B.Sc. COMPUTER SCIENCE

2021 SYLLABUS ONWARDS

COURSE OUTCOMES

SEMESTER – I

COURSE CODE: U21CST11 SUBJECT: PROGRAMMING IN C

COURSE OUTCOMES:

On the successful completion of the course, students will be able to

CO1: Apply the syntax and semantics of C language – K3

CO2: Utilize the concept of functions and arrays in solving real world problems – K3

CO3: Demonstrate structures, union and pre-processing techniques in C - K1

CO4: Design real world problems using pointers and file concept - K3

COURSE CODE: U21CSP11 SUBJECT: PROGRAMMING IN C LAB

COURSE OUTCOMES:

On the successful completion of the course, students will be able to

CO1: Develop and execute programs using Operators and control Structures – K2

CO2: Develop programs in C to solve any kind of real world problem - K2

CO3: Apply the programming concepts of C in the standalone applications. - K3

CO4: Have a depth understanding in C program features – K2

COURSE CODE: U21CSA11 SUBJECT: DISCRETE MATHEMATICS

COURSE OUTCOMES:

After successful completion of the course, student shall be able to:

CO1: Understand the complexity of computational problems – K2

CO2: Think about the design of formal language which would be able to address any real time problem – K1

CO3: Improve the working flow of computational models – K2.

CO4: Evaluate Boolean functions and simplify expressions using the properties of Boolean algebra – K2

SEMESTER - II

COURSE CODE: U21CST21 SUBJECT: FUNDAMENTALS OF DATA STRUCTURES

COURSE OUTCOMES:

On the successful completion of the course, students will be able to

CO1: Describe the basics of Ordered Lists and Representation of Arrays – K1

CO2: Apply the knowledge of Linked list for solving problem in the real world. – K3

CO3: Demonstrate the usage of Binary trees and Representation of Trees – K2

CO4: Illustrate the performance of Graphs representation and spanning Trees – K4

COURSE CODE: U21CSP22 SUBJECT: DATA STRUCTURES USING C LAB

COURSE OUTCOMES:

Upon successful completion of the course the students will be able to

CO1: Apply the concepts to solve problems using C programming language - K3

CO2: Implement the basic data structures using C – K1

CO3: Solve real world problems using C programming language – K3

CO4: Recognize the importance of Data Structure features – K4

COURSE CODE: U21CSA22 SUBJECT: DIGITAL PRINCIPLES AND COMPUTER ORGANIZATION

COURSE OUTCOMES:

Upon successful completion of the course the students will be able to

CO1: Understand the hardware and software types and components of the computer – K2

CO2: Recognize the problem-solving fundamental key points. – K1

CO3: Sketch out the representation of numbers and codes in the computer – K1.

CO4: Know the digital computers internal components and the execution of the instructions – K2

SEMESTER – III

COURSE CODE: U21CST31 SUBJECT: OBJECT ORIENTED PROGRAMMING WITH JAVA

COURSE OUTCOMES:

Upon successful completion of the course the students will be able to

CO1: Know the basics of OOP and the syntax of Java language – K1

CO2: Empower the knowledge of Input/Output functions with file manipulations using I/O – K2

CO3: Analyze GUI programming applications using AWT packages – K4

CO4: Develop Java based Applications using GUI and database Connectivity - K4

COURSE CODE: U21CSA33 SUBJECT: STATISTICAL METHODS

COURSE OUTCOMES:

After successful completion of the course, student shall be able to:

CO1: Acquire the knowledge of Statistics fundamentals and techniques – K1

CO2: Solve the Regression and Correlation problems – K3

CO3: Describe the solution methods using Bayes theorem – K1

CO4: Evaluate problems using various distributions – K4

COURSE CODE: U21CSE311 SUBJECT: OBJECT ORIENTED PROGRAMMING USING JAVA – LAB

COURSE OUTCOMES:

On successful completion of the course, students will be able to

CO1: Solve problems using OOPs concept in Java – K2

CO2: Implement simple software using JAVA – K3

CO3: Implement the Input/Output functions with file manipulations using I/O Streams – K3

CO4: Implement the GUI programming applications using AWT packages – K3

COURSE CODE: U21CSE312 SUBJECT: GRAPHICS USING C++ - LAB

COURSE OUTCOMES:

Upon successful completion of the course the students will be able to

CO1: Apply the concepts to solve graphical primitives using C++ programming language – K3

CO2: Implement the 2D & 3D transformations using C++ - K2

CO3: Solve the real world problems using the features of clipping algorithm – K2

CO4: Recognize the importance of Composite transformations & its features – K1

SEMESTER – IV

COURSE CODE: U21CST41 SUBJECT: WEB TECHNOLOGY

COURSE OUTCOMES:

On the successful completion of the course, students will be able to

CO1: Learn to design web pages using HTML – K1

CO2: To gain knowledge on creating interactive web pages using ASP.Net – K2

CO3: To understand how to use Cookies and DOM – K2

CO4: To develop server-side scripting using OLEDB – K3

COURSE CODE: U21CSP44 SUBJECT: WEB TECHNOLOGY LAB

COURSE OUTCOMES:

On the successful completion of the course, students will be able to

CO1: To perform the basic functions of VB.NET – K2

CO2: Perform tests, resolve defects and revise existing code – K2

CO3: Develop dynamic web applications, create and consume web services – K3

CO4: Use appropriate data sources and data bindings in VB.NET / ASP.Net – K3

COURSE CODE: U21CSA44 SUBJECT: FUNDAMENTALS OF COMPUTER ALGORITHMS

COURSE OUTCOMES:

On completion of the course, the student will be able to

CO1: Understand the concepts of Divide and Conquer technique and have the skills to write efficient procedures like sorting, searching etc. – K3

CO2: Understand the concepts of Greedy techniques and acquire the knowledge to develop optimal procedures for problems like minimum spanning tree construction, single source shortest paths – K3

CO3: Acquire the knowledge to solve backtracking and Branch-and-Bound techniques – K1

CO4: Analyze the algorithms based on time complexity – K4

COURSE CODE: U21CSE421 SUBJECT: SYSTEM SOFTWARE

COURSE OUTCOMES:

On the Successful completion of the course, students will be able to

CO1: Understand the relationship between System Software and Machine Architecture - K2

CO2: To know the design and implementation of assemblers, macro processors, loaders, linkers and compilers – K3

CO3: Interpret various concepts of scanning and parsing of a program – K2

CO4: Discuss the processing of a HLL program for execution on a computer

system – K1

COURSE CODE: U21CSE422 SUBJECT: PHP with MySQL

COURSE OUTCOMES:

On the Successful completion of the course, students will be able to

CO1: Summarize Web Programming concepts – K1

CO2: Apply PHP elements to solve real world problems – K3

CO3: Examine the working environment with WAMP, LAMP and XAMPP – K1

CO4: Interpret the concepts of MySQL with PHP – K2

SEMESTER – V

COURSE CODE: U21CST51 SUBJECT: RELATIONAL DATA BASE MANAGEMENT SYSTEM

COURSE OUTCOMES:

On successful completion of the course, the student will be able to

CO1: Understand the fundamentals of database system – K2

CO2: Design and create tables in database and execute queries - K3

CO3: Have knowledge in network and hierarchical data base system – K2

CO4: Design a database based on a data models using normalization – K3

COURSE CODE: U21CST52 SUBJECT: OPERATING SYSTEM CONCEPTS

COURSE OUTCOMES:

On the successful completion of the course, students will be able to

CO1: Understand the types, design, implementation of operating system and I/O programming concepts – K2

CO2: Recognize the management of main and virtual memory schemes - K1

CO3: Analyze different scheduling algorithms and the management of devices – K3

CO4: Understand and manage the information system using OS – K2

COURSE CODE: U21CST53 SUBJECT: COMPUTER NETWORKS

COURSE OUTCOMES:

On the successful completion of the course, students will be able to

CO1: Explain the concepts of various reference models, Internet and protocols – K1

CO2: Identify different transmission media and topologies - K1

CO3: Distinguish error detection and error correction of data - K2

CO4: Implement routing algorithms to determine the optimal path – K3

COURSE CODE: U21CST54 SUBJECT: COMPUTER GRAPHICS

COURSE OUTCOMES:

On the Successful completion of the course, students will be able to

CO1: Have a broad knowledge about the overview of Graphics System – K2

CO2:Analyse and design algorithms using attributes in graphics – K4

CO3:Recognise the properties of Two and Three-dimensional geometric transformations – K1

CO4: Understand the importance of Windowing and Clipping – K2

COURSE CODE: U21CSP55 SUBJECT: RELATIONAL DATABASE MANAGEMENT SYSTEMS LAB

COURSE OUTCOMES:

On the successful completion of the course, students will be able to

CO1: Describe the concepts of database technologies – K1

CO2 Discuss PL/SQL including stored procedures, stored functions, cursors, packages – K1

CO3 Apply constraints on a database using RDBMS – K3

CO4 Demonstrate the concept of Triggers and Subroutines – K3

COURSE CODE: U21CSE531 SUBJECT: MULTIMEDIA & APPLICATIONS

COURSE OUTCOMES:

After completing the course, the students can able to

CO1: Define multimedia to potential clients – K1

CO2: Identify and describe the function of the general skill sets in the multimedia industry – K1

CO 3: Identify the basic components of a multimedia project- K1

CO 4: Work with text files and graphics files - K2

COURSE CODE: U21CSE532 SUBJECT: CLOUD COMPUTING

COURSE OUTCOMES:

On the Successful completion of the course, students will be able to

CO1: Understand the need for cloud computing – K2

CO2: Comprehend virtualization concept in cloud – K2

CO3: Get an idea of security threats in cloud – K2

CO4: Know the available web services in cloud computing – K1

COURSE CODE: U21CSS53 SUBJECT: OPERATING SYSTEM LAB

COURSE OUTCOMES:

On successful completion of the course, students will be able to

CO1: Learn basic Linux commands – K1

CO2: Understand the basic behaviour of operating system – K2

CO3: Demonstrate different process scheduling and executing algorithm – K3

CO4: Do shell programming on LINUX OS – K3

SEMESTER – VI

COURSE CODE: U21CST61 SUBJECT: SOFTWARE ENGINEERING

COURSE OUTCOMES:

After Completion of this Course, Students will be able to

CO1: Understand the factors and strategies in Software Engineering – K3

CO2: Recognize the cost metrics and feasibility study in Software estimation - K1

CO3: Create software design using real time applications – K3

CO4: Analyze the quality based on validation and verification techniques in Software development – K4

COURSE CODE: U21CST62 SUBJECT: MOBILE APPLICATION DEVELOPMENT

COURSE OUTCOMES:

On the successful completion of the course, students will be able to

CO1: Gain basic idea of XML and using it to develop an Android application – K1

CO2: Familiarize themselves with the concept of UI components and SQLite Database – K1

CO3: Implement GUI concepts in Android Platform – K3

CO4: Build any application for Android devices – K3

COURSE CODE: U21CSP66 SUBJECT: MOBILE APPLICATION DEVELOPMENT LAB

COURSE OUTCOMES:

On completion of the course, the students will be able to

CO1: design and develop applications for mobile devices – K3

CO2: develop applications with various UI components using Java and XML – K3

CO3: build an application using SQLite Database – K3

CO4: know how to launch developed applications in mobile devices – K1

COURSE CODE: U21CST63 SUBJECT: ARTIFICIAL INTELLIGENCE

COURSE OUTCOMES:

On the Successful completion of the course, students will be able to

CO1: Learn about the artificial intelligence problem and its characteristics – K1

CO2: Demonstrate the fundamentals of heuristic search techniques and reasoning for problem solving – K3

CO3: Understand the problem-solving using predicates – K2

CO4: Describe the concepts of expert systems with case studies for various applications – K1

COURSE CODE: U21CSE641 SUBJECT: INTERNET OF THINGS

COURSE OUTCOMES:

On Successful completion of the course, students will be able to

CO1:Explain the components of IoT – K1

CO2:Make use of IoT Circuits to obtain solutions – K3

CO3: Interpret different design challenges faced in IoT – K2

CO4:Develop IoT applications in Python – K3

COURSE CODE: U21CSE642 SUBJECT: R PROGRAMMING

COURSE OUTCOMES

On the Successful completion of the course, students will be able to

CO1: Explain the basic R programming concepts – K1

CO2: Make use of functions and packages in R – K3

CO3: Interpret various statistical models in R Program – K2

CO4: Develop functions and control statements in R – K3

COURSE CODE: U21CSS64 SUBJECT: IMAGE PROCESSING LAB

COURSE OUTCOMES

On the Successful completion of the course, students will be able to

CO1: Explain the spatial image enhancement concept – K1

CO2: Make use of filter and sharpening techniques in image processing – K2

CO3: Interpret zooming and cropping methods in image processing – K2

CO4: Implement image enhancement, restoration and segmentation techniques – K3