Presentations
J4CC10	WEB PROGRAMMING	• Select and apply mark-up languages for processing and presenting information in web pages. • Design and implement dynamic websites with good aesthetic sense of designing. • Use fundamental skills to maintain web server services required to host a website. • Prepare the students to write a well formed DB connection • Create WebPages for any application using database connectivity
J4CC11	SOFTWARE ENGINEERING	• Compare the various software models

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Criterion : II – Teaching-Learning and Evaluation

Metric : 2.6.1 – Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and
Course Outcomes (COs) – B.C.A. & P.G.D.C.A

Year : 2015 - 2020

		• Use knowledge, techniques, skills and modern tools necessary for software engineering practice • Analyze on the design factors and guidelines • Understand the different types of testing used in software's • Compare the various types of Testing styles
J4AC4	FINANCIAL ACCOUNTING AND TALLY	• Understand the basic principles of accounting • Analyze the final accounts and its classification • Acquire knowledge in maintaining cash books • Disseminate thorough understanding of TALLY package • Perform and manage stock and go down entries in the form of vouchers
J4CC12	LAB IV- WEB PROGRAMMING	• Select and apply mark-up languages for processing and presenting information in web pages. • Design and implement dynamic websites with good aesthetic sense of designing.

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Criterion	:	II – Teaching-Learning and Evaluation
Metric	:	2.6.1 – Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and Course Outcomes (COs) – B.C.A. & P.G.D.C.A
Year	:	2015 - 2020

		• Use fundamental skills to maintain web server services required to host a website. • Prepare the students to write a well formed DB connection • Create WebPages for any application
J4SB2	SKILL BASED LAB II- INTRODUCTION TO PHOTOSHOP	• Understand the basic photoshop tools • Outline the resizing options available in photoshop • Explore various rotation operations • Disseminate filter operations in photoshop • Analyze various distort filter operations in photoshop
J5CC13	COMPUTER NETWORKS	• Outline the functionalities of OSI reference model • Discuss guided and unguided media and its real time usage and applications • Analyze on the design issues of DLL • Demonstrate various routing algorithms through case studies • Assess real time web and network security mechanisms

NAAC – 4th CYCLE – Self Study Report (SSR)

Criterion	: II – Teaching-Learning and Evaluation
Metric	: 2.6.1 – Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and Course Outcomes (COs) – B.C.A. & P.G.D.C.A
Year	: 2015 - 2020

J5CC14	JAVA PROGRAMMING	• Acquire in depth knowledge in Java programming concepts • Identify and analyze platform independent environment and byte code generation • Build, Execute and Debug java programs along with Exceptions • Design and Implement packages • Write, Compile and Execute applet programs which includes GUI
J5CC15	LAB V- JAVA PROGRAMMING	• Acquire in depth knowledge in Java programming concepts • Identify and analyze platform independent environment and byte code generation • Build, Execute and Debug java programs along with Exceptions • Design and Implement packages • Write, Compile and Execute applet programs which includes GUI

J5CC16	LAB VI- DOT NET PROGRAMMING	• Use Dot Net Framework along with the features of C# • Create websites to explore database connectivity • Analyze debugging WebPages through case studies. • Use the different types of master page creation . • Create different dynamic websites for applications.
J5ME1	DOT NET PROGRAMMING	• Understand the basic concept of dot net • Outline the control statements in dot net with sample programs • Analyze procedures and structures in dot net with real time examples • Disseminate knowledge in database with dot net • Explore web application with vb.net and asp.net
J5ME2	COMPUTER GRAPHICS	• Outline the need and basic concept of computer graphics • Explore various algorithms and its designs • Analyze the attributes of output primitives

NAAC – 4ᵗʰ CYCLE – Self Study Report (SSR)

Criterion	:	II – Teaching-Learning and Evaluation
Metric	:	2.6.1 – Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and Course Outcomes (COs) – B.C.A. & P.G.D.C.A
Year	:	2015 - 2020

		• Disseminate knowledge in 2-Dimensional geometric transformations • Explore the concepts of 2-Dimensional viewing
J5SB3	SKILL BASED III- ANIMATION TECHNIQUE I - FLASH	• Outline on the basic concepts of Flash • Explore the Flash components • Disseminate knowledge in Action scripting
J5SB4	SKILL BASED IV- PHP	• Demonstrate how server – side programming works on the web • Use PHP built – in functions and creating custom functions • Create a database in phpMyAdmin • Create dynamic web pages • Design websites for various applications
J6CC17	ADVANCED JAVA	• Familiarize students with Object Oriented Applications. • Impart knowledge on Packages and Threads • Create Applications with database connectivity, along with

NAAC – 4th CYCLE – Self Study Report (SSR)

Criterion	:	II – Teaching-Learning and Evaluation
Metric	:	2.6.1 – Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and
		Course Outcomes (COs) – B.C.A. & P.G.D.C.A
Year	:	2015 - 2020

		Applets
J6CC19	LAB VII- ADVANCED JAVA	• Familiarize students with Object Oriented Applications. • Impart knowledge on Packages and Threads • Create Applications with database connectivity, along with Applets
J6ME3	IMAGE PROCESSING	• Understand the basic concepts of image processing • Analyze intensity transformations and spatial filtering mechanisms • Disseminate image restoration and reconstruction methods • Analyze wavelets and image compression techniques • Outline image segmentation and edge detection techniques
J6ME4	DATA MINING AND DATA WAREHOUSING	• Analyze data mining algorithms, methods, and tools • Identify business applications of data mining • Predict quantitative analysis report to make decisions • Outline the developing areas web mining, text mining, and

		ethical aspects of data mining • Compare the various applications of Data Mining
J6ME5	Major Elective – III - CLOUD COMPUTING	• Outline problems and evaluate various cloud computing solutions • Outline Cloud service and deployment models • Identify the architecture and infrastructure of cloud computing including SaaS, PaaS, IaaS, public cloud, private cloud, hybrid cloud and community cloud • Predict security issues and formulate recovery mechanisms • Understand the concept of virtualization
J6ME6	Major Elective – III MOBILE COMPUTING	• Create the infrastructure to develop mobile communication systems • Assess the characteristics of emerging technologies in mobile communication • Critique new knowledge in the field of computer science by using appropriate search methodologies

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Criterion	: II – Teaching-Learning and Evaluation
Metric	: 2.6.1 – Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and Course Outcomes (COs) – B.C.A. & P.G.D.C.A
Year	: 2015 - 2020

		• Analyze on the various software kits available • Assess the characteristics of Mobile Components and Applications
J6SB5	SKILL BASED-V-ALICE	• Explore the interface concepts in Alice • Understand how to set the scene and characters in Alice • Analyze the programming skills and expertise • Disseminate various event handling techniques and methods • Assess the characteristics of 3D and billboards and various sound effect options
J6SB6	SKILL BASED-VI-IMAGE J	• Outline the basic concepts of image j • Understand the methods, operations and techniques • Analyze image generation techniques • Illustrate working with macro commands in imageJ • Disseminate plug-ins in imageJ

Criterion	:	II – Teaching-Learning and Evaluation
Metric	:	2.6.1 – Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and Course Outcomes (COs) – B.C.A. & P.G.D.C.A
Year	:	2015 - 2020

2015 – 2016

COURSE CODE	COURSE TITLE	COURSE OBJECTIVES
J1CC1	DIGITAL PRINCIPALS & COMPUTER ORGANIZATION	• Acquire basic understanding of Digital Principles • Illustrate how number systems are implemented in DP • Utilize the knowledge of Gates an Logic Design
J1CC2	PROGRAMMING IN C	• Acquire basic understanding of C programming • Illustrate how arrays and strings are implemented in C • Utilize the knowledge of Functions and Pointers • Analyze the memory management concept in C using structure and Unions • Outline the file operations in C
J1CC3	LAB I- C	• Acquire basic understanding of C programming • Illustrate how arrays and strings are implemented in C • Utilize the knowledge of Functions and Pointers

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Criterion	:	II – Teaching-Learning and Evaluation
Metric	:	2.6.1 – Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and Course Outcomes (COs) – B.C.A. & P.G.D.C.A
Year	:	2015 - 2020

		• Analyze the memory management concept in C using structure and Unions • Outline the file operations in C
J1NME1	NON MAJOR ELECTIVE – I MULTIMEDIA LAB – FLASH	• Apply tweens and articulated motions to morph shapes • Design, create and edit flash based navigation menus and interactive movies • Utilize flash components to create interactivity • Demonstrate load, control and remove movie clips and masks in movie content • Utilize and understand different sounds and sound formats in flash movies Publish flash movies in numerous formats and contexts
J2CC4	DATA STRUCTURES & ALGORITHMS	• Assess the concepts in design an analysis • Illustrate the usage of ADT's • Analyze advanced features of Trees & Graphs

Criterion : II – Teaching-Learning and Evaluation

Metric : 2.6.1 – Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and Course Outcomes (COs) – B.C.A. & P.G.D.C.A

Year : 2015 - 2020

J2CC5	OBJECT ORIENTED PROGRAMMING IN C++	• Assess the object – oriented concepts in C++ • Illustrate the usage of Functions in C++ • Analyze advanced features of C++ specifically stream I/O and overloading • Demonstrate on Inheritance and Virtual Classes • Outline the file operations in C++
J2CC6	LAB-II-OBJECT ORIENTED PROGRAMMING IN C++	• Read, understand and trace the execution of programs written in C++ language • Demonstrate class and object functions • Assess operator overloading and function overloading to specific problem definition • Demonstrate file operations in C++. • Write C++ code to demonstrate each concept
J3CC7	OPERATING SYSTEM	• Analyze on the various Scheduling Algorithms • Disseminate Paging, Segmentation &Deadlocks

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Criterion	:	II – Teaching-Learning and Evaluation
Metric	:	2.6.1 – Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and Course Outcomes (COs) – B.C.A. & P.G.D.C.A
Year	:	2015 - 2020

		• Apply Page Replacement commands in real time applications
J3CC8	RELATIONAL DATABASE MANAGEMENT SYSTEMS	• Understand the basic concepts of database and relational database management systems • Analyze the various normalization concepts • Disseminate SQL commands to create tables and indexes • Apply DDL and DML commands in real time applications • Write dynamic queries and programming language SQL to demonstrate the concept of RDBMS
J3AC3	GRAPH THEORY AND NUMERICAL METHODS	• Understand the need and basic concept of Graph Theory • Analyze the various Numerical Methods • Apply the theorems of Graphs in many applications
J3CC9	LAB III- ORACLE	• Critique SQL commands to create tables and indexes • Apply DDL and DML commands in real time applications • Understand the needs of triggering applications • Disseminate knowledge of RDBMS and SQL, both in terms of

		design and implementation usage • Write dynamic queries to demonstrate the concepts of RDBMS
J3SB1	SKILL BASED –I-PC SOFTWARE LAB	• Outline the basic formatting features of MS Package • Disseminate the elements of Word, Excel and PowerPoint • Explore the methods involved in Mail Merging & Presentations
J4CC10	WEB PROGRAMMING	• Select and apply mark-up languages for processing and presenting information in web pages. • Design and implement dynamic websites with good aesthetic sense of designing. • Use fundamental skills to maintain web server services required to host a website. • Prepare the students to write a well formed DB connection • Create WebPages for any application using database connectivity
J4CC11	SOFTWARE ENGINEERING	• Compare the various software models

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Criterion : II – Teaching-Learning and Evaluation

Metric : 2.6.1 – Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and
Course Outcomes (COs) – B.C.A. & P.G.D.C.A

Year : 2015 - 2020

		• Use knowledge, techniques, skills and modern tools necessary for software engineering practice • Analyze on the design factors and guidelines • Understand the different types of testing used in software's • Compare the various types of Testing styles
J4AC4	FINANCIAL ACCOUNTING AND TALLY	• Understand the basic principles of accounting • Analyze the final accounts and its classification • Acquire knowledge in maintaining cash books • Disseminate thorough understanding of TALLY package • Perform and manage stock and go down entries in the form of vouchers
J4CC12	LAB IV- WEB PROGRAMMING	• Select and apply mark-up languages for processing and presenting information in web pages. • Design and implement dynamic websites with good aesthetic sense of designing.

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Criterion : II – Teaching-Learning and Evaluation
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Course Outcomes (COs) – B.C.A. & P.G.D.C.A
Year : 2015 - 2020

		• Use fundamental skills to maintain web server services required to host a website. • Prepare the students to write a well formed DB connection • Create WebPages for any application
J4SB2	SKILL BASED LAB II-INTRODUCTION TO PHOTOSHOP	• Understand the basic photoshop tools • Outline the resizing options available in photoshop • Explore various rotation operations • Disseminate filter operations in photoshop • Analyze various distort filter operations in photoshop
J5CC13	COMPUTER NETWORKS	• Outline the functionalities of OSI reference model • Discuss guided and unguided media and its real time usage and applications • Analyze on the design issues of DLL • Demonstrate various routing algorithms through case studies • Assess real time web and network security mechanisms

Criterion : **II – Teaching-Learning and Evaluation**

Metric : **2.6.1 – Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and Course Outcomes (COs) – B.C.A. & P.G.D.C.A**

Year : **2015 - 2020**

J5CC14	JAVA PROGRAMMING	- Acquire in depth knowledge in Java programming concepts - Identify and analyze platform independent environment and byte code generation - Build, Execute and Debug java programs along with Exceptions - Design and Implement packages - Write, Compile and Execute applet programs which includes GUI
J5CC15	LAB V- JAVA PROGRAMMING	- Acquire in depth knowledge in Java programming concepts - Identify and analyze platform independent environment and byte code generation - Build, Execute and Debug java programs along with Exceptions - Design and Implement packages - Write, Compile and Execute applet programs which includes GUI

J5CC16	LAB VI- DOT NET PROGRAMMING	• Use Dot Net Framework along with the features of C# • Create websites to explore database connectivity • Analyze debugging WebPages through case studies • Use the different types of master page creation • Create different dynamic websites for applications
J5ME1	DOT NET PROGRAMMING	• Understand the basic concept of dot net • Outline the control statements in dot net with sample programs • Analyze procedures and structures in dot net with real time examples • Disseminate knowledge in database with dot net • Explore web application with vb.net and asp.net
J5ME2	COMPUTER SECURITY	• Outline the need and basic concept of computer Security • Explore various algorithms and its designs of security • Analyze the attributes of Attacks & service with Security

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Criterion	: II – Teaching-Learning and Evaluation
Metric	: 2.6.1 – Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and Course Outcomes (COs) – B.C.A. & P.G.D.C.A
Year	: 2015 - 2020

		features
J5SB3	SKILL BASED III- JAVA SERVER PAGES	• Outline the basic concepts of JSP • Explore the JSP components • Disseminate knowledge in scripting elements • Outline the objects of JSP • Explore how to work with database and understand the connectivity
J5SB4	SKILL BASED IV- PHP	• Demonstrate how server – side programming works on the web • Use PHP built – in functions and creating custom functions • Create a database in phpMyAdmin • Create dynamic web pages • Design websites for various applications
J6CC17	MULTIMEDIA	• Outline the basic concepts of GUI • Explore the building blocks of multimedia

NAAC – 4th CYCLE – Self Study Report (SSR)

Criterion	: II – Teaching-Learning and Evaluation
Metric	: 2.6.1 – Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and Course Outcomes (COs) – B.C.A. & P.G.D.C.A
Year	: 2015 - 2020

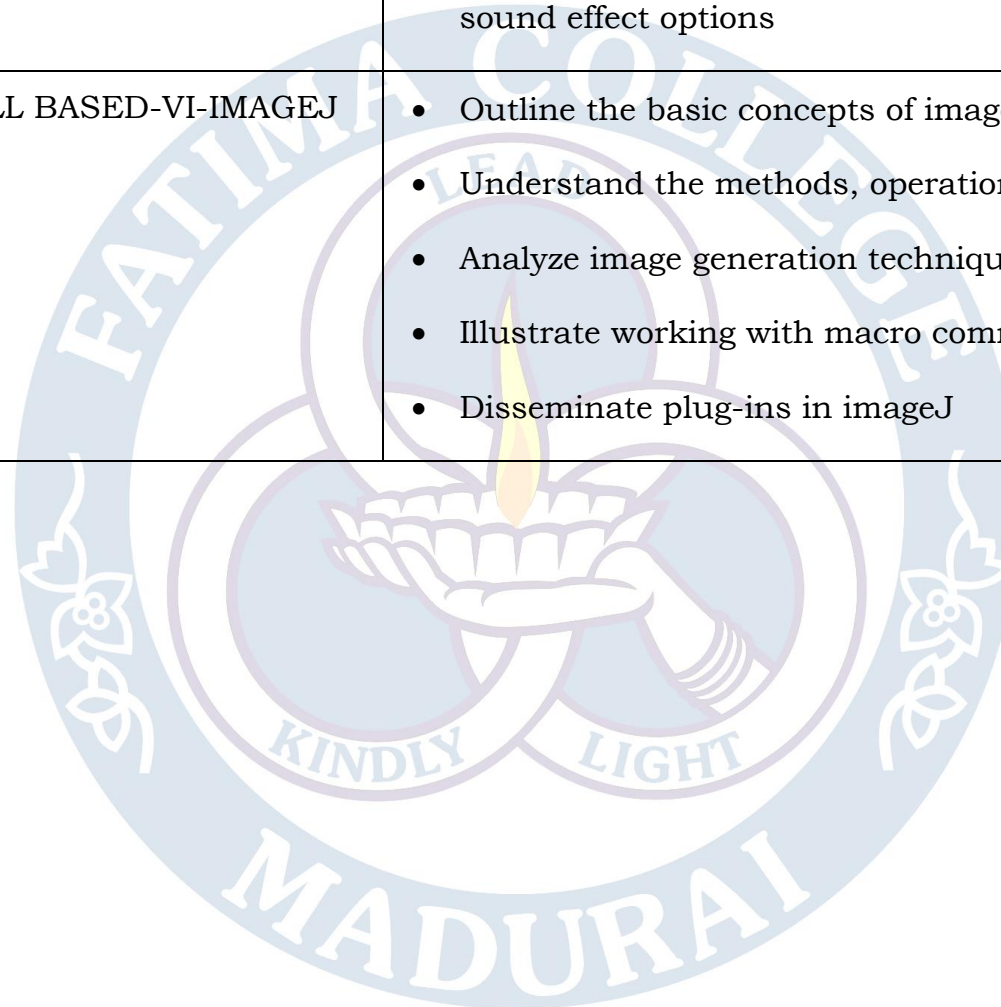|		
		• Create images, video and animations in multimedia • Explore the graphics with flash • Disseminate deep knowledge in action scripting
J6CC19	LAB VII-FLASH	• Apply tweens and articulated motions to morph shapes • Design, create and edit flash based navigation menus and interactive movies • Utilize flash components to create interactivity • Demonstrate load, control and remove movie clips and masks in movie content • Utilize and understand different sounds and sound formats in flash movies
J6ME3	COMPUTER GRAPHICS & IMAGE PROCESSING	• Understand the basic concepts of image processing • Analyze intensity transformations and spatial filtering mechanisms

NAAC – 4th CYCLE – Self Study Report (SSR)

Criterion : II – Teaching-Learning and Evaluation
Metric : 2.6.1 – Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and
Course Outcomes (COs) – B.C.A. & P.G.D.C.A
Year : 2015 - 2020

		• Disseminate image restoration and reconstruction methods • Analyze wavelets and image compression techniques • Outline image segmentation and edge detection techniques
J6ME4	DATA MINING AND DATA WAREHOUSING	• Analyze data mining algorithms, methods, and tools • Identify business applications of data mining • Predict quantitative analysis report to make decisions • Outline the developing areas web mining, text mining, and ethical aspects of data mining • Compare the various applications of Data Mining
J6ME5	CLOUD COMPUTING	• Outline problems and evaluate various cloud computing solutions • Outline Cloud service and deployment models • Identify the architecture and infrastructure of cloud computing including SaaS, PaaS, IaaS, public cloud, private cloud, hybrid cloud and community cloud

NAAC – 4th CYCLE – Self Study Report (SSR)

Criterion	: II – Teaching-Learning and Evaluation
Metric	: 2.6.1 – Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and Course Outcomes (COs) – B.C.A. & P.G.D.C.A
Year	: 2015 - 2020

		• Predict security issues and formulate recovery mechanisms • Understand the concept of virtualization
J6ME6	MOBILE COMPUTING	• Create the infrastructure to develop mobile communication systems • Assess the characteristics of emerging technologies in mobile communication • Critique new knowledge in the field of computer science by using appropriate search methodologies • Analyze on the various software kits available • Assess the characteristics of Mobile Components and Applications
J6SB5	SKILL BASED-V-ALICE	• Explore the interface concepts in alice • Understand how to set the scene and characters in alice • Analyze the programming skills and expertise • Disseminate various event handling techniques and methods

		• Assess the characteristics of 3D and billboards and various sound effect options
J6SB6	SKILL BASED-VI-IMAGEJ	• Outline the basic concepts of imageJ • Understand the methods, operations and techniques • Analyze image generation techniques • Illustrate working with macro commands in imageJ • Disseminate plug-ins in imageJ

Criterion	: II – Teaching-Learning and Evaluation
Metric	: 2.6.1 – Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and Course Outcomes (COs) – B.C.A. & P.G.D.C.A
Year	: 2015 - 2020

FATIMA COLLEGE (AUTONOMOUS), MADURAI – 625018

NAME OF THE PROGRAMME: P.G.D.C.A   **PROGRAMME CODE: OSCA**

2019 - 2020

COURSE CODE	COURSE TITLE	COURSE OUTCOMES
19PDB101	Computer Fundamentals and OS	**CO 1:** Bridge the fundamental concepts of computers with the present level of knowledge of the students. **CO 2:** Understand binary, hexadecimal and octal number systems and their arithmetic **CO 3:** Familiarise operating systems, programming languages, peripheral devices, networking, multimedia and internet. **CO 4:** Learner will be able to appreciate the role of operating system as System software. **CO 5:** To control the behavior of OS by writing Shell scripts.

19PDB102	Problem solving using C	**CO 1:**Understand the fundamentals of C programming
		CO 2: Choose the loops and decision making statements to solve the problem.
		CO 3: Implement different Operations on arrays
		CO 4: Use functions to solve the given problem.
		CO 5: Program with pointers and arrays, perform pointer arithmetic, and use the preprocessor. the students will be able to develop applications
19PDB103	Web Designing	**CO 1:** Student will discover how does web works really, what makes web sites work.
		CO 2: Writing valid and concise code for web pages.
		CO 3: To create web elements like buttons, banners.
		CO 4: Forms and validations for your website.
		CO 5: How to and where to start research, planning for website & actually build excellent web sites.

19PDB104	Lab I – Programming in C	**CO 1:** Illustrate flowchart and algorithm to the given problem **CO 2:** Understand basic Structure of the C-PROGRAMMING, declaration and usage of variables **CO 3:** Write C programs using operators **CO 4:** Write C programs using Pointers to access arrays, strings and functions. **CO 5:** Exercise user defined data types
19PDB105	Lab II – Web Programming & Photo Editing Techniques	**CO 1:** Writing valid and concise code for web pages. **CO 2:** To create web elements like buttons, banners. **CO 3:** Forms and validations for your website. **CO 4:** Students will gain a working knowledge of Photoshop. **CO 5:** Preparation and processing photos for the Web
19PDB106	Lab III – Tally with Spreadsheet	**CO 1:** To maintain a record of all monetary transactions

NAAC – 4th CYCLE – Self Study Report (SSR)

Criterion	: II – Teaching-Learning and Evaluation
Metric	: 2.6.1 – Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and Course Outcomes (COs) – B.C.A. & P.G.D.C.A
Year	: 2015 - 2020

		CO 2: To create balance sheet, voucher and ledgers.
		CO 3: To Preview and print worksheets.
		CO 4: Indicate the names and functions of the Excel interface components.
		CO 5: Construct formulas, including the use of built-in functions, and relative and absolute references.
19PDB107	Mini Project	**CO 1:** Demonstrate a sound technical knowledge of their selected *project topic.*
		CO 2: Undertake problem identification, formulation and solution.
		CO 3: Design engineering solutions to complex problems utilising a systems approach.
19PDB201	Database Management System	**CO 1:** To describe data models and schemas in DBMS
		CO 2: To understand the features of database management systems and Relational database.
		CO 3: To use SQL- the standard language of relational

NAAC – 4th CYCLE – Self Study Report (SSR)

Criterion   : II – Teaching-Learning and Evaluation
Metric   : 2.6.1 – Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and
                Course Outcomes (COs) – B.C.A. & P.G.D.C.A
Year   : 2015 - 2020

		databases **CO 4:** To understand the functional dependencies and design of the database. **CO 5:** To understand the concept of Transaction and Query processing.
19PDB202	Visual Basic	**CO 1:** Understand Visual Basic applications. **CO 2:** Develop a Graphical User Interface (GUI) based on problem description **CO 3:** Understand how to perform operations and store results **CO 4:** Understand additional Visual Basic Controls. **CO 5:** Understand loops to do repetition
19PDB203	Lab VI – RDBMS	**CO 1:** To describe data models and schemas in DBMS **CO 2:** To understand the features of database management

		systems and Relational database. **CO 3:** To use SQL- the standard language of relational databases **CO 4:** To understand the functional dependencies and design of the database. **CO 5:** To understand the concept of Transaction and Query processing.
19PDB204	Lab VII – Visual Basic	**CO 1:** Understand Visual Basic applications. **CO 2:** Develop a Graphical User Interface (GUI) based on problem description **CO 3:** Understand how to perform operations and store results **CO 4:** Understand additional Visual Basic Controls. **CO 5:** Understand loops to do repetition
PDB205	Project & Viva-Voce	**CO 1:** Demonstrate a sound technical knowledge of their

NAAC – 4ᵗʰ CYCLE – Self Study Report (SSR)

Criterion	:	II – Teaching-Learning and Evaluation
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Year	:	2015 - 2020

		selected *project topic.*
		CO 2: Undertake problem identification, formulation and solution.
		CO 3: Design engineering solutions to complex problems utilising a systems approach.
PDB206	Internship	**CO 1:** Explore career alternatives prior to graduation.
		CO 2: Integrate theory and practice.
		CO 3: Assess interests and abilities in their field of study.
		CO 4: Learn to appreciate work and its function in the economy.

2018 - 2019

COURSE CODE	COURSE TITLE	COURSE OBJECTIVES
PDB102	Web Designing	• Students are able to develop a dynamic webpage.
PDB103	Lab I – Programming in C	• Ability to define and manage data structures based on problem subject domain.
PDB104	Lab II – Web Programming	• Students are able to develop a dynamic webpage.
PDB105	Lab III – Tally with Spreadsheet	• To Create Financial Statements & to identify • spreadsheet • terminology and concepts;
PDB106	Lab IV - Photo Editing Techniques	• To create and design digital images and illustrations for print and Web publication.
PDB107	Live Mini Project	• Demonstrate a sound technical knowledge of

		their selected project topic. Undertake problem identification, formulation and solution. Design engineering solutions to complex problems utilising a systems approach.
PDB201	Object Oriented Programming using Java	• On completion of the course the student should be able to: Use an integrated development environment to write, compile, run, and test simple object-oriented Java programs
PDB202	Database Management System	• At the end of this class, the successful student will: have a broad understanding of database concepts and database management system software. have a high-level understanding of major DBMS • components and their function.
PDB203	Lab V – Programming in Java	• On completion of the course the student should be able to: Use an integrated development environment to write, compile, run, and test

NAAC – 4ᵗʰ CYCLE – Self Study Report (SSR)

Criterion	:	II – Teaching-Learning and Evaluation
Metric	:	2.6.1 – Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and Course Outcomes (COs) – B.C.A. & P.G.D.C.A
Year	:	2015 - 2020

		simple object-oriented Java programs
PDB204	Lab VI – RDBMS	• At the end of this class, the successful student will: have a broad understanding of database concepts and database management system software. have a high-level understanding of major DBMS • components and their function.
PDB205	Lab VII – Visual Basic	• Design, formulate, and construct applications with VB.NET. Integrate variables and constants into calculations applying VB
PDB206	Project	• Demonstrate a sound technical knowledge of their selected project topic. Undertake problem identification, formulation and solution. Design engineering solutions to complex problems utilising a systems approach.
PDB207	Internship	• Explore career alternatives prior to graduation.

NAAC – 4th CYCLE – Self Study Report (SSR)

Criterion	: II – Teaching-Learning and Evaluation
Metric	: 2.6.1 – Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and Course Outcomes (COs) – B.C.A. & P.G.D.C.A
Year	: 2015 - 2020

		• Integrate theory and practice.
		• Assess interests and abilities in their field of study.
		• Learn to appreciate work and its function in the economy.

2017 - 2018

COURSE CODE	COURSE TITLE	COURSE OBJECTIVES
PDB102	Web Designing	• Students are able to develop a dynamic webpage.
PDB103	Lab I – Programming in C	• Ability to define and manage data structures based on problem subject domain.
PDB104	Lab II – Web Programming	• Students are able to develop a dynamic

Criterion : II – Teaching-Learning and Evaluation

Metric : 2.6.1 – Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and
Course Outcomes (COs) – B.C.A. & P.G.D.C.A

Year : 2015 - 2020

		webpage.
PDB105	Lab III – Tally with Spreadsheet	• To Create Financial Statements & to identify • spreadsheet • terminology and concepts;
PDB106	Lab IV - Photo Editing Techniques	• To create and design digital images and illustrations for print and Web publication.
PDB201	Object Oriented Programming using Java	• On completion of the course the student should be able to: Use an integrated development environment to write, compile, run, and test simple object-oriented Java programs
PDB202	Database Management System	• At the end of this class, the successful student will: have a broad understanding of database concepts and database management system software. have a high-level understanding of major DBMS • components and their function.

NAAC – 4ᵗʰ CYCLE – Self Study Report (SSR)

Criterion	:	II – Teaching-Learning and Evaluation
Metric	:	2.6.1 – Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and Course Outcomes (COs) – B.C.A. & P.G.D.C.A
Year	:	2015 - 2020

PDB203	Lab V – Programming in Java	• On completion of the course the student should be able to: Use an integrated development environment to write, compile, run, and test simple object-oriented Java programs
PDB204	Lab VI – RDBMS	• At the end of this class, the successful student will: have a broad understanding of database concepts and database management system software. have a high-level understanding of major DBMS • components and their function.
PDB205	Lab VII – Visual Basic	• Design, formulate, and construct applications with VB.NET. Integrate variables and constants into calculations applying VB
PDB206	Project	• Demonstrate a sound technical knowledge of their selected project topic. Undertake problem identification, formulation and solution. Design engineering solutions to complex problems utilising a systems approach.

NAAC – 4ᵗʰ CYCLE – Self Study Report (SSR)

Criterion	: II – Teaching-Learning and Evaluation
Metric	: 2.6.1 – Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and Course Outcomes (COs) – B.C.A. & P.G.D.C.A
Year	: 2015 - 2020

2016 - 2017

COURSE CODE	COURSE TITLE	COURSE OBJECTIVES
PDB102	Programming in C	• Ability to define and manage data structures based on problem subject domain.
PDB103	Web Programming	• Students are able to develop a dynamic webpage.
PDB104	Lab I-DTP (CorelDraw, Photoshop)	• Identify desktop publishing terminology and concepts. • Manipulate text and graphics to create a balanced and focused layout. • Create fliers, brochures, and multiple page documents

PDB105	Lab II – Programming in C	• Ability to define and manage data structures based on problem subject domain.
PDB106	Lab III -Web Programming	• Students are able to develop a dynamic webpage.
PDB107	Lab – IV Animation Using Flash	• Learn to create animated graphics, add sound and interactivity. Can develop Website CD based presentations
PDB201	Programming in JAVA	• On completion of the course the student should be able to: Use an integrated development environment to write, compile, run, and test simple object-oriented Java programs
PDB202	Introduction to RDBMS	• At the end of this class, the successful

		student will: have a broad understanding of database concepts and database management system software. have a high-level understanding of major DBMS • components and their function.
PDB203	Visual Basic	• Design, formulate, and construct applications with VB.NET. Integrate variables and constants into calculations applying VB
PDB204	Lab – V Programming in JAVA	• On completion of the course the student should be able to: Use an integrated development environment to write, compile, run, and test simple object-oriented Java programs

PDB205	Lab –VI RDBMS	• At the end of this class, the successful student will: have a broad understanding of database concepts and database management system software. have a high-level understanding of major DBMS • components and their function.
PDB206	Lab-VII Visual Basic	• Design, formulate, and construct applications with VB.NET. Integrate variables and constants into calculations applying VB
PDB207	PROJECT	• Demonstrate a sound technical knowledge of their selected **project** topic. Undertake problem identification, formulation and

NAAC – 4ᵗʰ CYCLE – Self Study Report (SSR)

Criterion : II – Teaching-Learning and Evaluation	
Metric : 2.6.1 – Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and Course Outcomes (COs) – B.C.A. & P.G.D.C.A	
Year : 2015 - 2020	

		solution. Design engineering solutions to complex problems utilizing a systems approach.

2015 - 2016

COURSE CODE	COURSE TITLE	COURSE OBJECTIVES
PDB102	Programming in C	• Ability to define and manage data structures based on problem subject domain.
PDB103	Web Programming	• Students are able to develop a dynamic webpage.
PDB104	Lab I-DTP (CorelDraw, Photoshop)	• Identify desktop publishing terminology and concepts. • Manipulate text and graphics to create a balanced and focused layout.

		• Create fliers, brochures, and multiple page documents.
PDB105	Lab II – Programming in C	• Ability to define and manage data structures based on problem subject domain.
PDB106	Lab III -Web Programming	• Students are able to develop a dynamic webpage.
PDB107	Lab – IV Animation Using Flash	• Learn to create animated graphics, add sound and interactivity. Can develop Website CD based presentations
PDB201	Programming in JAVA	• On completion of the course the student should be able to: Use an integrated development environment to write, compile, run, and test simple object-oriented Java programs

PDB202	Introduction to RDBMS	• At the end of this class, the successful student will: have a broad understanding of database concepts and database management system software. have a high-level understanding of major DBMS • components and their function.
PDB203	Visual Basic	• Design, formulate, and construct applications with VB.NET. Integrate variables and constants into calculations applying VB
PDB204	Lab – V Programming in JAVA	• On completion of the **course** the student should be able to: Use an integrated development environment to write, compile, run, and test simple object-oriented **Java** programs
PDB205	Lab –VI RDBMS	• At the end of this class, the successful student will: have a broad understanding of database concepts and database management system

		software. have a high-level understanding of major DBMS • components and their function.
PDB206	Lab-VII Visual Basic	• Design, formulate, and construct applications with VB.NET. Integrate variables and constants into calculations applying VB
PDB207	PROJECT	• Demonstrate a sound technical knowledge of their selected *project* topic. Undertake problem identification, formulation and solution. Design engineering solutions to complex problems utilising a systems approach.