

U.G.DEPARTMENT OF COMPUTER APPLICATIONS
N.G.M COLLEGE, POLLACHI

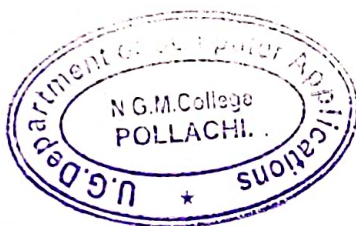
Programme Outcomes

PO1:

To make the grade of the students to meet the requirements of corporate industry, society and business to race worldwide.

PO2:

Analyze and apply latest technologies to solve problems in the areas of computer applications and to synthesize computing systems through quantitative and qualitative techniques in order to achieve better decisions.



Haridas

Dr. K. HARIDAS, M.C.A., M.Phil., Ph.D.,
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2020 - 2023

SEMESTER

I

20 UBC 101	PROGRAMMING IN C
CO1	To recollect the structured programming concepts.
CO2	To understand the branching statements and looping statements.
CO3	To apply programming concepts such as Arrays, Functions, Structures, Pointers, etc.
CO4	To analyze the File concepts and usage of storing the data in files.

20 UBC 102	CORE II: DIGITAL COMPUTER FUNDAMENTALS
CO1	To recollect the knowledge about binary number system, Boolean algebra and binary codes.
CO2	To get the idea about combinational systems composed of standard combinational modules, such as multiplexers, flip-flops, demultiplexers and decoders.
CO3	To analyze and design sequential systems composed of standard sequential modules, such as counters and registers.
CO4	To review the various Input and Output devices such as printers, keyboards, mouse, etc.

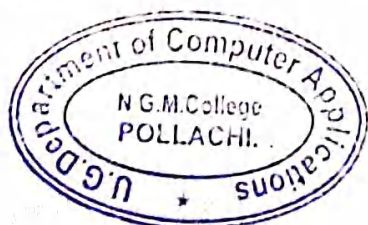
20 UBC 1A1	ALLIED I: MATHEMATICS I - COMPUTER ORIENTED NUMERICAL AND STATISTICAL METHODS
CO1	To recollect the samples accuracy, locate and use good mathematical software.
CO2	To understand the number representation errors and convergence properties.
CO3	To apply numerical methods as the basis of procedural language such as C, C++ and JAVA.
CO4	To analyze the influence of data representation and computer architecture on algorithm choice and

20 UBC 103	LAB - I : PROGRAMMING IN C
CO1	To remember the Programming concepts using branching statements and looping statements.
CO2	To get the idea about Arrays, Functions, Structures, Pointers, etc.
CO3	To verify the files created using C.

SEMESTER

II

20 UBC 204	CORE III: OBJECT ORIENTED PROGRAMMING WITH 'C++'
CO1	To recollect the Object Oriented Programming concepts.
CO2	To understand the usage of various significant operators.
CO3	To apply programming concepts such as Functions, Classes and Objects along with overloading concepts.
CO4	To analyze the File concepts and in usage of storing the data in files.




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20 UBC 205	CORE IV: DATA STRUCTURES
CO1	To use linear and non-linear data structures like stacks, queues , linked list etc.
CO2	To handle operations like searching, insertion, deletion, traversing mechanism etc. on various data structures.
CO3	To solve problems like sorting, searching, insertion and deletion of data
CO4	To learn a number of algorithm design techniques and to analyze the efficiency and the correctness of algorithms.

20 UBC 2A2	ALLIED II: MATHEMATICS II - MATHEMATICAL FOUNDATION OF COMPUTER APPLICATIONS
CO1	To construct simple mathematical proofs and possess the ability to verify them.
CO2	Acquire ability to describe computer programs in a formal mathematical manner.
CO3	To prove simple mathematical properties of a variety of discrete structures.
CO4	Be able to specify and manipulate basic mathematical objects such as Sets, functions, and relations and will also be able to verify simple mathematical properties.

20 UBC 206	LAB - II : PROGRAMMING IN C++
CO1	To remember the Programming concepts using branching statements and looping statements.
CO2	To get the idea about OOPS concepts such as inheritance, overloading, etc
CO3	To verify the files created using C++.

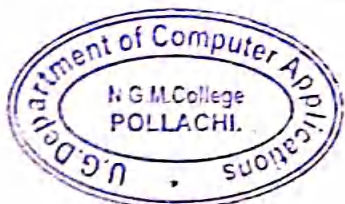
SEMESTER

III

20 UBC 307	CORE V: RELATIONAL DATABASE MANAGEMENT SYSTEM AND ORACLE
CO1	To remember the data base system for the decision-support level of organizations
CO2	To understand and carefully apply the system concepts using ORACLE techniques
CO3	To implement and evaluate a computer-based system, process, component or program to meet desired needs
CO4	To estimate students how to retrieve, display and format data from any data source in numerous reporting styles and publish the output to any destination for different applications.

20 UBC 308	CORE VI: OPERATING SYSTEMS
CO1	To remember the Master functions, structures and history of operating systems.
CO2	To understand the implementation of file systems and directories along with the interfacing of IO devices with the operating system.
CO3	To deploy, Linux has become sufficiently mainstream that deploying it isn't a mystery.
CO4	To analyze the need for security measures for a Linux environment.

20 UBC 309	CORE VII: ORGANIZATIONAL BEHAVIOUR
CO1	To recollect the Individual Behaviour and its effects.
CO2	To understand the Personality, Perception, Attitudes and Values.
CO3	To apply Learning and Motivation concepts in an Organization.
CO4	To analyze the Organizational Culture and Organizational Structure.



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20 UBC 3A3	ALLIED III: ACCOUNTANCY FOR DECISION MAKING
CO1	To recollect the knowledge of accounting theory based on conceptual framework of accounting.
CO2	To enable students to understand the concept of accounting.
CO3	To execute the knowledge going in accounting for decision making.
CO4	To analyze and interpret accounting related transactions in accordance with accounting theory.

20 UBC 310	LAB - III : RELATIONAL DATABASE MANAGEMENT SYSTEM AND ORACLE
CO1	To remember structured query language (SQL) queries using DDL,DML,DCL,TCL commands.
CO2	To understand the basic concept how storage techniques are used to store the data and maintain data access performance in application development
CO3	To apply techniques pertaining to Database design practices
CO4	Evaluate options to make informed decisions that meet data storage, processing, and retrieval needs.

20 UBC 311	LAB - IV: OPERATING SYSTEMS
CO1	To remember the various commands on a standard Operating system.
CO2	To get the idea about be able to do shell programming on UNIX OS.
CO3	To verify the files to understand and handle UNIX system calls.

20 UBC 312	LAB - V: GRAPHICS
CO1	To remember the Graphics Programming concepts
CO2	To understand the basic concept and Develop design drawings that demonstrate computer graphics and design skills
CO3	To create interactive graphics applications using one or more graphics application programming interfaces.

20 UBC 3N1	NON- MAJOR ELECTIVE I - WEB DESIGNING LAB
CO1	To recollect the logic behind advanced Web page applications.
CO2	To understand the HTML and CSS programming.
CO3	To verify the files created in Web applications.

20 UBC 3N2	NON- MAJOR ELECTIVE I -DESKTOP PUBLISHING LAB
CO1	To remember the basic technical tools.
CO2	To get the idea for handling tools and applying various effects.
CO3	To access various formats in this platform for editing.



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SEMESTER**IV**

20 UBC 413	CORE VIII: WEB TECHNOLOGY
CO1	To recollect the basic structure of .net and main features of IDE.
CO2	To understand the .net framework and describe some of the major enhancement to the new version of visual studio.
CO3	To apply a web development platform, this provides software infrastructure and build up robust web applications for PC, as well as mobile devices.
CO4	To analyze the applications using Microsoft windows forms and ADO .Net.

20 UBC 414	CORE IX: COMPUTER SYSTEM ARCHITECTURE
CO1	To recollect basic structure of computer and control unit operations.
CO2	To understand the concept of computer arithmetic operations and memory system design.
CO3	To apply the cache mapping techniques and conceptualize instruction level parallelism.
CO4	To analyze the concept of I/O organization and to identify high performance architecture.

20 UBC 415	CORE X: SOFTWARE ENGINEERING
CO1	To recollect the system concepts, software models, techniques and technologies to bring out the innovative and novelistic solutions for the growth of the society.
CO2	To understand the issues affecting the organization planning and control of software based systems development.
CO3	To apply the end user requirements into system and software requirements.
CO4	To analyze fundamental concepts in software testing, various testing issues and its types.

20 UBC 4A4	ALLIED IV: MATHEMATICS III - COMPUTER BASED OPTIMIZATION TECHNIQUES
CO1	To recollect the modeling tools and computational tools as well as analytic skills to evaluate the problems.
CO2	To understand how to translate real world problem given in words into a mathematical formulation.
CO3	To apply mathematical optimization techniques, existing optimization tool kits to write computer programs and to implement algorithms and solve problems.
CO4	To analyze the problem situation leading to better control, better co-ordination, better systems and finally better decisions.

20 UBC 416	LAB - VI: ASP.NET
CO1	Create user interactive web pages using ASP.Net.
CO2	Create simple data binding applications using ADO.Net connectivity.
CO3	Performing Database operations for Windows Form and web applications.

20 UBC 417	LAB - VII: PHP PROGRAMMING
CO1	To know about the practical fundamentals of php script.
CO2	To get the idea about function and array using php.
CO3	To access the database connection



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20 UBC 418	LAB - VIII: WEB DESIGNING
CO1	To keep in mind about the HTML tags.
CO2	To get the idea about to design web page.
CO3	To access the scripting languages.

20 UBC 4N3	NON-MAJOR ELECTIVE II - PHOTO EFFECTS LAB
CO1	To keep in mind about the open source software and their opportunity in their career.
CO2	To get the idea about the Graphic Design open source software.
CO3	To verify their creativity skill using GIMP Free open source software.

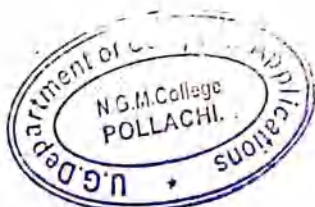
20 UBC 4N4	NON MAJOR ELECTIVE II - ANIMATION LAB
CO1	To remember graphics primitives and demonstrate geometrical transformations.
CO2	To get the idea with interactive graphics applications using one or more graphics application programming interfaces.
CO3	To identify effectively and creatively solve a wide range of graphic design problems.

SEMESTER

V

20 UBC 519	CORE XI: JAVA PROGRAMMING
CO1	To remember the structure and model of the Java Programming Language.
CO2	To understand the usage of Java Programming Language for various programming technologies.
CO3	To implement the Internet Programming, using Java Applets
CO4	To apply event handling on AWT and Swing components.

20 UBC 520	CORE XII: SOFTWARE TESTING
CO1	To keep in mind the fundamental concepts in software testing, including software testing objectives, process, criteria, strategies, and methods.
CO2	To understand how to plan a test project, design test cases and data, conduct testing operations, manage software problems and defects, generate a testing report and how to write software testing documents.
CO3	To execute software testing automation problems and solutions.
CO4	To analyze the techniques and skills on how to use modern software testing tools to support software testing projects.



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20 UBC 5E1	NETWORKS
CO1	To remember, use and implement Computer Networks and the basic components of a Network system.
CO2	To understand the layers of OSI and TCP and get knowledge about congestion control and network security.
CO3	To apply pieces of hardware and software to make networks more efficient, faster, more secure, easier to use, able to transmit several simultaneous messages, and able to interconnect with other networks.
CO4	To analyze packet switching networks, evaluate shortest path routing and traffic management at packet level, flow level and flow aggregate level.

20 UBC 5E2	GRID COMPUTING
CO1	To remember the contribution of data warehousing and data mining to the decision-support level of organizations
CO2	To understand and carefully differentiate between situations for applying different data-mining techniques
CO3	To implement different models used for OLAP and data preprocessing
CO4	To estimate data-mining solutions for different applications

20 UBC 5E3	STORAGE MANAGEMENT
CO1	To recollect storage architectures, including storage subsystems and variety of storage system environments
CO2	To get the knowledge of different RAID levels and their suitability on different Application environments and understand the characteristics and components of Storage Area Networks (SAN).
CO3	To analyze the components of SAN, Fibre Channel (FC) protocols and topologies, file sharing operations and protocols on Network Attached Storage (NAS).
CO4	To review the different backup, recovery topologies and their role in providing disaster recovery, types of storage virtualization and file level virtualization

20 UBC 5E4	CURRENT TRENDS AND TECHNOLOGIES
CO1	To implement Data and Knowledge Management and use of Devices in IoT Technology.
CO2	To analyze the terminology used by SAP ABAP, knowledge of big data and its technologies in Big Data Analytics.
CO3	To keep in mind of Cyber Security Policy and Security Evolution.
CO4	To get the idea to apply a Objectives and Guidance of Cyber security.

20 UBC 521	LAB -IX: JAVA PROGRAMMING
CO1	To recollect object-oriented concepts.
CO2	To understand the usage of Java Programming Language for various programming technologies.
CO3	To remember the interactive user interfaces using the Java Swing class and appropriate layout managers.



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20 UBC 522	LAB - X: SOFTWARE TESTING
CO1	To remember the fundamental concepts in software testing
CO2	To understand the current state-of-the-art in software testing.
CO3	To validate software testing automation

20 UBC 551	SKILL BASED MAJOR ELECTIVE I : MOBILE PHONE SERVICES
CO1	To understand the use and features of Mobile Technology and Devices.
CO2	To analyze various hardware of Mobile phones and its usages.
CO3	To keep in mind the precautionary measure when servicing the mobile devices.
CO4	To get the idea to apply a Software problems like device bricks, rooting issues etc.

20 UBC 552	SKILL BASED MAJOR ELECTIVE I : INTERNET OF THINGS
CO1	To remember web services to access/control IoT devices
CO2	To understand the portable IoT using Raspberry Pi
CO3	To deploy use of IoT application and connect to the cloud
CO4	To analyze various protocols for IoT

20 UBC 553	SKILL BASED MAJOR ELECTIVE I :DESKTOP PUBLISHING LAB
CO1	To remember the basic technical tools.
CO2	To get the idea for handling tools and applying various effects.
CO3	To access various formats in this platform for editing.

SEMESTER

VI

20 UBC 623	CORE XIII: PYTHON PROGRAMMING
CO1	To develop python programs for core python and data types using objects and functions.
CO2	To develop python programs for List, Stack, Queues.
CO3	To implement File Objects and Object-Oriented Programming using python.
CO4	To manage Errors and Exceptions and summarize the Network Programming.

20 UBC 624	CORE XIV: INFORMATION SECURITY
CO1	To recollect the familiarity with prevalent network and distributed system attacks, defenses against them, and forensics to investigate the aftermath.
CO2	To understand the information assurance as practiced in computer operating systems, distributed systems, networks and representative applications
CO3	To implement the basic understanding of cryptography, how it has evolved, and some key encryption techniques used today



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CO4	To analyze the security policies (such as authentication, integrity and confidentiality), as well as protocols to implement such policies in the form of message exchanges.
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20 UBC 625	CORE XV: MOBILE APPLICATION DEVELOPMENT
CO1	To remember about the Android application development tools.
CO2	To understand the Install and configure Android application development
CO3	To implement the design and develop user Interfaces for the Android platform
CO4	To estimate the database connection for android application.

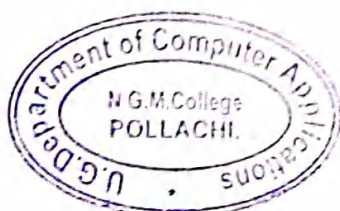
20 UBC 6E5	DATA MINING AND WAREHOUSING
CO1	To remember the contribution of data mining to the decision-support level of organizations
CO2	To understand and carefully differentiate between situations for applying different data-mining techniques
CO3	To implement different models used for OLAP and data preprocessing
CO4	To estimate data-mining and data warehousing solutions for different applications

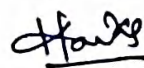
20 UBC 6E6	CLOUD COMPUTING
CO1	To remember the contribution of data warehousing and data mining to the decision-support level of organizations
CO2	To understand and carefully differentiate between situations for applying different data-mining techniques
CO3	To implement different models used for OLAP and data preprocessing
CO4	To estimate data-mining solutions for different applications

20 UBC 626	LAB -XI: PYTHON PROGRAMMING
CO1	To develop python programs for list and control statements and understand the Different loops such as “for”, “while” and “do-while”.
CO2	To manage Errors and Exceptions and summarize the Network Understand Programming.
CO3	To implement File Objects and Object-Oriented Programming using python.

20 UBC 627	LAB - XII: MOBILE APPLICATION DEVELOPMENT
CO1	To keep in mind about basic development of Mobile application.
CO2	To get the idea about how to develop the Android Application.
CO3	To access the database connection using Android.

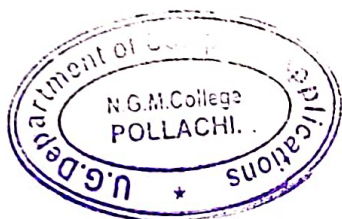
20 UBC 6S4	SKILL BASED MAJOR ELECTIVE II : CORPORATE SYSTEMS
CO1	To recollect the usage of computers in Healthcare systems.
CO2	To understand the process of banking & Insurance with computers.
CO3	To apply IT in Telecommunication and Textiles at various levels.
CO4	To analyze a solution to the utility problem using computer softwares.




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20 UBC 6S5	SKILL BASED MAJOR ELECTIVE II : MULTIMEDIA AND ANIMATION
CO1	To recollect the effects of multimedia in your daily life
CO2	To get the idea about the animation into digital content and multimedia products.
CO3	To execute the animation using computerised animation tools.
CO4	To evaluate projects and presentations utilizing a variety of digital media multimedia technologies.

20 UBC 6S6	SKILL BASED MAJOR ELECTIVE II : PERSONALITY DEVELOPMENT SKILLS
CO1	To keep in mind about the personality developments.
CO2	To get the idea to connect and work with others to achieve a set task.
CO3	To execute the clear briefing and listening skills, not being afraid to ask for help and support when necessary.
CO4	To interpret the time and resource management, conflict resolution, teaching and mentoring others.



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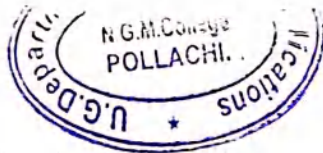
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SEMESTER I

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CO1	To recollect the knowledge about binary number system, Boolean algebra and binary codes.
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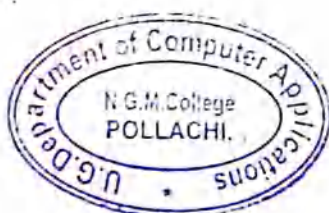
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CO2	To understand the number representation errors and convergence properties.
CO3	To apply numerical methods as the basis of procedural language such as C, C++ and JAVA.
CO4	To analyze the influence of data representation and computer architecture on algorithm choice

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SEMESTER

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CO1	To recollect the Object Oriented Programming concepts.
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CO1	Be able to construct simple mathematical proofs and possess the ability to verify them.
CO2	Acquire ability to describe computer programs in a formal mathematical manner.
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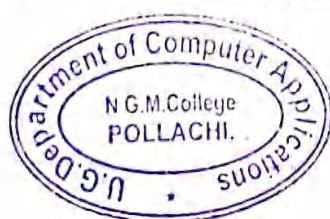
SEMESTER III

19 UBC 307	RDBMS AND VISUAL PROGRAMMING
CO1	To understand the VB Application and IDE.
CO2	To get the idea about Data types, Functions and Procedures.
CO3	To execute more about the Relational database to apply in the database.
CO4	To analyze the SQL Statement and Query to apply in the application program.

19 UBC 308	OPERATING SYSTEMS
CO1	To remember the Master functions, structures and history of operating systems.
CO2	To understand the implementation of file systems and directories along with the interfacing of IO devices with the operating system.
CO3	To deploy, Linux has become sufficiently mainstream that deploying it isn't a mystery.
CO4	To analyze the need for security measures for a Linux environment.

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19 UBC 310	PROGRAMMING LAB –III: RDBMS AND VISUAL PROGRAMMING
CO1	To recollect about the oracle queries.
CO2	To understand the simple application program using VB concepts.
CO3	To validate a knowledge to connect VB with oracle database.

19UBC 311	PROGRAMMING LAB –IV: OS –COMMANDS AND SHELL SCRIPT PROGRAMMING
CO1	To remember the various UNIX commands on a standard UNIX/LINUX Operating system.
CO2	To get the idea about be able to do shell programming on UNIX OS.
CO3	To verify the files to understand and handle UNIX system calls.

19 UBC 312	PROGRAMMING LAB V: DTP PROGRAMMING
CO1	To remember the basic technical tools.
CO2	To get the idea for handling tools and applying various effects.
CO3	To access various formats in this platform for editing.

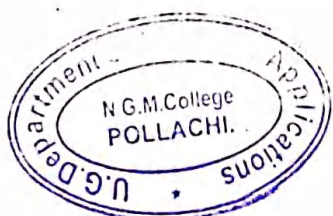
19 UBC 3N1	NME I: PROGRAMMING LAB –WEB DESIGNING
CO1	To recollect the logic behind advanced Web page applications.
CO2	To understand the HTML and CSS programming.
CO3	To verify the files created in Web applications.

19 UBC 3N2	NME I: DESKTOP PUBLISHING LAB
CO1	To remember the basic technical tools.
CO2	To get the idea for handling tools and applying various effects.
CO3	To access various formats in this platform for editing.

SEMESTER IV

19 UBC 413	WEB DEVELOPMENT
CO1	To recollect the basic structure of Visual Basic .NET and main features of IDE.
CO2	To understand the .NET framework and describe some of the major enhancement to the new version of visual basic and scripting languages.
CO3	To apply message passing mechanism between components and message threads using messaging.
CO4	To analyze the applications using Microsoft windows forms, ADO .Net and Scripting Languages.

19 UBC414	COMPUTER SYSTEM ARCHITECTURE
CO1	To recollect basic structure of computer and control unit operations.
CO2	To understand the concept of computer arithmetic operations and memory system design.
CO3	To apply the cache mapping techniques and conceptualize instruction level parallelism.
CO4	To analyze the concept of I/O organization and to identify high performance architecture.



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U.G.DEPARTMENT OF COMPUTER APPLICATIONS

19 UBC 415	SOFTWARE ENGINEERING
CO1	To recollect the software models, techniques and technologies to bring out the innovative and novelistic solutions for the growth of the society.
CO2	To understand the issues affecting the organization planning and control of software based systems development.
CO3	To apply the end user requirements into system and software requirements.
CO4	To analyze, formulate, identify and solve the problems as well as identify the computing requirements appropriate to their solutions.

19 UBC 4A4	MATHEMATICS-III COMPUTER BASED OPTIMIZATION TECHNIQUES
CO1	To recollect the modeling tools and computational tools as well as analytic skills to evaluate the problems.
CO2	To understand how to translate real world problem given in words into a mathematical formulation.
CO3	To apply mathematical optimization techniques, existing optimization tool kits to write computer programs and to implement algorithms and solve problems.
CO4	To analyze the problem situation leading to better control, better co-ordination, better systems and finally better decisions.

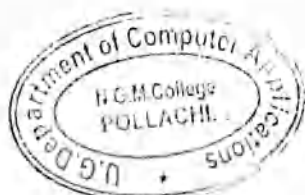
19 UBC 416	PROGRAMMING LAB VI : WEB DEVELOPMENT
CO1	To remember the .NET environment to create Web Service- based applications and components.
CO2	To get the idea about VB.net and ASP.net.
CO3	To validate the files created in dynamic web pages and java script.

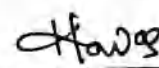
19 UBC 417	PROGRAMMING LAB- VII:PHP Programming
CO1	To know about the practical fundamentals of php script.
CO2	To get the idea about function and array using php.
CO3	To access the database connection

19 UBC 418	PROGRAMMING
	LAB –VIII: SCRIPTING & HTML
CO1	To keep in mind about the HTML tags.
CO2	To get the idea about to design web page.
CO3	To access the scripting languages.

19 UBC 4N3	NME:II PROGRAMMING LAB – OPEN SOURCE SOFTWARE
CO1	To keep in mind about the open source software and their opportunity in their career.
CO2	To get the idea about the Graphic Design open software software.
CO3	To verify their creativity skill using GIMP Free open source software.

19 UBC 4N4	NME:II PROGRAMMING LAB - 2D ANIMATION
CO1	To remember graphics primitives and demonstrate geometrical transformations.
CO2	To get the idea with interactive graphics applications using one or more graphics application programming interfaces.
CO3	To identify effectively and creatively solve a wide range of graphic design problems.




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U.G.DEPARTMENT OF COMPUTER APPLICATIONS
N.G.M COLLEGE, POLLACHI

Programme : B.E.

SEMESTER V

19 UBC 519	CORE XI: JAVA PROGRAMMING
CO1	To remember the structure and model of the Java Programming Language.
CO2	To understand the usage of Java Programming Language for various programming technologies.
CO3	To implement the Internet Programming, using Java Applets
CO4	To apply event handling on AWT and Swing components.

19 UBC 520	CORE XII: SOFTWARE TESTING
CO1	To keep in mind the fundamental concepts in software testing, including software testing objectives, process, criteria, strategies, and methods.
CO2	To understand how to plan a test project, design test cases and data, conduct testing operations, manage software problems and defects, generate a testing report and how to write software testing documents.
CO3	To execute software testing automation problems and solutions.
CO4	To analyze the techniques and skills on how to use modern software testing tools to support software testing projects.

19 UBC 5E1	NETWORKS
CO1	To remember, use and implement Computer Networks and the basic components of a Network system.
CO2	To understand the layers of OSI and TCP and get knowledge about congestion control and network security.
CO3	To apply pieces of hardware and software to make networks more efficient, faster, more secure, easier to use, able to transmit several simultaneous messages, and able to interconnect with other networks.
CO4	To analyze packet switching networks, evaluate shortest path routing and traffic management at packet level, flow level and flow aggregate level.

19 UBC 5E2	GRID COMPUTING
CO1	To remember the contribution of data warehousing and data mining to the decision-support level of organizations
CO2	To understand and carefully differentiate between situations for applying different data-mining techniques
CO3	To implement different models used for OLAP and data preprocessing
CO4	To estimate data-mining solutions for different applications



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U.G. DEPARTMENT OF COMPUTER APPLICATIONS
N.G.M. COLLEGE, POLLACHI

19 UBC 5E3	STORAGE MANAGEMENT
CO1	To recollect storage architectures, including storage subsystems and variety of storage system environments
CO2	To get the knowledge of different RAID levels and their suitability on different Application environments and understand the characteristics and components of Storage Area Networks (SAN).
CO3	To analyze the components of SAN, Fibre Channel (FC) protocols and topologies, file sharing operations and protocols on Network Attached Storage (NAS).
CO4	To review the different backup, recovery topologies and their role in providing disaster recovery, types of storage virtualization and file level virtualization

19 UBC 5E4	CURRENT TRENDS AND TECHNOLOGIES
CO1	To implement Data and Knowledge Management and use of Devices in IoT Technology.
CO2	To analyze the terminology used by SAP ABAP, knowledge of big data and its technologies in Big Data Analytics.
CO3	To keep in mind of Cyber Security Policy and Security Evolution.
CO4	To get the idea to apply a Objectives and Guidance of Cyber security.

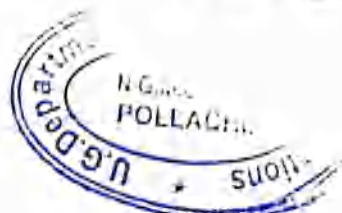
19 UBC 521	LAB -IX: JAVA PROGRAMMING
CO1	To recollect object-oriented concepts.
CO2	To understand the usage of Java Programming Language for various programming technologies.
CO3	To remember the interactive user interfaces using the Java Swing class and appropriate layout managers.

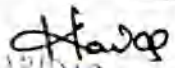
19 UBC 522	LAB - X: SOFTWARE TESTING
CO1	To remember the fundamental concepts in software testing
CO2	To understand the current state-of-the-art in software testing.
CO3	To validate software testing automation

19 UBC 5S1	SKILL BASED MAJOR ELECTIVE I: MOBILE PHONE SERVICES
CO1	To understand the use and features of Mobile Technology and Devices.
CO2	To analyze various hardware of Mobile phones and its usages.
CO3	To keep in mind the precautionary measure when servicing the mobile devices.
CO4	To get the idea to apply a Software problems like device bricks, rooting issues etc.

19 UBC 5S2	SKILL BASED MAJOR ELECTIVE I: INTERNET OF THINGS
CO1	To remember web services to access/control IoT devices
CO2	To understand the portable IoT using Raspberry Pi
CO3	To deploy use of IoT application and connect to the cloud
CO4	To analyze various protocols for IoT

19 UBC 5S3	SKILL BASED MAJOR ELECTIVE I: DESKTOP PUBLISHING LAB
CO1	To remember the basic technical tools.
CO2	To get the idea for handling tools and applying various effects.
CO3	To access various formats in this platform for editing.




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SEMESTER**VI**

19 UBC 623	CORE XIII: PYTHON PROGRAMMING
CO1	To develop python programs for core python and data types using objects and functions.
CO2	To develop python programs for List, Stack, Queues.
CO3	To implement File Objects and Object-Oriented Programming using python.
CO4	To manage Errors and Exceptions and summarize the Network Programming.

19 UBC 624	CORE XIV: INFORMATION SECURITY
CO1	To recollect the familiarity with prevalent network and distributed system attacks, defenses against them, and forensics to investigate the aftermath.
CO2	To understand the information assurance as practiced in computer operating systems, distributed systems, networks and representative applications
CO3	To implement the basic understanding of cryptography, how it has evolved, and some key encryption techniques used today
CO4	To analyze the security policies (such as authentication, integrity and confidentiality), as well as protocols to implement such policies in the form of message exchanges.

19 UBC 625	CORE XV: MOBILE APPLICATION DEVELOPMENT
CO1	To remember about the Android application development tools.
CO2	To understand the Install and configure Android application development
CO3	To implement the design and develop user Interfaces for the Android platform
CO4	To estimate the database connection for android application.

19 UBC 6E5	DATA MINING AND WAREHOUSING
CO1	To remember the contribution of data mining to the decision-support level of organizations
CO2	To understand and carefully differentiate between situations for applying different data-mining techniques
CO3	To implement different models used for OLAP and data preprocessing
CO4	To estimate data-mining and data warehousing solutions for different applications

19 UBC 6E6	CLOUD COMPUTING
CO1	To remember the contribution of data warehousing and data mining to the decision-support level of organizations
CO2	To understand and carefully differentiate between situations for applying different data-mining techniques
CO3	To implement different models used for OLAP and data preprocessing
CO4	To estimate data-mining solutions for different applications



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19 UBC 626	LAB -XI: PYTHON PROGRAMMING
CO1	To develop python programs for list and control statements and understand the Different loops such as "for", "while" and "do-while".
CO2	To manage Errors and Exceptions and summarize the Network Understand Programming.
CO3	To implement File Objects and Object-Oriented Programming using python.

19 UBC 627	LAB - XII: MOBILE APPLICATION DEVELOPMENT
CO1	To keep in mind about basic development of Mobile application.
CO2	To get the idea about how to develop the Android Application.
CO3	To access the database connection using Android.

19 UBC 6S4	SKILL BASED MAJOR ELECTIVE II : CORPORATE SYSTEMS
CO1	To recollect the usage of computers in Healthcare systems.
CO2	To understand the process of banking & Insurance with computers.
CO3	To apply IT in Telecommunication and Textiles at various levels.
CO4	To analyze a solution to the utility problem using computer softwares.

19 UBC 6S5	SKILL BASED MAJOR ELECTIVE II : MULTIMEDIA AND ANIMATION
CO1	To recollect the effects of multimedia in your daily life
CO2	To get the idea about the animation into digital content and multimedia products.
CO3	To execute the animation using computerised animation tools.
CO4	To evaluate projects and presentations utilizing a variety of digital media multimedia technologies.

19 UBC 6S6	SKILL BASED MAJOR ELECTIVE II : PERSONALITY DEVELOPMENT SKILLS
CO1	To keep in mind about the personality developments.
CO2	To get the idea to connect and work with others to achieve a set task.
CO3	To execute the clear briefing and listening skills, not being afraid to ask for help and support when necessary.
CO4	To interpret the time and resource management, conflict resolution, teaching and mentoring others.



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U.G.DEPARTMENT OF COMPUTER APPLICATIONS
N.G.M COLLEGE, POLLACHI

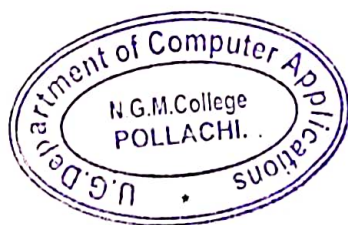
Programme Outcomes

PO1:

To make the grade of the students to meet the requirements of corporate industry, society and business to race worldwide.

PO2:

Analyze and apply latest technologies to solve problems in the areas of computer applications and to synthesize computing systems through quantitative and qualitative techniques in order to achieve better decisions.




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2018 - 2021

SEMESTER - I

18 UBC 101	PROGRAMMING IN C
CO1	To recollect the structured programming concepts.
CO2	To understand the branching statements and looping statements.
CO3	To apply programming concepts such as Arrays, Functions, Structures, Pointers, etc.
CO4	To analyze the File concepts and usage of storing the data in files.

18 UBC 102	FUNDAMENTALS OF DIGITAL COMPUTER
CO1	To recollect the knowledge about binary number system, Boolean algebra and binary codes.
CO2	To get the idea about combinational systems composed of standard combinational modules, such as multiplexers, flip-flops, demultiplexers and decoders.
CO3	To analyze and design sequential systems composed of standard sequential modules, such as counters and registers.
CO4	To review the various Input and Output devices such as printers, keyboards, mouse, etc.

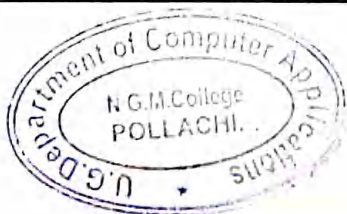
18 UBC 1A1	ALLIED I: MATHEMATICS I - COMPUTER ORIENTED NUMERICAL AND STATISTICAL METHODS
CO1	To recollect the samples accuracy, locate and use good mathematical software.
CO2	To understand the number representation errors and convergence properties.
CO3	To apply numerical methods as the basis of procedural language such as C, C++ and JAVA.
CO4	To analyze the influence of data representation and computer architecture on algorithm choice and development.

18 UBC 103	LAB - I :PROGRAMMING IN C
CO1	To remember the Programming concepts using branching statements and looping statements.
CO2	To get the idea about Arrays, Functions, Structures, Pointers, etc.
CO3	To verify the files created using C.

SEMESTER II

18 UBC 204	OBJECT ORIENTED PROGRAMMING WITH 'C++'
CO1	To recollect the Object Oriented Programming concepts.
CO2	To understand the usage of various significant operators.
CO3	To apply programming concepts such as Functions, Classes and Objects along with overloading concepts.
CO4	To analyze the File concepts and in usage of storing the data in files.

18UBC205	COMPUTER SYSTEM ARCHITECTURE
CO1	To recollect basic structure of computer and control unit operations.
CO2	To understand the concept of computer arithmetic operations and memory system design.
CO3	To apply the cache mapping techniques and conceptualize instruction level parallelism.
CO4	To analyze the concept of I/O organization and to identify high performance architecture.



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18UBC2A2	MARKETING AND HR MANAGEMENT
CO1	To recollect the skills in market analysis and design customer driven strategies with regard to product, pricing, and promotion.
CO2	To understand various elements of management such as concept, nature and scope.
CO3	To apply the decision making policies in an organization.
CO4	To analyze the appraisal of the employee's performance and leadership theories which help to improve the organization's excellence.

SEMESTER III

18 UBC 307	RDBMS AND VISUAL PROGRAMMING
CO1	To understand the VB Application and IDE.
CO2	To get the idea about Data types, Functions and Procedures.
CO3	To execute more about the Relational database to apply in the database.
CO4	To analyze the SQL Statement and Query to apply in the application program.

18 UBC 308	SHELL PROGRAMMING AND OPERATING SYSTEMS
CO1	To remember the Master functions, structures and history of operating systems.
CO2	To understand the implementation of file systems and directories along with the interfacing of IO devices with the operating system.
CO3	To deploy, Linux has become sufficiently mainstream that deploying it isn't a mystery.
CO4	To analyze the need for security measures for a Linux environment.

18 UBC 309	DATA STRUCTURES AND ALGORITHMS
CO1	To remember the students to know about how to develop their programs.
CO2	Point of more about the algorithm and implementation in the system.
CO3	To implement the Data Structure methods in object oriented languages.
CO4	To analyze the time complexity for Data Structure problems.

18UBC3A3	ACCOUNTANCY FOR DECISION MAKING
CO1	To recollect the knowledge of accounting theory based on conceptual framework of accounting.
CO2	To enable students to understand the concept of accounting.
CO3	To execute the knowledge going in accounting for decision making.
CO4	To analyze and interpret accounting related transactions in accordance with accounting theory.

18 UBC 310	PROGRAMMING LAB –III: RDBMS AND VISUAL PROGRAMMING
CO1	To recollect about the oracle queries.
CO2	To understand the simple application program using VB concepts.
CO3	To validate a knowledge to connect VB with oracle database.



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18 UBC 4A4	MATHEMATICS-II COMPUTER BASED OPTIMIZATION TECHNIQUES
CO1	To recollect the modeling tools and computational tools as well as analytic skills to evaluate the problems.
CO2	To understand how to translate real world problem given in words into a mathematical formulation.
CO3	To apply mathematical optimization techniques, existing optimization tool kits to write computer programs and to implement algorithms and solve problems.
CO4	To analyze the problem situation leading to better control, better co-ordination, better systems and finally better decisions.

18 UBC 416	PROGRAMMING LAB VI : FRAMEWORK TECHNOLOGIES
CO1	To remember the .NET environment to create Web Service-based applications and components.
CO2	To get the idea about object-oriented programming techniques including classes, objects, methods, instance variables, composition, and inheritance, and polymorphism
CO3	To verify the files created in Microsoft windows forms and ADO.Net

18 UBC 417	PROGRAMMING LAB -VII: WEB DESIGNING
CO1	To remember the Web page applications and identify its elements and attributes.
CO2	To get the idea about web pages and create HTML and Cascading Style Sheets.
CO3	To validate the files created in Dynamic web pages and JavaScript.

18 UBC 418	PROGRAMMING LAB- VIII:PHP Programming
CO1	To know about the practical fundamentals of php script.
CO2	To get the idea about function and array using php.
CO3	To access the database connection

18 UBC 4N3	NME:II PROGRAMMING LAB – OPEN SOURCE SOFTWARE
CO1	To keep in mind about the open source software and their opportunity in their career.
CO2	To get the idea about the Graphic Design open software software.
CO3	To verify their creativity skill using GIMP Free open source software.

18 UBC 4N4	NME:II PROGRAMMING LAB - 2D ANIMATION
CO1	To remember graphics primitives and demonstrate geometrical transformations.
CO2	To get the idea with interactive graphics applications using one or more graphics application programming interfaces.
CO3	To identify effectively and creatively solve a wide range of graphic design problems.

SEMESTER V

18 UBC 519	OBJECT ORIENTED PROGRAMMING USING JAVA LANGUAGE
CO1	To remember the structure and model of the Java Programming Language.
CO2	To understand the usage of Java Programming Language for various programming technologies.
CO3	To implement certain technologies in the Java Programming Language to solve the given problem.
CO4	To evaluate whether the Java Programming Language can meet user requirements.



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18 UBC 583	APTITUDE
CO1	To keep in mind the personal career assessment to identify the strong and weak points.
CO2	To understand which type of career will be best suited according to their potential.
CO3	To apply the individual's potential ability to grow with their career.
CO4	To analyze their skills, values likes, dislikes and their innate abilities.

SEMESTER VI

18 UBC 625	ADVANCED JAVA PROGRAMMING
CO1	To keep in mind to implement programs in the Java programming language that makes strong use of classes and objects.
CO2	To understand the concept of Connecting database using JDBC and accessing database.
CO3	To implement the concepts of servlets, JSP & EJB for building enterprise applications.
CO4	To analyze platform independent applications using a variety of component based frameworks.

18 UBC 626	DATA MINING AND WAREHOUSING
CO1	To remember the contribution of data mining to the decision-support level of organizations
CO2	To understand and carefully differentiate between situations for applying different data-mining techniques
CO3	To implement different models used for OLAP and data preprocessing
CO4	To estimate data-mining and data warehousing solutions for different applications

18 UBC 627	INFORMATION SECURITY
CO1	To recollect the familiarity with prevalent network and distributed system attacks, defenses against them, and forensics to investigate the aftermath.
CO2	To understand the information assurance as practiced in computer operating systems, distributed systems, networks and representative applications
CO3	To implement the basic understanding of cryptography, how it has evolved, and some key encryption techniques used today
CO4	To analyze the security policies (such as authentication, integrity and confidentiality), as well as protocols to implement such policies in the form of message exchanges.

18 UBC 628	MOBILE APPLICATION DEVELOPMENT
CO1	To remember about the Android application development tools.
CO2	To understand the Install and configure Android application development
CO3	To implement the design and develop user Interfaces for the Android platform
CO4	To estimate the database connection for android application.

18 UBC 629	PROGRAMMING LAB –XI: ADVANCED JAVA PROGRAMMING LAB
CO1	To remember the interactive user interfaces using the Java Swing class and appropriate layout managers.
CO2	To get the idea in exposing advanced topics including multithreading, internet networking, and JDBC database connectivity.
CO3	To identify advance concepts of java programming with database connectivity.



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18 UBC 520	SOFTWARE TESTING
CO1	To keep in mind the fundamental concepts in software testing, including software testing objectives, process, criteria, strategies, and methods.
CO2	To understand how to plan a test project, design test cases and data, conduct testing operations, manage software problems and defects, generate a testing report and how to write software testing documents.
CO3	To execute software testing automation problems and solutions.
CO4	To analyze the techniques and skills on how to use modern software testing tools to support software testing projects.

18 UBC 521	COMPUTER NETWORKS
CO1	To remember, use and implement Computer Networks and the basic components of a Network system.
CO2	To understand the layers of OSI and TCP and get knowledge about congestion control and network security.
CO3	To apply pieces of hardware and software to make networks more efficient, faster, more secure, easier to use, able to transmit several simultaneous messages, and able to interconnect with other networks.
CO4	To analyze packet switching networks, evaluate shortest path routing and traffic management at packet level, flow level and flow aggregate level.

18 UBC 522	CURRENT TRENDS AND TECHNOLOGIES
CO1	To implement Data and Knowledge Management and use of Devices in IoT Technology.
CO2	To analyze the terminology used by SAP ABAP, knowledge of big data and its technologies in Big Data Analytics.
CO3	To keep in mind of Cyber Security Policy and Security Evolution.
CO4	To get the idea to apply a Objectives and Guidance of Cyber security.

18 UBC 523	PROGRAMMING LAB –IX: JAVA PROGRAMMING
CO1	To recollect object-oriented concepts.
CO2	To understand the usage of Java Programming Language for various programming technologies.
CO3	To decide frontend and backend of an application

18 UBC 524	PROGRAMMING LAB –X : SOFTWARE TESTING
CO1	To remember the fundamental concepts in software testing
CO2	To understand the current state-of-the-art in software testing.
CO3	To validate software testing automation

18 UBC 522	E-COMMERCE
CO1	To keep in mind of the foundations and importance of E-commerce.
CO2	To understand the electronic payment system for e-commerce and its security issues.
CO3	To apply the concept of electronic data interchange and its legal, social and technical aspects.
CO4	To analyze the security issues over the web, the available solutions and future aspects of e-commerce security.

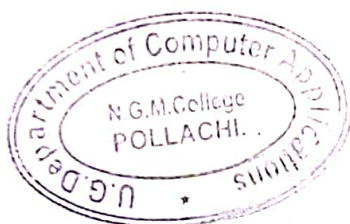


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18 UBC 630	PROGRAMMING LAB –XII: Mobile Application Development
CO1	To keep in mind about basic development of Mobile application.
CO2	To get the idea about how to develop the Android Application.
CO3	To access the database connection using Android.

18 UBC 6S4	SOFTWARE INDUSTRY DOMAINS
CO1	To recollect the usage of computers in Healthcare systems.
CO2	To understand the process of banking & Insurance with computers.
CO3	To apply IT in Telecommunication and Textiles at various levels.
CO4	To analyze a solution to the utility problem using computer softwares.

18 UBC 6S5	MULTIMEDIA AND ANIMATION
CO1	To recollect the effects of multimedia in your daily life
CO2	To get the idea about the animation into digital content and multimedia products.
CO3	To execute the animation using computerised animation tools.
CO4	To evaluate projects and presentations utilizing a variety of digital media multimedia technologies.



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