Syllabus for

Diploma in Computer Applications (DCA)

Semester: I - II

Session: 2023-24

Directorate of Open & Distance Learning
Guru Nanak Dev University

(ESTABLISHED UNDER STATE LEGISLATURE ACT NO. 21 OF 1969)
Accredited by National Assessment and Accreditation Council (NAAC) At 'A++' Grade (Highest Level) As Per Modified Criteria Notified On 27/07/2017 And Conferred 'University with Potential for Excellence' Status and 'Category-I University' As Per University Grants Commission (F. No. 1-8-2017/(CPP-II) Dated 12/02/2018)

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Note:

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(ii) Subject to change in the syllabi at any time. Please visit the University website time to time

(iii) This is a new syllabus applicable from the session 2023-24 for students admitted in 1st Semester in July 2023 and the syllabus for previous batches may please refer to the old syllabus for the session 2021-22 and 2022-23 depending upon the date of admission.

Diploma in COMPUTER APPLICATIONS (SEMESTER SYSTEM) under Directorate of Open & Distance Learning, Guru Nanak Dev University, Amritsar

Eligibility:

+2 in any stream with at least 45% marks in aggregate (40% for SC/ST candidates).

SEMESTER-I

Paper Code	Subject	Marks			Credits
		Internal Assessment	End Term	Total	
ODDCA111T	Information Technology & Operating System	30	70	100	4
ODDCA112T	PC Computing –I	30	70	100	4
ODDCA113P	Programming Laboratory –I	30	70	100	4
ODDCA114P	Programming Laboratory –II	30	70	100	4
Total Marks & Credits		**120**	**280**	**400**	**16**

SEMESTER-II

Paper Code	Subject	Marks			Credits
		Internal Assessment	End Term	Total	
ODDCA211T	Database Management System	30	70	100	4
ODDCA212T	PC Computing –II	30	70	100	4
ODDCA213P	Programming Laboratory –III	30	70	100	4
ODDCA214P	Programming Laboratory –IV	30	70	100	4
Total Marks & Credits		**120**	**280**	**400**	**16**

DCA (ODL) (Semester – I)

ODDCA-111T: Information Technology & Operating System

Time: 03 Hours   **Max. Marks: 100 Marks**

Internal Assessment: 30 Marks

End Term: 70 Marks

Instructions for the Paper-Setter/examiner:

1. Question paper shall consist of **Four sections**.
2. Paper setter shall set **Eight questions** in all by selecting **Two questions** of equal marks from each section. However, a question may have sub-parts (not exceeding four sub-parts) and appropriate allocation of marks should be done for each sub-part.
3. Candidates shall attempt **Five questions** in all, by at least selecting **One question** from each section and the **5th question** may be attempted from any of the **Four sections**.
4. The question paper should be strictly according to the instructions mentioned above. In no case a question should be asked outside the syllabus.

Section-A

Information Concepts and Processing
- Evolution of Information Processing
- Data Information Language
- Communication and Network
- Client Server Systems
- Computer Networks
- LAN & WAN

Section-B

Internet
- Understanding the Internet
- Email Basics
- Browsing the Web
- Finding stuff on the Web and Net

Elements of a Computer Processing System
- Hardware – CPU
- Storage Devices and Media
- VDU
- Input-Output

Section-C

Data Communication Equipment

Software- System Software, Application Software

Programming Languages

- Classification
- Machine Code
- Assembly Language
- Higher Level Languages
- Fourth Generation Languages

Section-D

Operating System

What is Operating System – Evolution of OS

Types of Operating System

A) Single User Systems
B) Multi User Systems: UNIX, XENIX, VAX/VMS

Booting a System

References:

1. V.K Jain : Fundamentals of Information Technology
2. http://www.swayam.gov.in
3. http://edx.org (formerly http://mooc.org)
4. http://epgp.inflibnet.ac.in/

ODDCA-112T: PC Computing - I

Time: 03 Hours   **Max. Marks: 100 Marks**

Internal Assessment: 30 Marks

End Term: 70 Marks

Instructions for the Paper-Setter/examiner:

1. Question paper shall consist of **Four sections**.
2. Paper setter shall set **Eight questions** in all by selecting **Two questions** of equal marks from each section. However a question may have sub-parts (not exceeding four sub-parts) and appropriate allocation of marks should be done for each sub-part.
3. Candidates shall attempt **Five questions** in all, by at least selecting **One question** from each section and the **5th question** may be attempted from any of the **Four sections**.
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Section-A

Introduction to Windows

1.1 Origin of Windows
   a) Parts of Windows Screen (Definition)
       *   The Desktop, the taskbar
       *   Start Menu
       *   The Windows
       *   Icons
   b) Types of Windows
       *   Application Windows
       *   Document Windows
   c) Anatomy of a window
       *   The Title bar
       *   Minimize and Maximize buttons
       *   The Control box
       *   Scroll bars, scroll buttons, and scroll boxes
       *   About my computer icon
       *   About the networking neighbourhood icon
       *   Recycle bin
       *   Folders- creation and definition
       *   Windows explorer (definition)
       *   Shortcut icons with creation and definition

Section-B

Introduction to MS-Office

Introduction to Word (Word for Windows)

1. Introduction to Word
2. Introduction to Parts of a Word Window (Title bar, Menu bar, Tool bar, the Ruler, Status area)
3. Creating new document
4. Opening an existing document
5. To insert a second document into an open document
6. Editing a document
7. Deleting text, replacing text, moving and copying text
8. Page setup
9. Margins and Gutters
10. Changing fonts and front size
11. To make text bold, italic or underline
12. Line spacing
13. Centering, right alignment and left alignment
14. Page breaks

Section-C

Introduction to Word (Word for Windows)

1. Headers and footers
2. Putting page numbers in headers and footers
3. Saving documents
    1. Naming word document
    2. Saving in different formats
    3. Saving on different disks
4. Spell Checker
5. Printing
6. Creating a table using the table menu
    1. Entering and editing text in tables
    2. Selecting in tables
    3. Adding rows
    4. Changing row heights
    5. Deleting rows
    6. Inserting rows
    7. Changing columns and cell width
7. Borders and shading
8. Templates and Wizards
9. Working the Graphics
10. Drawing objects
11. Using frames, position objects
12. Mail Merge

13. Using word and word documents with other applications

Section-D

MS Power Point

1. Introduction to MS Power Point
2. Power Point Elements
   a. Templates
   b. Wizards
   c. Views
   d. Color Schemes

3. Exploring Power Point Menu

   a. Opening and Closing Menus
   b. Working with Dialog Boxes
4. Adding text, adding title, moving text area, resizing text boxes, adding art
5. Starting a new slide
6. Starting a slide show
7. Saving Presentation
8. Printing Slides
9. Views
   Slide view, slide sorter view, notes view, outline view
10. Formatting and enhancing text formatting
    a) Formatting
   a. Changing format with a new layout
   b. Using a pick look wizards to change format
   c. Alignment of Text
   d. Working with text spacing
    b) Enhancing
   a. Using Bullets
   b. Changing text font and size
   c. Selecting text style, effect and color
   d. Picking up and applying styles
11. Creating Graphs
12. Displaying slide show and adding multi-media

References:

1. http://www.swayam.gov.in
2. http://edx.org (formerly http://mooc.org)
3. http://epgp.inflibnet.ac.in/

DCA (ODL) (Semester – I)

ODDCA-113P: Programming Laboratory-I

Time: 03 Hours

Max. Marks: 100 Marks

Internal Assessment: 30 Marks

End Term: 70 Marks

Practical will be based on Subject Code ODDCA 101T

ODDCA-114P: Programming Laboratory-II

Time: 03 Hours
Max. Marks: 100 Marks
Internal Assessment: 30 Marks
End Term: 70 Marks

Practical will be based on Subject Code ODDCA 112T

ODDCA-211T: Database Management System

Time: 03 Hours

Max. Marks: 100 Marks

Internal Assessment: 30 Marks

End Term: 70 Marks

Instructions for the Paper-Setter/examiner:

1. Question paper shall consist of **Four sections**.
2. Paper setter shall set **Eight questions** in all by selecting **Two questions** of equal marks from each section. However, a question may have sub-parts (not exceeding four sub-parts) and appropriate allocation of marks should be done for each sub-part.
3. Candidates shall attempt **Five questions** in all, by at least selecting **One question** from each section and the **5th question** may be attempted from any of the **Four sections**.
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Section-A

Introduction to Database Management System, Components of DBMS, E.R. Diagrams, Data Models, Hierarchical Model, Network Model and Relational Model.

Section-B

Concept of Database Security, Protection, Integrity, Recovery and Concurrency, Idea of Distributed Databases, Knowledge Base/ Expert Systems
ORACLE 10g:
SQL *PLUS

- Introduction to Oracle 10g
- SQL-DOL, DML, DCL

Section-C

ORACLE 10g:
SQL *PLUS

- Join methods and Sub query, Union, Intersection Minus, Tree Walking
- Built in Functions, Views, Security amongst users, Sequences, Indexing Object
- Oriented Features of Oracle 10g

Section-D

PL/SQL

- Introduction to PL/SQL

- Cursors- Implicit & Explicit
- Procedures, Functions & Packages
- Database Triggers

References:

1. C.J. Date: Data Base Management Systems
2. http://www.swayam.gov.in
3. http://edx.org (formerly http://mooc.org)
4. http://epgp.inflibnet.ac.in/

ODDCA-212T: PC Computing -II

Time: 03 Hours   **Max. Marks: 100 Marks**

Internal Assessment: 30 Marks

End Term: 70 Marks

Instructions for the Paper-Setter/examiner:

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2. Paper setter shall set **Eight questions** in all by selecting **Two questions** of equal marks from each section. However, a question may have sub-parts (not exceeding four sub-parts) and appropriate allocation of marks should be done for each sub-part.
3. Candidates shall attempt **Five questions** in all, by at least selecting **One question** from each section and the **5th question** may be attempted from any of the **Four sections**.
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Section-A

MS- EXCEL
   a) Introduction to Worksheet/Spreadsheet
   b) Creating a simple worksheet
   c) Computations in a Worksheet

Section-B

MS- EXCEL
   a) Printing the Worksheet
   b) Graphs
   c) What if Analysis (Data Sort, Fill, Query, Filter)

Section-C

MS Access:
Introduction, Understanding Databases, Creating Tables, Queries

Section-D

MS Access:
Forms, Reports, Adding graphs to your report

References:

   1.   http://www.swayam.gov.in
   2.   http://edx.org (formerly http://mooc.org)
   3.   http://epgp.inflibnet.ac.in/

ODDCA-213P: Programming Laboratory-III

Time: 03 Hours

Max. Marks: 100 Marks

Internal Assessment: 30 Marks

End Term: 70 Marks

Practical will be based on Subject Code ODDCA 211T

ODDCA-214P: Programming Laboratory-IV

Time: 03 Hours

Max. Marks: 100 Marks

Internal Assessment: 30 Marks

End Term: 70 Marks

Practical will be based on Subject Code ODDCA 212T