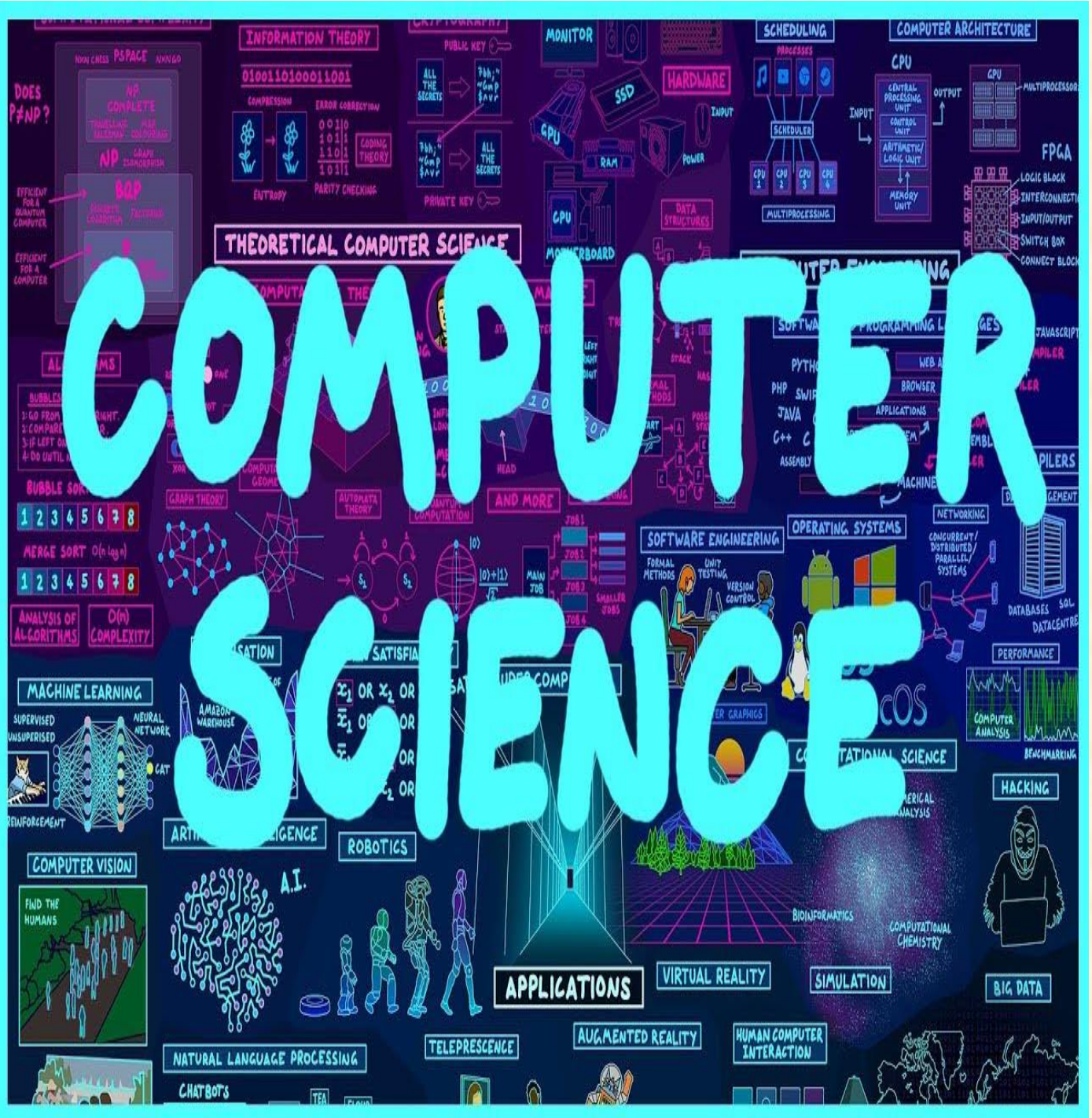




GKSM Govt College Tanda Urmar



INTRODUCTION

COMPUTER SCIENCE IS THE STUDY OF COMPUTERS AND THEIR USAGE. THIS INVOLVES UNDERSTANDING HOW THEY WORK, DESIGNING NEW WAYS TO MAKE THEM MORE EFFICIENT, AND FINDING NEW APPLICATIONS. IT ALSO INCLUDES DEVELOPING SOFTWARE AND TESTING IT BEFORE IT IS RELEASED. COMPUTER SCIENCE IS A BROAD FIELD THAT COVERS MANY DIFFERENT TOPICS. THE SUBJECT MATTER CAN BE DIVIDED INTO THREE CATEGORIES: THEORETICAL COMPUTER SCIENCE, SOFTWARE ENGINEERING, AND INFORMATION TECHNOLOGY.

**OBJECTIVES OF THE COMPUTER SCIENCE
DEPARTMENT:-**

- To provide an in-depth knowledge of Computer Science and IT courses by experienced faculty.
- To channelize technical and managerial skills of the students by organizing workshops, seminars and competitions.
- To bridge the gap between the formal computer education and requirement of the industry.
- To provide the latest technology equipment to the students.
- To enrich students with teamwork skills.
- To identify and nurture talent and skills of students by providing them opportunities and facilities to develop their skills.

**B.SC
IN
COMPUTER
SCIENCE**

POs & COs

PROGRAM OUTCOMES (POs)

On successful completion of B.Sc Computer Science Students will be able to:-

PO1	Enabling students to adapt to the rapidly changing technology with strong fundamentals.
PO2	Basic knowledge in hardware/software methods and tools for solving real-life and practical problems with an orientation to lifelong learning.
PO3	Impart value based technical education and entrepreneurial skills to the graduates through state-of-art infrastructure.
PO4	Educating students towards the design and development of applications and projects with advanced programming skills.
PO5	Learn to create error free documents like lecture scripts, notes, assignment, applications, projects, letters, question papers, books, e-books, and various educational materials.
PO6	PowerPoint presentations helps to speak, read, writes and listens clearly and efficiently and improves group work and communication skills.
PO7	Understanding and demonstrating the use of various modern technical tools like table styles, shapes, charts, graphs, data tools and solve basic and logical-mathematical problems and statistics in excel.
PO8	Making use of applications in various business operations, such as goal setting, budgeting process, and planning, team management, accounts management, income, and expenses calculation, product and service valuation and management of client's data etc.
PO9	Learning Programming languages help students to learn the basic inner workings of computers apart from the acquiring Engineering Knowledge.
PO10	Project Management skills are recognized through designing and creating WebPages and web applications.
PO11	Sound knowledge base and skill sets to develop and expand professional careers in fields related Information and Communication Technology.
PO12	An ability to work in multidisciplinary teams in small and large scale projects by utilizing technological tools and emerging technologies with skills to communicate effectively.

PO13

Knowledge in data management systems, like data acquisition, report generation so as to enable students in solving problems using the techniques of data analytics.

PO14

Help students in Critical / Computational Thinking through different computer program coding in C, C++, HTML, CSS, JAVASCRIPT and PHP. Apply Computational Thinking to communicate thoughts in a structured and logical way for easier problem solving.

PO15

Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings

Course Outcomes (COs)

SEMESTER 1

COURSE CSO1:- COMPUTER FUNDAMENTALS

CO1	Understanding the concept of input and output devices of Computers.
CO2	Learn the functional units and classify types of computers how they process information and how individual computers interact with other computing systems and devices.
CO3	Understand an operating system and its working and solve common problems related to operating systems.
CO4	Learn basic word processing Spreadsheet and Presentation Graphics Software skills.
CO5	Study to use the Internet safely, legally, and responsibly.

COURSE CSO2:- PC-SOFTWARE

CO1	Illustrate the documentation using MS Word, exploring various menu options and tools on the ribbon.
CO2	Examine Knowledge of MS Excel and Various operations that can be performed.
CO3	Assemble the Power point presentation implementing Animation and sound effects.
CO4	Derive the operating systems, peripheral devices, control panel and MS Office Suite.

SEMESTER 2**COURSE CS03:- OPERATING SYSTEM CONCEPT**

C01	Understand the need of operating system and define types of operating systems
C02	Describe and define process, threads and interprocess communication
C03	Evaluate and analyze various scheduling algorithms, identify deadlocks and describe the methods of handling deadlocks
C04	Understand file management, structure and allocation method

COURSE CS04:- C-PROGRAMMING

C01	Student should be able to understand the logic building used in Programming.
C02	Students should be able to write algorithms for solving various real life problems.
C03	To convert algorithms into programs using C .
C04	Illustrate various controls statements, arrays and strings.
C05	Demonstrate Storage classes and pointers in C which is essential for utilizing memory.
C06	Examine different kind of functions, operator hierarchy & associativity between different elements of real life entities.

SEMESTER 3**COURSE CS05:- COMPUTER ORGANIZATION**

C01	Understand the basics of instructions sets and their impact on processor design
C02	Understand the basics and conversions of Number System
C03	Demonstrate an understanding of the design of the functional units of a digital computer system.
C04	To be clear with memory management techniques
C05	To have better idea How IO devices communication with processor
C06	To notice how to perform computer arithmetic operations
C07	To be clear with pipeline procedure and multi processors.

COURSE CS06:- OBJECT ORIENTED PROGRAMMING USING C++

C01	Describe the procedural and object oriented paradigm with concepts of string, classes, functions, data and objects.
C02	Identify dynamic memory management techniques using pointers, constructors & destructors.
C03	Illustrate the concept of function overloading, operator overloading, virtual functions and polymorphism.
C04	Differentiate between various levels of Inheritance for real time problems.
C05	Implement exception handling mechanisms and Templates in C++.

SEMESTER 4**COURSE CS07:- DATABASE CONCEPT**

C01	Define the basic concepts of database systems, file system, Role of DBA.
C02	Describe the concept of DBMS Architecture, Data Base Models, ER Model, Concurrency Control and Recovery.
C03	Apply SQL commands to create tables and query data in a relational DBMS.
C04	Differentiate between Relational Database Designs.

COURSE CS08:- DATA STRUCTURE

C01	Understand the basic concepts of data structure like types, operations, applications, etc.
C02	Acquire knowledge about how to describe and implement arrays and linked list
C03	Acquire knowledge about how to describe and implement arrays and linked list
C04	Understand the concepts related to tree and graphs
C05	. Evaluate complexity of different algorithms.

SEMESTER 5**COURSE CS09:- PROJECT MANAGEMENT**

C01	Understand project and project management as a way of working.
C02	Explain different project management concepts related to project planning and project success.
C03	Interpret challenges and analyse scenarios when managing projects, and propose solutions.
C04	Explain different project management concepts related to project planning and project success.
C05	Interpret challenges and analyse scenarios when managing projects, and propose solutions.

COURSE CS10:- RELATIONAL DATABASE MANAGEMENT SYSTEM

C01	Understand the basic concepts of RDBMS.
C02	Formulate, using SQL, solutions to a broad range of query and data update problems.
C03	Demonstrate an understanding of normalization theory and apply such knowledge to the normalization of a database.
C04	Understand the concept of Transaction and Query processing in RDBMS.
C05	.Programming PL/SQL including stored procedures, stored functions, cursors, packages

SEMESTER 6**COURSE CS09:- E-COMMERCE**

C01	Define the business impact and potential of E-Commerce.
C02	Describe the technologies required to make E-Commerce viable.
C03	Apply the trends in e-commerce and the use of the Internet.
C04	Know the difference between traditional and modern e-payment system
C05	Learn about the concept of EDI standards, EDI implementation, EDI agreement and EDI security

COURSE CS10:- WEB-PROGRAMMING

C01	Understand the core concepts of Internet and Web Services.
C02	Describe and differentiate Programming Language and Markup Language.
C03	List various web pages and web sites together.
C04	Capture user input from the remote users.
C05	Implement Static/Dynamic concepts of web designing.

PRACTICALS**COURSE PCSO1:- PRACTICAL BASED ON PAPER-CSO1 & CSO2**

C01	Memorize the fundamental computer knowledge of I/O devices and Operating System.
C02	Create MS-Word documents, designing these document with bullets, numbering and other Word Art options in MS-Word
C03	Design MS-Excel sheets using different styles of tables, charts, formulas, functions (Mathematics, Logical)
C04	Create PowerPoint slides using single and multiple slides, animation and sound effects in it
C05	Design a file using tools of MS-Office completely

COURSE PCSO2:- PRACTICAL BASED ON PAPER-CSO4

C01	Define the concept of C programming for real life entities.
C02	Describe decision making and branching statement.
C03	Apply various algorithms and function of C language in various applications.
C04	Construct Programs using pointers and arrays.

COURSE PCS03:- PRACTICAL BASED ON PAPER-CS06

C01	Describe the procedural and object oriented paradigm with concepts of string, classes, functions, data and objects.
C02	Identify dynamic memory management techniques using pointers, constructors & destructors.
C03	Illustrate the concept of function overloading, operator overloading, virtual functions and polymorphism.
C04	Differentiate between various levels of Inheritance for real time problems.
C05	Implement exception handling mechanisms and Templates in C++.

COURSE PCS04:- PRACTICAL BASED ON PAPER-CS08

C01	Demonstrate an understanding basic of Data Structure (Array Based List, Link List, Stack, Queue & Algorithm)
C02	Understanding of Data Structure.
C03	Apply Data Structure to Algorithmically Design efficient Computer Program that will cope with complexity of actual application
C04	Design and Implementation of Data Structure Algorithm

COURSE PCS05:- PRACTICAL BASED ON PAPER-CS10

C01	Understanding the basic concept and application of the RDBMS.
C02	Master the Basic of SQL and construct queries by Using SQL & PLSQL.
C03	Understand the Relational Database Design Principal.
C04	Explain the various database components, models, DBMS architecture and Database Security
C05	Apply relational database theory to construct relational algebra expression, tuple and domain relation expression for SQL queries.
C06	Examine the use of normalization and functional dependency for database design

COURSE PCS06:- PRACTICAL BASED ON PAPER-CS12

C01	Analyze a web page and identify its elements and attributes
C02	Create web pages using HTML, DHTML and Cascading Style Sheets.
C03	Build web pages using JavaScript (Client side programming).
C04	Create web pages using PHP and Schemas.