

18PCS101

KONGUNADU ARTS AND SCIENCE COLLEGE
(AUTONOMOUS) COIMBATORE – 641 029



DEPARTMENT OF COMPUTER SCIENCE (PG)

(2018 - 2019 batch)

Programme Code: 09		MSc. Computer Science		
Course Code: 18PCS101		Core Paper 1: Data Structures using C++		
Batch	Semester	Hours / Week	Total Hours	Credits
2018-2019	I	5	75	4

Course Objectives

1. To inculcate the knowledge of various data structures and definitions.
2. To provide the use of data structure background for programming.
3. To develop the proficiency for planning & organizing the data structures.

Course Outcomes (CO)

K1	CO1	Students will get the knowledge of data structures and its usage
K2	CO2	Will be able to distinguish the various data structures
K3	CO3	Acquires skills to describe the data structures appropriately for programming
K4	CO4	Apply appropriate algorithms and data structures for various applications

Programme Code: 09		MSc. Computer Science		
Course Code: 18PCS102		Core Paper 2 : Data Communications and Networks		
Batch	Semester	Hours / Week	Total Hours	Credits
2018-2019	I	5	75	4

Course Objectives

1. To understand the basic concepts of networks.
2. To familiarize various networking and inter-networking devices and their functions.
3. To learn various technologies implemented in networking.

Course Outcomes (CO)

K1	CO1	Understanding the basic concepts of networks, protocols, standards and topologies.
K2	CO2	Recapitulate the signal conversion and various transmission mediums.
K3	CO3	Analyzing the optimal path for data transmission using various routing algorithms.
K4	CO4	Knowing various internet addressing and sub-netting the network

Programme Code: 09		MSc. Computer Science		
Course Code: 18PCS103		Core Paper 3: Information Security		
Batch	Semester	Hours / Week	Total Hours	Credits
2018-2019	I	5	75	4

Course Objectives

1. The course is intended to preach the common goals of security.
2. To educate the Legal issues of Information Security and its cons.
3. To inculcate the Security Technologies and its methods of implementation.

Course Outcomes (CO)

K1	CO1	Understanding the fundamental and history of Information Security, its legal and professional issues.
K2	CO2	Aware of Intrusion Detection tools and Biometric controls in market.
K3	CO3	Capable to handle sensitive real time security technologies and establishing VPNs
K4	CO4	Students are able to implement information security projects and its technical aspects.

Programme Code: 09		MSc. Computer Science		
Course Code:18PCS104		Core Paper 4 - Relational Database Management Systems		
Batch 2018-2019	Semester I	Hours / Week 5	Total Hours 75	Credits 4

Course Objectives

1. To understand and apply the principles of data modelling using Entity Relationship and develop a good database design.
2. To understand the use of SQL and its syntax and apply Normalization.
3. To understand the concept of information retrieval.

Course Outcomes (CO)

K1	CO1	Student will master the basic concepts of Databases
K2	CO2	Student will have high level understanding of relational model and SQL.
K3	CO3	Student will be proficient in data Normalization
K4	CO4	Students will understand security concept and informational retrieval.

Programme Code: 09		MSc. Computer Science		
Course Code: 18PCS1CL		Core Practical 1: Data Structures using C++Lab		
Batch	Semester	Hours / Week	Total Hours	Credits
2018-2019	I	5	75	3

Course Objectives

1. To Inculcate the Knowledge of various data structures and definitions.
2. To provide the use of data structure background for programming.
3. To make a decision of appropriate data structure for programming.

Course Outcomes (CO)

K3	CO1	Distinguish the Various data structures
K3	CO2	Skills to describe the data structures appropriately for programming
K4	CO3	Apply appropriate algorithms and data structures for various applications
K5	CO4	Evaluate the Various Data Structures with various applications

18PCS1CM

Programme Code: 09		MSc. Computer Science		
Course Code: 18PCS1CM		Core Practical 2 : RDBMS Lab		
Batch	Semester	Hours / Week	Total Hours	Credits
2018-2019	I	5	75	3

Course Objectives

1. To define schema and creation of Databases.
2. To write SQL Queries to retrieve information from Databases.
3. To use host language interface with Embedded SQL.

Course Outcomes (CO)

K3	CO1	Creation of Databases
K3	CO2	Retrieval of Information of Databases
K4	CO3	Use of Forms and Report writer packages
K5	CO4	Use of host language interface with Embedded SQL

Programme Code: 09		MSc. Computer Science		
Course Code: 18PCS205		Core Paper 5 : Advanced Java		
Batch	Semester	Hours / Week	Total Hours	Credits
2018-2019	II	4	60	4

Course Objectives

1. To understand the basic concepts of Object oriented programming.
2. To inculcate the concepts of networking and graphics offering a GUI environment.
3. To educate the concepts of database management and essentials of Servlets

Course Outcomes (CO)

K1	CO1	Ability to understand the applications in OOPS paradigm.
K2	CO2	Student can establish Client-Server network and enable Multithreaded applications
K3	CO3	Will Effectively use Applets , Event and Construction of Bean API , providing a GUI environment,
K4	CO4	Capable of better Backend Management, Can compose complex Applications with Swings and Servlet.

Programme Code: 09		MSc. Computer Science		
Course Code: 18PCS206		Core Paper 6: Wireless Networks		
Batch	Semester	Hours / Week	Total Hours	Credits
2018-2019	II	4	60	4

Course Objectives

1. To impart adequate knowledge of wireless communication.
2. To provide exposure of various kinds of wireless communications with its architecture and different types of wireless networks.
3. To Familiarize IEEE wireless standards, Wi-max and Video coding.

Course Outcomes (CO)

K1	CO1	Students will get the knowledge of wireless communication
K2	CO2	Knows the structures and standards of wireless communication
K3	CO3	Describe the components & operations of various wireless networks
K4	CO4	Access the standards and types of wireless networks

Programme Code: 09		MSc. Computer Science		
Course Code: 18PCS207		Core Paper 7 - .Net Framework		
Batch 2018-2019	Semester II	Hours / Week 4	Total Hours 60	Credits 4

Course Objectives

1. To understand .Net framework features like portability and language interoperability concepts.
2. To understand the vb.Net and ASP.Net controls.
3. To understand how to work with database with the help of ADO.Net.

Course Outcomes (CO)

K1	CO1	Student will be able to understand .Net framework concepts.
K2	CO2	Student will be able to remember VB.Net controls windows application.
K3	CO3	Student will be able to analyse how to use a ASP.Net controls and web application.
K4	CO4	Student will be able to create or apply database driven Windows application and ASP.Net web applications.

Programme Code: 09		MSc. Computer Science		
Course Code: 18PCS108		Core Paper 8 : Software Project Management		
Batch	Semester	Hours / Week	Total Hours	Credits
2018-2019	II	4	60	4

Course Objectives

1. To understand the concepts of software project and product life cycle.
2. To analyze software requirements, design and development of the project.
3. To equip testing and ensuring the software quality.

Course Outcomes (CO)

K1	CO1	Students will be aware of project and product life cycle and its requirements.
K2	CO2	Thorough understanding in various key aspects which are involved in the process of project development.
K3	CO3	Gathering requirements enable the students to analyze them in order to achieve goal.
K4	CO4	Applying all the techniques and methods learned to minimize variability and develop the software.

Programme Code: 09		MSc. Computer Science		
Course Code: 18PCS2CN		Core Practical 3 : Advanced Java Lab		
Batch	Semester	Hours / Week	Total Hours	Credits
2018-2019	II	5	75	3

Course Objectives

1. The course inculcates the fundamentals and dynamics of OOPs paradigm.
2. To demonstrate the the GUI and advanced functionalities enriching the development skill.
3. To simulate the industrial demands and expertise in the specified domain.

Course Outcomes (CO)

K3	CO1	Students will be capable to understand and apply the better usage of OOPs concept.
K3	CO2	Proficient in developing GUI environment and event handling
K4	CO3	Establishing networks with socket programming and Sessions
K5	CO4	Simulates applications with Swings and Servlets.

Programme Code: 09		MSc. Computer Science		
Course Code: 18PCS2CO		Core Practical 4 : .Net Framework Lab		
Batch 2018-2019	Semester II	Hours / Week 5	Total Hours 75	Credits 3

Course Objectives

1. To educate the usage of .Net framework Environment.
2. To understand the usage of controls in .Net.
3. To create database application with ADO.Net.

Course Outcomes (CO)

K3	CO1	Effective use of .Net framework concepts.
K3	CO2	Develop a working knowledge of VB.Net controls
K4	CO3	Student will be able to build well formed web controls with validation
K5	CO4	Student will be able to create or apply database driven Windows application and ASP.Net web applications.

Programme Code: 09		MSc.Computer Science		
Course Code: 18PCS309		Core Paper 9: Open Source Systems.		
Batch	Semester	Hours / Week	Total Hours	Credits
2018-2019	III	5	75	4

Course Objectives

1. To educate the benefits of proprietary and non proprietary softwares.
2. To inculcate the significance of freeware Web Technologies
3. To promote the web designing skills and data handling with Server side scripts.

Course Outcomes (CO)

K1	CO1	Will enhance their presentation skills in designing, recollecting Html tags , pruning it to perfection with style sheets
K2	CO2	Students can escalate their web design to data manipulation at client end with JavaScript
K3	CO3	Will have sound knowledge in data validation and handling dynamic data with DHTML
K4	CO4	Handling challenges at backend, performing validation at Server end with PHP-MySQL suite

18PCS310

Programme Code: 09		MSc. Computer Science		
Course Code: 18PCS310		Core Paper 10:Unix &Linux Programming		
Batch	Semester	Hours / Week	Total Hours	Credits
2018-2019	III	5	75	4

Course Objectives

1. To understand the basic set of commands and utilities in Linux/UNIX systems.
2. To provide a comprehensive introduction to Shell Programming.
3. To develop an essential skills required to write simple and complex Shell scripts to automate the applications

Course Outcomes (CO)

K1	CO1	Obtain a foundation for unix /linux operating systems
K2	CO2	Manifestation of various unix /linux command and its usage
K3	CO3	Make effective use of Unix / Linux utilities, and scripting languages
K4	CO4	Exposure to develop a software using Unix/Linux systems

18PCS311

Programme Code: 09		MSc.Computer Science		
Course Code: 18PCS311		Core Paper 11: Data Mining and Warehousing		
Batch	Semester	Hours / Week	Total Hours	Credits
2018-2019	III	5	75	4

Course Objectives

1. To inculcate the basics of Data Mining and Data Warehousing.
2. To recognize the various data mining and warehousing tools in the business environment/ state of the market.
3. To develop the proficiency for planning & applying the DM techniques.

Course Outcomes (CO)

K1	CO1	Understand the basics of DataMining & DataWarehousing.
K2	CO2	Identify the appropriate Data Mining techniques for problem solving
K3	CO3	Demonstration of various data mining techniques and ware housing tool
K4	CO4	Implement the methods and techniques to develop a small Project

18PCS3Z1

Programme Code: 09		MSc.Computer Science		
Course Code: 18PCS3Z1		Mini Project		
Batch	Semester	Hours / Week	Total Hours	Credits
2018-2019	III			3

Programme Code: 09		MSc.Computer Science		
Course Code: 18PCS3CP		Core Practical 5 : Open Source Lab		
Batch	Semester	Hours / Week	Total Hours	Credits
2018-2019	III	5	75	3

Course Objectives

1. The course educates the advanced concepts in web designing with Open Source tools.
2. To demonstrate the development of web application and its validation.
3. To inculcate the significance of Server Scripts and simulating applications with backends.

Course Outcomes (CO)

K3	CO1	Posses better presentation and manipulating skills for developing a dynamic web page
K3	CO2	Validating the essentials in an application using JavaScript and DHTML.
K4	CO3	Capable to develop Web application with Server script
K5	CO4	Performs better Data manipulation for web application using PHP-Mysql suite.

18PCS3CQ

Programme Code: 09		MSc. Computer Science		
Course Code: 18PCS3CQ		Core Practical 6 : Unix & Linux Programming Lab		
Batch 2018- 2019	Semester III	Hours / Week 5	Total Hours 75	Credits 3

Course Objectives

1. Execute the basic set of commands and utilities in Linux/UNIX systems.
2. To write shell scripts to solve regular exercises.
3. To implement some standard Linux/Unix utilities and can able to develop some software applications

Course Outcomes (CO)

K3	CO1	Make effective use of Unix utilities, and scripting languages
K3	CO2	Apply shell scripts to develop a small types of applications
K4	CO3	Exposure to develop a software using Unix/Linux systems
K5	CO4	Execution of simple programs and shell script with various applications

Programme Code: 09		MSc. Computer Science		
Course Code: 18PCS412		Core Paper 12 : Software testing		
Batch 2018-2019	Semester IV	Hours / Week 5	Total Hours 75	Credits 4

Course Objectives

1. To understand software life-cycle model (SDLC Model).
2. To introduce software testing techniques.
3. To understand softer planning, test reporting and software tools.

Course Outcomes (CO)

K1	CO1	Understand the software life-cycle model and software quality, quality assurance and quality control
K2	CO2	Ability to remember Black box testing and Integration testing concept.
K3	CO3	Student can able to analyse system and acceptance testing, performance testing.
K4	CO4	Student can able to apply regression testing , object oriented system testing, test planning execution.

Programme Code: 09		MSc. Computer Science		
Course Code: 18PCS4CR		Core Practical 7 : Software testing Lab		
Batch 2018-2019	Semester IV	Hours / Week 5	Total Hours 75	Credits 3

Course Objectives

1. To understand software testing techniques.
2. To introduce software testing tools like selenium, win runner etc.
3. To know how to write test cases and apply.

Course Outcomes (CO)

K3	CO1	Effective use of software life-cycle model and software quality, quality assurance and quality control
K3	CO2	Ability to use different testing tools.
K4	CO3	Student can able to write test planning and execution. Student can able to write and apply test cases to different software products.
K5	CO4	Student can able to write and apply test cases to different software products.

18PCS4Z2

Programme Code: 09		MSc. Computer Science		
Course Code: 18PCS4Z2		Project Work and Viva-Voce		
Batch	Semester	Hours / Week	Total Hours	Credits
2018-2019	IV	15	225	6

Programme Code: 09		MSc. Computer Science		
Course Code:		Elective Paper : Big Data Analytics		
Batch 2018-2019	Semester	Hours / Week	Total Hours	Credits 4

Course Objectives

1. To introduce the basic concepts of big data.
2. To face the challenges of big data.
3. To teach students in applying skills and tools to manage and analyse big data

Course Outcomes (CO)

K1	CO1	Understand the concept and challenges of big data.
K2	CO2	Collect, manage, store, store, query and analyse various forms of big data.
K3	CO3	Gain hands-on experience on large-scale analytics tools to solve some open big data problems.
K4	CO4	Understand the big data tools like Hadoop,Hbase,NoSQL and Neo4J

Programme Code: 09		MSc. Computer Science		
Course Code:		Elective Paper : Network Security and Cryptography		
Batch	Semester	Hours / Week	Total Hours	Credits
2018-2019				4

Course Objectives

1. To familiarize basic concepts of cryptography and algorithms.
2. To know about various security issues.
3. To understand the process of implementing the cryptographic algorithms.

Course Outcomes (CO)

K1	CO1	Understanding fundamental concepts of network security.
K2	CO2	Knowing how the encryption and decryption are done.
K3	CO3	Familiarize various kinds of viruses and related threats.
K4	CO4	Implementing various cryptography algorithms.

Programme Code: 09		MSc. Computer Science		
Course Code:		Elective Paper : Bio Inspired Computing		
Batch	Semester	Hours / Week	Total Hours	Credits
2018-2019				4

Course Objectives

1. To Inculcate the basics of Bio-Inspired algorithms
2. To provide exposure of various kinds of Heuristic and Meta-heuristics algorithms
3. To develop the proficiency for planning & implementing the various Bio-Inspired algorithms.

Course Outcomes (CO)

K1	CO1	Obtain a foundation for Bio-Inspired algorithms
K2	CO2	Distinguish nature based algorithms and bio inspired algorithms
K3	CO3	Most real-world optimization problems can be recognized
K4	CO4	Apply relevant Bio-Inspired problem solving methodologies for optimization

Programme Code: 09		MSc. Computer Science		
Course Code: 18PCS4E3		Elective Paper : Enterprise Web Services		
Batch	Semester	Hours / Week	Total Hours	Credits
2018-2019				4

Course Objectives

1. To educate the concepts of webservice development and mobile portals.
2. To offer a broader study on XML manipulation and WSDL usage.
3. To enhance business analysis skills and excel in real world Web service Application development.

Course Outcomes (CO)

K1	CO1	Understanding the usage of basic Web service technologies and structure better XML schema and SOAP Models for web applications
K2	CO2	Acquires Knowledge to develop registry for web service and experimenting various WSCL components
K3	CO3	Developing better Workflow Management and aware of various Web security issues
K4	CO4	Handling challenges in mobile web services and real world web applications

Programme Code: 09		MSc. Computer Science		
Course Code:		Elective paper : Artificial Intelligence and Expert Systems		
Batch	Semester	Hours / Week	Total Hours	Credits
2018-19				4

Course Objectives

1. To familiarize AI problems and AI techniques.
2. To learn various search techniques and knowledge representations.
3. To inculcate expert system concepts and applying them to solve the problems.

Course Outcomes (CO)

K1	CO1	Understanding basic concepts Artificial Intelligence, AI problems and its techniques.
K2	CO2	Analyze state space search, problem characteristics and knowledge representations.
K3	CO3	Students can able to differentiate between conventional program and expert system.
K4	CO4	Students can build and apply expert system to the problem by acquiring knowledge from experts.

Programme Code: 09		MSc .Computer Science		
Course Code:		Elective Paper : Computational Intelligence		
Batch 2018-2019	Semester	Hours / Week	Total Hours	Credits 4

Course Objectives

1. To understand the fundamental of neural networks.
2. To understand the concepts of machine intelligence applications of fuzzy logic.
3. To understand the basics of an evolutionary computing paradigm known as genetic algorithms and its application to engineering optimization problems.

Course Outcomes (CO)

K1	CO1	Student will be able to understand concepts of neural networks, neuro-modeling, several neural network paradigms and its applications.
K2	CO2	Student will be able to remember fuzzy sets, knowledge representation using fuzzy rules.
K3	CO3	Student will be able study approximate reasoning, fuzzy inference systems, and fuzzy logic control and other machine intelligence applications of fuzzy logic
K4	CO4	Student will be able know genetic algorithms and its application to engineering optimization problems

Programme Code: 09		MSc. Computer Science		
Course Code:		Elective Paper : Distributed Systems		
Batch 2018-2019	Semester	Hours / Week	Total Hours	Credits 4

Course Objectives

1. Students will identify the core concepts of distributed systems.
2. To examine state-of-the-art distributed systems, such as Google File System.
3. To design and implement sample distributed systems

Course Outcomes (CO)

K1	CO1	Student will learn the principles, architectures, algorithms and programming models used in distributed systems
K2	CO2	Demonstrate knowledge of the core architectural aspects of distributed systems
K3	CO3	Student will able to demonstrate underlying components of distributed systems such as RPC, file systems.
K4	CO4	Students will examine how existing systems have applied the concepts of distributed systems in designing large systems, and will additionally apply these concepts to develop sample systems.

Programme Code: 09		MSc. Computer Science		
Course Code: 18PCS0D1		ALC 1 : PROGRAMMING IN C #		
Batch 2018-2019	Semester	Hours / Week	Total Hours	Credits
				4

Course Objectives

1. To understand the basic elements of C#.
2. To provide exposure to Program Structure and Inheritance.
3. To understand File systems and its operations.

Programme Code: 09		MSc. Computer Science		
Course Code: 18PCS0D2		ALC 2 : J2EE		
Batch 2018-2019	Semester	Hours / Week	Total Hours	Credits
				4

Course Objectives

1. To understand the basics of J2EE.
2. To provide exposure to Java Servlets, Beans and Remote Method Invocation.
3. To learn the concepts of Web Services.