

Diploma in Engineering 1st year (Common to all Diploma Programs)

Course Outcomes

Year- First

Paper Name- English & Communication Skills-1

Semester- First

Paper Code DTHM-101

After successful completion of the course the students will be able to:

- Demonstrate effective communication skills.
- Demonstrate practical understanding of grammar in the practical use of English language.
- Utilize active listening & responding skills.
- Analyze the importance of body language.
- Identify different strategies of reading text
- Apply oral and written language skills into practice for building career.

Course Outcomes

Year –First

Paper- Applied Mathematics-1

Semester- First

Paper Code- DTMA-102

After successful completion of the course the students will be able to:

- Apply the knowledge of Determinants and Matrices in their professional work
- Analyze various mathematical series like Arithmetic and Geometric Progression.
- Compute complex numbers and its applications.

Course Outcomes

**Year- First
Paper – Applied Physics-1**

**Semester- First
Paper Code- DTPH 103**

After successful completion of this course the student will be able to:

- Apply knowledge of physics and engineering.
- Identify, formulae, and solve basic physics problems.
- Use the techniques, skills, and modern tools necessary for engineering practice.
- Illustrate laws of motion.
- Derive formula for kinetic & potential energy.
- Describe various properties of matter.
- Convert one scale of temperature into another.
- Describes modes of transfer of heat.

Course Outcomes

**Year-First
Paper – Basic Electronics Engineering**

**Semester- First
Paper Code- DTEC 104**

After successful completion of this course the student will be able to:

- Discuss about conduction in semiconductors.
- Apply the knowledge of junction diode into its applications.
- Identify the applications of transistor.
- Discuss about number system and op-amp.

Course Outcomes

Year: First

Paper: Basic Mechanical Engineering

Semester: First

Paper Code: DTME104

After successful completion of this course the student will be able to:

- Classify different laws of thermodynamics. Compare the temperature in different scale.
- Calculate the engineering problems based on thermodynamics.
- Develop the relation between COP of heat pump and refrigerator.
- Calculate the efficiency of heat engine on the basis of heat and work done.
- Assess the applications of S.I. and C.I. engines. Construction of two stroke and four stroke engines and study about the set up of IC engines.
- Classify different types of force system with free body diagram applied on a body. Verify also different laws of forces to solve various engineering problems.
- Evaluate the application on stress-strain in engineering problems.
- Develop the stress strain diagram of different types of material on the basis of their mechanical properties tested on UTM.
- Discuss the application of shaft in bending and twisting.

Course Outcomes

Year: First

Paper: Fundamentals of IT

Semester: First

Paper Code: DTCS105

For a diploma holder in civil engineering, it becomes imperative to know the fundamental of the subject in order to grasp the knowledge of the computer field. This subject will provide acquaintance with various terms knowledge of fundamental concepts of basic computer system, input/output and storage devices and various principles related to it.

After successful completion of this course the student will be able to:

- Apply basic knowledge of computer, comprising the history of computer, into practical use.
- Identify its characteristics and its application in various fields.
- Assess how to manage all the resources of computer and get to know the basics of operating system.
- Utilize the MS-office concept and discuss important documentation.
- Discuss regarding networking,
- Develop different components of computer network and also get to know various internet related concepts.
- Interpret E-commerce and traditional commerce.
- Describe different applications of information technology.

Course Outcomes

Year: First
Paper: Basic Electrical Engineering

Semester: First
Paper Code: DTEE 105

Diploma holder in Electrical Engineering comes across many electrical components and theorems of calculation of electrical quantities. They must have the knowledge of various Electric circuits and electrical equipments.

- Identify Basic Electrical components.
- Discuss working and application of different types of batteries.
- Discuss Electrical circuits.
- Interpret theorems for calculation of quantities in electrical network.
- Describe Passive elements and their response in Electrical circuit.
- Explain magnetic circuit and its quantities.
- Assess production of A.C quantity.

Course Outcomes

Year: First

Paper: Environmental Studies

Semester: First

Paper Code: DTES 108

After successful completion of this course the students will be able to:

- Illustrate the scope of environment studies
- Summarize different types of pollution.
- Compare & Contrast the concepts of SS, TDS, DO, COD, BOD.
- Manage hardness & alkalinity of water.
- Verify the types of hardness.
- Identify the sources of air pollution-natural and man- made.
- Explain about the soil pollution, major soil pollutants and their causes.
- Discuss & Describe environment laws.

Course Outcomes

Year: First
Paper: Applied Chemistry

Semester: First
Paper Code: DTCY 108

After successful completion of this course the students will be able to:

- Examine the basic and modern periodic laws.
- Apply knowledge of IUPAC nomenclature of hydrocarbons in their practical work.
- Demonstrate working knowledge of basic organic chemistry
- Analyze different order reactions and laws associated with electrochemistry.
- Test different solution properties like “Molarity” & “Molality”.
- Understand the terms related to metallurgy and extraction of metals.
- Classify different types of fuels, lubricants their properties, mechanisms use.

Course Outcomes

Year: First

Paper: English & Communication Skills-II

Semester: Second

Paper Code: DTHM 201

After completion of this course the students will be able to:

- Judge the various forms of literature from short stories to essay and poetry of Indian as well as international writers.
- Learning the different aspects & nuances of language to become better communicators.
- Analyze the in depth details of a given piece of text in its entirety and provide solutions to the questions & problems.
- Demonstrate efficiency in use of the various tools of formal written communication.
- Compose the various types of official and business correspondence in the relevant formats widely used in the industry.
- Develop the intricacies of business communication for enhanced personalities to become complete professionals.

Course Outcomes

Year: First

Paper: Applied Mathematics-II

Semester: Second

Paper Code: DTMA 202

After successful completion of this course the student will be able to:

- Interpret definition of function.
- Solve problems related to Differentiation, Maxima and minima, Equation of tangent and Normal to a curve etc.
- Estimate Simple standard integrals, Integration by substitution, By-parts and by partial fractions etc.
- Verify ordinary Differential Equations, Formation of differential equations, Solution of first order differential equations.
- Interpret Measures of Central Tendency, Measures of Dispersion and Co-efficient of rank correlation

Course Outcomes

Year: First

Paper: Applied Physics-II

Semester: Second

Paper Code: DTPH 203

After successful completion of this course the student will be able to:

- Apply knowledge of physics into engineering.
- Identify, formulae, and solve basic physics problems.
- Use the techniques, skills, and modern tools necessary for engineering practice.

Course Outcomes

Year: First

Paper: Basic Mechanical Engineering

Semester: Second

Paper Code: DTME 204

After successful completion of this course the student will be able to:

- Classify different laws of thermodynamics. Compare the temperature in different scale.
- Calculate the engineering problems based on thermodynamics.
- Develop the relation between COP of heat pump and refrigerator.
- Calculate the efficiency of heat engine on the basis of heat and work done.
- Assess the applications of S.I. and C.I. engines. Construction of two stroke and four stroke engines and study about the set up of IC engines.
- Classify different types of force system with free body diagram applied on a body. Verify also different laws of forces to solve various engineering problems.
- Evaluate the application on stress-strain in engineering problems.
- Develop the stress strain diagram of different types of material on the basis of their mechanical properties tested on UTM.
- Discuss the application of shaft in bending and twisting.

Course Outcomes

Year: First

Paper: Basic Electronics Engineering

Semester: Second

Paper Code: DTEC 204

After successful completion of this course the students will be able to:

- Explain about conduction in semiconductors.
- Demonstrate working knowledge of junction diode and its applications.
- Evaluate applications of transistor.
- Explain number system and op-amp.

Course Outcomes

Year: First
Paper: Basic Electrical Engineering

Semester: Second
Paper Code: DTEE 205

Diploma holder in Electrical Engineering comes across many electrical components and theorems of calculation of electrical quantities. They must have the knowledge of various Electric circuits and electrical equipments.

After successful completion of this course the student will be able to:

- Demonstrate knowledge of Basic Electrical components, working and application of different types of batteries.
- Use knowledge of Electrical circuits and Theorems for calculation of quantities in electrical network.
- Demonstrate knowledge of other Passive elements and their response in Electrical circuit.
- Use knowledge of magnetic circuit and its quantities.
- Use knowledge of production of A.C quantity.

Course Outcomes

Year: First

Paper: Fundamentals of IT

Semester: Second

Paper Code: DTCS 205

After successful completion of this course the student will be able to:

- Demonstrate basic knowledge of computer comprising the history of computer, its characteristics and its application in various fields.
- Manage all the resources of computer and get to know the basics of operating system.
- Use the MS-office concept in important documentation.
- Apply the knowledge regarding networking, different components of computer network into practical usage.
- Explain various internet related concepts.
- Use the knowledge of E-commerce and traditional commerce.
- Interpret different applications of information technology.

Course Outcomes

Year: First

Paper: Applied Chemistry

Semester: Second

Paper Code: DTCY208

On successful completion of this course the student will be able to:

- Interpret the basic and modern periodic laws.
- Apply knowledge of IUPAC nomenclature of hydrocarbons.
- Discuss the basic organic chemistry.
- Explain different order reactions and laws associated with electrochemistry.
- Use different solution properties like molarity ,molality.
- Identify the terms related to metallurgy and extraction of metals.
- Explain fuels and lubricants their properties and uses.

Course Outcomes

Year: First

Paper: Environmental Studies

Semester: Second

Paper Code: DTES 208

After successful completion of this course the student will be able to:

- Interpret the scope of Environmental Studies.
- Explain different types of pollution and concept of SS, TDS, DO, COD, BOD.
- Assess about hardness & alkalinity of water, types of hardness.
- Interpret the source of air pollution-natural and man- made.
- Explain the soil pollution, major soil pollutant and their causes.
- Critique environment laws.

Diploma in Computer Science Engineering (004)

Course Outcomes

Year: Second

Paper: Programming in C

Semester: Third (III)

Paper Code: DTCS-301

- Student can formulate a broad perspective about the uses of computer programming in engineering industry.
- Apply Knowledge of C programming environment with c program structure.
- Formulating Algorithmic solutions to problems and implementing algorithms in C.
- Construct user defined function to solve real time problems.
- Apply file concept to show input and output of files in C.
- Construct Programs with pointers and arrays, perform pointer arithmetic, and use the pre-processor.
- Demonstrate C programming development environment, compiling, debugging, linking and executing a program using the development environment.
- Analyze programming problems to choose when regular loops should be used and when recursion will produce a better program.

Diploma in Computer Science Engineering (004)

Course Outcomes

Year: Second

Paper: Object Oriented Concepts

Semester Third (III)

Paper Code: DTCS-302

- Students can assess knowledge about basics on OOPS principles and evaluation of OOPS.
- Demonstrate the concepts of data abstraction, encapsulation and inheritance
- Students can develop programs using control structures and overloading and programs on recursion.
- Students can appraise knowledge on classes, objects and members.
- An ability to develop programs on operator overloading constructors, destructors.
- An ability to develop programs on inheritance and virtual functions.
- Student can solve files and its operations, types of templates and exceptional handling mechanisms.
- To enhance problem solving and programming skills in C++ with extensive programming projects.

Diploma in Computer Science Engineering (004)

Course Outcomes

Year: Second

Paper: Computer System Peripherals

Semester: Third (III)

Paper Code: DTCS-303

- Apply basic knowledge of various computer system peripherals in real world.
- Develop skills regarding working construction and interfacing aspects of peripherals.
- Apply working knowledge of digital communication interface adapters.
- Be able to compare and put specification of computer/peripherals.
- Be able to select appropriate and compatible computer/peripherals combinations.
- Apply methods to maintain and troubleshoot your computer.
- Identify and discuss different connection technologies and networks
- Discuss and apply core knowledge in computer installation, maintenance and testing.

Diploma in Computer Science Engineering (004)

Course Outcomes

Year: Second

Paper: Operating System

Semester: Third (III)

Paper Code: DTCS-304

- Assess how to manage all the resources of computer and get to know the basics of operating system
- Analyze the important computer system resources and the role of operating system in their management policies and algorithms.
- Evaluate the process management policies and scheduling of processes by CPU.
- Analyze the memory management and its allocation policies.
- Identify use and evaluate the storage management policies with respect to different storage management technologies.
- Identify the need to create the special purpose operating system.
- Recognize file system interface, protection and security mechanisms.
- Analyze the various features of distributed OS like Unix, Linux, windows etc.

Diploma in Computer Science Engineering (004)

Course Outcomes

Year: Second

Paper: Digital Data Communications

Semester: Third (III)

Paper Code: DTCS-305

- Identify the basic components of a data communications system.
- Analyze analog and digital communication systems.
- Analyze the role of digital communications devices in a data communications network.
- Evaluate various types of signals and their features.
- Compile the features and functions of multiplexing and modulation.
- Assess various error detection and correction schemes.
- Design generation & detection AM, PM, FM transmitter and receiver.
- Identify different types of noise occurred, its minimization and able to apply Fourier analysis in frequency time domain to quantify bandwidth requirement of variety of analog and digital communication systems.
- Constructs and apply encryption techniques to secure data in transit across data networks.

Diploma in Computer Science Engineering (004)

Course Outcomes

Year: Second

Paper: Data Structure using C

Semester: Fourth (IV)

Paper Code: DTCS-401

- Construct and apply the mathematical logic with different notations.
- Formulate data structures such as arrays, linked lists, stacks and queues.
- Master a variety of advanced abstract data type (ADT) and data structures and their implementations.
- To explain the major graph algorithms and their analysis, employ graphs to model engineering problems.
- To recognize and solve various types of trees and can able to classify and construct balanced trees.

Diploma in Computer Science Engineering (004)

Course Outcomes

Year: Second

Paper: Web Technologies

Semester Fourth (IV)

Paper Code: DTCS-402

- Analyze a web page and identify its elements and attributes
- Create web pages using XHTML and Cascading Styles sheets
- Design dynamic web pages.
- Develop web applications using PHP.
- Apply Programming Knowledge through ASP.NET and MYSQL.
- Develop simple client-side scripts using AJAX and JavaScript.

Diploma in Computer Science Engineering (004)

Course Outcomes

Year: Second

Paper: Computer Networks

Semester Fourth (IV)

Paper Code: DTCS-403

- Assess computer network basics, network architecture, TCP/IP and OSI reference models.
- Identify and implement various techniques and modes of Transmission.
- Identify data link protocols, multi-channel access protocols and IEEE 802 standards for LAN.
- Construct routing and congestion in network layer with routing algorithms and classify IPV4 addressing scheme.
- Apply knowledge of basic configuration of HuB Switch, Repetors, Multiplexers, Routers, Modems, and Amplifiers in Networking.
- Demonstrate knowledge of programming for network communications.
- Apply knowledge and skills necessary to gain employment as computer network engineer and network administrator.

Diploma in Computer Science Engineering (004)

Course Outcomes

Year: Second

Paper: Software Quality & Testing

Semester: Fourth (IV)

Paper Code: DTCS-404

- Analyze a software engineering process life cycle, including the specification, design, implementation, and testing of software systems that meet specification, performance, maintenance and quality requirements
- Analyze and translate a specification into a design, and then realize that design practically, using an appropriate software engineering methodology.
- Evaluate the implementation issues such as modularity and coding standards and software testing approaches such as unit testing and integration testing.
- Analyze the role of project management including planning, scheduling, risk management and some ethical and professional issues that are important for software engineers.
- Assess the approaches to verification and validation including static analysis, and reviews and how to ensure good quality software.

Diploma in Computer Science Engineering (004)

Course Outcomes

Year: Second

Semester: Fourth (IV)

Paper: Computer Organization and Architecture

Paper Code: DTCS-405

- Analyze RTL, Micro operations, ALU, Organization of stored program computer, types of instructions and design of basic components of the system.
- Evaluate data paths and control flow for sequencing in CPU's, Microprogramming of control unit of CPU.
- Demonstrate the working of central processing unit and RISC and CISC Architecture.
- Analyze the operations and language for the register transfer, micro operations and input- output organization.
- Analyze the organization of memory and memory management hardware.
- Apply the assembly language program for given task to microprocessor.

Diploma in Computer Science Engineering (004)

Course Outcomes

Year: Third

Semester: Fifth (V)

Paper: Object Oriented Programming using JAVA Paper Code: DTCS-501

- Evaluate object oriented concepts, java program structure and its installation.
- Apply Object oriented constructs such as various class hierarchies, interfaces and exception handling.
- Analyze the concepts of threads and I/O in Java.
- Develop dynamic user interfaces using applets and Event handling in java.
- Demonstrates how to achieve reusability using inheritance, interfaces and packages and describes faster application development can be achieved.

Diploma in Computer Science Engineering (004)

Course Outcomes

Year: Third

Paper: Visual Basic Programming with C#

Semester: Fifth (V)

Paper Code: DTCS-502

- Analyze of MS.NET framework developed by Microsoft..
- Develop Applications using XML in C#.NET specifically ADO.NET and SQL server
- Analyze use of C# basics, Objects and Types, Inheritance
- Develop, implement and demonstrate Component Services, Threading, Remoting, Windows services, web
- Analyze Security in the .NET framework and Deployment in the .NET.

Diploma in Computer Science Engineering (004)

Course Outcomes

Year: Third

Paper: Database Management System

Semester: Fifth (V)

Paper Code: DTCS-503

- Evaluate the database management systems and Relational database.
- Design conceptual models of a database using ER modeling for real life applications and also construct queries in Relational Algebra.
- Create and populate a RDBMS for a real life application, with constraints and keys using SQL.
- Retrieve any type of information from a data base by formulating complex queries in SQL.
- Analyze the existing design of a database schema and apply concepts of normalization to design an optimal database.

Diploma in Computer Science Engineering (004)

Course Outcomes

Year: Third

Paper: Microprocessor

Semester: Fifth (V)

Paper Code: DTCS-504

- Assess the taxonomy of microprocessors and knowledge of contemporary microprocessors.
- Evaluate the architecture, bus structure and memory organization of 8085 as well as higher order microprocessors.
- Evaluate techniques for interfacing I/O devices to the microprocessor 8085 including several specific standard I/O devices such as 8251 and 8255.
- Demonstrate programming using the various addressing modes and instruction set of 8085 microprocessor
- Apply knowledge and demonstrate programming proficiency using the various addressing modes and data transfer instructions of the target microprocessor and microcontroller.

Diploma in Computer Science Engineering (004)

Course Outcomes

Year: Third

Paper: Cryptography and Network Security

Semester: Fifth (V)

Paper Code: DTCS-505

- Assess various types of security attacks , services and mechanisms and basics of cryptography.
- Apply various types of symmetric Encryption algorithms.
- Apply various types of asymmetric encryption algorithms.
- Analyze the various types of hash functions.
- Illustrate various Public key cryptographic techniques.
- Apply the practical knowledge of firewall installation in network security.

Diploma in Computer Science Engineering (004)

Course Outcomes

Year: Third

Paper: Computer Graphics

Semester: Sixth (VI)

Paper Code: DTCS-601

- On completion of this lesson the student shall be able to understand working of various input devices, How to draw and clip a point, line, circle, ellipse also 2D transformations.
- Implements various algorithm for scan conversion and filling of basic objects and there comparative analysis.
- Explore projection and visible surface detection techniques.
- Extract different clipping methods and transformation to graphics display device.
- Render projected objects to naturalize the scene in 2D view and use of illumination models for this.

Diploma in Computer Science Engineering (004)

Course Outcomes

Year: Third

Paper: System and Software Engineering

Semester: Sixth (VI)

Paper Code: DTCS-602

- Plan a software engineering process life cycle, including the specification, design, implementation, and testing of software systems that meet specification, performance, maintenance and quality requirements
- Analyze and translate a specification into a design, and then realize that design practically, using an appropriate software engineering methodology.
- Develop the code from the design and effectively apply relevant standards and perform testing, and quality management and practice
- Analyze the SRS (Software Requirement Specifications) and Techniques.
- Software design and Implementation issues.

Diploma in Computer Science Engineering (004)

Course Outcomes

Year: Third

Paper: Mobile Computing

Semester: Sixth (VI)

Paper Code: DTCS-605

- To analyze the necessary knowledge of cellular Communication, infrastructure-less networks.
- To analyze TCP, MAC protocols and their technical feasibility.
- To analyze as a part of team on multidisciplinary and device independent application projects.
- Evaluate and implement the hardware components/ architectures/ databases/ operating system of mobile networks that necessary to built self confidence to develop novel products and solutions for real world.
- To analyze the awareness of the life-long learning, business ethics, professional ethics and current marketing scenarios.

Diploma in Computer Science Engineering (004)

Course Outcomes

Year: Third

Paper: Data Warehouse and Mining

Semester: Sixth (VI)

Paper Code: DTCS-651

- To analyze why there is need for data mining and in what way it is different from traditional statistical techniques.
- To design a data warehouse and understand the process required to construct one.
- Develop and apply critical thinking, problem-solving, and decision-making skills.
- To compile components in typical data warehouse architectures.
- Analyze data and explore relationships among data items which help to take right decision in right time.