# FACULTY OF COMPUTER SCIENCE & IT

## SYLLABUS FOR

### Diploma in Computer Applications

### (Semester I-II)

### (Under Continuous Evaluation System)

**Session: 2022-23**



# The Heritage Institution

# KANYA MAHA VIDYALAYA JALANDHAR
# (Autonomous)

# PROGRAM SPECIFIC OUTCOMES

# Diploma in Computer Applications

## Session 2022-23

After completing the Diploma Course in Computer Applications, the Students will be able to:

PO1: Comprehend the fundamentals of computer system and its basic components- Hardware & Software.

PO2: Get familiar with various concepts of computer networks, communication media and use of numerous internet applications efficiently for personal as well as professional purpose.

PO3: Manage all office automation tasks from word processing to making presentations, from handling worksheets to managing databases in an efficient manner.

PO3: Perform DTP (Desktop Publishing) applications to design or edit photos.

# Kanya Maha Vidyalaya, Jalandhar (Autonomous)

**SCHEME AND CURRICULUM OF EXAMINATIONS OF ONE YEAR DIPLOMA PROGRAMME**

**DIPLOMA IN COMPUTER APPLICATIONS**

**Session 2022-23**

| COURSE CODE | COURSE NAME | Course Type | Total | Ext. L | Ext. P | CA | Examination Time (in Hours) |
|---|---|---|---|---|---|---|---|
| | | | Marks | | | | |
| DCAM- 1111 | Information Technology and Operating System | C | 100 | 50 | 30 | 20 | 3+3 |
| DCAM - 1112 | PC Computing–I (Back Office Operations) | C | 100 | 50 | 30 | 20 | 3+3 |
| | Total | | 200 | | | | |

**Note:**
**C - Compulsory**

# Kanya Maha Vidyalaya, Jalandhar (Autonomous)

**SCHEME AND CURRICULUM OF EXAMINATIONS OF ONE YEAR DIPLOMA PROGRAMME**

**DIPLOMA IN COMPUTER APPLICATIONS**

**Session 2022-23**

| COURSE CODE | COURSE NAME | Course Type | Marks | | | | Examination Time (in Hours) |
|---|---|---|---|---|---|---|---|
| | | | **Total** | **Ext.** | | **CA** | |
| | | | | **L** | **P** | | |
| DCAM - 2111 | Database Management System | C | 100 | 50 | 30 | 20 | 3+3 |
| DCAM -2112 | PC Computing–II (Professional DTP) | C | 100 | 50 | 30 | 20 | 3+3 |
| | Total | | 200 | | | | |

*Diploma in Computer Applications Semester - II*

**Note:**
**C - Compulsory**

## Diploma in Computer Applications Semester – I

**Session 2022-23**
**COURSE CODE: DCAM–1111**
**INFORMATION TECHNOLOGY AND OPERATING SYSTEM**

**Course Outcomes:**

After passing this course the student will be able to:

CO1: identify different components and software of computer system.
CO2: Comprehend communication between computers through network.
CO3: Comprehend basics of internet, emails and different operating systems.
CO4: Apply different DOS commands for performing different set of operations like rename, delete, create, edit, etc.

**Diploma in Computer Applications Semester – I**

**Session 2022-23**
**COURSE CODE: DCAM–1111**
**INFORMATION TECHNOLOGY AND OPERATING SYSTEM**

**Examination Time: (3+3) Hrs.**                    Max. Marks: 100
                                                     Theory:   50
                                                     Practical: 30
                                                     CA: 20

**Instructions for Paper Setter -**

Eight questions of equal marks (10 marks each) are to be set, two in each of the four sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be divided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any section.

## UNIT I

**Fundamentals of Computer:** Introduction to computer, Components of computers (Input unit, Output Unit, Memory Unit & CPU), Types of software, Translators (compiler, interpreter, assembler), Programming languages (Machine, assembly, high level languages).

## UNIT II

**Information Concepts and Processing: Evolution** of Information Processing, Data Information Language, Communication and Network, Client Server Systems, Computer Networks (LAN & WAN)

## UNIT III

**Internet:** Understanding the Internet, WWW,E–mail Basics, Browsing the Web.

**Operating System:** Introduction to Operating System, Types of Operating System (Single User Systems, Multi User Systems), Booting a System.

## UNIT IV

**Disk Operating System:** Introduction to DOS, Structure of DOS, Internal Command (cls, dir, date, time, vol,ver, copy con, type, ren, del, md, rd, d, path, prompt), External Commands (edit, attrib, backup, restore, chkdsk, diskcopy, dskcomp, deltree, edit, format).

**References/Textbooks:**

1. Anshuman Sharma, Fundamentals of Information Technology, Lakhanpal Publishers, 5<sup>th</sup> Edition.
2. Rachhpal Singh & Gurvinder Singh, PC Software, Kalyani Publisher, 2009.
3. Peter Norton, Peter Norton's Computing Fundamentals, McGraw-Hill Technology Education, 2006.

Note: The latest editions of the books should be followed.

**Session 2022-23**
**COURSE CODE: DCAM–1112**
**PC COMPUTING–I**
**(BACK OFFICE OPERATIONS)**

**Course Outcomes:**

After passing this course the student will be able to:

CO1: Identify different components of a window screen.
CO2: Understand Word Processor, Create, Edit and Format documents, Work with Tables, Import and Export data between Files, Save, Protect and Print documents.
CO3: Create effective presentations, can apply designs to enhance the look of the presentation, print a presentation, etc.
CO4: Work on Spreadsheet application for office tasks.

## Diploma in Computer Applications Semester – I

Session 2022-23
COURSE CODE: DCAM–1112
PC COMPUTING–I
(BACK OFFICE OPERATIONS)

**Examination Time: (3+3) Hrs.**

Max. Marks: 100
Theory:   50
Practical: 30
CA: 20

**Instructions for Paper Setter -**

Eight questions of equal marks (10 marks each) are to be set, two in each of the four sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be divided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any section.

## UNIT–I

**Introduction to Windows:** Parts of window screen (Desktop, window, icons), start menu, Taskbar settings, application &document window, anatomy of a window (Title bar, minimize, maximize button, control box, scroll bars), Window explorer (copying, moving, deleting files, folder, creating folders), About desktop icons (recycle bin, my computer), shortcut creation.

## UNIT–II

**Word Processing**: Introduction to word processing & its features, parts of window of word processing (Title bar, menu bar, status bar, and ruler), understanding the ribbon, use of office button and quick access toolbar, creation of new documents, opening document, insert a document into another document. Page setup, margins, gutters, font properties, alignment, page breaks, header & footer, deleting, moving, replace, editing text in document, saving a document, spell checker, printing a document. Creating a table, entering and editing text in tables, changing format of table, height and width of row/column editing, adding and deleting rows/columns. Adding picture, page colors and watermarks, borders, shading, drawing objects.

## UNIT III

**Presentation:** Introduction to presentation, exploring menus, starting a new slide, saving presentation, moving/rearranging slides, printing slides. Applying theme to presentation, views (slide view, slide sorter, notes view, outline view), formatting & enhancing text. Creating a graph,

displaying slide show, adding multimedia. Slide transitions, applying Animation, Timing slide display, adding movies & sounds, using a pick look wizards to change format.

## UNIT IV

**Spreadsheet**: Introduction to worksheet/spreadsheet, features, creating a new workbook, different functions on different data in excel, creation of graphs, editing it and formatting, changing chart type, creation of worksheet, adding, deleting, moving the text in worksheet, sorting the data, querying the data, filtering the data (auto and advance filters), What-if analysis, open an already existing workbook, saving workbook, printing a worksheet, closing the workbook & exiting.

**References/Textbooks:**

1. Anshuman Sharma, A book of Fundamentals of Information Technology, Lakhanpal Publishers, 5$^{th}$ Edition.
2. Prof. Satish Jain, M. Geetha, Kratika, BPB's Office 2010 Course Complete Book, BPB Publications, 2017.
3. Joyce Cox, Joan Lambert and Curtis Frye, Microsoft office Professional 2010 Step by Step, Microsoft Press, 2010.
4. V. Rajaraman, Neeharika Adabala, Fundamentals of Computers, PHI Learning, 2015.
5. P.K. Sinha, Computer Fundamentals, BPB Publications, 2004.

Note: The latest editions of the books should be followed.

**(Session 2022-23)**
**COURSE CODE: DCAM - 2111**
# DATABASE MANAGEMENT SYSTEM

**Course Outcomes:**

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

CO1: Comprehend different components and architecture of database management system.

CO2: Comprehend various database models and normalization of data.

CO3: Apply SQL to formulate queries and design basic level of database.

CO4: Comprehend the use of Programming Language constructs like function, procedure, packages  etc. in database.

Diploma in Computer Applications Semester – II

**(Session 2022-23)**
**COURSE CODE: DCAM–2111**
**DATABASE MANAGEMENT SYSTEM**

**Examination Time: (3+3) Hrs.**

Max. Marks: 100
Theory:      50
Practical: 30
CA: 20

**Instructions for Paper Setter -**

Eight questions of equal marks (10 marks each) are to be set, two in each of the four sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be divided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any section.

## UNIT–I
**Introduction:** Introduction to Database Management System, Components of DBMS, Three-level architecture, Data Mapping.

## UNIT–II
**Data Models**: Hierarchical Model, Network Model and Relational Model.
**Normalization of Data:** First, Second and Third Normal form Introduction to RDBMS, Types of Keys.

## UNIT–III
**ORACLE :** Introduction to Oracle .

SQL– DDL, DML, DCL, Join methods & Sub query, Union, Intersection, Minus, Built in Functions, Views, Security amongst users, Sequences, Indexing Object Oriented Features of Oracle 10g

## UNIT-IV
**PL/SQL:** Introduction to PL/SQL, Relationship between SQL & PL/SQL, Advantages, block structure, Valuable and Constant declaration, Declaration using attributes %type attribute, control statements.

**References/Textbooks:**

1. Silberschatz, Korth & Sudarshan, Database Systems Concepts, McGraw-Hill Inc.(2020), $7^{th}$ edition.
2. C.J. Date, An Introduction of Database System, Addison-Wesley Publishing co.(2003), $8^{th}$ edition.
3. Anshuman Sharma, Fundamentals of DBMS, Lakhanpal Publishers (2016), $4^{th}$ edition.
4. Raghu Ramakrishnan, Johannes Gehrke, Database Management Systems, McGraw Hill Education (2014), $3^{rd}$ edition.
5. Atul Kahate, Introduction to Database Management Systems, Pearson (2004), $1^{st}$ edition.
6. Ivan Bayross, SQL/PL/SQL. The Programming Language of Oracle, BPB Publications (2010), $4^{th}$ edition.

**(Session 2022-23)**
**COURSE CODE: DCAM - 2112**
# PC COMPUTING–II
## (Professional DTP)

**Course Outcomes:**

After passing this course the student will be able to:

CO1: Apply different tools in Photoshop for making graphics.
CO2: Comprehend different color models and concepts of layers in Photoshop
CO3: Apply different tools in CorelDraw for making graphics.
CO4: Apply different kind of transformation, grouping, special effects, etc.

Diploma in Computer Applications Semester – II

**(Session 2022-23)**
**COURSE CODE: DCAM - 2112**
**PC COMPUTING–II**
**(Professional DTP)**

**Examination Time: (3+3) Hrs.**

Max. Marks: 100
Theory:      50
Practical: 30
CA: 20

**Instructions for Paper Setter -**

Eight questions of equal marks (10 marks each) are to be set, two in each of the four sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be divided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any section.

## UNIT I

**Photoshop:** Introduction to Graphics, Vector Graphics and Bitmaps, Understanding Image Size and Resolution, Using Menu and Palettes.

**Photoshop Tools:** Marquee Tool , Move Tool , Lasso Tool (Polygon, Magnetic, Magic Wand Tool), Crop Tool ,Healing Brush Tool ,Patch Tool, Brush Tool, Pencil Tool, Clone Stamp Tool, Pattern Stamp Tool, History Brush Tool, Eraser Tool ( Background, Magic Erases Tool), Gradient Tool , Blur Tool , Smudge tool, Sharpen Tool,  Dodge Tool ,Burn tool, Sponge tool Path Selection Tool , Text Type Tool , Pen Tool ,Rectangle Tool , Eyedropper Tool, Hand Tool, Zoom Tool.

## UNIT II

Color Modes (Grayscale, RGB, CMYK), Paths (Creating Paths via Selections, via Pen Tools), Concept of Layers, Creating/ Adding Layers, Duplicating Layer, Deleting Layer, Layers Palette Menu, Quick & Layer Mask.

Filters, Transformation (Scaling, Rotating, Skewing, Distorting, Perspective, Flipping, Absolute, Free Transform).

## UNIT III

**Corel Draw:** Exploring CorelDraw, Menus, Corel Tools (Pick Tool, Zoom Tool, Pan Tool, Rectangle Tool, Ellipse Tool Polygon Tool, Spiral, Graph Paper Tool, Shapes Tool, eraser tool, Free hand, Bezier, artistic Media Tool, Pen Tool )

## UNIT IV

Grouping/Ungrouping Objects, Locking/Unlocking Objects, Trimming, Wielding, Intersection of Objects, Working with text, Fill Tool (Uniform, Fountain, Pattern, Texture, Postscript)

Special Effects (Interactive blend tool, Contour Tool Distortion, Envelope, Extrude, Drop Shadow tool, Transparency Tool), Transformations (Position, Rotate, Scale, Size, Mirror).

**References/Textbooks:**

1. *Kogent Learning Solutions Inc., CorelDraw X7 in Simple Steps, Dreamtech Press, 2014.*
2. *Steve Caplin, How To Cheat In Photoshop CC: The Art of Creating Realistic Photomontages by Routledge, 2013.*
3. *Lisa DaNaeDayley, Brad Dayley, Adobe Photoshop CC Bible, Wiley, 2013.*
4. *Manohar Singh, JaspreetThind, TejinderThind, Uminder Kaur, PC Computing II Photoshop 5.5 & Corel Draw 10 Professional DTP, AP Publishers, 2008.*
5. Saish Jain, Photoshop CS6 Training Guide, BPB Publications (2014).
6. Natallia Geisen, Photoshop for Beginners: Learn the Basics of Photoshop in Under 10 Hours! (Graphic Design, Photo Editing, Adobe Photoshop, Digital Photography), Createspace Independent Pub (2016).
7. Martin Evening, Adobe Photoshop CS6 for Photographers: A professional image editor's guide to the creative use of Photoshop for the Macintosh and PC, Routledge (2012) 1st edition.

Note: The latest editions of the books should be followed.