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Affiliated to Madurai Kamaraj University
Re-Accredited with 'A++' by NAAC (Cycle - IV)
Mary Land, Madurai - 625018, Tamil Nadu

AQAR – QUALITATIVE METRIC

2023 - 2024

Criterion 1 - Curricular Aspects

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme specific outcomes (PSOs) and Course Outcomes (COs), of the Programmes offered by the Institution.

Name of the Programme: B.C.A Programme Code: USCA

Programme Outcomes:

	Understand, analyze and apply the concepts of latest technologies to bring solutions to the
PO 1	problems in the areas of computer applications.
	Analyze and synthesize computing systems through quantitative and qualitative techniques along
PO 2	with effective verbal and non-verbal communication.
	Apply technical and professional skills practically to excel in providing solutions for solving
PO 3	complex real life problems satisfying industrial and societal needs.
	Understand & analyze the technical data through innovative methodologies with legal ethics to
PO 4	reach out actionable conclusions.



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PO 5	To promote leadership skills and also as an individual on working with multi disciplinary projects using Modern computing tools and Open Source Technologies.
PO 6	Commit to professional ethics and cyber regulations considering the societal and environmental issues within local and global contexts for sustainable development

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 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



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	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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Course Outcomes:

Course Code	Course Title	Nature of the Course (Local/ National/ Regional/ Global)	Course Description	Course Outcomes
23J1CC1	PYTHON PROGRAMMING	Global	To get better understanding in the OOPS Concept and to have basic knowledge in writing programs using Python Programming.	CO1: Learn the basics of python, Do simple programs on python, Learn how to use an array. CO2: Develop program using selection statement, Work with Looping and jump statements, Do programs on Loops and jump statements. CO3: Concept of function, function arguments, Implementing the concept strings in various application, Significance of Modules, Work with functions, Strings and



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				modules.
				CO4: Work with List, tuples and dictionary, Write program using list, tuples and dictionary.
				CO5: Usage of File handlings in python, Concept of reading and writing files, Do programs using files.
23J1CC2	PYTHON PROGRAMMING LAB	Global	To get better understanding in the OOPS Concept and to have basic knowledge in writing programs using Python Programming.	CO1: Demonstrate the understanding of syntax and semantics of Python CO2: Identify the problem and solve using PYTHON programming techniques. CO3: Identify suitable programming constructs for problem solving. CO4: Analyze various concepts of PYTHON language to solve the



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				problem in an efficient
				way.
				CO5: Develop a PYTHON program for a given problem and test for its correctness.
				CO1: Remember the program structure of C with its syntax and semantics
23J1FC	STRUCTURED PROGRAMMING IN C	Global	To get better understanding in Programming concepts in C.	CO2: Understand the programming principles in C(datatypes, operators, branching and looping, arrays, functions, structures, pointers and files)
				CO3: Apply the programming principles learnt in real-time problems
				CO4: Analyze the various methods of solving a problem and choose the best method



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				CO5: Code, debug and test the programs with appropriate Test cases
23J1SE1	ANIMATION TOOLS AND TECHNIQUES	Global	This course helps to become familiar with the elements and tools in Alice that is used to create interactive ani19J3CC6mated media such as scene creation and movie making.	CO1: Apply object properties, methods and events CO2: Design, create and edit animation scenes and interactive movies CO3: Utilize event handling methods and properties CO4: Demonstrate story boards and animation movies CO5: Utilize and understand different
	OBJECT		To get better understanding in	sounds and sound formats in alice CO1:Assess the object -
23J2CC3	ORIENTED PROGRAMMING	Global	the OOPS Concept and to have basic	oriented concepts in C++ CO2:Illustrate the usage of



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	IN C++		knowledge in	Functions in C++	
			writing programs using C++ Programming	CO3:Analyze advanced features of C++ specifically stream I/O and overloading	
				CO4:Demonstrate on Inheritance and Virtual Classes	
				CO5:Outline the file operations in C++	
			To learn the basic	CO1:Read, understand and trace the execution of programs written in C++ language	
23J2CC4	LAB IN C++			knowledge of Object Oriented	CO2:Demonstrate class and object functions
2302CC4	PROGRAMMING	Giobai	Programming in C++ and write code in all aspects of C++ Language	CO3:Assess operator overloading and function overloading to specific problem definition	
				CO4:Demonstrate file operations in C++.	



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				CO5:Write C++ code to demonstrate each concept
				CO1:Outline the structure of OS,basic architectural components
			To Study about the concepts, structure and mechanisms of operating systems.	CO2:Analyze on the different scheduling algorithms and critical section problems
		Global	To examine the operations of processes and threads, scheduling,	CO3:Critique device and resource management techniques by concentrating on deadlocks
			deadlock, memory management and file systems	CO4:Identify and know about memory management techniques
				CO5:Interpret the mechanisms adopted for file sharing in distributed Applications
23J2SE2	ANIMATION TOOLS AND TECHNIQUES	Global	This course helps to become familiar with the elements	CO1: Apply object properties, methods and events



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		and tools in Alice	CO2: Design, create and
		that is used to create interactive	edit animation scenes and interactive movies
		ani19J3CC6mated media such as scene creation and	CO3: Utilize event handling methods and properties
		movie making.	CO4: Demonstrate story boards and animation movies
			CO5: Utilize and understand different sounds and sound formats in alice
			CO1: Knows the basic concept in HTML concept of resources in HTML
23J2SE3	23.12SE3 INTRODUCTION		CO2: Usage of Tags in Webpage creation
	TO HTML		CO3: Understand the page formatting using the concept of list
			CO4: Analyze the table creation with its various



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				attributes CO5: Develop a frames and understand its various formats.
19J3CC5	OPERATING SYSTEMS	Global	To Study about the concepts, structure and mechanisms of operating systems. To examine the operations of processes and threads, scheduling, deadlock, memory management and file systems	CO1:Outline the structure of OS,basic architectural components CO2:Analyze on the different scheduling algorithms and critical section problems CO3:Critique device and resource management techniques by concentrating on deadlocks CO4:Identify and know about memory management techniques CO5:Interpret the mechanisms adopted for file sharing in distributed Applications



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19J3CC6	RELATIONAL DATABASE MANAGEMENT SYSTEMS	Global	To learn Relational Database concepts and to work with dynamic, reflective, object-oriented concepts through Query processing	CO1: Critique SQL commands to create tables and indexes CO2: Apply DDL and DML commands in real time applications CO3: Understand the needs of triggering applications CO4: Disseminate knowledge of RDBMS and SQL, both in terms of design and implementation usage
				CO5: Write dynamic queries to demonstrate the concepts of RDBMS
21AC3AC J3	PRINCIPLES OF FINANCIAL A/C &A/C PACKAGE		This course provides the accounting language's essentials that helps to read and	CO 1:Understand the basic concepts of company creation in tally CO 2: It tells how to work with Journals, Ledgers and Cash Flow Statements.



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		Global	interpret financial statements for business diagnosis and decision—making.	CO 3: It is the language that managers use to communicate with the terms of accounting. CO 4:The firm's financial and economic information can be shared to external parties such as shareholders and creditors. CO 5:Create and display single and multiple stock groups and stock categories
19J3SB1	LOGICAL REASONING AND DATA INTERPRETATION	National	To improve aptitude, problem solving skills and reasoning ability that helps to focus on their career development	CO1: Apply quantitative techniques to solve variety of problems. CO2: Perform statistical analysis to interpret information. CO3Apply the aptitude tricks, shortcuts and formulas CO4: Acquire clear



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					understanding on easily solving the reasoning.
					CO 5:Focuses in clearing the competitive, Campus and entrance online tests
	19J4CC7	DATA STRUCTURES AND ALGORITHMS	Global	To give better understanding of how algorithms are developed along their appropriate data structures which have both	CO1: Assess the concept of various data structures and the logic behind their workings CO2: Compare various ADT CO3: Utilize trees and graphs in real time application CO4: Compare the various
				historical and contemporary significance	Directed and Undirected Graphs. CO5: Analyze case studies to implement and comment about performance of algorithms.
	19J4CC8	WEB PROGRAMMING	Global	To provide the student with foundational	CO1:Select and apply mark-up languages for processing and presenting



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			programming knowledge and skills for application development on the Internet.	information in web pages. CO2:Design and implement dynamic websites with good aesthetic sense of designing. CO3:Use fundamental skills to maintain web server services required to host a website. CO4:Prepare the students to write a well formed DB connection CO5:Create WebPages for any application using database connectivity
19P4ACJ4	DIGITAL PRINCIPLES AND COMPUTER ORGANIZATION	Global	To know about computers, learn the basics and take advantage of the latest technologies in the field of computers and	CO1: Identify the anatomy of computers CO2: Compare the various memory units along with the storage devices CO3: Demonstrate and perform computer



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			information technology.	arithmetic operations on integer and real numbers
				CO4: Analyze the performance of Gates
				CO5: Conceptualize the basics of organizational and architectural issues of a digital computer with logics
				CO1:Customize the Ribbons of Spreadsheets
19J4SB2	DATA ANALYSIS USING		To enable the students in crafting professional excel spread sheets and to familiarize the students in	CO2:Perform statistical analysis using charts CO3:Apply the aptitude tricks, shortcuts and formulas
	SPREADSHEETS	Global	preparation of analysis in data and presentations with automation tools.	CO4 Compare all the functions available CO5:Focuses on the protection of data in spreadsheets



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				CO1: Compare the various software models.
19J5CC9	SOFTWARE ENGINEERING	Global	Aims to provide a thorough knowledge about various phases involved insoftware development along with the testing techniques.	CO2: Use knowledge, techniques, skills and modern tools necessary for software engineering practice CO3: Analyze on the design factors and guidelines CO4: Understand the different types of testing used in softwares CO5: Understand the
				various types of Testing tools
			To acquire knowledge on Object Oriented	CO1:Acquire in depth knowledge in Java programming concepts
19J5CC10	JAVA PROGRAMMING	Global	Programming using Multithreading, Exceptions, GUI & database	CO2:Identify and analyze platform independent environment and byte code generation
			Applications	CO3:Build, Execute and



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				Debug java programs along with Exceptions
				CO4:Design and Implement packages
				CO5:Write, Compile and Execute applet programs which includes GUI
				CO1:Acquire in depth knowledge in Java programming concepts
			To acquire practical knowledge on Object Oriented	CO2:Identify and analyze platform independent environment and byte code generation
19J5CC11	LAB IN JAVA PROGRAMMING	Global	Programming using Multithreading, Exceptions, GUI & database	CO3:Build, Execute and Debug java programs along with Exceptions
			Applications	CO4:Design and Implement packages
				CO5:Write, Compile and Execute applet programs which includes GUI



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19J5CC12	DOT NET PROGRAMMING	Global	To know the rapid development of powerful Window applications and Web application which makes the web development easier	CO1:Use Dot Net Framework along with the features of C# CO2:Create websites to explore database connectivity CO3:Analyze debugging WebPages through case studies CO4:Use the different types of master page creation CO5:Create different
10.151.571	CLOUD	01.1.1	To learn the basic knowledge of structured programming in C	dynamic websites for applications CO1: Outline problems and evaluate various cloud computing solutions CO2: Outline Cloud service
19J5ME1	COMPUTING	Global	control structures, data structures and functions along with basic problem solving techniques.	and deployment models CO3: Identify the architecture and infrastructure of cloud computing including



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				SaaS,PaaS, IaaS, public cloud, private cloud, hybrid cloud and community cloud
				CO4: Predict security issues and formulate recovery mechanisms
				CO5: Understand the concept of virtualization
19J5ME2	MOBILE COMPUTING	Global	To be acquainted with the Mobile Application Development Platform and its Architectures, GSM, GPRS, Applications	CO1: Create the infrastructure to develop mobile communication systems CO2: Assess the characteristics of emerging technologies in mobile communication CO3: Critique new knowledge in the field of computer science by using appropriate research
				methodologies CO4: Analyze on the various software kits



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				available
				CO5: Assess the characteristics of Mobile Components and Applications
23J5SB3 ANIMATION TECHNIQUES	Global	This course gives knowledge on the editing of images and created animated images.	CO1: Analyze on the various tools of Photoshop CO2: Compare different types of filters used in Photoshop	
			CO3: Apply the techniques available in CorelDraw CO4: Understand the Open Source techniques in editing	
				CO5: Create animated banners and various simple animations
23J5SB4	E – CONTENT DEVELOPMENT	Global	This course helps to promote content generation, adaptation and distribution of e-	CO1: Understand E- Learning with respect to its needs, challenges and benefits



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			content through electronic media	CO2: Explain the components of Authoring tools and E-learning standards
				CO3: Apply Audio editing techniques for creating podcasts
				CO4: Understand the techniques of creating customized lessons
				CO5: Create videos using online tools
				CO1:Identify different Python object types
19J6CC13	PYTHON	Global	This course helps to get knowledge in python language and to know about the different types	CO2:Discuss how to use indexing and slicing to access data in Python programs
			of data like lists, dictionaries and files handling	CO3:Assess structure and components of a Python program
				CO4:Write programs to demonstrate loops and



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				decision statements in Python
				CO5:Build and package in Python modules for reusability
				CO1:Identify different Python object types
19J6CC14	LAB IN PYTHON	Global	This course helps to get practical knowledge in python language and to know about the different types of data like lists, dictionaries and files handling	CO2:Discuss how to use indexing and slicing to access data in Python programs CO3:Assess structure and components of a Python program CO4:Write programs to demonstrate loops and decision statements in Python
				CO5:Build and package in Python modules for reusability



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		-		CO1: Outline the
				functionalities of OSI reference model
			This course helps to know about the layered architecture	CO2: Discuss guided and unguided media and its real time usage and applications
19J6CC15	COMPUTER NETWORKS	Global	of different models and also the works	CO 3: Analyze on the design issues of DLL
			of each layer with security features.	CO4: Demonstrate various routing algorithms through case studies
				CO 5: Assess real time web and network security mechanisms
		Global	This Course helps in examining the security issues and practices along with the encryption techniques.	CO1: Understand the concept of cryptography
19J6ME3	SECURITY PRACTICES			CO2: Compare on the encryption techniques available
				CO3: Evaluate the Various tools and tactics followed in military



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				CO4: Predict the forensics fundamentals and the various technologies used to avoid computer crimes.
				CO5: Illustrate different methods to collect and preserve digital evidence and Digital Crime Scene
19J6ME4	DATA MINING	Global	To discover the hidden patterns in the rapidly growing data generated by businesses, science, web, and other sources and to focus on the key tasks of data mining.	CO1:Analyze data mining algorithms, methods, and tools CO2:Identify business applications of data mining CO3:Predict quantitative analysis report to make decisions CO4:Outline the developing areas web mining, text mining, and ethical aspects of data mining CO5: Compare the various applications of Data Mining



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					CO1: Design IOT based Prototypes
	19J6ME5			This helps to connect things to the internet which	CO2: Explain how sensors and embedded systems work
19J6M		INTERNET OF THINGS	Global	provide many advantages and also to understand	CO3: Analyze and visualize sensor data
				the characteristics of IoT.	CO4: Formulate real World IoT design Constraints and Industrial Automation in IoT
					CO5: Work with IoT
19J6M	IE6	HUMAN COMPUTER INTERACTION	Global	The main purpose is to provide the most fundamental knowledge about Artificial Intelligence, Fuzzy Logic and Virtual Reality.	CO1: Identify problems that are amenable to solution by AI methods CO2: Formulate search problems and implement search algorithms using admissible heuristics CO3: Analyze on the basics and architecture of VR systems



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					CO4: Identify the human factors, effects and impact of VR
					CO5: Apply the VR technology in different applications
23.	J6SB5	PHP	Global	To be familiar with the structured approach by identifying the needs, interests and functionalities that helps in creating dynamic websites	CO1: Demonstrate how server – side programming works on the web CO2: Use PHP built – in functions and creating custom functions CO3: Create a database in phpMyAdmin CO4: Create dynamic web pages CO5: Design websites for
23.	J6SB6	LINUX	Global	This course gives basic knowledge on Linux operating system and to execute the code	various applications CO1:Analyze the inner workings of LINUX operating systems CO2:Utilize Linux system to



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		written	in	other	accomplish	typical
		language	es.		personal, office,	technical,
					and software de	evelopment
		•			tasks	
					CO3:Use Linux	utilities to
					create and mana	age simple
					file processing	
					CO4:Use	operations,
					organizedirectory	structures
					with appropriate	security
					CO5:Formulate si	hell scripts
					to perform mor	re complex
					tasks	



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Name of the Programme: PGDCA

Programme Outcomes:

PO 1	To learn the latest trends in various subjects of computers applications.
PO 2	To learn computer applications in different fields like banking, insurance, software industry, govt& Corporate sectors.
РО 3	To provides specialisation in computer science with technical, professional and communications skills. It also trains students to become future IT professionals.
PO 4	To design, implement and evaluate a computer-based system, process, component, or programme.
PO 5	To Design and develop applications to analyze and solve all computer related problems.



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Programme Specific Outcomes:

PSO 1	To expose the students to open source technologies so that they become familiar with it and can seek appropriate opportunity in trade and industry
PSO 2	To the ability to employ modern computer languages and graphics editor for their successful career, to create platforms to become an entrepreneur and a relish for higher studies.
PSO 3	To train themselves professionally in the areas of programming, multimedia, animation, web designing, and networking and to acquire knowledge in various domainsbased electives.
PSO 4	To generate ideas of innovation and to identify, formulate and solve problems in software solutions, outsourcing services, public and private sectors.
PSO 5	To equip the students to meet the requirement of Corporate world and Industry standards.



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Course Outcomes:

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19PDB101	Computer Fundamentals	Global	and mechanisms of operating systems. To examine the	CO1: Understand the basic terminology of computers. CO2: Explain the basic components and storage. CO3: Understand the computer software and languages. CO4: Understand the components of network and its architecture.



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			To develop programs using C	CO1: Understand the basic concepts in C
		Global	programming languag e, in order to solve	CO2: Explain the functionalities of arrays and strings
23PDB102	Problem solving using C and C++		simple to moderate problems	CO3: Understand the usage and implementations of functions
				CO4: Understand the basic concepts of functions
				CO5: Outline the concept of structure and pointer
	Web Designing	Global	To provide the student with	CO1: Understand the basic concepts in HTML
			foundational	CO2: Explain the Text formatting & Tables
19PDB103			programming knowle dge and skills for application	CO3: Understand the usage and implementations of Graphics and frames
			development on the Internet.	CO4: Understand the Script in PHP



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				CO5: Outline the database connectivity
23PDB104	Lab –I Programming in C and C++	Global	To learn the practical implementation of structured programming using control structures, data structures and functions along with basic problem solving techniques	conditional and looping statements CO2: Explain the arrays and string functions CO3: Understand the
19PDB105	Lab –II Web Programming	Global	To provide the student with foundational programming knowle dge and skills for application	Webpage creation CO2: Explain the tables and frames CO3: Understand the



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			development on	CO4: Understand the Database creation
			the Internet.	CO5: Outline the Connectivity with database
			This course gives knowledge on the editing of images and created animated images.	· · ·
19PDB106	Lab –III Design Techniques	Global		CO3: Apply the techniques available in CorelDraw
				CO4: Create animated banners and various simple animations
				CO5: How to prepare and process photos for the Web.
10000001	Database	Global	To inculcate knowledge on RDBMS concepts and	commands to create tables and indexes
19PDB201	Management System	Global	Programming with SQL	CO2: Apply DDL and DML commands in real time applications



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				CO3: Understand the needs of triggering applications
				CO4: Disseminate knowledge of RDBMS and SQL, both in terms of design and implementation usage
				CO5: Write dynamic queries to demonstrate the concepts of RDBMS
			To enable the students to get better understanding in the	CO1: Assess why Python is a useful scripting language for developers. CO2: Identify Python object
	Python	Global	OOPS Concept and to	types.
21PDB202			have basic knowledge in writing programs using Python	Lists, tuples, and Dictionaries in Python
			Programming.	CO4: Acquire how to design and program Python applications.



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					CO5: Outline the file operations in Python.
					CO2: Apply DDL and DML
19PDB203	Lab –IV RDBMS	Global	To Relational	learn Database	commands in real time
			concepts an	nd to work dynamic,	CO3: Understand the needs of triggering applications
			reflective,	object-	CO4: Disseminate knowledge of RDBMS and SQL, both in terms of
			through	Query	1
			processing		CO5: Write dynamic queries to demonstrate the concepts of RDBMS



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	21PDB204	Lab –V Python Programming	Global	Analyze requirements Design/deve programs vinterfaces.	lop	CO1: Assess why Python is a useful scripting language for developers. CO2: Identify Python object types. CO3: Illustrate the usage of Lists, tuples, and Dictionaries in Python Programs. CO4: Acquire how to design and program Python applications. CO5: Outline the file operations in Python.
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