

DEPARTMENT OF COMPUTER SCIENCE
WAIKHOM MANI GIRLS' COLLEGE, THOUBAL

Programme Outcomes (B.Sc. – Computer Science)

COURSE OUTCOME:

After the course is completed, the students must be able to:

Code: CSC101: Programming Fundamentals using C Credit: 06

Unit 1: understand the fundamentals of C programming languages like variable, types of data, operators, expression.

Unit 2: understand the decision making, control structures, repetitive statements and some simple C programs.

Unit 3: specify the usage of structure program, functions, storage classes, some standard C program

Unit 4: understand the concept of arrays, pointers, memory location, structure and union.

Unit 6: understand the concepts of string, files, error handling.

CSC101 P: Programming Fundamentals using C(Practical)

CSC101 P: competency of C programming language

CSC102: Computer System Architecture Credit: 06

Unit 1: Understand the basic concepts of digital logic circuits, gates, Boolean algebra.

Unit 2: learn the details of digital components of Adder, decoder, memory.

Unit 3: learn the details of Data Representation and Computer Arithmetic

Unit 4: learn in depth Computer Organization and Design

Unit 5: learn the details of architecture of CPU

Unit 6: learn the details of memory and input output organization.

CSC203: Programming in JAVA Credit: 06

Unit 1: learn the basic concepts of Object Oriented Approach

Unit 2: learn the basics of Java programming

Unit 3: learn the details of Class and Objects in Object Oriented Programming language

Unit 4: learn the basic of interface, defining and system packages.

Unit 5: deliberate the details of Exception handling in java, creating user defined exceptions.

Unit 6: handle objects, file handling stream.

Unit 7: learn event handling, creating graphical user interface applications.

CSC203 P: Programming in JAVA(Practical)

CSC203 P: competency of Object Oriented Programming language with Java

CSC204: Discrete Structures Credit: 06

Unit 1: learn basic concepts of Sets, functions, permutation and combination.

Unit 2: learn notations, summation, bounding.

Unit 3: learn recurrence, generating functions, recursion trees.

Unit 4: learn details of graph theory, terminology.

Unit 5: learn propositional logic.

CSC305: Data Structures Credit: 06

Unit 1: learn details of arrays and operation, application of arrays

Unit 2: learn details of linked list and operations on it.

Unit 3: learn details of Queue and operations on it.

Unit 4: understand stack and application of stacks, prefix and postfix operations.

Unit 5: understand Trees and Heaps, analysis of Trees.

Unit 6: learn Hash tables, functions, operations on it.

CSC305 P: Data Structures(Practical)

CSC305 P: competency of writing programs on linear and non-linear data structures.

CSC306: Operating Systems

Credit: 06

Unit 1: learn basic of operating systems, computing environment.

Unit 2: learn details of structures of OS and architecture.

Unit 3: learn details of process management and deadlock handling.

Unit 4: understand the memory management, memory allocation, virtual memory.

Unit 5: learn file directory structures.

CSC306 P: Operating Systems (Practical)

CSC306 P: competency of writing programs related with files and folders.

CSC307: Computer Networks

Credit: 06

Unit 1: learn basics of computer networks, topologies.

Unit 2: understand network architecture models.

Unit 3: understand physical layers, transmission media, multiplexing.

Unit 4: understand data link layer, access protocol, switching.

Unit 5: understand network layer, routing, protocols.

Unit 6: understand application layer, TCP/IP protocol.

Unit 7: understand FTP, SMTP, WWW, HTTP URL

CSC307 P: Computer Networks

CSC307 P: simulation and implement of network protocol

CSC408: Design and Analysis of Algorithms

Credit: 06

Unit 1: understand algorithm design techniques, dynamic programming.

Unit 2: understand more on sorting and searching, complexity analysis.

Unit 3: understand details Amortized analysis techniques.

Unit 4: understand graph algorithm and its application.

CSC408 P: Design and Analysis of Algorithms

CSC408 P: implement on sorting and searching programs.

CSC409: Internet Technologies

Credit: 06

Unit 1: understand network address.

Unit 2: understand Internet protocol.

Unit 3: understand web servers and technologies.

Unit 4: understand JavaScript, web and mobile applications.

Unit 5: understand components and working search engines.

Unit 6: understand cookies, e-commerce.

CSC409 P: Internet Technologies(Practical)

CSC409 P: configuration web application on web server machine.

CSC410: Database Management Systems**Credit: 06**

Unit 1: understand database and architecture.

Unit 2: understand data modelling, entity types.

Unit 3: understand relational data model.

Unit 4: understand SQL queries on database relations.

Unit 5: understand database design, normal forms.

Unit 6: understand transaction data storage, indexing structure of files.

CSC410 P: Database Management Systems(Practical)

CSC410 P: competency of creating database, manipulating on it.

CSC511: Theory of Computation**Credit: 06**

Unit 1: understand language and operations on it.

Unit 2: understand regular expressions and finite automata.

Unit 3: understanding regular languages, relationship between finite automata.

Unit 4: understand non regular language and context free grammar.

Unit 5: understand context free and PDA.

Unit 6: understand Turing Machine and models of computations.

CSC512: Probability Theory and Statistics**Credit: 06**

Unit 1: understand probability, discrete and continuous, moment generating function.

Unit 2: understand univariate discrete and continuous distribution, normal approximation to binomial distribution.

Unit 3: understand bivariate distribution, conditional distribution and expectations.

Unit 4: understand correlation, regression and central limit theorem.

CSC613: Artificial Intelligence**Credit: 06**

Unit 1: understand to artificial intelligence and applications.

Unit 2: understand knowledge representation, frames, scripts.

Unit 3: understand reasoning with uncertain knowledge.

Unit 4: understand problem solving and searching techniques.

Unit 5: understand game playing game playing algorithm, prolog programming.

Unit 6: understand natural language.

CSC613 P: Artificial Intelligence (Practical)

CSC613 P: competency for writing **Prolog** programming language to implement AI.

CSC614: Computer Graphics**Credit: 06**

Unit 1: understand computer graphic, architecture.

Unit 2: understand Drawing and clipping primitives.

Unit 3: understand Transformation and Viewing: 2D and 3D Geometric Transformations.

Unit 4: understand Geometric Modeling.

Unit 5: understand Visible Surface determination and Surface Rendering.

CSC614 P: Computer Graphics(Practical)

CSC614 P: competency to write drawing algorithm and programming.

CSC715: Software Engineering

Credit: 06

Unit 1: understand software process, framework, models.

Unit 2: understand details of software requirements.

Unit 3: understand details of software design modelling, design concepts, architectural mapping.

Unit 4: understand software quality, project scheduling.

Unit 5: understand software quality and risk management.

Unit 6: understand software testing strategies.

CSC715 P: Software Engineering(Practical)

CSC715 P: making quality software and testing and risk management.

CSC716: Data Mining

Credit: 06

Unit 1: understand data mining and applications.

Unit 2: understand decision tree algorithm, model evaluation.

Unit 3: understand association rule mining, computational complexity.

Unit 4: understand cluster analysis, types, DBSCAN algorithm.

CSC716 P: Data Mining(Practical)

CSC716 P: competency for creating files for data mining

CSC817: Information Security

Credit: 06

Unit 1: understand the concepts of information security.

Unit 2: understand the basics of error detection, array and syndrome decoding, hamming codes.

Unit 3: understand the cryptography, encryption, ciphers, digital signature.

Unit 4: understand the malicious software, memory exploits.

Unit 5: understand the security in Internet of things.

CSC817 P: Information Security

CSC817 P: competency to implement error correction, detection code, cipher substitution, transposition operation, cypher techniques.

CSC818: Digital Image Processing

Credit: 06

Unit 1: understand the basic of digital image, relationships between pixels, types of images.

Unit 2: understand the spatial domain filtering, smoothing spatial filters.

Unit 3: understand filtering in frequency domain, DCT transform (1D, 2D).

Unit 4: understand about the image restoration process, noise filters, image compression, coding.

Unit 5: understand about the morphological image processing and algorithm.

Unit 6: understand the image segmentation.

CSC818 P: Digital Image Processing(Practical)

CSC818 P: competency of writing programs of read and display digital image, resizing mage, convert image colour etc.