

DEPARTMENT OF LIFELONG LEARNING

SYLLABUS FOR THE SESSION 2026-2027

One Year Diploma in Computer Applications (DCA)



GURU NANAK DEV UNIVERSITY, AMRITSAR

The **Diploma in Computer Applications (DCA) One Year Course** is being run under the Department of Lifelong Learning, Guru Nanak Dev University, Amritsar. The course is of one-year duration, and the examination is conducted only once at the end of the academic session. After successful completion of the course and passing the final examination, a candidate shall be awarded the Certificate Course in Computer Applications (DCA) by the Department of Lifelong Learning, Guru Nanak Dev University, Amritsar.

Note:-

- Copy rights are reserved.
- Nobody is allowed to print it in any form.
- Defaulters will be prosecuted.

One Year Diploma in Computer Applications (2026-2027)
Department of Lifelong Learning, Guru Nanak Dev University, Amritsar.

PROGRAMME OBJECTIVES

- The Diploma in Computer Applications (DCA) program offered by the Department of Lifelong Learning, Guru Nanak Dev University, Amritsar is designed to develop fundamental and practical knowledge of computer applications among students.
- The curriculum is structured to provide a comprehensive understanding of core subjects such as Fundamentals of Computers, MS-Office, HTML, CSS, Oracle 10g, and Database Management Systems (DBMS), enabling students to build a strong foundation in IT.
- The program aims to equip students with essential technical skills required for employment in the field of computer applications as well as to support self-employment and entrepreneurship.
- Emphasis is laid on practical learning, enabling students to gain hands-on experience in office automation, web designing, and database management.
- It prepares students to meet the growing demands of the IT industry while promoting adaptability to new technologies and continuous learning.

PROGRAMME OUTCOMES

At the end of this course the candidate will be able to:-

- Work in various job roles such as Data Entry Operator, Computer Operator, Office Assistant, IT Support Staff in government and private organizations.
- Handle office automation tasks efficiently using MS-Office tools (Word, Excel, and PowerPoint, Ms Access).
- Design and develop basic websites using HTML and CSS.
- Manage and work with databases using Microsoft Access, Oracle and DBMS concepts.
- Pursue self-employment opportunities such as starting a computer center, providing data entry services, or freelance web designing.
- Assist as a lab assistant or support staff in schools, colleges, and training institutes. Demonstrate problem-solving skills, logical thinking, and database handling abilities.

Prof. Varinder Kaur
Chairperson

One Year Diploma in Computer Applications (2026-2027)
Department of Lifelong Learning, Guru Nanak Dev University, Amritsar.

ORDINANCES

- 1. Duration of Course :-**
 - a. Examination will be held once at the end of course after One Year as per G.N.D.U schedule.
- 2. Eligibility :-**
 - a. The candidates who have passed 12th Class examination with minimum 35% marks.
- 3. Mode of Admission :**
 - a. The admission will be made by a committee constituted by the Worthy Vice-Chancellor strictly on the basis of the merit of the candidates in 12th class.
 - b. If any of the admitted student remains absent consecutively for fifteen days without prior information and permission of heading authority from the commencement of the course, the name of such candidate shall be struck off from the rolls of the department and the next candidate on the waiting list in order of merit of the respective course shall be admitted in his/her place with the permission of the Director of the department.
- 4. Attendance Instructions:**
 - a. The students admitted to one year diploma/Six Month certificate course, who remain absent consecutively for 15 working days during the duration of the course without any information to the department their name(s) shall be struck off from rolls of the department with the permission of Dean Academic Affairs.
 - b. The students admitted in one year Diploma, if they attain less than 25% of the total attendance in six months their name(s) shall be struck off from rolls of the department with the permission of Dean Academic Affairs.
 - c. The students admitted in six month certificate course, if they attain less than 25% of total attendance in three months, the name(s) of such students shall be struck off from rolls of the department with the permission of Dean Academic Affairs.
 - d. Attended not less than 75% of the full course of lectures delivered and practical arranged for the class.
 - e. The Director of the department shall have the power to condone shortage of lectures in each paper up to 15% of total taken separately.
- 5. Fees:**
 - a. According to the schedule, every candidate shall pay such fees to the university as per university rules.
- 6. General Instructions:-**
 - a. The candidate shall be eligible to appear in the examination provided :
 - He/ She bears good moral character.
 - b. The examination shall be held in accordance with the syllabus prescribed by

Prof. Varinder Kaur
Chairperson

One Year Diploma in Computer Applications (2026-2027)
Department of Lifelong Learning, Guru Nanak Dev University, Amritsar.

- the Department from time to time.
- c. The examination shall consist of Practical and Exhibit Display.
 - d. The Practical paper shall be set by examiner on the spot.
 - e. The medium of instruction/examination shall be English/Punjabi/Hindi in general.
 - f. The marks of exhibit display shall be based on House Test and performance of the students.
 - g. The marks of exhibit display shall be submitted to the Director of the Department fifteen days before the commencement of the examination.
 - h. Minimum number of marks required to pass the examination shall be 35% in each Practical/Exhibit Display separately.
 - i. If the candidate Absent/Fails in one or more Practical Examination her result shall be declared Fail.
 - j. The result shall be declared and published by the Department.
 - k. The successful candidates shall be awarded division according to the following criteria: -
 - a. Those who obtain 60% or more marks – First division.
 - b. Those who obtain 50% or more but less than 60% marks – Second Division
 - c. Those who obtain 35% or more marks but less than 50% - Third Division
 - l. Each successful candidate shall be awarded a Certificate Signed by the Director of the Department showing the division and the Aggregate Marks obtained.
 - m. Fee for issuing of duplicate certificate shall be decided from time to time by the approval of the worthy Vice-Chancellor.

Prof. Varinder Kaur
Chairperson

One Year Diploma in Computer Applications (2026-2027)
Department of Lifelong Learning, Guru Nanak Dev University, Amritsar.

SCHEME OF STUDY AND EXAMINATION

	SCHEME OF STUDY		SCHEME OF EXAMINATION	
Course Code	Name of Paper	Credits/Hrs per week	Total Marks	Examination Hrs.
CA101	Paper-I (Theory) Fundamentals of Computer and Database Management System	6 Hrs.	75	3 Hrs.
CA102	Paper-II Software Lab-I (PC Computing and Web Designing)	5 Hrs.	100	4 Hrs.
CA103	Paper-III Software Lab-II (Database Management System Oracle 10g)	5 Hrs.	100	4 Hrs.
CA104	Project	2 Hrs.	50	
CA105	Seminar/Presentation	2 Hrs.	25	
	Total		350	

Prof. Varinder Kaur
Chairperson

One Year Diploma in Computer Applications (2026-2027)
Department of Lifelong Learning, Guru Nanak Dev University, Amritsar.

CRITERIA FOR ADMISSION

The Committee makes the following recommendations after deliberations:-

1.	Name of the Course	Diploma in Computer Applications	
2.	Duration	One Year	
3.	Commencement of Course	July, Every Year	
4.	Eligibility	10+2 pass candidates from any recognized board with minimum 35% marks.	
5.	Venue	Department of Lifelong Learning, Guru Nanak Dev University, Amritsar.	
6.	No. of Seats	40 seats	
7.	Mode of Admission	(i) The admission will be made by a committee duly constituted by the worthy Vice-Chancellor strictly on the basis of the merit of the candidates in 10+2. (ii) If any of the admitted student remains absent consecutively for fifteen days without prior information and permission of the heading authority, his/her name shall be struck off from the rolls of the Department and the next candidate on the waiting list in order of merit of the respective course shall be admitted in his/her place with the permission of the Director of the Department.	
8.	Fee Structure	Total Fee: Rs. 22450/-	
	Total fee (July 2026- June 2027)	Rs. 22450/- which includes (To be deposited at the time of Admission) Admission Fee = Rs. 2200/- Examination Fee = Rs. 1400/- Tuition Fee: Rs. = Rs. 18600/- Identity Card Fee = Rs. 250/-	
9.	Late fee at the time of admission	July 2026 to June 2027	Fees
		May 8 th 2026 to July 31 st 2026	Nil
		Aug 3 rd 2026 to Aug 11 th 2026	Nil
		Aug 12 th 2026 to Aug 20 th 2026	Rs. 3000/-
		Aug 21 st 2026 to Aug 31 st 2026	Rs. 4000/-
		Sep 1 st 2026 to Sep 10 th 2026	Rs. 6000/-
		Sep 11 th 2026 to Sep 20 th 2026	Rs. 9000/-
		Within 15 Days from the date of closing of admission.	Rs. 10000/-
10.	Review of Course of Reading	The syllabus committee constituted by the worthy Vice Chancellor will review the course of reading for the session.	
11.	Conduct of Examination Evaluation & Award of Certificate.	To be decided with the approval of worthy Vice-Chancellor.	

Prof. Varinder Kaur
Chairperson

One Year Diploma in Computer Applications (2026-2027)
Department of Lifelong Learning, Guru Nanak Dev University, Amritsar.

Paper-I (Theory)

CA101: Fundamentals of Computer and Database Management System

Time: 3 Hours.

Max Marks: 75

Instructions for the Paper Setters:-

The paper setter is required to set 9 questions in all and the students are required to attempt 05 questions. First question is compulsory and consists of 15 short answer type questions of one mark each. Section “A”, “B”, “C”, “D” will consist of 2 questions. Each student is required to attempt 1 question from every section and all questions carry 15 marks each.

COURSE OBJECTIVES:-

- The students should be able to understand the basic concepts of computers and their applications.
- The Students will gain knowledge of the fundamental components of a computer system, including hardware, software, input-output devices, and memory units.
- They will understand the working and features of operating systems and the importance of computers in various fields.
- The course will enable students to develop practical skills in MS-Office applications such as Word, Excel, PowerPoint, Microsoft Access, and HTML, CSS for documentation, data handling, database management, web page creation, and presentations.
- Students will also learn how to create and design basic web pages using HTML, CSS. Further, students will acquire knowledge of Database Management Systems (DBMS) and learn to manage databases using Microsoft Access, including basic queries, data manipulation, and data storage concepts.

Section A

1. Introduction to Computers

- Basic concepts of Computer, Computer as a system, Characteristics of computer, , Block diagram showing Central Processing Unit, Memory Unit.
- Input/output Devices such as Keyboard, mouse, pens, touch screens, Bar Code reader, joystick, source data automation, (MICR, OMR, OCR), screen assisted data entry, portable/handheld terminals for data collection, voice recognition systems. Display Monitors, Printers, Impact Printers, Non-impact Printers, Plotters, Voice Output Systems, Projectors, Terminals.
- Drawing a flowchart, Concept of writing an algorithm, Problem Solving, Problem Analysis, developing a program.

Prof. Varinder Kaur
Chairperson

One Year Diploma in Computer Applications (2026-2027)
Department of Lifelong Learning, Guru Nanak Dev University, Amritsar.

- Classifications of computer, Applications of computer.
- Data Storage Devices and Media: Concept of storage units (bit, byte, KB, MB etc.). Primary storage (Storage addresses and capacity, types of memory), Secondary storage, Magnetic storage devices and Optical storage devices.

2. Computer Softwares

- Evolution of Programming languages (Machine level language, Assembly language, High level language).
- Software and its types, (Application & System Software) Translators (compiler, interpreter, assembler).
- Fundamentals of Operating System, Types of Operating System.
- Booting process, Hot booting and Cold Booting.

Section B

3. Computer Networks and Internet

- **Computer Networks:-** Introduction to computer networks, Advantages, Disadvantages, Types of Network, Transmission mode, Network Topologies, Client Server Systems.
- **Transmission Media:-** Guided and Unguided Transmission Media, Wireless Media.
- **Data Communication Equipments:-** Repeater, Hub, Switch, Bridge, Router, Gateway, Connector, Modem.
- **Internet:-** Introduction to Internet and its application, E-Mail, Usages and working of E-Mail, Evolution of internet, E-mail Basics and its uses.

Section C

4. Basic Concepts of DBMS:

- **Introduction to DBMS:** Data, Information, Field, Record, File, File Oriented vs Database Approach, overview of Database Systems,
- **Components of DBMS:** Role of Database Administrator and its responsibilities, Advantages and disadvantages of DBMS.
- **Three level Architecture of Database System:** The External level, Conceptual level and the Internal level, Physical and Logical Independence.
- **Data Models:** Hierarchical, Network and Relational Model, Entity Relationship Model & its basic terminologies, Relationships, Weak & Strong Entity Set.
- **RDBMS:** Concept of Relation and its basic terminologies (Relation, Tuple, Attribute, Cardinality, Domain), Degree, Types of Keys: Primary Key, Foreign Key, Unique Key, Candidate Key, Artificial Key, Super Key, Composite Key, Constraints, Data Integrity Rules.

Prof. Varinder Kaur
Chairperson

One Year Diploma in Computer Applications (2026-2027)
Department of Lifelong Learning, Guru Nanak Dev University, Amritsar.

Section- D

- **Normalization:** Concept of Normalization of Database, need for Normalization of Database, Normal Forms, Anomalies in Normal Forms, types of Dependencies, Boyce Codd Normal Form.
- **Transaction Management & Concurrency Control:** Introduction to Transaction, Properties of Transaction, Concurrent Transaction, ACID Properties, Need for Concurrency Control,
- **Database Recovery & Security:** Database Recovery Techniques, Database Security & Integrity, Threats to Data Security, Data Security Requirements, encryption.
- **Understanding SQL:** Introduction to SQL, SQL statements: - DDL, DML, DCL, and TCL Statements, SQL data types, Queries, Character functions, Number Functions, Aggregate, Miscellaneous functions, where, order by, group by clause, Joins, System & Object privileges, Views, Concept of PL/SQL Cursors, Triggers, Procedures, Functions and Packages.

COURSE OUTCOMES:-
<ul style="list-style-type: none">• After completing this course, students will be able to understand the fundamental concepts of computer systems, including their components, input-output devices, and storage media.• They will gain knowledge of software types, operating systems, and programming language evolution.• Students will also develop an understanding of computer networks, internet applications, and communication devices.• They will learn core concepts of database management systems, data models, and relational databases.

Recommended Books:-

1. Database System Concepts – Abraham Silberschatz, Henry F. Korth, & S. Sudarshan (2019 / 2021). *Database System Concepts* (7th ed.), McGraw-Hill..
2. Fundamentals of Database Systems – Ramez Elmasri & Shamkant B. Navathe (2016)
3. Database Design for Mere Mortals – Michael J. Hernandez (2019)
4. SQL for Data Analysis – Cathy Tanimura (2021)
5. Oracle PL/SQL Programming – Steven Feuerstein & Bill Pribyl. (2014). Oracle PL/SQL Programming (6th ed.). O’Reilly Media.
6. Fundamentals of Information Technology – H. Singh & A. Sharma. (2017). Fundamentals of Information Technology. Lakhanpal Publishers.

Prof. Varinder Kaur
Chairperson

One Year Diploma in Computer Applications (2026-2027)
Department of Lifelong Learning, Guru Nanak Dev University, Amritsar.

Paper-II (Practical-I)
CA102: PC- COMPUTING AND WEB DESIGNING

Time: 4 Hrs.

Max Marks: 100

Instructions for the paper Setter:

The paper will be set on the spot.

COURSE OBJECTIVES:-

- The objective of this program is to equip students with essential computer application skills, focusing on productivity tools and web development fundamentals.
- Students understand the fundamental concepts of web development and how websites are created and structured
- It aims to develop proficiency in using MS Office applications for documentation, data analysis, and presentations.
- Students understand the fundamental concepts of web development and how websites are created and structured.
- Student will also learn how to identify and fix common errors using browser tools and will be capable of developing and publishing simple static websites independently

Windows Operating System

- **Introduction to Windows:** Meaning, Purpose, Desktop, window, icons, start menu, Taskbar settings, application & document window, anatomy of a window, (Window explorer (expansion, collapsing of directory tree, copying, moving, deleting files, folder, creating folders), Desktop icons.

MS Office 2010

- **Word Processor:** Overview, creating, saving, opening, importing, exporting and inserting files, formatting pages, paragraphs and sections, indents and outdents, creating lists and numbering. Headings, styles, fonts and font size , editing, and formatting features, positioning and viewing texts, Finding and replacing text, inserting page breaks, page numbers, bookmarks, symbols and dates. Using tabs and tables, header, footer, macros, mail-merge; printing setup.
- **Microsoft Power Point:** Presentation overview, entering information, Presentation creation, opening and saving presentation, inserting audio and video different views, playing slides. Custom Animations, Text formatting, creating graphs, creating a presentation, Applying transitions.
- **Microsoft Excel:** Spreadsheet overview, Editing, Formatting, Creating and using formulas, Graphs, conditional formatting, data validation, sorting and filter data, inserting and deleting rows and columns, pivot tables, goal seek, inserting objects.

Prof. Varinder Kaur
Chairperson

One Year Diploma in Computer Applications (2026-2027)

Department of Lifelong Learning, Guru Nanak Dev University, Amritsar.

- **Microsoft Access:-** Introduction to Tables, Queries, Forms, Reports, Macros, and Modules. Table Creation: Using Design View vs. Datasheet View, Field Properties: Managing Data Types (Short Text, Number, Date/Time, Currency, AutoNumber) and setting Field Size, Validation Rules, and Input Masks. Primary & Foreign Keys: Defining unique identifiers and ensuring data integrity. Data Management: Entering, editing, sorting, and filtering records. Query Types: Select, Parameter, Crosstab, and Action Queries (Update, Delete, Append, create Table). Criteria & Expressions: Using operators (AND, OR, BETWEEN, LIKE) and creating calculated fields, Form Design: Using the Form Wizard and adding controls like Text Boxes, Combo Boxes, and Buttons, Report Creation: Designing professional reports using the Report Wizard and Design View.

HTML

Introduction to HTML:- Basic structure of HTML Document, creating and Saving HTML document, HTML tags such as header tags, Body tag and their attributes, Headings, paragraphs, line breaks, font tags and attributes, Text formatting (bold, italic, underline), paragraph formatting tag, List (order and unordered list tags), Anchor tag, Internal vs external links, Email links , Bookmark links span, hyperlinks, Inserting images, Image attributes (alt, width, height), Audio and video tags and its attributes, Creating tables, Rows, columns, headers, Table attributes (border, padding, spacing), Merging cells (rowspan, colspan), Form structure, Input types (text, password, email, radio, checkbox), Buttons and labels ,Form attributes (action, method), frames, tables, form tags and its attributes etc.

CASCADING STYLE SHEETS

Introduction to Cascading Style Sheets:- Types of Style Sheets (In line, Internal and External), CSS for Website Layout and Print Layout, explain different types of CSS selectors, what is CSS properties and types of CSS properties (Background Properties, Block Properties, Box Model Properties, List Properties, Border Properties, Positioning Properties).

Cascading Style Sheets (CSS 3.0)

Introduction to CSS3, what are the new feature in CSS3 and explain its new properties.(CSS Background properties, Text-Shadow Property, Text-Stroke Property, CSS Rounded Corners, Border Images, Border shadow, CSS Gradients, CSS Animation Property, CSS 2D Transforms, CSS 3D Transforms, Flex Box, Grid Box use these CSS3 properties in Practical Layout.

Prof. Varinder Kaur
Chairperson

One Year Diploma in Computer Applications (2026-2027)
Department of Lifelong Learning, Guru Nanak Dev University, Amritsar.

COURSE OUTCOMES:-

- After completing this program, students will be able to effectively use MS Office tools such as Word, Excel, PowerPoint and Microsoft Access for creating documents, managing data, and delivering presentations.
- They will gain the ability to build and manage databases using Microsoft Access.
- They will develop a foundational understanding of productivity tools which can be applied in academic projects and professional work.

Prof. Varinder Kaur
Chairperson

One Year Diploma in Computer Applications (2026-2027)
Department of Lifelong Learning, Guru Nanak Dev University, Amritsar.

PAPER–III (Software Lab. – II)
CA103:- Database Management System (Oracle 10g)

Time: 4 Hours.

Max Marks: 100

Instructions for the paper Setter:-

The paper will be set on the spot.

COURSE OBJECTIVES:-

- The objective of this program is to provide students with a strong foundation in database management systems and practical exposure to Oracle 10g.
- It aims to develop an understanding of database concepts, data models, normalization, and transaction management. The program also focuses on building skills in designing, implementing, and managing relational databases using SQL and Oracle tools.
- It prepares students to handle data efficiently, ensure data integrity and security, and apply database solutions in real-world applications.

- **Data Definition Language (DDL) Statements:** Create table, Alter Table, Create View, Drop, Create Index, Rename.
- **Data Manipulation Language (DML) Statements:** Select, Insert, Update, Delete.
- **Data Control Language (DCL) Statements:** Grant, Revoke.
- **Transaction Control Language (TCL) Statements:** Commit, Rollback, Savepoint.
- **Constraints:** Applying Table level and Column Constraints.
- **Creating Joins, Views, Roles.**
- **PL/SQL:** Control Structures, Handling Errors & Exceptions.
- **Retrieving Data with Cursors.**
- **Creating Functions, Procedures and packages, Triggers.**

COURSE OUTCOMES:-

- After completing this program, students will be able to understand and apply core DBMS concepts, including data modeling, normalization and database design.
- They will gain practical skills in using Oracle 10g to create, manage and manipulate databases using SQL queries and commands.
- Students will be capable of implementing constraints, ensuring data integrity, and managing transactions effectively.
- They will also develop the ability to use advanced database features such as views, indexes, triggers and procedures. Overall, they will be equipped to design and manage efficient database systems for academic and professional purposes.

Prof. Varinder Kaur
Chairperson

One Year Diploma in Computer Applications (2026-2027)
Department of Lifelong Learning, Guru Nanak Dev University, Amritsar.

REFERENCED BOOKS:

1. Date, C. J. (2004). An introduction to database management systems (8th ed.). Narosa Publications.
2. Desai, B. C. (2005). An introduction to database management system. Galgotia Publications.
3. Korth, H. F. (2011). Database system concepts (6th ed.). Tata McGraw-Hill.
4. Perry, J. T. (2004). Understanding Oracle. BPB Publications.
5. Feuerstein, S., & Pribyl, B. (2006). Oracle PL/SQL programming (5th ed.). O'Reilly Media.
6. Singh, H., & Sharma, A. (2017). Fundamentals of information technology. Lakhanpal Publishers.

Prof. Varinder Kaur
Chairperson

One Year Diploma in Computer Applications (2026-2027)
Department of Lifelong Learning, Guru Nanak Dev University, Amritsar.

Practical Assignments to be prepared during the session (MS Office 2010)

1. Type a paragraph in a word document using different Font Style (Bold, Italics) & Font Effects (Superscript, Subscript). The color of the text should be “Purple”. The Font of the text should be “Calibri” & font size should be “14”. Save this file as Para.pdf.
2. Create two lists in word document. One should be labeled using Bullets & other with number format.
3. Create an identity card in a word document that contains roll number, Name, Class, Section, and School Name & Photo of the student.
4. Type an invitation letter & create a mail merge for sending the same to 15 persons.
5. Create a table of 15 students in MS Excel consisting of name, marks of 5 subjects. Calculate total marks & percentage of the students. Apply borders, shading to the table.
6. Create a table in MS Excel. Apply different formulas: sum(), sumif(), sumproduct(), count(), countif(), counta(), countblank(), concatenate(), today(), now(), proper(), power() .
7. Create a record of 15 students in a Spreadsheet. Using if() function calculate respective grades of the students.
8. Create a record of sales of car year wise from (April2020-Mar2025) in MS Excel. Depict the scenario of sales using appropriate Chart.
9. Create a PowerPoint Presentation on Generations of Computer consisting minimum of 6 slides & maximum of 11 slides. Add texture to the background of all slides. Apply transitions in between the slides. Insert images to make the presentation interesting & adjust its size & where it will not overlap with the text.
10. Prepare a presentation on various types of Input Devices. Add a built-in theme to your Presentation. Use Text Fill & Text Effects to write the sub-titles.
11. Create a PowerPoint Presentation on various types of Output Devices. Add Animations to the text & images used. Insert audio & transition effects for the slides.

Practical Assignments using HTML

1. **Create an HTML document that displays the following text using appropriate formatting tags:**
 - Welcome to HTML!
 - This is **bold**, this is *italic*, this is underlined
 - This is **important**, and this is *emphasized*
 - Here is a highlighted word.
 - The price dropped from ~~\$100~~ to \$80.

Prof. Varinder Kaur
Chairperson

One Year Diploma in Computer Applications (2026-2027)
Department of Lifelong Learning, Guru Nanak Dev University, Amritsar.

2. Create a webpage with the following structure using heading (<h1> to <h6>) and paragraph (<p>) tags:
 - A main title at the top
 - Subheadings for sections (like Introduction, Benefits, Conclusion)
 - A short paragraph under each heading
3. HTML Structural Tags
 - Use <header>, <footer>, <section>, <nav>, and <article> to create a simple webpage layout (blog or news page).
 - Nest a <section> inside an <article> and demonstrate its semantic purpose.
4. Tables
 - Design a table displaying student marks with headers for Roll No, Name, Father Name Subject, and Score.
 - Add row and column spanning to merge cells.

NAME		

APRIL		

2022		
FIESTA		

5. Div Tag and Layout
 - Use <div> to divide a webpage into three sections: a top banner, a content area, and a footer. Apply basic styling.
6. Frames and Iframes
 - Create an HTML page with two frames (or iframes): one for navigation and another for displaying content.
 - Load an external website using an <iframe> and set width and height.
7. Content / Media Tags
 - Embed an audio file and a video file using <audio> and <video> tags with controls and auto play attributes.
8. Header, Paragraph, Span, and Preformatted Text
 - Add various levels of heading tags (<h1> to <h6>) to a sample page.
 - Create a paragraph using <p> and highlight a word using .
 - Use <pre> to display preformatted poetry or code.
9. Anchor Links and Named Anchors
 - Create internal links using and set up a named anchor using id="section1" on a target element.
 - Add external links that open in a new tab.
10. Image Tags / Image Hotspots
 - Display an image using the tag.
 - Use <map> and <area> to create clickable hotspots on an image.

Prof. Varinder Kaur
Chairperson

One Year Diploma in Computer Applications (2026-2027)
Department of Lifelong Learning, Guru Nanak Dev University, Amritsar.

11. Object and Embed Tags

- Embed a PDF or YouTube video using <object> and <embed> tags with proper attributes.

12. Forms and Inputs

Create a comprehensive form with the following elements:

- **Form Tag + POST/GET Method:** Create a form that submits using both GET and POST (two versions).
- **Text Input and Text Area:** Collect user's name and a comment.
- **Checkbox and Radio Buttons:** Provide options for selecting gender and interests.
- **Select, Option Group:** Create a dropdown menu of countries grouped by continent.
- **File Upload:** Allow the user to upload a resume.
- **Hidden Field:** Add a hidden input for tracking session ID.
- **Submit and Reset Buttons:** Include buttons to submit and reset the form.

13. Grocery List (Unordered List)

Q: Create a web page that displays your weekly grocery list using an unordered List Include at least **5 grocery items**.

Example Output:

- Milk
- Eggs
- Bread
- Rice
- Apples

14. Steps to Make Tea (Ordered List)

- Create an HTML page that shows steps to make a cup of tea using an ordered list. Include at least 6 steps.

Example Output:

1. Boil water
2. Add tea leaves
3. Let it brew
4. Add milk
5. Strain the tea
6. Serve hot

15. Web Technologies (Description List)

- Use a description list to display at least 4 web technologies with a short description of each.

Example Output:

- **HTML:** Used to structure web content
- **CSS:** Styles the HTML content
- **JavaScript:** Adds interactivity to web pages
- **PHP:** Server-side scripting language

Prof. Varinder Kaur
Chairperson

One Year Diploma in Computer Applications (2026-2027)
Department of Lifelong Learning, Guru Nanak Dev University, Amritsar.

16. Nested List of Courses

- Create a nested list showing departments and their respective courses using nested unordered or ordered lists.

Example Output:

- Computer Science
 - C Programming
 - Data Structures
 - Web Development
- Commerce
 - Accounting
 - Business Studies
 - Economics

17. Travel Bucket List

- Create a combination of ordered and unordered lists showing a travel bucket list. Use ordered list for continents and unordered list for countries in each.

Example Output:

1. Asia
 - Japan
 - Thailand
2. Europe
 - Italy
 - France
3. North America
 - Canada
 - USA

Prof. Varinder Kaur
Chairperson

One Year Diploma in Computer Applications (2026-2027)
Department of Lifelong Learning, Guru Nanak Dev University, Amritsar.

Practical Assignments Using CSS

Assignment 1: Apply Basic Text Styling

Create an HTML page with a paragraph about yourself. Use CSS to:

- Change the font to Arial
- Set the font size to 18px
- Make the text color blue
- Center-align the text

Assignment 2: Style a Navigation Menu

Create a horizontal navigation bar using an unordered list. Use CSS to:

- Remove bullet points
- Set the background color to gray
- Change text color to white
- Add spacing between links

Assignment 3: Create a Styled Contact Form

Design a contact form using HTML and style it using CSS to:

- Set a light background color
- Add padding and margin
- Style the input fields (e.g., border, width, font)
- Add hover effect to the submit button

Assignment 4: Box Model Practice

Create three div elements with different background colors

- Apply margin and padding
- Set width and height
- Add borders to all boxes

Assignment 5: Use Classes and IDs

Create an HTML page with 3 sections:

- Use **classes** to style multiple elements with the same background color
- Use **IDs** to give each section a unique font size or style
- Center the whole content on the page

Assignment 6: Hover Effects

Create a list of items (like a product list or links). Use CSS to:

- Change the background color of each item when the mouse hovers over it
- Use transition to make the effect smooth

Prof. Varinder Kaur
Chairperson

One Year Diploma in Computer Applications (2026-2027)

Department of Lifelong Learning, Guru Nanak Dev University, Amritsar.

Assignment 7: Responsive Design

Create a web page with a header, two-column layout, and footer. Use CSS to:

- Make the layout adjust for small screens (e.g., columns stack vertically)
- Use media queries to change background color on smaller screens

Assignment 8: Google Fonts Integration

Create a portfolio HTML page and use CSS to:

- Import a font from [Google Fonts](#)
- Apply the font to the entire page
- Style headings and paragraphs with different font weights and sizes

Practical Assignments Using Inline and External Style Sheets

Assignment 1: Use Inline CSS to Style Personal Info

Create an HTML file with a short bio (name, age, hobby, etc.). Use inline CSS to:

- Change the color of your name to green
- Make the hobby bold
- Set the background color of one paragraph to light yellow

Assignment 2: Create a Simple Web Page with External CSS

Create two files:

- Homepage.html — the main HTML page
- style.css — an external CSS file

Apply the following styles using the external stylesheet:

- Set the body background to light blue
- Use a different font (e.g., Verdana)
- Style all <h1> elements to be red and center-aligned
- Add padding and border to all <p> elements

Link the external CSS file using <link rel="stylesheet" href="style.css">.

Assignment 3: Compare Inline vs External Styling

Create an HTML file with three paragraphs. Style:

- First paragraph using **inline CSS**
- Second using an **internal style block** inside <style> tags
- Third using an **external stylesheet**

Write a note in a comment describing the difference between the three methods.

Assignment 4: Inline Style for a To-Do List

Create a to-do list using and . Use **inline styles** to:

- Set different text colors for each list item
- Highlight one item with a background color
- Make one item italic

Prof. Varinder Kaur
Chairperson

One Year Diploma in Computer Applications (2026-2027)

Department of Lifelong Learning, Guru Nanak Dev University, Amritsar.

Assignment 5: Use External CSS for a Portfolio

Design a basic portfolio page (home.html) and style it using an **external CSS file**:

- Set a background image or color
- Style buttons with padding, border-radius, and hover effects
- Make images responsive
- Add custom fonts using Google Fonts

Assignments Based on CSS Selectors

Assignment 1: Universal and Type Selectors

Create an HTML page with headings, paragraphs, and a list. Use:

- The **universal selector** to apply a font and margin to all elements
- The **type selector** to give different styles to <h1>, <p>, and

Assignment 2: Class and ID Selectors

Create a product catalog with multiple product cards.

- Use **class selectors** to apply the same style (border, padding, shadow) to each card
- Use **ID selectors** to highlight a featured product with a unique style

Assignment 3: Child and Descendant Selectors

Create a navigation bar inside a header.

- Use a **child selector** (>) to style only immediate children of the header
- Use a **descendant selector** (space) to style all links inside nested elements

Assignment 4: Adjacent Sibling Selector

Create sections with <h2> followed by <p> tags.

- Use **adjacent sibling selector** (h2 + p) to style only paragraphs that immediately follow a heading

Assignment 5: Attribute Selector

Create a form with different input types.

- Use **attribute selectors** to style:
 - [type="text"] with a specific background
 - [type="submit"] with a custom button style

Assignment 6: Nesting and Query Selectors

Use the **:nth-child**, **:hover**, **:focus**, and nesting (in SCSS or modern CSS) to style:

- A list with alternate row colors
- Inputs that change style on focus
- Links that change color on hover

Prof. Varinder Kaur
Chairperson

One Year Diploma in Computer Applications (2026-2027)
Department of Lifelong Learning, Guru Nanak Dev University, Amritsar.

Assignments Based on CSS Properties

Assignment 7: Background Properties

Create a landing page with:

- A **background image** covering the whole page
- Use **background-size**, **background-repeat**, and **background-position**

Assignment 8: Box Model and Block Properties

Design a content box with:

- Width, height
- Padding, margin
- Border and background color
- Add comments explaining how the **box model** works

Assignment 9: List Properties

Create a custom list with:

- **List-style-type** set to square, circle, or none
- **Custom bullet image** using list-style-image

Assignment 10: Border Properties

Create three boxes showing:

- **Solid border**
- **Dotted border**
- **Rounded border using border-radius**

Assignment 11: Positioning Properties

Create an HTML page with 3 boxes:

- One **fixed** at the top (header)
- One **absolute** inside a relatively positioned container
- One **sticky** element during scroll

Assignment 12: Defining Text and Background Styles

Design a blog article page. Use CSS to:

- Style headings, paragraphs, and blockquotes
- Apply background color or gradient
- Use a Google Font

Assignment 13: Designing Menu System

Create and style three types of menus:

- **Horizontal Menu** using inline
- **Vertical Menu** using block elements
- **Dropdown Menu** using hover and position properties

Prof. Varinder Kaur
Chairperson

One Year Diploma in Computer Applications (2026-2027)
Department of Lifelong Learning, Guru Nanak Dev University, Amritsar.

Assignment 14: Custom Form Design

Design a login or registration form with:

- Styled input fields and labels
- Rounded corners and box shadow
- Custom styled submit button with hover effect

Assignment 15: DIV + CSS Layout Design

Create a responsive webpage layout using only <div> and CSS:

- Header
- Navigation bar
- Content section
- Sidebar
- Footer

Prof. Varinder Kaur
Chairperson

One Year Diploma in Computer Applications (2026-2027)
Department of Lifelong Learning, Guru Nanak Dev University, Amritsar.

PAPER–III (PRACTICAL – II)

CA103:- Database Management System (Oracle: SQL & PL/SQL)

Instructions for the paper Setter:-

The paper will be set on the spot.

- **Data Definition Language (DDL) Statements:** Create table, Alter Table, Create View, Drop, Create Index, Rename.
- **Data Manipulation Language (DML) Statements:** Select, Insert, Update, and Delete.
- **Data Control Language (DCL) Statements:** Grant, Revoke.
- **Transaction Control Language (TCL) Statements:** Commit, Rollback, Savepoint.
- **Constraints:** Applying Table level and Column Constraints, Creating Joins, Views, sequence, Roles.
- **PL/SQL:** Control Structures, Handling Errors & Exceptions,
- Retrieving Data with Cursors, Creating Functions, Procedures and packages, Triggers.

Prof. Varinder Kaur
Chairperson

One Year Diploma in Computer Applications (2026-2027)
Department of Lifelong Learning, Guru Nanak Dev University, Amritsar.

Practical Assignments to be made during the session

Oracle: SQL & PL/SQL

1. Create a table **STU_DETAILS** having columns: **STU_ID** (Number), **STU_NAME** Varchar2, **COURSE** Varchar2, **SEMESTER** Varchar2, **CONTACT_NO** Number, **DOB** Date, **PROJ_GUIDE_ID** Varchar2. Set the **STU_ID** as Primary Key column. The **PROJ_GUIDE_ID** column will be a FOREIGN KEY which refers to the **PROF_ID** in the **PROFESSOR_DETAILS** table.
2. Use the following DDL & DML statements on **STU_DETAILS** table:
 - Set Primary key constraint on **STU_ID** column.
 - Alter the data type of **SEMESTER**.
 - Insert 15 records into it using different insertion methods.
 - Update the Course of any student.
 - Set Not Null constraint for **DOB** column.
 - Delete any one record.
3. Create a table **PROFESSOR_DETAILS** with attributes: **PROF_ID** Varchar2, **PROF_NAME** Varchar2, and **SPECIALIZATION** Varchar2, where **PROF_ID** will act as a Primary Key.
4. Use the following DML statements on **STU_DETAILS** & **PROFESSOR_DETAILS** tables:
 - Retrieve the Students details with name of the Project Guide.
 - Get the total number of students under supervision of each Professor.
 - Show the collective records of both the tables (**STU_DETAILS**, **PROFESSOR_DETAILS**).
 - Update any professor's record.
 - Add a new column: **QUALIFICATION** Varchar2.

Prof. Varinder Kaur
Chairperson

One Year Diploma in Computer Applications (2026-2027)
Department of Lifelong Learning, Guru Nanak Dev University, Amritsar.

PL/SQL Programs

1. Write a PL/SQL program to print a message on the screen.
2. Write a PL/SQL program to calculate the sum of two numbers.
3. Write a PL/SQL program to calculate the product of two numbers.
4. Write a PL/SQL program to display the use of %type attribute.
5. Write a PL/SQL program to display the use of % rowtype attribute.
6. Write a PL/SQL block to calculate the perimeter & area of a circle.
7. Write a PL/SQL program to calculate the volume of a cube.
8. Write a program to check whether a number is even or odd.
9. Write a program to print the grade of students when percentage of marks is entered.
10. Write a PL/SQL program to illustrate the use of EXIT statement.
11. Write a PL/SQL program to illustrate the use of EXIT WHEN statement.
12. Write a PL/SQL program to print the series of numbers starting from 1 to N using While Loop.
13. Write a PL/SQL program to print the table of a number using For Loop.
14. Write a PL/SQL program to print the department number & name of department using cursor FOR Loop.
15. Create a trigger which is fired each time a record is inserted in a table.

Prof. Varinder Kaur
Chairperson

One Year Diploma in Computer Applications (2026-2027)
Department of Lifelong Learning, Guru Nanak Dev University, Amritsar.

CA104:- PROJECT

Max Marks: 50

Guidelines for the Project:-

- A **project** is a planned set of tasks designed to achieve a specific goal within a given time.
- At the end of the course students have to submit a real-life based project. In that project they have to create salary statements, Result, Budget calculations using validations, conditional formatting based on real life problems and using various features of MS office. Project marks shall be awarded on the basis of their project work.
- Students can work individually or in a group of two students under the guidance of a supervisor.
- The hard copy of the project should be submitted to the Department.

Prof. Varinder Kaur
Chairperson

One Year Diploma in Computer Applications (2026-2027)
Department of Lifelong Learning, Guru Nanak Dev University, Amritsar.

PANEL OF EXAMINERS

The Panel of Examiners recommended by the syllabus committee for the Annual examination of One Year Certificate Course in Computer Applications 2025-26 at University Campus and for the Re-appear exam which is to be held as per Ordinance.

1. Sh. Tirath Singh Incharge ,Center for IT Solutions.
Guru Nanak Dev University, Asr.
M.NO: 9501666933
Email: tsingh_97@yahoo.com

2. Dr. Parminder Kaur, Professor,
Deptt. of Computer Science, GNDU,Asr.
M.No:9914010452
Email: Parminder.dcse@gndu.ac.in

3. Dr. Munish Saini, Assistant Professor,
Deptt of Computer Engg. & Technology
Guru Nanak Dev University, Amritsar
Email: cet@gndu.ac.in

4. Dr. Amit Chhabra, Assistant Professor
Deptt. of Computer Engg &Tech .
M.no:9815988882
Email: amit.dcse@gndu.ac.in

5. Dr. Kiranbir Kaur, Assistant Professor
Deptt. of Computer Engg &Tech. GNDU,Asr.
Mno:9872049066
Email: kiran.dcse@gndu.ac.in

6. Sh. Sandeep Singh Waraich, Assistant Professor,
Deptt. of Computer Science,
Guru Nanak Dev University,Asr.
M.NO:9914507007
Email: Swraich.dcse@gnsu.ac.in

7. Dr. Anil Kumar, Assistant Professor,
Deptt. of Computer Engg. & Tech.
Guru Nanak Dev University, Asr.
M.NO:9501033889
Email: Anil.dcse@gndu.ac.in

Prof. Varinder Kaur
Chairperson

One Year Diploma in Computer Applications (2026-2027)
Department of Lifelong Learning, Guru Nanak Dev University, Amritsar.

8. Sh. Chetan Marwaha, System Manager
Deptt. of Computer Science,
Guru Nanak Dev University, Asr.
M.NO:9501004679
Email: marwaha.chetan@gmail.com

9. Sh. Sandeep Sood , System Manager,
Centre for IT Solutions
Guru Nanak Dev University, Asr.
M.NO:9988080275
Email: soodsandeep123@yahoo.com

10. Sh. Vishal Malhotra, System Manager,
Centre for IT Solutions
Guru Nanak Dev University, Asr.
M.NO:9417274774,
Email: vishal.cbm@gmail.com

Prof. Varinder Kaur
Chairperson