**Yadavindra Department of Engineering,
Punjabi University Guru Kashi Campus,
Damdama Sahib (Talwandi Sabo)**

**Post-Graduate Diploma in Computer Applications
(P.G.D.C.A. - 1 year course)**

**PROGRAM CODE: PGDCA1PUP**

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| **PROGRAM OUTCOMES (PO):**  |
| The main objective of this one year diploma program is to equip the students with the basic skills required for designing, developing applications in Information Technology and aim for following outcomes:* PO1: Students will able to have basic understanding of subjects related to computers & information technology and also learn about the latest trends.
* PO2: The Diploma is aimed at graduates with a computing background and provides a detailed coverage of the key concepts and challenges in data and resource protection and computer software security.
* PO3: To give hands on to students while developing real life IT application as part of the study.
* PO4: To train graduate students in basic computer technology concepts and information technology applications.
* PO5: Design and develop applications to analyse and solve computer science related problems.
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| **PROGRAM SPECIFIC OUTCOMES (PSO) :**  |
| PSO1: To expose the students to open Source technologies so that they become familiar with it and can seek appropriate opportunity in trade and industry. PSO2: Able to provide socially acceptable technical solutions to real world problems with the application of modern and appropriate programming techniques. PSO3: Design applications for any desired needs with appropriate considerations for any specific need on societal and industrial aspects.  |

**COURSE OBJECTIVES AND OUTCOMES**

**SEMESTER – I**

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| **COURSE CODE: PGDCA1101T** **COURSE NAME:** FUNDAMENTALS OF INFORMATION TECHNOLOGY**COURSE OBJECTIVE:**The objective is to make student understand the logical diagram of a digital computer, to identify all important functional parts of it, to have an idea about the I/P, O/P and Secondary Storage devices, graphics, and interactive media. The associated objective is to understand student about the fundamentals, number system and computer applications. |
| **COURSE CODE:** PGDCA1102T**COURSE NAME:** OPERATING SYSTEM **COURSE OBJECTIVES*** To introduce students with basic concepts of Operating System, its functions, services, types and process management.
* To brief the students about functionality of various OS like Linux and Windows
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| **COURSE CODE:** PGDCA1103T**COURSE NAME:** problem solving USING c**COURSE OBJECTIVES**C is a powerful general-purpose programming language. It is fast, portable and available in all platforms. A beginner who is new to programming, C is a good choice to start his/ her programming journey. This course will give an exposure to a student to get started in C programming language. At the end of the course, the students should be able to develop the skills to design/ develop flowchart/ algorithm for a simple programming problem, make use of an Open Source IDE for C/ C++ and understand popular searching/ sorting algorithms. |
| **COURSE CODE:** PGDCA1104P**COURSE NAME:** SOFTWARE LAB-I (OFFICE AUTOMATION AND PRODUCTIVITY TOOLS)**COURSE OBJECTIVES**This course trains students how to use Office automation tools (open source/ proprietary) applications to carry out work such as creating professional-quality documents; store, organize and analyse information; arithmetic operations and functions; and create slide presentations with animation, narration, images, videos, and much more, digitally and effectively. |
| **COURSE CODE:** PGDCA1105P**COURSE NAME:** SOFTWARE LAB-II (PROGRAMMING FUNDAMENTALS THROUGH C LANGUAGE)**COURSE OBJECTIVES**This laboratory course will comprise as exercises to supplement what is learnt under paper PGDCA1103T: Programming Fundamentals using C Language. Students are required to develop programs based upon: 1. Various data types in C language 2. Various constructs in the C language 3. Reading writing text files |

**COURSE OBJECTIVES AND OUTCOMES**

**SEMESTER – II**

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| **COURSE CODE**: PGDCA1201T**COURSE NAME:** DATABASE MANAGEMENT SYSTEM **COURSE OBJECTIVE:**The objective is to make student understand the role of a database management system in an organization, understand basic database concepts, including the structure and operation of the relational data model, Construct simple database queries using Structured Query Language (SQL), Understand and successfully apply logical database design principles, including E-R diagrams and database normalization, Understand the role of the database administrator. . |
| **COURSE CODE**: PGDCA1202T**COURSE NAME:** INTRODUCTION TO COMPUTER NETWORK, INTERNET AND E-COMMERCE**COURSE OBJECTIVE:**1 To provide students with an overview of the concepts and fundamentals of data communication and computer networks2. To familiarize with the basic taxonomy and terminology of computer networking area.3 To provide adequate knowledge and understanding about Internet, Web browsers, search engines, E-commerce Technology, Business models and Electronic payment System.  |
| **COURSE CODE**: PGDCA1203T**COURSE NAME:** OBJECT ORIENTED PROGRAMMING USING C++**COURSE OBJECTIVE:**Students will be able to learn object oriented programming and advanced C++ concepts for writing good programs. At the end of the course students will have understanding of fundamentals of object-oriented programming in C++, including defining classes, invoking methods, using class libraries, etc., have the ability to write a computer program to solve specified problems, knowledge of object-oriented paradigm in C++ programming language. |
| **COURSE CODE**: PGDCA1204P**COURSE NAME:** SOFTWARE LAB – III(WEB DESIGNING, HTML AND RDBMS)**COURSE OBJECTIVE:**This laboratory course will comprise as exercises to supplement what is learnt under paper PGDCA1201T: Database Management System and PGDCA1202T: Introduction to Computer Network, Internet and E-Commerce. At the end of the course students will be able to have working knowledge of: **RDBMS**: Introduction, working with database and tables, queries, Appling integrity constraints, Introduction to forms, sorting and filtering, Controls, Reports and Macro: creating reports, using Macros.**HTML**: Tables, Forms, Frames and other text formatting tags **DHTML**: Cascading style sheets and Document object model, Introduction to JavaScript. |
| **COURSE CODE**: PGDCA1205P**COURSE NAME:** SOFTWARE LAB – IV (C++ PROGRAMMING)**COURSE OBJECTIVE:**This laboratory course will comprise as exercises to supplement what is learnt under paper PGDCA1202T: Object Oriented programming using C++ so that student can have working knowledge of fundamentals of object-oriented programming in C++, including defining classes, invoking methods, using class libraries, etc. At the end of the course students will have the ability to write a computer program to solve specified problems, knowledge of object-oriented paradigm in C++ programming language. |