

**Department of Computer Science  
KKTU Govt College, Pullut**

**Offers Complementary courses to  
B.Sc. Applied Physics and Polymer Chemistry**

**CURRICULUM FOR B.Sc. COMPUTER SCIENCE  
(COMPLEMENTARY)**

**(2019-20 ACADEMIC YEAR ONWARDS – As per the CBCSSUG 2019 Regulations)**

Total Courses: 5			Total Credits: 12							
Semester	Course No	Course Code	Course Title	Marks			Contact Hours			Credits
				Internal	External	Total	Theory	Lab	Total	
I	1	CSC1C01	Computer Fundamentals	15	60	75	2	2	4	2
II	2	CSC2C02	Fundamentals of System Software, Networks and DBMS	15	60	75	2	2	4	2
III	3	CSC3C03	Problem solving using C	15	60	75	3	2	5	2
IV	4	CSC4C04	Data Structures Using C	15	60	75	3	2	5	2
IV	5	CSC4C05	Programming Lab: C and Data Structures	20	80	100	0	0	0	4
<b>Total ( 5 Courses)</b>						<b>400</b>				<b>12</b>

## 2.6.1. Course Outcomes:

### 1<sup>st</sup> Semester

#### CSC1C01 COMPUTER FUNDAMENTALS

##### Course Outcomes

To learn how to solve common types of computing problems, data types and control structures of C, to map problems to programming features of C and to write good portable C programs

- CO1** Appreciate and understand the working of a digital computer
- CO2** Analyze a given problem and develop an algorithm or flowchart to solve the problem
- CO3** Improve upon a solution to a problem
- CO4** The objective of this course is to introduce the organization of a computer and its principal components. The course will also enable the student to understand the design components of a digital subsystem that required realizing various components such as ALU, Control, etc.and peripheral devices.
- CO5** An ability to understand the functions of various hardware components
- CO6** An in depth understanding of sequential! Combinational circuits
- CO7** To enable students to use office automation packages using MS Office and Libre Office

### 2<sup>nd</sup> Semester

#### CSC2C02 FUNDAMENTALS OF SYSTEM SOFTWARE NETWORKS AND DBMS

- CO1** To understand the services provided by and the design of an operating system.
- CO2** To understand the structure and organization of the file system.
- CO3** To understand what a process is and how processes are synchronized and scheduled.
- CO4** To understand different approaches to memory management.
- CO5** Analyze memory management techniques
- CO6** Understand the implementation of file systems and directories along with the interfacing of IO devices with the operating system.
- CO7** To provide an introduction to the fundamental concepts on data communication and the design of computer networks and to get familiarized with the basic protocols of computer networks
- CO8** To enable students to understand and use a relational database system. Introduction to Databases. Students learn how to design and create a good database and use various SQL operations. Able to master the basic concepts and understand the applications of database systems and construct SQL queries to perform operations on database like Create, Retrieve, Update, Delete.
- CO9** Understand principles of database transaction management, database recovery, security.
- CO10** To understand world wide web and create web pages and websites of their own.

### 3<sup>rd</sup> Semester

#### CSC3C03 PROBLEM SOLVING USING C

- CO1** To learn how to solve common types of computing problems, data types and control structures of C, to map problems to programming features of C and to write good portable C programs
- CO2** Analyze a given problem and develop an algorithm to solve the problem
- CO3** Use the C language constructs in the right way
- CO4** Design, develop and test programs written in C

## 4<sup>th</sup> Semester

### CSC4C04 DATA STRUCTURE USING C

- C01** Analyze data structure impact on algorithms, program design and program performance.
- C02** Understand various searching algorithms and its implementations.
- C03** Design, implement, and use advanced ADTs.
- C04** Various Sorting and Searching Techniques

### CSC4C05 PROGRAMMING LAB : C & DATA STRUCTURES

Implementing CSC3C03 and CSC4C04 courses using C programming language

#### 2.6.2. Programme Outcomes

The broad objective of the programme is to provide sound academic base from which an advanced career in Computer Applications can be developed. Conceptual grounding in computer usage as well as its practical business application will be provided making candidates suitable for IT sector entry level jobs.

- P01** An ability to apply knowledge of computing, algorithmic principles, and computer science theory in the modeling and design of computer-based systems to real-world problems
- P02** An ability to design and conduct experiments
- P03** An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs
- P04** An ability to analyze a problem, and identify, formulate and use the appropriate computing and requirements for obtaining its solution (problem solving skills).
- P05** Recognition of the need for, and an ability to engage in continuing professional development and life-long learning (continuing education awareness).
- P06** An ability to use current techniques, skills, and tools necessary for computing and practice (practical engineering analysis skills).
- P07** An ability to recognize the importance of professional development by pursuing postgraduate studies or face competitive examinations that offer challenging and rewarding careers in computing (successful career and immediate employment).

#### Method of Measuring the level of attainment of POs and Cos

1. Module wise Evaluations
2. Internal Evaluations
3. External Evaluations
4. Programming Evaluations Internal and External
5. Assignments
6. Seminars
7. Viva voce