ISLAMIAH WOMEN'S ARTS AND SCIENCE COLLEGE
Accredited by the NAAC with 'B' Grade
Vaniyambadi – Tamil Nadu

DEPARTMENT OF COMPUTER SCIENCE – BSc (CS)

PSOs and Cos

PSOs, Cos

B.Sc (Computer Science)

PROGRAM SPECIFIC OUTCOMES (PSOs)

PSO1: Develop student's computer knowledge, their basic understanding of software commonly used in Educational and IT Sectors.

PSO2: Understand how to organize information accurately by using the different software available to perform activities accurately and quickly.

PSO3: Understand how to present their innovations in more unique way by using Software.

PSO4: Develop the various IT skills to the electronic databases. Use the Systems Analysis Design paradigm to critically analyze a problem.

PSO5: Solve the problems in the Information Technology environment (Networking Concepts and their broad usages)

PSO6: Understand how to function effectively as a team to accomplish a task of Software Development.

COURSE OUTCOME:

SEMESTER I

COURSE: DIGITAL LOGIC AND PROGRAMMING IN C CREDIT: 6

CO1: Apply the principles of number system, binary codes and Boolean algebra to minimize logic expressions.

CO2: Develop K-maps to minimize and optimize logic functions up to 5 variables.

CO3: Design various Combinational and Sequential Circuits such as encoders, decoders and counters using multiplexers and flip flops.

CO4: Identify the errors during the execution of a program.

CO5: Develop their programming skills.

CO6: Understand operators, expressions and pre-processors.

CO7: Understand arrays, its declaration and uses

COURSE: PROGRAMMING IN C LAB CREDIT: 2

CO1: Design programs using Functions, Pointers, Structures and Union in C Language.

CO2: Design a program using File handling.

CO3: Implement arrays in Sorting and Linear Search of an element.

COURSE: MATHEMATICAL FOUNDATIONS I CREDIT: 4

CO1: Understand to simplify and evaluate algebraic expressions.

CO2: Analyze linear equations in one variable.

CO3: Compare linear and non-linear equations using Analytic methods.

CO4: Implement concepts to convert between metric, household and Apothecary Units.

SEMESTER - II

COURSE: C++ & DATA STRUCTURE CREDIT: 6

CO1: Understand The Basic Concepts Of Operators & Expression.

CO2: Create the functions in classes &objects.

CO3: Understand the concept of function overloading.

CO4: Identify all inheritance and file concept.

CO5: Evaluate the data structure & list concept analysis.

CO6: Create data type & operations in data structures concept.

CO7: Compare the binary search tee &graph concept of operation.

COURSE: C++ AND DATA STRUCTURES LAB CREDIT: 2

CO1: Implement the concept of classes, object, conueer443structor, functions and overloading

CO2: Implement the inheritance and error handing functions

CO3: Implement infix to postfix conversion & binary tree traversals (in-order, pre- order& post order).

COURSE: MATHEMATICAL FOUNDATIONS II CREDIT: 6

CO1: Understand Matrix, Skew-Symmetric Matrix

CO2: Understand Cayley-Hamilton theorem

CO3: Analyze definite integrals

CO4: Implement analytical geometry

CO5: Understand 3-Dimension

CO6: Compare area and volume using Integration

CO7: Analyze Planes and Straight Lines

CO8:Analyze Hermition and Skew-Hermition

SEMESTER - III

COURSE: JAVA PROGRAMMING CREDIT: 3

CO1: Use an integrated development environment to write, compile, run and test simple object oriented java programs.

CO2: Read and make elementary modifications to java programs that solve real-world problems.

CO3: Validate input in a java program.

CO4: Identify and fix defects and common security issues in code.

COURSE: JAVA PROGRAMMING LAB CREDIT: 3

CO1: Implement Package, Inheritances and interfaces

CO2: Analyze Flow, Border and Grid Layouts Validate input in a java program

CO3: Evaluate Dialogs , Menu and Frame

CO4: Implement User defined Exception Handling

COURSE: STATISTICAL METHODS & THEIR APPLICATIONS I CREDIT:4

CO1: Understand diagrammatic and graphical representation of data.

CO2: Implement Mean, Mode, Median

CO3: Evaluate skewness, co-efficient of skewness

CO4: Implement correlation, regression analysis

CO5: Understand different statistical method

COURSE: DESIGN AND ANALYSIS OF ALGORITHM CREDIT: 3

CO1: Understand concepts of Algorithm and Analysis.

CO2: Learn various advanced design and analysis techniques such as greedy algorithms, dynamic programming.

CO3: Understand different computational models and various complexity measures.

CO4: Analyze the complexity/ performance of different algorithms.

COURSE: BASIC MATHEMATICS CREDIT:2

CO1: Understand power sets, equality of sets

CO2: Understand binary, octal and hexadecimal numbers

CO3: Evaluate logical statements and connectives

CO4: Understand type of matrices

SEMESTER - IV

COURSE: DATABASE MANAGEMENT SYSTEMS CREDIT: 3

CO1: Understand the basic concepts of Database.

CO2: Analyze different data models.

CO3: Evaluate SQL and PL/SQL concepts

CO4: Implement Procedures, Functions, Triggers and Cursors.

COURSE: RDBMS LAB CREDIT: 3

CO1: Implement Simple Queries to fetch data from table.

CO2: Evaluate queries used to fetch data from table using aggregate functions and set operations.

CO3: Compare and Contrast Trigger Before and After

CO4: Implement Functions and Procedures in PL/SQL.

COURSE: STATISTICAL METHODS & THEIR APPLICATIONS II CREDIT:4

CO1: Implement Curve fitting methods

CO2: Understand Baye's Theorem

CO3: Understand Binomial, Poisson, Normal distribution

CO4: Implement test of significance

CO5: Understand one and two way classification.

COURSE: STATISTICS PRACTICAL CREDIT:2

CO1: Implement Skewness and Kurtosis

CO2: Understand Correlation and Regression

CO3: Understand Curve Fitting

CO4: Evaluate fitting of distributions – Binomial, Poisson, Normal

COURSE: COMPUTER ORGANISATION AND ARCHITECTURE CREDIT: 3

CO1: Understand the basic computer architecture.

CO2: Compare the different Addressing Modes

CO3: Analyze Direct Memory Access

CO4: Compare and Contrast Memory Management

COURSE: FOUNDATION MATHEMATICS FOR COMPETITVE EXAMS

CREDIT:2

CO1: Understand ratio and proportions

CO2: Understand profit and loss, discounts

CO3: Implement Simple and Complex interest

CO4: Understand time, distance and work

SEMESTER – V

COURSE: MOBILE APPLICATIONS DEVELOPMENT CREDIT: 3

CO1: Acquire knowledge of Mobile Applications Development

CO2: Understand Eclipse and Android Studio

CO3: Implement mobile applications development in Emulator

CO4: Understand Mobile databases

CO5: Understand Android Services and Android User Interface

COURSE: OPERATING SYSTEM CREDIT: 3

CO1: Analyze various operating system services

CO2: Compare and contrast various scheduling algorithm

CO3: Understand memory management techniques

CO4: Implement various file management techniques

COURSE: DATA COMMUNICATION AND NETWORK CREDIT: 2

CO1: Understand data communication and prepare them for better computer networking

CO2: Prepare logical and physical network drawings for fairly simple networks, specifying network and link types, plus costs

CO3. Evaluate a java program using javadoc.

COURSE: MOBILE APPLICATIONS DEVELOPMENT LAB CREDIT: 3

CO1: Implement Basic Android Applications

CO2: Implement Activity, Intent, Spinner

CO3: Understand Android Studio and Eclipse

CO4: Implement Progress Bar, Gaming Apps, Alert Dialog

COURSE: OPERATING SYSTEM LAB **CREDIT: 3**

CO1: Implement various scheduling algorithm concept

CO2: Analyze producer consumer problem using semaphore

CO3: Implement memory management techniques

CO4: Implement a program for system calls

COURSE: DATA MINING **CREDIT: 3**

CO1: Understand the concepts of data mining and data models

CO2: Acquire good knowledge of data pre processing.

CO3: Understand the concept of data classification.

CO4: Understand the concept of data cluster analysis.

COURSE: SOFTWARE ENGINEERING **CREDIT: 3**

CO1: Understand Software Engineering

CO2: Analyze different Process Models like Waterfall Model, Evolutionary Process Model

CO3: Understand about the Data Engineering and System Architecture Design

CO4: Compare the Black Box and White Box Testing

CO5: Analyze the Project Management.

SEMESTER - VI

COURSE: CLOUD COMPUTING **CREDIT: 5**

CO1: Understand the basic functions, principles and concepts of cloud systems.

CO2: Understand the basic concepts of cloud computing.

CO3: Determine the various services available for developing cloud.

CO4: Troubleshoot the various securities in cloud.

CO5: Evaluate the programming model technique available in cloud.

CO6: Acquire sufficient knowledge about the cloud.

COURSE: OPEN SOURCE PROGRAMMING **CREDIT: 4**

CO1: Understand the basic concepts of HTML5&CSS

CO2: Analyze various Linux commands & security models

CO3: Discussion on MYSQL and PHP database connectivity

CO4: Evaluate PHP Controls , structures and arrays

CO5: Implement basic form processing with PHP and MYSQL

COURSE: ASP.NET LAB **CREDIT: 3**

CO1: Implement validation controls.

CO2: Implement Web server controls.

CO3: Implement ADO.NET and how to access database

CO4: Evaluate Ad rotator programs.

COURSE: OPEN SOURCE PROGRAMMING LAB **CREDIT: 3**

CO1: Implement frames & tables in HTML

CO2: Implement various CSS styles and list concept.

CO3: Evaluate basic shell programs

CO4: Implement cookies and session concept

COURSE: MOBILE COMPUTING **CREDIT: 3**

CO1: Acquire Good Knowledge of Wireless Communication to Students.

CO2: Understand Fundamentals of Wireless Communication.

CO3: Analyze Security, Mobility, Scalability and Their Unique Characteristics in Wireless Network.

CO4: Apply Knowledge of TCP/IP extension in Mobile computing.

COURSE: MULTIMEDIA SYSTEMS **CREDIT: 3**

CO1: Understand the concept of Multimedia

CO2: Compare different medium like text,audio,video,graphics and animation.

CO3: Analyse Application program interface

CO4: Acquire good knowledge about different Multimedia Software

COURSE: ASP.NET **CREDIT: 3**

CO1: Understand basic concepts of ASP.NET .

CO2: Evaluate different validation controls.

CO3: Analyze Architecture of ADO.net.

CO4: Understand how to access database in web application.

PSOs, Cos

M.Sc (Computer Science)

PROGRAM SPECIFIC OUTCOMES (PSOs)

PSO1: Understand programming language easily with the help of Object Oriented

Programming Concepts.

PSO2: Understand thoroughly how to use software, able to develop software for the Client.

PSO3: Able to built a complete software project, to design, analyze, built, code, test etc.

PSO4: Able to develop Software Solutions for Complex Problems.

PSO5: Understand the Networking concepts and can serve as a Network Infrastructure Developer.

PSO6: Able to Serve as a Database developer and also as DBMS Administrator by thoroughly learning DBMS.

PSO7: Able to Serve as the Web Designers/Website Developers by knowing various Web Development Software.

COURSE OUTCOME (CO)

SEMESTER I

COURSE: FORMAL LANGUAGES & AUTOMATA THEORY

CREDIT: 5

CO1: Develop fundamental skills on String, Alphabets and operations

CO2: Understand the formal languages and set theory, relations and functions.

CO3: Develop Deterministic and non-deterministic finite automata.

CO4: Draw the finite automata and Sequential Circuits

CO5: Solve problems on Chomsky classification of grammars

CO6: Understand the basic structure of Turing Machine

CO7: Implement 1’s and 2’s Complement for Turing machines.

COURSE: ADVANCED JAVA PROGRAMMING CREDIT: 3

CO1: Develop Advanced Java Programming skills that are required to fully utilize the capabilities of this Object-Oriented, general-purpose programming language.

CO2: Design and develop GUI applications using Abstract Windowing Toolkit (AWT), Swing and Event handling.

CO3: Design java applications using pre-built framework.

CO4: Learn to access database through Java programs, using Java Data Base Connectivity (JDBC).

COURSE: WEB APPLICATION USING C# CREDIT: 3

CO1: Design and develop console and window base using .NET application

CO2: Understand and implement string manipulation, events and exception handling.

CO3: Understand .NET application environment.

CO4: Implement web control and navigation controls using ASP.NET

CO5: Implement and access database connectivity using ADO.NET framework.

COURSE: DATABASE MANAGEMENT SYSTEMS CREDIT: 3

CO1: Create database and its accessing using Query language.

CO2: Understand relational database model.

CO3:Understand functional dependencies and decomposition.

CO4: Acquire knowledge on Normalization.

CO5: Understand distributed and object based database.

COURSE: ADVANCED JAVA PROGRAMMING LAB CREDIT: 2

CO1: Develop sophisticated applications including Collections using Set, List and Map interfaces, Applet Programs, etc.

CO2: Create a full set of UI widgets and other components, including windows, menus, buttons, checkboxes, text fields, scrollbars and scrolling lists, using Abstract Windowing Toolkit (AWT) and swings.

CO3: Create dynamic web pages using Servlets and JSP.

CO4: Apply event handlings on AWI and Swing components.

COURSE: WEB APPLICATION USING C# LAB CREDIT: 2

CO1: Implement HTML Control classes, request and response classes.

CO2: Implement validation controls, rich controls, data access.

CO3: Evaluate components and Custom controls.

CO4: Implement different User Controls.

COURSE: DATABASE MANAGEMENT SYSTEMS LAB CREDIT: 2

CO1: Implement DDL, DML, Aggregate functions.

CO2: Implement nested queries and join operations.

CO3: Evaluate Cursor, Triggers and Procedures.

CO4: Understand how to connect Ms-Visual Studio with DBMS

COURSE: CLOUD COMPUTING CREDIT: 3

CO1: Understand Cloud Computing Technology.

CO2: Compare different cloud service models.

CO3: Analyze different Cloud Apps provided by different companies.

CO4: Compare different cloud apps used for E-Mail, Video Conferencing, Project Management, Word Processing etc.

CO5: Learn OGSA and OGSI Model.

SEMESTER II

COURSE: COMPILER DESIGN CREDIT: 4

CO1: Compare NFA and DFA

CO2: Analyze of Compiler phases

CO3: Compare different types of Parsers

CO4: Understand Storage Allocation Strategies

CO5: Analyze Code Optimization and Code Generation.

COURSE: ENTERPRISE JAVA PROGRAMMING CREDIT: 3

CO1: Understand basics of Enterprise Java Programming and its benefits.

CO2: Analyze JSP framework and various models.

CO3: Compare and contrast Enterprise Beans with Java Server Pages.

CO4: Understand Hibernate Architecture and its Life cycle.

COURSE: ENTERPRISE APPLICATIONS USING C# CREDIT: 3

CO1: Understand use of c# basics, database components for web form.

CO2: Understand and be able to explain security in the .NET framework and deployment in the .NET.

CO3: Determine develop, implement, and demonstrate component services, caching, enterprise library and windows service.

CO4: Evaluate the use of cryptography security methods for wed form and web application.

COURSE: UNIX NETWORKING PROGRAMMING CREDIT: 3

CO1: Understand File system concepts.

CO2: Analyze various process state, signals and threads.

CO3: Understand Inter-process communication.

CO4: Implement various networking concepts.

CO5: Implement various TCP/UDP protocols.

COURSE: ENTERPRISE JAVA PROGRAMMING LAB CREDIT: 2

CO1: Implement JSF application, HTML render kit in JSF

CO2: Implement core render kit in JSF

CO3: Understand Session Bean, Structs Action, Structs Forward Action

CO4: Implement Object Relational Mapping, Collection Mapping

COURSE: ENTERPRISE APPLICATION USING C# LAB CREDIT: 2

CO1: Implement data caching and fragment caching.

CO2: Implement deployment tools XCOPY

CO3: Implement Simple and database components.

CO4: Implement Simple profile, and customized settings.

COURSE: UNIX PROGRAMMING LAB CREDIT: 2

CO1: Understand File system concepts.

CO2: Analyze various process state, signals and threads.

CO3: Understand Inter-process communication.

CO4: Implement various networking concepts.

COURSE: CRYPTOGRAPHY AND NETWORK SECURITY CREDIT: 3

CO1: Identify information security problems in computing, classical encryption techniques and acquire fundamental knowledge of security.

CO2: Apply different digital signature algorithms to achieve authentication and create secure applications.

CO3: Understand the knowledge of cryptographic utilities and authentication mechanisms to design secure applications.

CO4: Understand network security basics analyze different attacks and evaluate the performance of firewalls and security protocols

SEMESTER III

COURSE: DISTRIBUTED OPERATING SYSTEM CREDIT: 5

CO1: Understand DOS, Features and Synchronization

CO2: Implement RPC Model, Server Management

CO3: Analyze Clock Synchronization and event ordering

CO4: Analyze configuration API

CO5: Implement Algorithms and Process Migration

COURSE: SOFTWARE PROJECT MANAGEMENT CREDIT: 3

CO1: Understand the concepts of Software Project Management.

CO2: Learn about different Metrics of SPM.

CO3: Understand the concepts of ERP and DSS.

CO4: Acquire good Knowledge of software Project.

COURSE: MOBILE COMPUTING CREDIT: 3

CO1: Acquire good knowledge of Wireless Communication

CO2: Understand fundamentals of Wireless Communication

CO3: Analyze Security, Mobility, Scalibility and their unique characteristics in Wireless Network.

CO4: Apply knowledge of TCP/IP extension in Mobile Computing.

COURSE: DESIGN AND ANALYSIS OF ALGORITHMS CREDIT: 3

CO1: Understand how to find complexity of algorithms

CO2: Analyze different Algorithms used to solve problems.

CO3: Understand backtracking methods used for solving Hamiltonian and Knapsack problem

CO4:Understand Dynamic programming concepts.

COURSE: MOBILE COMPUTING LAB CREDIT: 2

CO1: Implement Button, Text View and Edit Text

CO2: Implement Menus and Intents

CO3: Understand File I/O, RDBMS (SQLite/MySQL)

CO4: Implement Phone services (SMS, Call)

COURSE: DESIGN AND ANALYSIS OF ALGORITHMS LAB CREDIT: 2

CO1: Understand Divide and Conquer, Sorting Methods

CO2: Implement 0/1 Knapsack problem and Shortest path algorithms

CO3: Implement Minimum cost spanning tree using Prims Algorithms

CO4: Implement N-Queues using Backtracking

COURSE: MINI PROJECT CREDIT: 2

CO1: Understand front end and back end

CO2: Understand project design.

CO3: Evaluate testing and its types.

CO4: Understand about software coding.

COURSE: SOFTWARE QUALITY ASSURANCE CREDIT: 3

CO1: Understand the role of SQA

CO2: Understand Software Configuration Management

CO3: Implement total quality management

CO4: Analyze Software quality assurance concepts

CO5: Evaluate ISO 9000 Model with SEI's CMM.

SEMESTER IV

COURSE: PROJECT WORK

CREDIT: 20

SEMESTER: IV (EVEN SEMESTER)

CO1: Acquire good knowledge of project management.

CO2: Understand about project planning.

CO3: Evaluate front end and back end

CO4: Understand about project design.

CO5: Analyze testing and its types.

CO6: Troubleshoot software coding.

CO7: Understand about software maintenance.

CO8: Evaluate project documentation.

CO9: Understand project software requirement specification.

CO10: Understand how to develop real time projects.