

# **PG Diploma in Computer Applications (PGDCA)**

## **Programme Outcomes (PO)**

Upon completion of the Post Graduate programme, the students will be able to achieve the following outcomes:

- PO1: Profound Professional Knowledge:** Obtain proficiency to maneuver in diverse context of the advance subject knowledge.
- PO2: Critical Thinking and Analysis:** Attain the analytical expertise to create, analyse, formulate, and solve challenging problems.
- PO3: Environment and sustainability:** Understand the impact of the scientific solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- PO4: Research and Innovation:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- PO5: Effective Communication:** Demonstrate skills such as effective communication, decision making, problem and adapt ability to create technical writing.
- PO6: Problem Solving:** Understand, interpret, explain, analyse and assess the tools, techniques, models and methodologies to solve problems.
- PO7: Employability:** Demonstrate skills for doctoral, post-doctoral education, professional development and employability.
- PO8: Advance tools and techniques:** Attain ability to work with advanced IT tools and techniques in their domain.
- PO9: Social Consciousness:** Acquire awareness towards gender, environment, sustainability, human values and professional ethics and understand the difference between acting, responding and reacting to various social issues
- PO10: Nation Building:** Introspect and evolve into dynamic and creative individuals capable of socially productive, constructive actions that positively impact our Nation and the World at large.

## **Programme Specific Outcome (PSO)**

**Upon completion of the programme, the student will attain the ability to:**

**PSO1:** Aspiring for higher degrees and research work in computers.

**PSO2:** Attain specialization in specific domains of Computer Applications.

**PSO3:** Apply Knowledge in Software Development/ IT Sectors

**PSO4:** Apply skilled knowledge in Banking, Insurance, Teaching and other services in Corporate and Government sectors.

**PSO5:** Initiate startups and perform task as entrepreneurs in IT sectors

## **SEMESTER – I**

**PGDCA C101: Computer Fundamentals**

### **COURSE OUTCOME**

**After completion of the course, the student will be able to:**

**CO1:** Explain basic components, structure and functions of a Computer System

**CO2:** Classify the types of Software, Hardwares and Peripherals of Computer System

**CO3:** Outline the functions of Operating systems and Programming languages

**CO4:** Create and execute Batch files in DOS Environment.

## **SEMESTER – I**

**PGDCA C102: Programming Using C**

### **COURSE OUTCOME**

**After completion of the course, the student will be able to:**

**CO1:** Recognize the basics of computer programming concepts using C Programming Language.

**CO2:** Explain the concept of C character set, identifiers and keywords, variable different data types, operators and programming constructs.

**CO3:** Apply the concept of advanced topics like Arrays, Functions, Pointers, Structures, Unions and Dynamic Memory Allocations and File Handling in various programmes

**CO4:** Create and execute different programmes using Procedural programming method.

## **SEMESTER – I**

**PGDCA C103: MS-Office**

### **COURSE OUTCOME**

**After completion of the course, the student will be able to:**

**CO1:** Recognize the basic knowledge of Windows Operating System.

**CO2:** Apply Microsoft Word tools to create professional documents.

**CO3:** Design, construct and analyze data using MS-Excel.

**CO4:** Create Presentations using MS- PowerPoint.

## **SEMESTER – I**

**PGDCA C104: Database Management Systems**

### **COURSE OUTCOME**

**After completion of the course, the student will be able to:**

**CO1:** Understand the fundamental elements of Database Management System using basic concepts of data model, entity-relationship model, database design etc.

**CO2:** Design ER-Models to represent simple database application scenarios and convert them into tables.

**CO3:** Implement Normalization for the optimization of Database Design

**CO4:** Formulate queries using SQL for effective information storage and retrieval in a Database

## **SEMESTER – I**

## **PGDCA C105: Data Communications & Networks**

### **COURSE OUTCOME**

**After completion of the course, the student will be able to:**

- CO1:** Recognise the structure of Data Communications System and its components and basics of Networking.
- CO2:** Explain the concepts of Network models (OSI and the TCP/IP Reference models), their functions of OSI Layers and different Protocols used in these Model..
- CO3:** Illustrate various Networking devices and their functions, Multiplexing, Switching Techniques, IP Addressing.
- CO4:** Illustrate different Transmission media, Flow control and Error Detection Techniques.

## **SEMESTER II**

### **PGDCA C206: Software Engineering**

#### **COURSE OUTCOME**

**After completion of the course, the student will be able to:**

- CO1:** Illustrate the basics of software – its characteristics, SRS and its components.
- CO2:** Classify the fundamentals of different software process models & techniques to construct larger and more complex software systems
- CO3:** Apply software engineering concepts to design, develop and maintain the software.
- CO4:** Implement Software Testing for good Software Quality Assurance.

## **SEMESTER – II**

### **PGDCA C207: Programming in JAVA**

#### **COURSE OUTCOME**

**After completion of the course, the student will be able to:**

**CO1:** Describe the fundamental concepts and features of Java Programming language.

**CO2:** Implement Object Oriented Programming Concepts (class, constructor, overloading, inheritance, overriding) in java.

**CO3:** Implement concepts of Multithreading and Exception Handling in Java.

**CO4:** Create and Use Packages and Interfaces in a Java program and Develop Graphical User Interface applications and Web based applications in Java by importing applet, AWT.

## **SEMESTER – II**

**PGDCA C208: Operating System**

### **COURSE OUTCOME**

**After completion of the course, the student will be able to:**

**CO1:** State the Role of System Software (Operating System) in Computers.

**CO2:** Describe the important Computer System resources and the Role of OS in their management policies and algorithms

**CO3:** Analyse different types of Operating Systems (DOS, Windows, UNIX).

**CO4:** Create and execute Shell Scripts in Linux.

## **SEMESTER – II**

**PGDCA C209: Internet and its Applications**

### **COURSE OUTCOME**

**After completion of the course, the student will be able to:**

**CO1:** Understand the basics of Internet and its usage as a learning resource and communication system.

**CO2:** Apply HTML for Website development.

**CO3:** Analyse the basics of E-Commerce and digital payment.

**CO4:** Use web services like E-mail, Search Engines etc.

## **SEMESTER- II**

**PGDCA DSE 201: Project Work**

### **Course Outcomes:**

**After the completion of the course, the student will attain the ability to:**

**CO1:** Formulate projects with clearly identified scope and requirements.

**CO2:** Understand the practical implementation of Software Development Life Cycle.

**CO3:** Implement programming theories, concepts and principles & use latest computing tools for Software Development.

**CO4:** Develop team building capacity and work ethics for successful project development and management.