

DIPLOMA IN COMPUTER SCIENCE AND ENGINEERING LAB
FACILITIES

The department has well equipped laboratory and provide excellent facilities for learning.

SL. NO	COURSE CODE	NAME OF THE COURSE
1	N1DF101B	APPLIED PHYSICS-I LAB
2	N1DF102B	BASIC COMMUNICATION & COMPUTER SKILLS LAB
3	N1DF101C	BASIC CHEMISTRY LAB
4	N1DF201B	APPLIED PHYSICS-II LAB
5	N1DF202B	PROFESSIONAL COMMUNICATION LAB
6	N1DL101C	WORKSHOP PRACTICE
7	N1DF203B	COMPUTER HARDWARE AND MAINTENANCE LAB
8	N1DF302B	OPERATING SYSTEM LAB
9	N1DF303B	DATA COMMUNICATION AND COMPUTER NETWORKS LAB
10	N1DK320B	FUNDAMENTALS OF ELECTRONIC DEVICES AND DIGITAL ELECTRONICS
11	N1DF304C	COMPUTER PROGRAMMING AND PROBLEM SOLVING
12	N1DF404B	MICROPROCESSOR AND MICROCONTROLLER

13	N1DF401C	PROGRAMMING WITH JAVA
14	N1DF402B	RELATIONAL DATABASE MANAGEMENT SYSTEMS LAB
15	N1DF401B	DATA STRUCTURES USING C LAB
16	N1DF406B	INTERNET OF THINGS(IOT)
17	N1DF503B	INTERNET &WEB TECHNOLOGY LAB
18	N1DF501B	COMPUTER GRAPHICS
19	N1DF505B	MOBILE COMPUTING & TROUBLESHOOTING LAB
20	N1DF507C	PROGRAMMING WITH PYTHON
21	N1DF520L	PERSONALITY DEVELOPMENT & SOFT SKILLS
22	N1DA601L	PROJECT LAB
23	N1DG301B	FUNDAMENTALS OF WEB DESIGNING LAB
24	N1DG401B	USER INTERFACE & USER EXPERIENCE(UI&UE)
25	N1DE301B	INTRODUCTION TO DATA SCIENCE
26	N1DE401B	DATA MINING & WAREHOUSING
27	N1DE501B	BIG DATA ANALYTICS

28	N1DD301B	CLOUD FUNDAMENTALS & ITS APPLICATIONS
29	N1DD401B	CLOUD COMPUTING AND AWS
30	N1DD501B	CLOUD COMPUTING AND SECURITY
31	N1DC301B	FUNDAMENTALS OF ARTIFICIAL INTELLIGENCE & MACHINE LEARNING
32	N1DC401B	MACHINE LEARNING & ITS APPLICATION
33	N1DC501B	CLASSIFICATION OF MACHINE LEARNING

The Department has the following sophisticated laboratories in the following semester:

I Semester:

- **Computer Fundamental Lab**

Computer Fundamental Lab discusses about the basic input and output devices of computer and understand the basic knowledge of computer system and components of computer. In this students learn the need of different memory system in computer. Understand basic principles of Windows operating system. Access the Internet domain and also aware about the working of basic tools of MS-office-like MS-word, power- point, MS-excel and MS-Access. After this course students learn to working on MS-office and its different tools and also understand the working of MS-Word, MS-EXCEL, and MS-Power Point.

II Semester:

- **COMPUTER HARDWARE & MAINTENANCE**

This course is designed to enable the students get a detailed knowledge of all the hardware components that assembled a computer and to understand the different interfaces required for connecting these hardware devices and also understand and applying the basics of troubleshooting of computer as well as printer and scanner.

III Semester:

- **Operating system Lab**

Operating System Lab introduces students to basic structure of operating systems, Kernel, user interface, I/O device management, device drivers, process environment, concurrent processes and synchronization, inter-process communication, process scheduling, memory management, deadlock management and resolution, and file system structures.

- **Computer Programming And Problem Solving Lab**

The purpose of this course is to introduce to students to the field of programming using C language. The students will be able to enhance their analyzing and problem solving skills and use the same for writing programs in C

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- **Fundamentals of Web Designing Lab**

The course "Introduction to Web Designing" provides students with the essential knowledge and skills needed to design and develop websites using HTML and CSS. The course covers the basics of HTML and CSS, including elements, tags, attributes,

formatting, styling, and layout. It also introduces students to client-side scripting using JavaScript and explores the fundamentals of multimedia integration. Throughout the course, students will engage in hands-on exercises and projects to apply their knowledge and develop practical web design skills.

- Introduction to Data Science

The course "Introduction to Web Designing" provides students with the essential knowledge and skills needed to design and develop websites using HTML and CSS. The course covers the basics of HTML and CSS, including elements, tags, attributes, formatting, styling, and layout. It also introduces students to client-side scripting using JavaScript and explores the fundamentals of multimedia integration. Throughout the course, students will engage in hands-on exercises and projects to apply their knowledge and develop practical web design skills.

- Cloud Fundamentals & Its Applications Lab

Cloud Fundamental and its application is to study about basic networking devices, Operating System & Distributed System basic concept to study further basic applications of cloud storage, its applications and components.

- Fundamentals of Artificial Intelligence & Machine

This course provides an introduction to the fundamental concepts of Artificial Intelligence (AI) and Machine Learning (ML). Topics covered include AI principles, ML algorithms, data preprocessing, model evaluation, and applications of AI/ML in various domains. Students gain hands-on experience through practical exercises and projects.

- **Data Communication Lab**

Data communications refers to the transmission of digital data between two or more computers and a computer network or data network is a telecommunications network that allows computers to exchange data. Familiarize the student with basic taxonomy and terminology of the computer networking area, Allow the student to gain expertise in some specific areas of networking such as the design and maintenance of individual networks.

IV Semester:

- **Data structures through C Lab**

The course is designed to develop skills to design and analyze simple linear and non linear data structures. It strengthen the ability to the students to identify and apply the suitable data structure for the given realworld problem. It enables them to gain knowledge in practical applications of data structures.

- **Programming with Java Lab**

This Java course will provide you with a strong understanding of basic Java programming elements and data abstraction using problem representation and the object-oriented framework. As the saying goes, “A picture is worth a thousand words.” This course will use sample objects such as photos or images to illustrate some important concepts to enhance understanding and retention. You will learn to write procedural programs using variables, arrays, control statements, loops, recursion, data abstraction and objects in an integrated development environment.

- **Relational Data Base Management Systems Lab**

In this course would examine data structures, file organizations, concepts and principles of DBMS's, data analysis, database design, data modeling, database management, data & query optimization, and database implementation. More specifically, the course introduces relational data models; entity-relationship modeling, SQL, data normalization, and database design. It would also introduce query coding practices using MySQL (or any other open system) through various assignments. Design of simple multi-tier client/server architectures based and Web-based database applications will also be introduced. Databases form the backbone of all major applications today – tightly or loosely coupled, intranet or internet based, financial, social, administrative, and so on. Structured Database Management Systems (DBMS) based on relational and other models have long formed the basis for such databases.

- User Interface & User Experience Lab

It is a constant journey that can be made better every day, which involves understanding the client's requirements, knowledge about the target audience, market research, planning, design, development, testing, and maintenance.

Information System Design, Introduction to Graphic Design, LAB HTML & VBScript and Web Designing using HTML codes. Whereas the Fundamentals include topics like – User interface Graphics, Script Language, Internet Programming with ASP and Introduction to User Experience Design.

- Machine Learning & Its Application

This course provides an introduction to the fundamental concepts of Artificial Intelligence (AI) and Machine Learning (ML). Topics covered include AI principles, ML algorithms, data preprocessing, model evaluation, and applications of AI/ML in various domains. Students gain hands-on experience through practical exercises and projects.

V semester:

- Internet And Web Technology Lab

This course introduce of the modern Web technologies used for the Web development. The topics include (although in some cases briefly): History of the Web, Hypertext Markup Language (HTML), Extensible HTML (XHTML), Cascading Style Sheets (CSS), and JavaScript. As the program progresses, students learn various aspects of Web design and development through courses emphasizing the workflow associated with the planning process, site design and the use of standard technologies, such as content management systems, to provide client solutions. Students also consider the business side of the Web development through courses in marketing and e-commerce, learning about current topics such as Web analytics and search engine optimization along with payments, catalogs and shopping carts. The use of scripting, JSP and databases is also included.

- Mobile Computing & Troubleshooting Lab

Mobile computing and wireless communication are the most important technology and standard for data communication for various electronics systems for home and industry application. Students understands the various wireless data communication networks e.g. GSM, CDMA, GPRS, GPS and other accessing technologies of wireless data communications this course students also learn about the adhoc and mobile adhoc networks basic working and call drooping algorithm of mobile adhoc networks this course students also learn the working of mobile commerce application and aware about the structure of mobile commerce.

- Computer Graphics Lab

Computer graphics is concerned with all aspects of producing images using a computer. It concerns with the pictorial synthesis of real or imaginary objects from their computer-based models. Computer graphics can be used in many disciplines. Charting, Presentations, Drawing, Painting and Design, Image Processing and Scientific Visualization. student will apply graphics concept for generating line, circle and also use in transformation and clipping, designing.

- Advanced Web Development Tools Lab

It is a constant journey that can be made better every day, which involves understanding the client's requirements, knowledge about the target audience, market research, planning, design, development, testing, and maintenance. Information System Design, Introduction to Graphic Design, LAB HTML & VBScript and Web Designing using HTML codes & JQuery. Whereas the Fundamentals include topics like – User interface Graphics, Script Language, Internet Programming with ASP and Introduction to User Experience Design.

- Cloud Computing and Security

This course introduces the foundational concepts and technologies of cloud computing. Students will explore various cloud service models, deployment options, and key technologies while gaining hands-on experience with popular cloud platforms, the core concepts of cloud computing and its benefits, differentiate between cloud service models: IaaS, PaaS, and SaaS, Explore different deployment models: public, private, hybrid, and community clouds, Familiarize with leading cloud service providers and their offerings. Understand the principles of cloud security and compliance. Analyze case studies and real-world applications of cloud technology

- Classification of Machine Learning

This course provides an introduction to the fundamental concepts of Artificial Intelligence (AI) and Machine Learning (ML). Topics covered include AI principles, ML algorithms, data preprocessing, model evaluation, and applications of AI/ML in various domains. Students gain hands-on experience through practical exercises and projects.

VI Semester:

- Project

By this course students get basic knowledge of software development phases and different approaches to develop the quality software. In last of this course students understand the different process of software engineering and models to design a software or application. this course students also understand the different software testing process and techniques and different software quality assurances approaches and attributes.











