

BHARTI UNIVERSITY

DURG (C.G.)

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SCHEME OF EXAMINATION

&

SYLLABUS

Of

PGDCA

(POST GRADUATE DIPLOMA IN COMPUTER APPLICATION)

UNDER

FACULTY OF SCIENCE

Session 2021-22

(Approved by Board of Studies)

Effective from Nov. 2021

POST GRADUATE DIPLOMA IN COMPUTER APPLICATION
SCHEME OF EXAMINATION
DURATION - ONE YEAR - FULL TIME

The duration of the course shall be one year consisting of two semesters. There shall be three theories and two practical courses in the each semester.

SEMESTER – I

THEORY

PAPER	COURSE	DURATION	THEORY MARKS	TEACHER ASSESSMENT	TOTAL MARKS
PGDCA-101	Introduction to software organization	3 hr	70	30	100
PGDCA-102	Programming in “C”	3 hr	70	30	100
PGDCA-103	Office Automation & Tally	3 hr	70	30	100

PRACTICAL

PAPER	COURSE	DURATION	PRACTICAL MARKS	TEACHER ASSESSMENT	TOTAL MARKS
PGDCA-104	Practical based on PGDCA-103	3 hr	70	30	100
PGDCA-105	Practical based on PGDCA-102	3 hr	70	30	100

SEMESTER – II

THEORY

PAPER	COURSE	DURATION	THEORY MARKS	TEACHER ASSESSMENT	TOTAL MARKS
PGDCA - 106	GUI - Programming in Visual Basic.	3 hr	70	30	100
PGDCA - 107	Database Management System	3 hr	70	30	100
PGDCA - 108	Essential of E-Commerce & HTML.	3 hr	70	30	100

PRACTICAL

PAPER	COURSE	DURATION	PRACTICAL MARKS	TEACHER ASSESSMENT	TOTAL MARKS
PGDCA - 109	Practical based on PGDCA - 106, PGDCA - 107 & PGDCA - 108	3 hr	70	30	100
PGDCA - 110	Project	3 hr	70	30	100

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POST GRADUATE DIPLOMA IN COMPUTER APPLICATION

SEMESTER - I

PGDCA - 101

INTRODUCTION TO SOFTWARE ORGANISATION

UNIT – I Introduction to Computers:

Computers – Introduction, Computer System Characteristics, Strength and limitations of Computer, Development of Computers, Types of Computers, Generations of Computers.

Introduction to Personnel Computers – Uses of PC's, Components of PC's, Evolution of PC's, Developments of Processors, Architecture of Pentium-IV, Configuration of PC's; Input Device; Output Devices.

UNIT – II: Computer Organization:

Central Processing Unit – Arithmetic Logic Unit, Control Unit, Registers, Instruction Set, Processor speed. Storage Devices – Storage and its need, Storage Evaluation Units, Primary Storage, Secondary Storage, Data Storage and Retrieval Systems, SIMM, DIMM, Types of Storage Devices.

UNIT – III: Computer Software:

Basics of Software – needs of Software, Types of Software; Free Domain Software; Open Source Software; Compiler, Interpreter and Assembler; Linker and Loader; Debugger; Integrated Development Environment; Operating System – Introduction, Uses of OS, Functions of OS, Booting process, Types of Reboot, Booting from different OS, Types of OS, DOS, Windows, Linux.

UNIT – IV: Programming Languages:

Introduction, Comparison between Human and Computer Language; Program; Data, Information and Knowledge; Characteristics of Information; Types of Programming Languages; Generations of Languages; Program Development Steps; Programming Paradigms; Object-Oriented Programming; Structured Programming, Functional Programming, Process Oriented Programming.

UNIT – V: Communication, Networks and Internet:

Communication – Introduction, Communication process, Communication Types,

Communication Protocols, Communication Channels/Media. Networks– Introduction; Types of Network; Topology; Media - NIC, NOS, Bridges, HUB, Routers, Gateways. Internet – Introduction, Growth of Internet, Owner of Internet, Internet Service Provider, Anatomy of Internet, ARPANET and Internet History of World Wide Web, Services Available on Internet - File Transfer Protocol, Gopher, E-mail, Telnet, Newsgroups, WWW, Applications of Internet.

Books Recommended:

1. Using I : Williams T McGraw Hill
2. Essentials of Information Technology : A. Mansoor, Prgya Publications
3. IT : Curtin T McGraw Hill
4. Fundamental of Information Technology: Chetan Shrivastava Kalyani Publishers
5. Computer Fundamentals : P. K. Sinha BPB Publications
6. Fundamental of Computer : V. Rajaraman
7. Computer Today: Sanders D. H.

POST GRADUATE DIPLOMA IN COMPUTER APPLICATION
PGDCA - 102
PROGRAMMING IN 'C'

UNIT – I: Introduction:

Introduction Character set, Identifiers and Keywords, Variables, Displaying variables, Reading Variables, Character and Character String, Qualifiers, Type define Statements, Value initialized variables, Constants, Constant Qualifier, Operators and Expressions, Operator Precedence and Associativity, Basic input output: Single Character I/O, Types of Characters in format string, scanf with specifier.

UNIT – II: Control Structures:

Control Structure: If - statement, If -else statement, Multi decision, Compound Statement, Loops: For - loop, While -loop, Do-While loop, Break statement, Switch statement, Continue statement, Go to statement.

UNIT – III: Functions & Arrays:

Functions: Function main, Functions accepting more than one parameter, User defined and library functions, Concept associatively with functions, function parameter, Return value, recursion comparisons of Iteration and recursion variable length argument list.

Arrays: Scope and Extent, Multidimensional Arrays, Array of Strings, Function in String, passing arrays to functions, accessing array inside functions.

UNIT – IV: Pointers:

Pointers: Definition and use of pointer, address operator, pointer variable, referencing pointer, void pointers, pointer arithmetic, pointer to pointer, pointer and arrays, pointer and functions, pointers and two dimensional arrays, array of pointers, pointers constants, pointer and strings.

UNIT – V: Structure and Union –

Declaring and using Structure, Structure initialization, Structure within Structure, Operations on Structures, Array of Structure, Array within Structure, Creating user defined data type, pointer to Structure and function. Union, difference between Union and Structure, Operations on Union, Scope of Union.

Books Recommended:

1. Let us C - Yashwant Kanetkar.
2. Programming in C - E. Balaguruswamy

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PGDCA - 103

OFFICE AUTOMATION & TALLY

UNIT – I: Windows Concept

Windows Concepts, Features, Structure, Desktop, Icons, Taskbar, Start Menu, My Computer, Recycle Bin, My document, creating shortcut. Accessories: Calculator, Notepad, Paint, Word Pad, Character Map. Windows Explorer: Creating files & folders and other Explorer facilities, Object Linking & Embedding. Communication: Dialup Networking, Phone Dialer. Difference among windows versions.

UNIT – II: Word Processing & Spreadsheet

Word: Creating, Editing, & Previewing Documents, Formatting, Advanced Features, Using Thesaurus, Mail Merge, Table & Charts, Handling Graphics, Converting Word Documents into other Formats.

Excel: Worksheet Basics, Creating, Opening, & Moving in Worksheet, Working with Formula & Cell referencing, Absolute & Relative addressing, Working with Ranges, Formatting of Worksheet, Graphs & Charts, Database, Function, and Macros.

UNIT – III: Power Point

Power Point: Creating a presentation, Modifying visual Elements, Adding objects, Applying Transitions, animations and linking, preparing handouts, presenting a slide show. Creating presentation, working with slides, different types of slides, setting page layout, selecting background and applying design, adding graphics to slide, adding sound and movie, working with table, creating chart and ginih, playing a slide show, slide transition, advancing slides, setting time, rehearsing timing, animating slide, animating objects, running the show from windows.

UNIT – IV: Access

Introduction to MS Access, The Tables of a Database, Introduction to the Record of a Table, Introduction to Controls Design, Details on Controls Design, The Characteristics of a Table, The Characteristics of a Form, The Characteristics of a Window Control, Data Controls, Introduction to Data Expressions, Getting Assistance With Data Entry, Database Strings, Database Numeric Values, Database

Conditional Values, Database Date and Time Values, Creating Reports, Characteristics of Reports. Multiple queries and switch boards manager.

UNIT – V: Tally

Setting up Ledger & Groups. Study of recording of transactions in the 'Voucher'. (According to Golden rules). Study of 'Final A/C preparation & displaying in different mode/format'. Study of alteration & Deletion of ledger/Groups. Study of cash & fund flow, day book, sales register, purchase register, bills receivable/Payable etc. Study of data security & backing up data. Outline of entry for Income Tax, ED, VAT, ST/CST, PF, Gratuity, Bonus, Loans & Depreciation etc.

POST GRADUATE DIPLOMA IN COMPUTER APPLICATION

PGDCA - 104

Practical based on PGDCA - 103

List of Practical

1. At least 10 practical Questions in Word.
2. At least 10 practical Questions in Excel.
3. At least 5 practical Questions in PowerPoint.
4. At least 10 practical Questions in Access.
5. At least 5 practical Questions in Tally.

specified number system and program will give the output according to number system for output you mentioned.

7. Write a program to perform following tasks using switch...case, loops and conditional operator (as and when necessary).
 - a) Find factorial of a number
 - b) Print Fibonacci series up to n terms and its sum.
 - c) Print sin series up to n terms and its sum.
 - d) Print prime numbers up n terms.
 - e) Print whether a given year is leap or not.
8. Write program no. 6 but use library function to perform above tasks.

ARRAY

9. Create a single program to perform following tasks using switch, if. Else, loop and single dimension character array without using library function:
 - a) To reverse the string.
 - b) To count the number of characters in string.
 - c) To copy the one string to other string;
 - d) To find whether a given string is palindrome or not.
 - e) To count no. of vowels, consonants in each word of a sentence and no. of punctuation in sentence.
 - f) To arrange the alphabets of a string in ascending order.
10. Create a single program to perform following tasks using switch, if. Else, loop and single dimension integer array:
 - a) Sort the elements.
11. Write a program that read the afternoon day temperature for each day of the month and then report them on the average temperature as well as the days on which hottest and coolest days occurred.
12. Create a single program to perform following tasks using switch, if. else, loop and double dimension integer array of size 3x3:
 - a) Addition of two matrixes.
 - b) Subtraction of two matrixes.
 - c) Multiplication of two matrixes.
13. Create a single program to perform following tasks using switch, if..else, loop and double dimension character array of size 5 x 40:

- a) Sorting of string.

FUNCTIONS

14. Write program using the function power (a, b) to calculate the value of a raised to b.
15. Write program to demonstrate difference between static and auto variable.
16. Write program to demonstrate difference between local and global variable.
17. Write a program to perform following tasks using switch...case, loops and function.
 - a) Find factorial of a number
 - b) Print Fibonacci series up to n terms and its sum.
18. Write a program to perform following tasks using switch...case, loops and recursive function.
 - a) Find factorial of a number
 - b) Print Fibonacci series up to n terms and its sum.
19. Write a function to accept 10 characters and display whether each input character is digit, uppercase letter or lower case letter.

STRUCTURE, UNION & ENUM

20. Create a structure Student having data members to store roll number, name of student, name of three subjects, max marks, min marks, obtained marks. Declare a structure variable of student. Provide facilities to input data in data members and display result of student.
21. Create a structure Date with data member's dd, mm, yy (to store date). Create another structure Employee with data members to hold name of employee, employee id and date of joining (date of joining will be hold by variable of structure Date which appears as data member in Employee Structure). Store data of an employee and print the same.
22. Create a structure Student having data members to store roll number, name of student, name of three subjects, max marks, min marks, obtained marks. Declare array of structure to hold data of 3 students. Provide facilities to display result of all students. Provide facility to display result of specific student whose roll number is given.
23. Write program to create structure complex having data members to store real

and imaginary part. Provide following facilities:

- a) Add two complex nos. using structure variables.
- b) Subtract two complex nos. using structure variables.

Use structure as argument to function and function returning structure.

POINTER

24. Define union Emp having data members: one integer, one float and one single dimension character array. Declare a union variable in main and test the union variable.
25. Define an enum Days_of_Week members of which will be days of week. Declare an enum variable in main and test it.
26. Write a program of swapping two numbers and demonstrates call by value and call by reference.
27. Write program to sort strings using pointer exchange.
28. Write a program in c using pointer and function to receive a string and a character as argument and return the no. of occurrences of this character in the string.
29. Create a program having pointer to void to store address of integer variable then print value of integer variable using pointer to void. Perform the same operation for float variable.
30. Write program to find biggest number among three numbers using pointer and function.
31. Write program to Create a structure Employee having data members to store name of employee, employee id, salary. Use Pointer to structure to store data of employee and print the stored data-using pointer to structure.
32. Write program to Create a structure Employee having data members to store name of employee, employee id, salary. Use Pointer to structure to simulate dynamic array of structure store data of n employees and print the stored data of n employees using pointer to structure.
33. Write a program to sort a single dimension array of integers of n elements simulated by pointer to integer. Use function for sorting the dynamic array.
34. Write a program to sum elements of a double dimension array of integers of m rows and n columns simulated by pointer to pointer to integer. Use function for sum the elements of the dynamic array.

35. Write program to demonstrate difference between character array and pointer to character.
36. Write program to demonstrate difference between constant pointer and pointer to constant.
37. Write program to demonstrate pointer arithmetic.
38. Write program to demonstrate function-returning pointer.

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SEMESTER - II

PGDCA-106

GUI - PROGRAMMING IN VISUAL BASIC

UNIT – I

Introduction to visual Basic - Editions of Visual Basic, Event Driven Programming, Terminology, Working environment, project and executable files, Understanding modules, Using the code editor window, Other code navigation features, Code documentation and formatting, environment options, code formatting option, Automatic code completion features.

Creating Programs - Introduction to objects, Controlling objects, Properties, methods and events, Working with forms, Interacting with the user: Msg Box function, Input Box function, Code statements, Managing forms, Creating a program in Visual Basic, Printing.

UNIT – II

Variable and Procedures - Overview of variables, Declaring, Scope, arrays, User-defined data types, constants working with procedures, Working with dates and times, Using the Format function, Manipulating text strings.

Controlling Program Execution - Comparison and logical operators, If...Then statements, Select Case Statements looping structures, Using Do...Loop structures, For...Next statement, Exiting a loop.

UNIT – III

Working with Controls - Types of controls, Overview of standard controls, Combo Box and List Box, Option Button and Frame controls Menu, Status bars, Toolbars, Advanced standard controls, ActiveX controls, Insert table objects, Validation.

Error Trapping & Debugging - Overview of run-time errors, error handling process, The Err object, Errors and calling chain, Errors in an error-handling routine, Inline error handling, Error- handling styles, General error-trapping options Type of errors, Break mode Debug toolbar, Watch window, Immediate window, Local window, Tracing program flow with the Call Stack.

UNIT – IV

Sequential and Random Files - Saving data to file, basic filling, data analysis and file, the extended text editor, Random access file, The design and coding.

Data Access Using the ADO Data Control - Overview of ActiveX data Objects, Visual Basic data access features, Relational database concepts Using the ADO Data control to access data, Overview of DAO, RDO, Data Control, structured query language (SQL), Manipulating data Using Data Form Wizard.

UNIT – V

Report Generation - Overview of Report, Data Report, Add groups, Data Environment, Connection to database Introduction to Crystal Report Generator.

Advances Tools - Overview of drag and drop, Mouse events, Drag-and drop basics, Date Time Control, Calendar, Print Dialog, MDI (Multiple Document Interface).

BOOKS RECOMMENDED:

1. Mastering Visual Basic 6 Fundamentals – By Microsoft
2. Mastering in Visual Basic Programming – By BPB Publications.
3. Introduction to V B – V. K. Jain

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PGDCA-107

Database Management System

UNIT – I: Introduction to DBMS:

Data, Information and knowledge, concept of DBMS, Advantages of DBMS, data independence, database administration roles, DBMS architecture, different kinds of DBMS users, importance of data dictionary, contents of data dictionary, types of database languages. Data models: network, hierarchical, relational, Introduction to ODBC concept.

UNIT – II: E-R Model:

Entity - Relationship model as a tool for conceptual design-entities, attributes and relationships. ER diagrams; Concept of keys; Case studies of ER modeling Generalization; specialization and aggregation.

UNIT – III: Relational Model:

Structure to Relational Database, Relational Algebra, Extended Relational- Algebra Operation, Simple and complex queries using relational algebra, The Domain Relational Calculus, Tuple relational calculus.

UNIT – IV: Relational Database Design:

Pitfalls in Relational Database Design, Decomposition, Functional Dependencies, Normalization: 1NF, 2NF, BCNF, 3NF, 4NF, 5NF.

UNIT – V: Structured Query Language:

DDL and DML: Creating Table, Specify Integrity Constraint, Modifying Existing Table, Dropping Table, Inserting, Deleting and Updating Rows in as Table, Where Clause, Operators, ORDER BY, GROUP Function, SQL Function, JOIN, Set Operation, SQL Sub Queries. Views: What is Views, Create, Drop and Retrieving data from views. Security: - Management of Roles, Changing Password, Granting Roles & Privilege, with drawing privileges.

BOOKS RECOMMENDED:

1. Data base system : Korth & Silberschatz.
2. Data Base Management System : Alexies & Mathews
3. An Introduction to Database System : C. J. Date
4. Data Base Management System : Raghurama Krishnan.
5. Data Base Management System : Elmasri & Nawathe.

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PGDCA-108

ESSENTIALS OF E –COMMERCE & HTML

UNIT – I

Introduction to Electronic Commerce –The scope of E-commerce; Size, growth and future projection of E-commerce market Worldwide and in India; Internet and its impact on traditional businesses; Definition of E-commerce; Business models in E – Commerce environment; Case studies. Emergence of E-commerce - E-commerce on private networks, Electronic Data Interchange (EDI), What is EDI, EDI in action, EDI basics, EDI standards, financial EDI, FEDI for international trade transaction, FEDI payment system within the US, ACH credit transfer payment system FEDI, application of EDI, benefits of EDI, Electronics Payment system, E-commerce on the web, E-commerce in India.

UNIT – II

Internet, Security and E-Commerce: Security of Data/Information in Internet/web environment; Client security, Network security; Virus protection and Hacking; Security Measures: Authentication, Integrity, Privacy, Non-repudiation; Public information, Private information, firewall tunnels, encryption, secret key encryption, public key encryption, digital signature. Business-to-Business (B2B), Business-to-Consumer (B2C); Business-to-Business-to-Consumer (B2B2C) and Consumer-to-Consumer (C2C) E-Commerce

UNIT – III

HTML Basics & Web Site Design Principles – Concept of a Web Site, Web Standards, What is HTML? HTML Versions, Naming Scheme for HTML Documents, HTML document/file, HTML Editor, Explanation of the structure of the homepage, Elements in HTML Documents, HTML Tags, Basic HTML Tags, Comment tag in HTML, Viewing the Source of a web page, How to download the web page source? XHTML, CSS, Extensible Markup Language (XML), Extensible Style sheet language (XSL), Some tips for designing web pages, HTML Document Structure. HTML Document Structure-Head Section, Illustration of Document Structure, <BASE> Element, <ISINDEX> Element, <LINK> Element , META,

<TITLE> Element, <SCRIPT> Element, Practical Applications, HTML Document Structure-Body Section:- Body elements and its attributes: Background; Background Color; Text; Link; Active Link (ALINK); Visited Link (VLINK); Left margin; Top margin, Organization of Elements in the BODY of the document: Text Block Elements; Text Emphasis Elements; Special Elements -- Hypertext Anchors; Character - Level Elements; Character References, Text Block Elements: HR (Horizontal Line); H (Headings) ; P (Paragraph); Lists; ADDRESS; BLOCKQUOTE; TABLE; DIV (HTML 3.2 and up); PRE (Preformatted); FORM, Text Emphasis Elements, Special Elements -- Hypertext Anchors, Character - Level Elements: line breaks (BR) and Images (IMG), Lists, ADDRESS Element, BLOCKQUOTE Element, TABLE Element, COMMENTS in HTML, CHARACTER Emphasis Modes, Logical & Physical Styles, Netscape, Microsoft and Advanced Standard Elements List, FONT, BASEFONT and CENTER.

UNIT – IV

Image, Internal and External Linking between Web Pages - Netscape, Microsoft and Advanced Standard Elements List, FONT, BASEFONT and CENTER. Insertion of images using the element IMG (Attributes: SRC (Source), WIDTH, HEIGHT, ALT (Alternative), ALIGN, IMG (In - line Images) Element and Attributes; Illustrations of IMG Alignment, Image as Hypertext Anchor, Internal and External Linking between Web Pages. Hypertext Anchors, HREF in Anchors, Links to a Particular Place in a Document, NAME attribute in an Anchor, Targeting NAME Anchors, TITLE attribute, Designing Frames in HTML.

UNIT – V

Creating Business Websites with Dynamic Web Pages – Concept of static web pages and dynamic web pages. Hosting & promotion of the web site, Domain Name Registration, Web Space allocation, Uploading / Downloading the website- FTP, cute FTP. Web Site Promotion Search Engines, Banner Advertisements.

BOOKS RECOMMENDED:

1. Business on the net - by Kamlesh N. Agarawala, Amit Lal & Deeksha Agarawal (Macmillan India Ltd.).
2. Introduction to HTML by Kamlesh N. Agarwala, O.P. Vyas, Prateek A. Agarwala. (Kitab Mahal Publications).

3. ASP Developer's Guide – by Greg Buczek (TATA McGraw Hill).
4. Information Technology Act 2000: www.mit.gov.in/it-bill.html

POST GRADUATE DIPLOMA IN COMPUTER APPLICATION

PGDCA-109: Practical Based on PGDCA - 106, PGDCA - 107 &

PGDCA - 108

List of Practical of Visual Basic

1. WAP to perform arithmetic operation using command buttons. Declare variables globally.
2. WAP to take input of principal, rate & time and calculate simple interest & compound interest.
3. Write a program to take input of x and print table of x in the following format.

X * 1 = X

X * 2 = 2X

X * 3 = 3X

X * 10 = 10*X

4. Design an interface, which will appear like mark sheet. It will take input of marks in five subjects and calculate total marks and percentage then provide grade according to following criteria. (Using nested if) (Use tab index property to move focus).

If %	Then Grade
------	------------

>= 90	A+
-------	----

> = 75 & < 90	A
---------------	---

> = 60 & < 75	B
---------------	---

> = 45 & < 60	C
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Otherwise	F
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5. WAP to create a simple calculator (Using control array).
6. Write a program to check whether an entered no. is prime or not.(Using for loop & Exit for)
7. Write a program which will count all vowels, consonants, digits, special characters and blank spaces in a sentences (Using select case)
8. WAP to illustrate all functionalities of listbox and combobox.
9. WAP using check boxes for following font effects. Bold,

Italic,
Underline,
Increase font size,
Decrease font size and
Font color.

10. WAP for temperature conversion using option button.
11. WAP to launch a rocket using pictures box and timer control.
12. WAP to change back color of any control (label, textbox) using scroll box.
13. WAP to search an element for a one dimension static array.
14. WAP to sort a dynamic array of
 - a.) n numbers.
 - b.) n strings (Input array size at run time)
15. WAP to take input of two matrices and perform their addition, subtraction and multiplication using menu editor.
16. WAP to illustrate call by value and call by reference (to swap to values).
17. Write a program to calculate factorial of a number using user defined function.
18. Take input of a word and WAP to check whether it is a palindrome or not. (Without using structure fun).
19. WAP to find smallest among has given three numbers using user defined procedures.
20. WAP to generate, print and find sum of first n elements of Fibonacci series using recursion.
21. WAP to perform read write operations in a sequential file.
22. Create a user defined data type having fields name (as string of length 20 bytes), Roll no (as integer), class (as string of 10 bytes). WAP to create a random access file to store above data and perform following operations in this file.
 - (a) Write new record
 - (b) Read / display existing record
 - (c) Delete any record
 - (d) Search any record
 - (f) Lists elected records
 - (e) Close the file
23. WAP to display records of a table using DAO & bound control code for buttons to move at first record, next record, previous record, last record in the table.
24. Create a table using visual data manager and write a program using RDO &

advanced bound control to add, delete, edit & navigate records.

25. WAP to access a database using ADO & display a key column in the combobox or listbox when an item is selected in it, its corresponding records is shown in MSH flexgrid.
26. Using Data Environment create a program to display records of any table.
27. WAP to generate mark sheet of students in a class through data report.
28. WAP to illustrate various key board and mouse events.
29. Using drive, directory and file list box (it will show only *.bmp files). Let the user select the bmp files, which will appear in picture box as user click on any item in list box.
30. Using toolbar design an interface for string manipulation. Toolbar should have tabs to –
 - a.) Find length of string
 - b.) No of blank spaces in string
 - c.) Reverse the stringAlso show current date & time in status bar.

List of Practical of SQL

1. Using the following database –
 - Colleges (cname, city, address, phone, afdate)
 - Staffs (sid, sname, saddress, scontacts)
 - StaffJoins (sid, cname, dept, DOJ, post, salary)
 - Teachings (sid, class, paperid, fsession, tsession)
 - Subjects (paperid, subject, paperno, papername)

Write SQL statements for the following –

- a. Create the above tables with the given specifications and constraints.
- b. Insert about 10 rows as are appropriate to solve the following queries.
- c. List the names of the teachers teaching computer subjects.
- d. List the names and cities of all staff working in your college.
- e. List the names and cities of all staff working in your college who earn more than 15000.
- f. Find the staffs whose names start with 'M' or 'R' and ends with 'A' and/or 7 characters long.
- g. Find the staffs whose date of joining is 2005.

- h. Modify the database so that staff N1 now works in C2 College.
 - i. List the names of subjects, which T1 teaches in this session or all sessions.
 - j. Find the classes that T1 do not teach at present session.
 - k. Find the colleges who have most number of staffs.
 - l. Find the staffs that earn a higher salary who earn greater than average salary of their college.
 - m. Find the colleges whose average salary is more than average salary of C2.
 - n. Find the college that has the smallest payroll.
 - o. Find the colleges where the total salary is greater than the average salary of all colleges.
 - p. List maximum, average, minimum salary of each college.
 - q. List the names of the teachers, departments teaching in more than one department.
 - r. Acquire details of staffs by name in a college or each college.
 - s. Find the names of staff that earn more than each staff of C2 College.
 - t. Give all principals a 10% rise in salary unless their salary becomes greater than 20,000 in such case give 5% rise.
 - u. Find all staff that does not work in same cities as the colleges they work.
 - v. List names of employees in ascending order according to salary who are working in your college or all colleges.
 - w. Create a view having fields sname, cname, dept, DOJ, and post
 - x. Create a view consisting of cname, average salary and total salary of all staff in that college.
 - y. Select the colleges having highest and lowest average salary using above views.
 - z. List the staff names of a department using above views.
2. Create the following database,
- Enrollment (enrollno, name, gender, DOB, address, phone)
 - Admission (admno, enrollno, course, yearsem, date, cname)
 - Colleges (cname, city, address, phone, afdate)
 - FeeStructure (course, yearsem, fee)
 - Payment (billno, admno, amount, pdate, purpose)
- a. Create the above tables with the given specifications and constraints.

- b. Insert about 10 rows as are appropriate to solve the following queries.
- c. Get full detail of all students who took admission this year class wise
- d. Get detail of students who took admission in Bhilai colleges.
- e. Calculate the total amount of fees collected in this session
 - i) By your college ii) By each college iii) By all colleges
- a. List the students who have not paid full fee.
 - i) In your college ii) In all colleges
- b. List the number of admissions in your class in every year.
- c. List the students in the session who are not in the colleges in the same city as they live in.
- d. List the students in colleges in your city and also live in your city.

3. Create the following database,

Subjects (paperid, subject, paper, papername)

Test (paperid, date, time, max, min)

Score (rollno, paperid, marks, attendance)

Students (admno, rollno, class, yearsem)

- a. Create the above tables with the given specifications and constraints.
- b. Insert about 10 rows as are appropriate to solve the following queries.
- c. List the students who were present in a paper of a subject.
- d. List all roll numbers who have passed in first division.
- e. List all students in BCA-II who have scored higher than average
 - i) In your college ii) In every college
- f. List the highest score, average and minimum score in BCA-II
 - i) In your college ii) In every college

4. Using the following database

Colleges (cname, city, address, phone, afdate)

Staffs (sid, sname, saddress, contacts)

StaffJoins (sid, cname, dept, DOJ, post, salary)

Teachings (sid, class, paperid, fsession, tsession) Subjects (paperid, subject, paperno, papername)

Write SQL statements for the following –

- a. Create the above tables with the given specifications and constraints.
- b. Insert about 10 rows as are appropriate to solve the following queries.

- c. List the names of the teachers teaching computer subjects.
- d. List the names and cities of all staff working in your college.
- e. List the names and cities of all staff working in your college who earn more than 15,000

5. Using the following database

Colleges (cname, city, address, phone, afdate)

Staffs (sid, sname, saddress, contacts)

StaffJoins (sid, cname, dept, DOJ, post, salary)

Teachings (sid, class, paperid, fsession, tsession)

Subjects (paperid, subject, paperno, papername)

- a. Find the staffs whose names start with 'M' or 'R' and ends with 'A' and/or 7 characters long.
- b. Find the staffs whose date of joining is 2005.
- c. Modify the database so that staff N1 now works in C2 college.
- d. List the names of subjects which T1 teaches in this session or all sessions.

6. Using the following database

Colleges (cname, city, address, phone, afdate)

Staffs (sid, sname, saddress, contacts)

StaffJoins (sid, cname, dept, DOJ, post, salary)

Teachings (sid, class, paperid, fsession, tsession)

Subjects (paperid, subject, paperno, papername)

- a. Find the classes that T1 do not teach at present session.
- b. Find the colleges who have most number of staffs.
- c. Find the staffs who earn a higher salary who earn greater than average salary of their college.
- d. Find the colleges whose average salary is more than average salary of C2
- e. Find the college that has the smallest payroll.
- f. Find the colleges where the total salary is greater than the average salary of all colleges.
- g. List maximum, average, minimum salary of each college

7. Using the following database

Colleges (cname, city, address, phone, afdate)

Staffs (Sid, sname, saddress, contacts)

StaffJoins (sid, cname, dept, DOJ, post, salary)

Teachings (sid, class, paperid, fsession, tsession)

Subjects (paperid, subject, paperno, papername)

- a. Find the classes that T1 do not teach at present session.
- b. List the names of the teachers, departments teaching in more than one department.
- c. Acquire details of staffs by name in a college or each college.
- d. Find the names of staff who earn more than each staff of C2 College.
- e. Give all principals a 10% rise in salary unless their salary becomes greater than 20,000 in such case give 5%rise.
- f. Find all staff who do not work in same cities as the colleges they work.
- g. List names of employees in ascending order according to salary who are working in your college or all colleges.

8. Using the following database

Colleges (cname, city, address, phone, afdate)

Staffs (sid, sname, saddress, contacts)

StaffJoins (sid, cname, dept, DOJ, post, salary)

Teachings (sid, class, paperid, fsession, tsession)

Subjects (paperid, subject, paperno, papername)

- a. Find the classes that T1 do not teach at present session.
- b. Create a view having fields sname, cname, dept, DOJ, and post
- c. Create a view consisting of cname, average salary and total salary of all staff in that college.
- d. Select the colleges having highest and lowest average salary using above views.
- e. List the staff names of a department using above views.

9. Enrollment (enrollno, name, gender, DOB, address, phone)

Admission (admno, enrollno, course, yearsem, date, cname)

Colleges (cname, city, address, phone,afdate)

FeeStructure (course, yearsem, fee)

Payment (billno, admno, amount, pdate, purpose)

- a. Create the above tables with the given specifications and constraints.
- b. Insert about 10 rows as are appropriate to solve the following queries.
- c. Get full detail of all students who took admission this year classwise
- d. Get detail of students who took admission in Bhilai colleges.
- e. Calculate the total amount of fees collected in this session
 - i) By your college ii) By each college iii) By all colleges

10. Enrollment (enrollno, name, gender, DOB, address, phone)

Admission (admno, enrollno, course, yearsem, date, cname)

Colleges (cname, city, address, phone, afdate)

FeeStructure (course, yearsem, fee)

Payment (billno, admno, amount, pdate, purpose)

- a. List the students who have not payed full fee
 - i) in your college ii) in all colleges
- b. List the number of admissions in your class in every year.
- c. List the students in the session who are not in the colleges in the same city as they live in.
- d. List the students in colleges in your city and also live in your city.

11. Subjects (paperid, subject, paper,papername)

Test (paperid, date, time, max,min)

Score (rollno, paperid, marks, attendance)

Students (admno, rollno, class, yearsem)

- a. Create the above tables with the given specifications and constraints.
- b. Insert about 10 rows as are appropriate to solve the following queries.
- c. List the students who were present in a paper of a subject.
- d. List all roll numbers who have passed in first division.
- e. List all students in MCA-II who have scored higher than average
 - i) In your college ii) In every college
- f. List the highest score, average and minimum score in MCA-II
 - i) In your college ii) In every college

List of Practical of HTML

At least 10 practical done on HTML & Web Designing.

POST GRADUATE DIPLOMA IN COMPUTER APPLICATION

PGDCA - 110: Project

1. Scheme of Examination: - The Project should be done by individual student.
Practical examination will be of 3 hours
2. Format of the student project report on completion of the project
 - Cover page as per format
 - Certificate of Approval
 - Certificate of project guide/Center Manager
 - Certificate of the company/Organization
 - Certificate of Evaluation
 - Declaration/Self Certificate
 - Acknowledgement

In the “Acknowledgement” page, the writer recognizes his /her indebtedness for guidance and assistance of the thesis/report adviser and other members of the faculty. Courtesy demands that he/she also recognize specific contributions by other persons or institutions such as libraries and research foundations. Acknowledgements should be expressed simply, tastefully, and tactfully.

- Synopsis of the project
- Main Report
 - ❖ Objectives & Scope of the project
 - ❖ Theoretical Background of Project.
 - ❖ Definition of problem.
 - ❖ System Analysis & Design.
 - ❖ System Planning (PERT Chart).
 - ❖ Methodology adopted, system Implementation & Detail of Hardware & Software used.
 - ❖ System maintenance & Evaluation.
 - ❖ Cost and benefit Analysis.
 - ❖ Detailed Life Cycle of the project.
 - ❖ ERD,DFD
 - ❖ Input and Output Screen Design

- ❖ Process involved
- ❖ Methodology used for testing
- ❖ Test Report, Printout of the code sheet
- ❖ User/Operational Manual- including security aspects, access rights, back up, Controls etc.
- ❖ Conclusion
- ❖ References
- ❖ Soft copy of the project on CD

Formats of various certificates and formatting styles are as:

1. Project report Cover Format:

A

Project Report On

[Title of the Project Report]

(Times New Roman. Italic, Font Size=24)

Submitted in partial fulfillment of the requirements for the award of degree
Post Graduate Diploma in Computer Application

2. Certificate of Approval by Head of the Department in letter head

CERTIFICATE OF APPROVAL

This is to certify that the Project work entitled “[PROJECT NAME]” is carried out by Mr/Ms/Mrs [STUDENT NAME], a student of PGDCA at [College Name] is hereby approved as a credible work in the discipline of Computer Science & Information Technology for the award of degree of **Post Graduate Diploma in Computer Application** during the year 20__ - 20__. **From Bharti University, Durg (CG).**

(Head Name)

3. Certificate from the Guide in letter head.

CERTIFICATE

This is to certify that the Project work entitled “[PROJECT NAME]” Submitted to the (College Name) by Mr/Ms/Mrs [STUDENT NAME], [Roll No], in partial fulfillment for the requirements relating to nature and standard of the award of **Post Graduate Diploma in Computer Application** degree by , **Bharti University, Durg (C. G.).** For the academic year 20__ - 20__.

This project work has been carried out under my guidance.

(Guide Name)

4. Certificate of the Company or Organization from where the Project is done from the Project Manager or Project guide.
5. Certificate of evaluation in the department letter head.

CERTIFICATE OF EVALUATION

This is to certify that the Project work entitled “[PROJECT NAME]” is carried out by Mr/Ms/Mrs [STUDENT NAME], a student of PGDCA at [College Name], after proper evaluation and examination, is hereby approved as a credible work in the discipline of Computer Science & Information Technology and is done in a satisfactory manner for its acceptance as a requisite for the award of degree of **Post Graduate Diploma in Computer Application** during the year 20__ - 20__ from **Bharti University, Durg (C.G.)**.

Internal Examiner

External Examiner

6. Declaration of Student / Self Certificate

DECLARATION

This to certify that the project report entitled “ ”, which is submitted by me in the partial fulfillment for the award of the degree of **Post Graduate Diploma in Computer Application, (College Name)**, comprises the original work carried out by me.

I further declare that the work reported in this project has not been submitted and will not be submitted, either in part or in full for the award of any other degree or diploma in this Institute or any other Institute or University.

Place: _____

Name: _____

Date: _____

Roll No: _____