Chhindwara University, Chhindwara (M.P.)
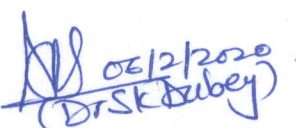
SYLLABUS OF PGDCA SEMESTER I
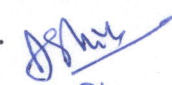
Course	Title of paper	Max. Marks			Minimum Marks			Total Marks
		Theory	CCE	Practical	Theory	CCE	Practical	
PGDCA- 101	Computer Fundamental	80	20	-	32	8	-	100
PGDCA- 102	Operating System	80	20	-	32	8	-	100
PGDCA- 103	P C Package	80	20	-	32	8	-	100
PGDCA- 104	Introduction to Programming Solving using C++	80	20	-	32	8	-	100
PGDCA- 105	Computer Lab-I (Operating System & P C Package)	-	-	50	-	-	25	50
PGDCA- 106	Computer Lab- II (C++)	-	-	50	-	-	25	50
							Total Marks	500

The scheme of examination and the allotment of marks shall be as under

Sections/Part	Questions Type	Marks Distribution	Remark
Section -A	Objective Type Questions(At least one question to be set from each unit)	1x10=10 Marks	
Section –B	Short Answer Type Question(Two questions to be set from each unit and one from each unit to be attempted)	4x5=20 Marks	
Section –C	Long Answer Type Question(Two questions to be set from each unit and one from each unit to be attempted)	10x5=50 Marks	
	Total	80 Marks	

Board of Studies :

I.   Chairman – 06/2/2020 (Dr. S K Dubey)

II. Subject Expert –

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Chhindwara University, Chhindwara (M.P.)

Class/कक्षा: **PGDCA** , Semester/सेमेस्टर : I

Subject/विषय **Computer Fundamentals** , Paper : PGDCA- 101

Max. Marks : 80   Internal Assessment : 20   Min. Passing Marks : 40% in each

UNIT–I :

Introduction to Computer: Definition, Brief History of Development of Computers, Computer System Concepts, Computer System ,Characteristics, Capabilities And Limitations, Types of Computers, Basic Components of A Computer ,System - Control Unit, ALU, Input/output Functions and Characteristics, Input/Output Units-: Keyboard, Mouse, Trackball, Joystick, Digitizing tablet, canners, Digital Camera, MICR, OCR, OMR, Barcode Reader, Voice Recognition, Light pen, Touch Screen. Monitors - characteristics and types of monitor -Digital, Analog, Size, Resolution, Refresh Rate, Interlaced / Non Interlaced, Dot Pitch, Video Standard - VGA, SVGA, XGA etc, : Printers And Its Types -Dot Matrix, Inkjet, Laser, Plotter, Sound Card And Speakers,

Number systems Binary, Octal, Hexadecimal, Binary Coded Decimal (BCD), Conversion of bases. Complement notations, Binary Arithmetic, fixed and floating points representation of number, Binary Codes: Gray, Alphanumeric, ASCII, EBCDIC codes

UNIT–II :

Memory Introduction, Classifications- Volatile Memory and Non-Volatile , Flash Memory, ROM, RAM, EPROM, PROM, EEPROM other types of memory.

Storage Fundamentals - Primary Vs Secondary Data Storage And Retrieval Methods - Sequential, Direct And Index Sequential, Various Storage Devices - Magnetic Tape, Magnetic Disks, Hard Disk Drives, Floppy Disks ,Optical Disks, Flash Drives Video Disk, MMC Memory Cards, Physical Structure of Floppy & Hard Disk, Drive Naming Conventions in PC.

UNIT–III:

Software and Its Need, Types of Software - System Software, Application Software, OPERATING SYSTEMS: Introduction, Types of O.S. – Single User, Multi User – Multi Programming, Multi Tasking, Real Time, Time Sharing, Batch Processing, Parallel Processing, Distributed Processing.

Programming Languages- Machine, Assembly, High Level, 4GL, Their Merits and Demerits, concepts of Assembler, Complier, Interpreter.

Application Software and its Types - Word-Processing, Spreadsheet, Presentation Graphics, Data Base Management Software, Characteristics, Virus-Working Principles, Types of Viruses, Virus Detection and Prevention Methods.

UNIT–IV:

Use of Communication and IT, Communication Process, Communication Types-Simplex, Half Duplex, Full Duplex, Serial And Parallel Communication, Types Of Network - LAN, WAN, MAN ,Internet, Topologies of LAN - Ring, Bus, Star, Mesh And Tree Topologies, Components of LAN -Media. , World Wide Web and Applications and Internet Services.

Network Application- Fax, voice and information services, person to person communication, group communication, exchanging files, LAN- Introduction , architecture, the exe system , WAN- introduction , device and media, protocols, high bandwidth personal connections.

UNIT-V:

Multimedia – Introduction , paint and draw application, graphics effects & tech, sound & music, video, multimedia authoring tools, presentation devices, sound & motion, video & television.

Corporate computing- Introduction, transaction processing, information tools for management control marketing, advertising, sales, design, production, manufacturing business on internet, virtual office, career, recent trends.

Chhindwara University, Chhindwara (M.P.)

PGDCA 101

TEXT & REFERENCE BOOKS:
1. COMPUTERS TODAY, BY S.K BASANDRA, GALGOTIA PUBLICATIONS.
2. FUNDAMENTALS OF INFORMATION TECHNOLOGY ALEXIS LEON & MATHEWS LEON, VIKAS PUBLISHING

Board of Studies :

I.   Chairman – 06/2/2020

II.   Subject Expert –

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Chhindwara University, Chhindwara (M.P.)

Class/कक्षा **PGDCA** , Semester/सेमेस्टर : I

Subject/विषय **Operating Systems,** Paper : PGDCA- 102

Max. Marks : 80   Internal Assessment : 20   Min. Passing Marks : 40% in each

UNIT–I: History of operating : Zeroth generation, first, second, third, fourth generation, third, fourth generation. Operating system: introduction different services, uses of system call, the issue of probability, user's view, the micro facility, GUI, the kernel, Booting.

DISK OPERATING SYSTEM (DOS): Introduction, History & Versions of DOS, DOS Basics - Physical Structure of Disk, Drive Name, FAT, File and Directory Structure and Naming Rules, Booting Process, DOS System Files. DOS Commands: Internal - DIR, MD, CD, RD, COPY, COPY CON, DEL,REN VOL, DATE, TIME, CLS, PATH, TYPE,VER etc. External - CHKDSK, XCOPY, PRINT, DISKCOPY, DOSKEY, TREE, MOVE, LABEL, FORMAT,SORT, FDISK, BACKUP, EDIT, MODE, ATTIRIB, HELP, SYS etc, Executable V/s Non Executable Files in DOS.

UNIT–II: Introduction management: process management, process, evolution of multiprogramming, context switching, process states, transition, PCB, process hierarchy, operations on a process, create process, kill process, dispatch process, change the priority of a process, block, dispatch, time up, wake up, second/resume operation. Memory management: introduction, single contiguous management.. fixed portioned Management, variable portions, non-contiguous allocation-general concepts, paging, segmentation combined systems, virtual memory management systems.

UNIT–III: Parallel processing: introduction, what is it, difference between distributed and parallel, advantages, writing programs, classification, machine architecture. Operating system in distributed processing: Introduction, distributed processing, LAN environment and protocols. Graphical user interface and the OS: various concepts.

UNIT–IV : LINUX: History & Features of Linux, Linux Architecture, File System of Linux, Hardware Requirements of Linux, Various flavors of Linux, Linux Standard Directories, Functions of Profile and Login Files in Linux, Linux Kernel.
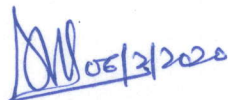
UNIT–V : WORKING WITH LINUX: KDE & Gnome Graphical Interfaces, Various Types of Shell Available in Linux, Multi-User Features of Linux, Login and Logout from Linux System, Linux commands - bc, cal, cat, cd, clear, cmp, cp,mv, date, find, ls, pwd, mkdir, more, rm, rmdir, chgrp, chmod, chown, tty, wc, who, whois, grep, telnet, vi editor, Using Floppy, CD-ROM and Pen Drive in Linux, Permissions and Ownerships,

TEXT & REFERENCE BOOKS:
1. DOS QUICK REFERENCE BY RAJEEV MATHUR, GALGOTIA PUBLICATIONS
2. LINUX COMPLETE BY BPB PUBLICATIONS.
3. PETER NORTON COMPLETE GUIDE TO LINUX BY PETER NORTON, TECHMEDIA PUBLICATIONS
4. LEVEL MODULE M 1.1 INFORMATION TECHNOLOGY BY KHANNA BOOK PUBLICATIONS, NEW DELHI,

Board of Studies :
  I.   Chairman – 06/3/2020
  II. Subject Expert –
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Chhindwara University, Chhindwara (M.P.)

Class/कक्षा : **PGDCA** , Semester/सेमेस्टर : I

Subject/विषय : **PC Packages,** Paper : PGDCA- 103

Max. Marks : 80 Internal Assessment : 20 Min. Passing Marks : 40% in each

UNIT – I : MS Windows: Introduction to M.S. Windows; Features of Windows; Various versions of Windows & its use; Working with Windows; My Computer & Recycle bin ; Desktop, Icons and Windows Explorer; Screen description & working styles of Windows; Dialog Boxes & Toolbars; Working with Files & Folders; simple operations like copy, delete, moving of files and folders from one drive to another, Shortcuts & Autostarts; Accessories and Windows Settings using Control Panel- setting common devices using control panel, modem, printers, audio, network, fonts, creating users, internet settings, Start button & Program lists; Installing and Uninstalling new Hardware & Software program on your computer.

UNIT – II: Office Packages-Office activates and their software requirements, Word-processing, Spreadsheet, Presentation graphics, Database, introduction and comparison of various office suites like MSOffice, Lotus Office, Star Office, OpenOffice etc.
MS Word Basics: Introduction to MS Office; Introduction to MSWord; Features & area of use. Working with MS word.; Menus & Commands; Toolbars & Buttons; Shortcut Menus, Wizards & Templates; Creating a New Document; Different Page Views and layouts; Applying various Text Enhancements; Working with – Styles, Text Attributes; Paragraph and Page Formatting; Text Editing using various features ; Bullets, Numbering, Auto formatting, Printing & various print options.

UNIT-III: Advanced Features of MS-Word: Spell Check, Thesaurus, Find & Replace; Headers & Footers ; Inserting – Page Numbers, Pictures, Files, Autotexts, Symbols etc.; Working with Columns, Tabs & Indents; Creation & Working with Tables including conversion to and from text; Margins & Space management in Document; Adding references and Graphics; Mail Merge, Envelops & Mailing Labels. Importing and exporting to and from various formats.

UNIT – IV: MS Excel: Introduction and area of use; Working with MS Excel.; concepts of Workbook & Worksheets; Using Wizards; Various Data Types; Using different features with Data, Cell and Texts; Inserting, Removing & Resizing of Columns & Rows; Working with Data & Ranges; Different Views of Worksheets; Column Freezing, Labels, Hiding, Splitting etc.; Using different features with Data and Text; Use of Formulas, Calculations & Functions; Cell Formatting including Borders & Shading; Working with Different Chart Types; Printing of Workbook & Worksheets with various options.

UNIT – V: MS PowerPoint: Introduction & area of use; Working with MS PowerPoint; Creating a New Presentation; Working with Presentation; Using Wizards; Slides & its different views; Inserting, Deleting and Copying of Slides; Working with Notes, Handouts, Columns & Lists; Adding Graphics, Sounds and Movies to a Slide; Working with PowerPoint Objects; Designing & Presentation of a Slide Show; Printing Presentations, Notes, Handouts with print options. Outlook Express: Features and uses, Configuring and using Outlook Express for accessing e-mails in office.

Text & Reference Books:
1. Windows XP Complete Reference. BPB Publications
2. Joe Habraken, Microsoft Office 2010, 8 in 1 by, Prentice Hall of India

Board of Studies :

I. Chairman – 05/2/2020

II. Subject Expert –

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Class/कक्षा : **PGDCA** , Semester/सेमेस्टर : I

Subject/विषय :Intro. to Programming and Problem Solving Using C++, Paper :PGDCA- 104

Max. Marks : 80

Internal Assessment : 20

Min. Passing Marks : 40% in each

UNIT-I: Principles of Object Oriented Programming, Software Evolution, Procedure-Oriented programming language Vs Object oriented programming paradigm, Basic concepts of object oriented programming, Benefits of OOP, Applications of OOP.

UNIT-II: C++ programming basic : Program Structure with example, C++ statements, Data types (Basic, user defined, derived) in C++, Operators (Arithmetic, Assignment, Increment, Relational, logical) in C++, type conversions, Looping and decision statements in C++, Programming examples based on unit II.

UNIT-III: Functions in C++, function prototyping, call by reference, return by reference, Inline function, default arguments, Const. arguments, Function overloading, friend and virtual function, Arrays in C++, Programming examples based on unit III.

UNIT- IV:- Classess and Objects in C++, Specifying a class, Defining member functions, Nesting of member functions, private member functions, Arrays within a class, memory allocation for objects, Static data members, Static member functions, Arrays of objects, Objects as function arguments, Constructors and Destructors. Programming examples based on unit IV.

UNIT- V:- Inheritance, Derived class and Base class, Single inheritance, Multilevel, Multiple, Hierarchical, Hybrid Inheritance, Virtual base classes, Abstract classes. Concept of Polymorphism, Operator overloading, Programming examples based on unit V.

Text Books :-

1. Object- Oriented Programming with C++ by E. Balaguruswamy.
2. Basics of C++ programming Nishant Kundalia, Firewall Media
3. C++ made simple by M.Kumar (Tata McGraw Hill public.)

Board of Studies :

I. Chairman – DNS 06/2/2020

II. Subject Expert –

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