Syllabus for

Post Graduate Diploma in Computer Application (PGDCA)

SEMESTER: I – II

Session: 2021-22

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:
Subject to change in the syllabi at any time. Please visit the University website time to time

POST GRADUATE DIPLOMA IN COMPUTER APPLICATIONS (SEMESTER SYSTEM) under
Directorate of Open & Distance Learning, Guru Nanak Dev University, Amritsar

Eligibility:

Graduate with 45% marks in aggregate or equivalent examination.

Semester-I

Paper Code	Subject	Marks			Credits
		Internal Assessment	End Term	Total	
ODPDC-101T	PC Computing-I (MS Office) 2003	20	80	100	4
ODPDC-102T	PC Computing-II (Professional DTP)	20	80	100	4
ODPDC-103T	Fundamentals of Computer & Operating Systems	20	80	100	4
ODPDC-104T	Database Management System through Oracle-10g	20	80	100	4
ODPDC-105P	Practical - I	20	80	100	4
	Total Marks & Credits	100	400	500	20

Semester-II

Paper Code	Subject	Marks			Credits
		Internal Assessment	End Term	Total	
ODPDC-201T	Network Concepts and Management (Hardware, Software, setting in LINUX/UNIX/ NT environment	20	80	100	4
ODPDC-202T	Programming in C	20	80	100	4
ODPDC-203T	Introduction to Scripting Languages, Web Designing & Uses of Internet	20	80	100	4
ODPDC-204T	Programming in Visual Basic with Active X	20	80	100	4
ODPDC-205P	Practical - II	20	80	100	4
	Total Marks & Credits	100	400	500	20

ODPDC-101T: PC Computing-I (MS Office) 2003

Time: 03 Hours   **Max. Marks: 100 Marks**
Internal Assessment: 20 Marks
End Term: 80 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

MS-Word: Introduction to Ms-Office, Ms-Access, Ms- Excel. Parts of window of word (Title bar, menu bar, status bar, ruler), 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 width of row or column. Editing, deleting Rows, columns in table. Borders, shading, Templates, wizards, Drawing objects, mail merge

Section-B

MS-Power Point: Introduction to MS-Power point. Power point elements (templates wizard Views, color schemes, Exploring power point menu (opening & closing menus, working With dialogues boxes), adding text, adding title, moving text area, resizing text Boxes, adding pictures. Starting a new slide, saving presentation, printing slides. Views (slide View slide sorter, notes view, outline view). Formatting & enhancing text formatting, Choosing transitions. Creating a graph, displaying slide show, adding multimedia. Slide transitions. Timing slide display, adding movies & sounds. Using a pick look Wizards to change format.

Section-C

MS Excel: Introduction to Worksheet/Spreads, Features of excel. Describe the excel Window, different functions on different data in excel, creation of graphs, editing it and formatting, changing chart type to 2d chart or 3d chart, creation of worksheet, adding, deleting, moving the text in worksheet, linking different sheets, sorting the data, querying the data, filtering the data (auto and advance filters), that if analysis, printing a worksheet.

Section-D

MS-Access: Introduction, Understanding Databases. Creating the tables. entering records in table, deleting table, modifying table fields, linking tables, Queries. Forms, formatting forms, relating a form to tables, Reports (building reports, formatting report. displaying the information of table using reports Adding Graphs to your reports.

References:
1. PC Computing by R.K. Taxali.
2. PC Software By Rachpal Singh & Gurinder Singh.
3. http://swa am ov i /
4. http://cdx.org lormerlyhttp://mooc.org/

Post GᴿᴬDᴜᴬᴛᴇ Diplomᴀ in Computer Applicᴀᴛɪᴏɴs (Semesteᴦ – I)

ODPDC-102T: PC Computing–II (Professional DTP)

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

Internal Assessment: 20 Marks

End Term: 80 Marks

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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.
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Section-A

Photoshop 5.5
1. Introduction to Graphics, Vector Graphics & Bitmaps
2. Understanding Image Size & resolution
3. Relation between resolution, File sizes & output
4. Using menu & Palettes.
5. Concept of Path (Segment, Anchor, Curved, Closed, Open, Subpath)

Section-B

Photoshop 5.5
1. Photoshop Tools (Pen, Pencil, Brush, History, Air, Eraser, Rubber stamp Smudge, Dodge, Burn, Sponge), Masks & Histogram.
2. Acquiring &. Importing Images,
3. Concept of Lyres Channels & Path, Filters, Rendering Effects, Transformation, Strokes, Image Modes, Canvas & Images.
4. Using navigator & PhotoShop plugins.

Section-C

Corel Draw-9
1. Concepts of vector graphics.
2. Color palate, Pasteboard, &. Print Page
3. Using ruler unit setc...

Section-D

1. Corel Tools (Pick, Shape, Knife, Eraser, Zoom, Freehand, Natural Pen, Dimensions, Ellipse, Polygon etc.).
2. Transformations, Trimming, Wielding, Intersection of Objects, Snapping, Using Object Manager.
3. Giving effects, (Envelope, Adding Perspective, Contours, Blending Image.)

References:

1. http://swayam.gov.in
2. http://edx.org formerly http://mooc.org

ODPDC-103T: Fundamentals of Computer & Operating Systems

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

Internal Assessment: 20 Marks

End Term: 80 Marks

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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.

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Section-A

Fundamentals of Computer:
Introduction to computer, Applications of computer, Components of computers, Input-output devices (key boards, mouse, track ball, light pen, cards, printers, plotters, scanners), Secondary storage devices (floppy disk, magnetic disk, Winchester disk, optical disk) Types of software, Translators (compiler, interpreter, assembler), Introduction to data communication and network.

Section-B

Introduction to Windows Vista:
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, scroll buttons, scroll boxes), Window explorer (expansion, collapsing of directory tree, copying, moving, deleting files, folder, creating folders), About desktop icons (recycle bin, my computer, network neighborhood, briefcase), folder, shortcut creation, setting of screen saver, color settings, wallpaper, changing window appearance.

Section-C

Disk Operating System:
Meaning of operating system, its functions, batch systems, real systems, multi programming, multitasking, single, multi user systems. Define dos, Structure of Ms-Dos (description of booting files, steps to boot the system), hot & cold booting 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.

Section-D

Introduction to Unix:

Explain the features of Unix system. Structure of Unix (Kernel, shell), Unix file system (data blocks, list, superblock, bootblock), Types of files (ordinary files, directory, special files), types of users (0 2), simple commands (cat, Is, In, chmod, mail, who, who am I, ca1 pwd, date, ps, mkdir, cd , rmdir, rm , tput, clear). Piping, filters, batch processing, shell programming (Echo, read, case constructs). VI editor (opening it, inserting, modifying, deleting, saving files). Types of shells (bourne, c, r shell. Login & logout of unix session).

References:

1. PC Software: By Rachpal Singh & Gurinder Singh.
2. Computer Fundamental: By PeterNorton.
3. http://swa a   ov n/
4. http://cdx.org lormerlyhttp://mooc.org

ODPDC - 104T: Database Management System Through Oracle-10g

Time: 03 Hours

Max. Marks: 100 Marks

Internal Assessment: 20 Marks

End Term: 80 Marks

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Section-A

Basic Concepts:
An overview of Database Management, (database, database system, why database, data independence). An architecture for a database system (levels of the architecture, mapping, DBA),
Introduction to Relational database systems.

Section-B

System Analysis and Design:
System development life cycle, System development tools.
ORACLE 10g: SQL.
*PLUS
    Introduction to Oracle 10g
    SQL- DDL, DML, DCL.
    Join methods & Sub query, Union, Intersection, Minus, Tree Walking
        Built in Functions, Views, Security amongst users, Sequences, Indexing,

Section-C

Object Oriented Features of Oracle 10g
 Introduction to PL/SQL.

Section-D

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

References:

1. Database Systems Concepts by Silberschatz, Korth & Sudarshan, International Editions, Computer Science series-1997.
2. An Introduction of Database System by C.J. Date (Addison-Wesley Publishing co.) SQL/PL/SQL. The Programming Language of Oracle by Ivan Bayross (BPB Publications)
3. http://swayam.gov.in/
4. http://edx.org formerly http://mooc.org/

ODPDC - 105P: Practical - I

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

Internal Assessment: 20 Marks

End Term: 80 Marks

Practical will be based on Subject Code 101T, 102T, 103T & 104T

ODPDC - 201T: Network Concepts and Management (Hardware, Software, setting in LINUX/UNIX/NT environment)

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

Internal Assessment: 20 Marks

End Term: 80 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

Introduction:
Network H/W and Software requirement- Network topologies, OSI reference model, TCP/IP model.
Design Issues: ISDN, ATM, Routers, hub, switches

Section-B

Network security:
Data compression techniques, cryptography, IP addressing schemes.
NT administration:
Account policies, creating a user account, group membership, administration of share through server manager. Primary Domain controller, backup, domain controller.

Section-C

Unix:
Network Operating System: Architecture, Shell, Kernel & File System

Section-D

Introduction to Linux:
Comparative study of NT server, Unix and Linux.

References:

1. Tannanbrum: Computer Network, Prentice Hall, 1992, 3rd.
2. Robert Reinstein, et.al: Windows NT Trouble Shooting and Configuration, Techmedia.
3. http://swayam.gov.in/
4. http://edx.org formerly http://mooc.org/

ODPDC-202T: Programming in C

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

Internal Assessment: 20 Marks

End Term: 80 Marks

Instructions for the Paper-Setter/examiner:

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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

Fundamentals of C:
Introduction of C, Data Types, Operators, their precedence, expressions and their evaluation.

Input/Output Functions:
Formatted I/O, Character I/O & String I/O Functions. Control Structures:
Taking decisions using if, if-else, switch constructs and Conditional Operator, Description of break and continue Statements. Performing loops using for, while, do-while Constructs.

Section-B

Functions:
Library Functions vs User-Defined Functions, Declaring (Prototyping) and defining User-Defined functions, ways of passing parameters to functions, Recursive functions, Storage Classes.

Arrays & String:
What are Arrays?, Declaring arrays, initializing arrays, processing of arrays, passing arrays arguments to functions. What are Strings? How strings are handled in C? String functions, arrays of string.

Section-C

Pointers:
What is a pointer variable? Declaring pointers, accessing values via pointers, pointer arithmetic, pointer to strings, passing arguments using pointers.

Structure and Unions.

Defining a structure type, declaring variables of structure type, initializing structures. Accessing Structure Elements, Use of assignment Statement for structures, array of structures, nested structures, Unions; Declaring a Union, Accessing elements of a type union.

Managing Data Files:

Processing a file, Standard Input/output, System Level I/O, File updating

References:

1. Yashwant Kanetkar: Let us C, BPB Publications, New Delhi.
2. R.S.Salaria : Application Programming in C, Khanna Book Publishing Co.(P) Ltd., Delhi.
3. http://swayam.gov.in/
4. http://cdx.org formerlyhttp://mooc.org/

ODPDC-203T: Introduction to Scripting Languages Web Designing and Uses of Internet

Time: 03 Hours
Max. Marks: 100 Marks
Internal Assessment: 20 Marks
End Term: 80 Marks

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Section-A

HTML

Structure of HTML, Tags, Character Entities, Hyperlinks, Frames, Tables, Lists, Forms, Limitations of HTML.

Section-B

Front Page 2000

Features, Creating a Web Site using Wizard, One / Two / Three Column Body, Front Page Window, Various Toolbars of Front Page, Adding Clip Art, Thumbnails, resampling an Image.

Section-C

Front Page 2000

Beveling & Cropping an Image, Creating Bookmarks, Adding an E-mail Hyperlink, Tables, Marquee, Counter, banner, Hover Buttons, Creating a Web Page Using a Template, Themes, Forms.

Section-D

Internet & its Use

Types of Internet Connectivity, World Wide Web, E-mail, Telnet, Filer Transfer Protocol, IRC, Virtual Reality, Web Publishing, Web Hosting, Cyber Crime, Types of Cyber Crimes, Cookies, Virus, Trojan Horse, Worm, Danger of Virus.

References:

1. Internet Applications and Web Designing by A.P. Publishers.

2. HTML, DHTML, Java Script, Perl, CGI by BPB Publications.

3. Learning to Use Internet by BPB Publications.
4. http://swayam.gov.in/
5. http://edx.org/ formerly http://mooc.org/

ODPDC-204T : PROGRAMMING IN VISUAL BASIC with ACTIVE-X

Time: 03 Hours

Max. Marks: 100 Marks

Internal Assessment: 20 Marks

End Term: 80 Marks

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1.
2. Question paper shall consist of Four sections.

   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

Introduction to VB Environment VB Applications Controls Menus, Tool Bar and Dialogue Boxes

Section-B

Testing and Debugging Working
with Files
Data Access Objects (DAO)

Section-C

Remote Data Objects (RDO) ActiveX
DataObjects(ADO) Data Reports

OLE-Control & Automation Server

Section-D

ActiveX-CONTROLS, EXE, DLL, Document, Wizards
Minor Project

References:

1. http://swayam.gov.in/
2. http://edx.org/ formerly http://mooc.org/

Post Graduate Diploma In Computer Applications (Semester – II)

ODPDC-205T : PRACTICAL - II

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

Internal Assessment: 20 Marks

End Term: 80 Marks

Practical will be based on subject codes 201T, 202T, 203T & 204T