POST-GRADUATE DIPLOMA IN COMPUTER SCIENCE & APPLICATION
(P.G.D.C.A. PROGRAMME)
P.G.REGULATIONS

[A] P.G. REGULATIONS FOR P.G.D.C.A.

R.PG.DCA 1.

Candidate for admission to the 1 - Year Post Graduate Diploma in Computer Science & Application (P.G.D.C.A.) Course must have passed a bachelor's degree examination under (10+2+3) pattern or equivalent, with not less than 50% (with fraction) marks (45% marks for the student of SC/ST at aggregate or an equivalent grade. of this university examination or any other examination recognized as equivalent thereto by this University.

N.B.: Wherever Grade is awarded, equivalent percentage corresponding to the Grade will be ascertained from the degree awarding authority.

R.PG.DCA 2.

The dmissions to this course will be given on merit obtained in a Entrance Test conducted by this university.

R.PG.DCA 3.

Candidate who has passed an equivalent examination from any other university or examining body and is seeking admission to the P.G.D.C.A. course shall not be admitted without producing the Eligibility Certificate from the Hemchandracharya North Gujarat University.

R.PG.DCA 4.

The Intake shall be as decided by the university from the time to time. The reservation for admission shall be as per the norms of Govt. of Gujarat only.

R.PG.DCA 5.

The duration of the programme shall be full-time one academic year. The academic year will be divided into two semesters for the purpose of instruction and examination. No candidate will be allowed to join any service/job during the course of the study.

The medium of the instruction will be English.

R.PG.DCA 6.

No student shall be admitted to any semester examination for Post Graduate Diploma In Computer Science & Application unless it is certified by the Principal of affiliated college / recognized institute that the student.

1. has attended the courses of study to the satisfaction of the Principal of affiliated college / recognized institute.
2. has maintained good conduct and character during the studies.
3. has attended at least 75% of theory lectures and practical sessions.

R.PG.DCA 7.

Student desirous of appearing at any semester examination in whole/part must forward application in the prescribed form to the Registrar, through the Principal of the affiliated college/recognized institution or before prescribed date.

R.PG.DCA 8.

The teaching and examination scheme shall be as shown in the ANNEXURE-I.
For the purpose of internal assessment the Department shall conduct at least one test in each semester. When more tests are conducted the average of the tests will be considered, as Internal marks.

R.PG.DCA 9.

In order to pass a Semester Examination a student has to obtain at least 40 % marks in Internal Examination in each subject.

R.PG.DCA 10

a. A Students passing in at least two subjects in the First Semester will be permitted to Prosecute studies for the Second Semester.
b. Such student shall require to appear in the failed subjects of semester-I examination along with he examination of semester-II. No such student shall be allowed of appear in examination of semester-II only.
c. No student shall be allowed to reappear in a subject in which he has already passed.

R.PG.DCA 11.
 (1) Standard of passing:

   To Pass the examination, a candidate must obtained in each paper;-
   (a) at least 40% of marks the University examination (i.e.minimum 28 marks out of 70 marks.
   (b) 40% marks in the internal examination (i.e. minimum 12 marks out of 30 marks)
   (c) Theory and practical shall be treated as a separate head.

   (2) Award of class:
   (a) First class with Distinction:70 % or more marks in aggregrate of Semesters I & II.
   (b) First class : 60 % or more marks in aggregate of Semesters I & II, but less than 70% in aggregate.
   (c) Second class: 50 % or more marks in aggregrate of Semesters I & & II, but less than 60% in aggregate.

No student who has not passed the Semester I in one seating & Semester II in one seating shall be eligible for award of class, viz. First class with distinction, First class, second class as the case may be. Such student, on passing, shall be marked "PASS"

R.PG.DCA. 12
If a student failing in the course, shall be required to clear the examination within a period of three years from the date of first admission else such student will have to take admission de-novo and study as a regular student.

HEMCHANDRACHARYA NORTH GUJARAT UNIVERSITY, PATAN

Scheme for Teaching & Examination for the
Post Graduate Diploma in Computer Science & Application Programme
SEMESTER - I

Sr. No.	Subject No.	Name of the Subject	Teaching Scheme (Per Week)		Examination Scheme				Total	
			Theo.	Prac.	Internal		External			
					The.	Pract.	The.	Pract.		
1	DCA101	Logic Development using Programming Language 'C'	4	-	30	-	70	-	100	-
2	DCA102	Database Management System	4	-	30	-	70	-	100	-
3	DCA103	Data Communication, Internet, Web Designing and E-Commerce	4	-	30	-	70	-	100	-
4	DCA104	Digital Computer System Architecture	4	-	30	-	70	-	100	-
5	DCA105	Practical Based on DCA-101	-	3	-	20	-	30	-	50
6	DCA106	Practical Based on DCA-102	-	3	-	20	-	30	-	50
7	DCA107	Practical Based on DCA-103	-	3	-	20	-	30	-	50
8	DCA108	PC-Packages and Computerized Accounting System	-	4	-	20	-	30	-	50
9	DCA109	DTP & Multimedia Packages	-	3	-	20	-	30	-	50

PGDCA SEMESTER – I
DCA-101 : Logic Development using Programming Language 'C'

University Examination Duration: 3 Hours.

UNIT : I (17 Marks)

Overview of C:

Importance of C, sample C programs, basic structure of C programs, programming style, executing C program.

Constants, Variables and Data Types:

Character set, C tokens, keywords and identifiers, constants, variables, data types, declaration of variables, assigning value to variable, defining symbolic constants.

Operators and Expression:

Operators - arithmetic, relational, logical, assignment, increment-decrement, conditional, bit-wise and special.

Arithmetic expressions, evaluation of expressions, precedence of arithmetic operators, type conversions in expressions, operator precedence and associativity, mathematical functions.

Managing Input and Output Operators:

Reading and writing a character, formatted input-output.

UNIT : II (17 Marks)

Decision Making and branching:

Decision making with IF statement, simple IF statement, the IF-ELSE statement, nesting of IF … ELSE statements, the ELSE IF ladder, the switch statement.

Decision Making and Looping:

Looping statements - WHILE, DO and FOR. Nesting and Jumps in loops.

Arrays:

One-dimensional, two-dimensional and multidimensional arrays.

Handling of Character Strings:

Declaring and initializing string variables, reading string from terminal, writing string to screen, arithmetic operations on character, putting string together, comparison of two strings, string handling functions, table of strings.

UNIT : III (18 Marks)

User-Defined Functions:

Need for user-defined functions, the form of c function, return values and their types, calling a function, category of functions, no arguments and no return values, arguments with return values, handling of non-integer functions, nesting of functions, recursion, functions with arrays, the scope and lifetime of variables in functions.

Structures and Unions:

Structure definition, giving values to members, structure initialization, comparison of structures, arrays of structures, arrays within structures, structures within structures, structures and functions, unions, size of structures, bit fields.

UNIT : IV (18 Marks)

Pointers:

Definition, accessing the address of variable, declaring and initializing pointers, accessing a variable through its pointer, pointer expressions, pointer increments and scale factor, pointers and arrays, pointers and character strings, pointers and functions, pointers and structures.

File Management in C:

File concept, various operations on files – Defining, opening,, closing and input/ output. error handling during I/O operations, random access files, command line arguments.

BOOKS :

ANSI C E. Balaguruswami - TMH Publications

Mastering Turbo C Stan Kelly-Bootle - BPB Publications

Question Paper Scheme:

Q.1 - Unit-I (12 Marks)
   A. Objective/ Short Questions.
   B. Descriptive/ Long questions.

Q.2 - Unit-II (12 Marks)
   A. Objective/ Short Questions.
   B. Descriptive/ Long questions.

Q.3 - Unit-III (12 Marks)
   A. Objective/ Short Questions.
   B. Descriptive/ Long questions.

Q.4 - Unit-IV (12 Marks)
   A. Objective/ Short Questions.
   B. Descriptive/ Long questions.

Q.5 - Programs
   A. Unit I & II (10 Marks)
   B. Unit III & IV (12 Marks)

Note: Options should be given in all questions.

PGDCA SEMESTER – I
DCA-102 : Database Management System

University Examination Duration : 3 Hours.

UNIT : I (10 Marks)
Database Concepts and Architecture:

Operational data, purpose of database system, structure of DBMS, three levels of the architecture, the external level, the conceptual level, the internal level, mappings, the database administrator, distributed processing.

UNIT : II (12 Marks)
Data Structure and Corresponding Operators:

Data Models: hierarchical, network and relational.

Operators, relations , domains and attributes, keys, extensions and intensions, traditional set operations, attribute – names for derived relations, special relational operations.

UNIT : III (24 Marks)
Database Design:

The E/R model, E/R diagrams, database design with the E/R model, trivial and nontrivial dependencies, closure of a set of dependencies, closure of a set of attributes, irreducible sets of dependencies, non loss decomposition and functional dependencies, first, second and third normal forms, dependency preservation, Boyce/Codd normal form, multi-valued dependencies and fourth normal form, join dependencies and fifth normal form.

UNIT : IV (24 Marks)
FoxPro:

FoxPro –Versions, features, requirement of hardware & software, working with Visual FoxPro. Creating database file, listing contents of a database file, viewing and editing data, modifying structure and file utilities, sorting and indexing, reports and labels, memory variables, creating a programming file, running a program file, conditional statements and loops, displaying data with @ command, inputting data with @.....get @...edit, wizards.

Reference Books:
1. Introduction to Database System C. J. Date (7th edition) Low Price Edition
2. SQL, PL/SQL Evan Bayross (2nd edition) BPB Publications
3. Database system concepts Henry F. Korth (3rd edition) TMH Publications
4. Mastering Visual FoxPro BPB Publications

Question Paper Scheme:
Q.1 - Unit-I (10 Marks)
   A. Objective/ Short Questions.
   B. Descriptive/ Long questions.
Q.2 - Unit-II (12 Marks)
   A. Objective/ Short Questions.
   B. Descriptive/ Long questions.
Q.3 - Unit-III (24 Marks)
   A. Objective/ Short Questions.
   B. Descriptive/ Long questions.
Q.4 - Unit-IV (24 Marks)

A. Objective/ Short Questions.
B. Descriptive/ Long questions.
C. Program in FoxPro.

Note: Options should be given in all questions.

PGDCA SEMESTER – I
DCA-103 : Data Communication, Internet, Web Designing And E-Commerce

University Examination Duration : 3 Hours.
UNIT : I (14 Marks)
Basic of Computer Networks:

Networking of Computer.- Advantages and disadvantages of computer networking. Types of Networks - LAN, MAN, WAN Network Topology – Star, Ring, Bus, Tree, Complete, Irregular.Reference Models - The OSI reference model, the TCP/IP reference model

UNIT : II (16 Marks)
Transmission Media:

Transmission media - Magnetic media, twisted pair, co-axial cable (baseband and broadband) , fiber optics principle, transmission of light through fiber, fiber cables, fiber optics network, comparison of fiber optic and copper wire.

UNIT : III (28 Marks)
Internet: (10 Marks)

Evolution, Protocols, Interface concepts, Internet v/s Intranet, ISP, connectivity – Dial Up, Leased line, VSAT, URLs, Domain names, Portals.

E-mail – POP and WEB based E-mail, merits, address, basics of sending and receiving, E-mail protocols, mailing list.

File Transfer Protocols, Telnet, Chatting (voice & text) remote logging, Terminal emulation, message board.

World Wide Web – Working, Web browsers, concept of search engines, searching the Web, HTTP, URLs, Web servers, Web protocols.

HTML: (18 Marks)

Understanding HTML, Create a Web Page, Linking to other Web Pages, Publishing HTML Pages, Text Alignment and Lists, Text Formatting Fonts Control, Email Links and link within a Page, Creating HTML Forms, Creating Web Page Graphics, Putting Graphics on a Web Page, Custom Backgrounds and Colors, Creating Animated Graphics

Web Page Design and layout, Advanced Layout with Tables, Using Style Sheets

UNIT : IV (12 Marks)
E-Commerce:

Concepts and technology in E-Commerce, Internet and E-business, Advantages of E-Commerce, Applications, Feasibility & various constrains, Future of E-Commerce.

Books:
1. Computer Networks - Andrew S. Tanenbaum PHI Publications
2. O – Level module M 1.2 Internet & Web Page design V K Jain BPB Publication.
3. Internet for Everyone – Alexix Leon and Mathews Leon Vikas Publication.
4. Tech Yourself HTML 4 in 24 Hours by Dick Oliver (Techmedia)
5. 10 minutes Guide to HTML Style Sheets by Craig Zacker (PHI)
6. A Beginner's Guide to HTML available at:

http://www/ncsa.uiuc.edu/General/Internet/WWW/HTMLPrimerAll.html

Question Paper Scheme:

Q.1 - Unit-I (14) Marks
   A. Objective/ Short Questions.
   B. Descriptive/ Long questions.

Q.2 - Unit-II (16) Marks
   A. Objective/ Short Questions.
   B. Descriptive/ Long questions.

Q.3 - Unit-III (28) Marks
   A. Objective/ Short Questions.
   B. Descriptive/ Long questions.

Q.4 - Unit-IV (12) Marks
   A. Objective/ Short Questions.
   B. Descriptive/ Long questions.

Note: Options should be given in all questions.

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P.G.D.C.A. SEMESTER – I
DCA-104 : Digital Computer System Architecture

University Examination Duration : 3 Hours.
UNIT : I (18 Marks)
Data Representation, Number System:
Number system - Decimal, Binary, Octal, Hexadecimal.

Conversation of number from one number system to another (Binary to Decimal, Decimal to Binary, Octal to Decimal, Decimal to Octal, Octal to Binary, Binary to Octal, Hexadecimal to Binary, Binary to Hexadecimal, Hexadecimal to decimal, Decimal to Hexadecimal, Hexadecimal to Octal, Octal to Hexadecimal).

Binary Arithmetic - Addition, Subtraction, (Simple, 1's and 2's complement methods)

Binary Codes - Weighted BCD Code (Only 8421), Non-weighted Codes, Error Detecting Codes, Fixed and Floating Point Representation, (Book: 2 – 2.1 to 2.12.7, Book: 5 – 3.2 to 3.4, Book: 1 – 3.3 & 3.4)

UNIT : II (18 Marks)
Basic of Digital Computers:
Digital Logic Circuits - Digital Computers, Logic Gates, Boolean Algebra, Map Simplifications

Digital Circuits Design 1 - Combination Circuits, Flip-Flop, Sequential Circuits.

Digital Circuits Design 2 - Integrated Circuits, Decoders, Multiplexers, Registers, Counters.

(Book: 1 – 1.1 to 1.7, 2.1, Book: 4 – 3.1, 3.3, 10.1 to 10.5, 11.1, 11.3 (Excludes: Timing Diagram, TTL Devices and Detailed circuits of Registers)

UNIT : III (14 Marks)
Computer Memory and Peripherals:
Memory Unit:
Random Access Memory, Read Only Memory, Types of RAMs and ROMs
Peripherals:
Magnetic Storage Devices – Magnetic tape, Floppy Disk, Hard Disk.
Input Devices – Keyboard, Mouse, Touch screen, Scanner.
Output Devices – VDU, Printer, Plotter.
Optical Devices – CD ROM and DVD.

UNIT : IV (20 Marks)
Programming Techniques:
Microprocessor architecture and its operation – 8085 processor (Pin diagram and Block diagram)

Computer Instructions - Data transfer and I/O Instructions, Arithmetic Instructions, Logic Instructions, Branch Instructions (Book: 6 – 2.1, 3.1, 6.1 to 6.4)

Books:

(1) Computer System Architecture by M. Morris Mano - 3rd Edition – PHI

(2) Fundamentals of Microprocessor and Microcomputers by B. RAM – 4th Edition – Dhanpat Rai

   Publications.

(3) Structure computer Organization by Andrew S. Athenaeum – 4th Edition – PHI.

(4) Digital Principles and Applications by Malvino & Leach – 4th Edition – McGraw Hill.

(5) Digital Electronics by William H. Gothmann – 2nd Edition PHI.

(6) Microprocessor Architecture Programming and Application by Ramesh S. Gaonkar – Wiley Eastern Limited.

(7) Digital Computer Electronics by Malvino & Brown –3rd Edition-TMH

(8) Fundamentals of Computers by V. Rajaraman – 3rd Edition – PHI.

Question Paper Scheme:

Q.1 - Unit-I (18 Marks)
   A. Objective/ Short Questions.
   B. Descriptive/ Long questions.

Q.2 - Unit-II (18 Marks)
   A. Objective/ Short Questions.
   B. Descriptive/ Long questions.

Q.3 - Unit-III (14 Marks)
   A. Objective/ Short Questions.
   B. Descriptive/ Long questions.

Q.4 - Unit-IV (20 Marks)
   A. Objective/ Short Questions.
   B. Descriptive/ Long questions.

Note: Options should be given in all questions.

P.G.D.C.A. SEMESTER – I
DCA-105 : Practical Based on DCA - 101

University Examination Duration : 3 Hours (Per Batch)
Practical based on Logic development using programming Language – 'C'

Practical List
1. Write a C program to find the sum of digits of accepted no.
2. Write a C program to find the sum of first 100 natural nos.
3. Write a C program to find the sum of first 100 odd nos. and even nos.
4. Write a C program to display first 25 Fibonacci nos.
5. Write a C program to check whether the given number is prime or not.
6. Write a C program to find factorial of the given number.
7. Write a C program to reverse the accepted number.
8. Write a C program to find whether the accepted string number is palindrome or not.
9. Write a C program to convert decimal number to its equivalent binary number.
10. Write a C program to convert decimal number to its equivalent octal number.
11. Write a C program to convert decimal number to its equivalent hexadecimal number.
12. Write a C program to arrange the accepted numbers in ascending order and descending order.
13. Convert given line into upper case or lower case character as user want. (Use switch statement for the choice of case.)
14. Count How many Characters, Words, lines, spaces, tabs into given text.
15. Print detail of students like R-no, name, address, city, phone on screen. (Use structure.)
16. Swap the values of two different no using UDF & pointer.
17. Create one text file store some information into it and print the same information on terminal.
18. You have given a file which contains some integers. From this file create another two files one for odd and second for even numbers. Print the result of both files.
19. Create one file and insert some information using fprintf() and fscanf() function.
20. Display the following format on screen.

C
CP
CPR
CPRO
.
.
CPROGRAMING
.
.
CPRO
CPR
CP
C

21. Display the following format on screen
1
2 2
3 3 3

4 4 4 4
5 5 5 5 5
22. Display the following format on screen
*
**
***
****
*****

23.   Write a program to implement the concept of command line argument (e.g. DOS type command,
    copy command)

P.G.D.C.A. SEMESTER – I
DCA-106 : Practical Based on DCA - 102

University Examination Duration: 3 Hours (Per Batch)

Practical based on DBMS (FoxPro/ Visual FoxPro)
PRACTICAL
Create database
Adding, Editing, Viewing and deleting records
Indexing
Generating report and mailing labels
Creating Menu
Database applications like payroll, Mark sheet, Electricity bill etc.

P.G.D.C.A. SEMESTER – I
DCA-107 : Practical Based on DCA - 103

University Examination Duration : 3 Hours (Per Batch)

Practical Based on Data Communication, Internet, Web Design and E-Commerce

PRACTICAL LIST

Internet: (10 Marks)
· To create new Internet Connection.
· To create new Email Account
· Browsing up the Web sites (e.g. Railway reservation, Airline reservation, cinema ticket booking etc.).
· Search engines
· Important Web sites.

HTML: (20 Marks)
1. Develop an HTML document for a web page of your favorite teacher. Design the page with an attractive background color, text color and background image.
2. Develop an HTML document for a web page of your favorite National Leader. Design the page with an attractive color combination, with suitable headings and horizontal rules.
3. Write an HTML document with an example of Ordered List and Unordered List.
4. Write an HTML document with an example of Table format to print your Bio-Data.
5. Write an HTML document with an example of Table format to print your Telephone Bill.
6. Write the Frameset tags and Frame tags for the following frameset.

Physics.html	Welcome.html	Maths.html
Chemistry.html		Computer.html
Biology.html	Heading.html	
Zoology.html		Account.html

7. Develop a complete web page using Frames and Frameset, which gives the Information about Hospital.
8. Write an HTML code for designing the subscription form of mail account in the e-mail website with appropriate fields.
9. Write an example of Style Sheet.

P.G.D.C.A. SEMESTER – I
DCA-108 : PC-Packages and Computerized Accounting System

University Examination Duration : 3 Hours (Per Batch)

I PC-Packages: (20 Marks)
[A] MS-DOS AND WINDOWS (not for examination)

[B] MS-OFFICE

1. MS-WORD.
    Practicals may be given for
- Creating the documents with Special effects like underline, bold, different size, different font, different color. Etc.
- Find and Replace operations like cut, paste, copy clipboard.
- Inserting Date & Time, Pictures, Bullets & Numbering ets.
- Paragraphs, bullets, indentation etc. Formatting features.
- Printing the documents, it includes paper-size, margins, header and footer, page no.
- Creating a table.
- Mailmerge, spellcheck, drawing table.
- Template.

2. MS-EXCEL.
    Practicals may be given for
- Creating Worksheets.
- Printing, Inserting, Deleting, Copying, Moving worksheets.
- Formulas, Built-in functions.
- Graph-Plotting facilities.
- Database Management System.
- Using extenternally created data files.
- What-if analysis.
- Formatting cells, Worksheets etc.
- Custom Controls
- Protection facility
- Pivot tables
- Macro facility

3. MS- PowerPoint.
    Practicals may be given for
- Creating a presentation
- Inserting/Deleting slides
- Different slide views
- Editing slides.
- Slide transition & editing special effects
- Inserting sound, picture, chart, organization chart.

II Study of any one of the Accounting Software like Tally, TATA – EX: (10 Marks)
1. Basic principles of double entry accounting system.
2. Creating

a. New company
b. Security Controls
c. Gropus
d. Ledger
e. Voucher Type

3. Modifying
   a. New company
   b. Security Controls
   c. Gropus
   d. Ledger
   e. Voucher Type
4. Voucher Entry
5. Generating Profit & Loss Account, Trial Balance and Balance Sheet
6. Backup & Restore.

P.G.D.C.A. SEMESTER – I
DCA-109 : Multimedia & DTP Packages

University Examination Duration: 3 Hours (Per Batch)

Multimedia: (20 Marks)
Study of any multimedia software like Adobe Photoshop, Scala, 3D STUDIO MAX
Students must be trained by discussing various case studies.

Desktop Publishing (DTP): (10 Marks)
Study of any DTP software like PageMaker, Corel Draw, Instant Artist.
Students must be trained by discussing various case studies.

SEMESTER - II

Sr. No.	Subject No.	Name of the Subject	Teaching Scheme		Examination Scheme				Total	
			Theo.	Prac.	Internal-Exam.		External-Exam.		The.	Pract.
					The.	Pract.	The.	Pract.		
1	DCA201	Object Oriented Concepts & Programming (C++)	4	3	30	-	70	-	100	-
2	DCA202	Advance Database Management System	4	3	30	-	70	-	100	-
3	DCA203	GUI Programming using Visual Basic	4	3	30	-	70	-	100	-
4	DCA204	System Analysis & Design	4	-	30	-	70	-	100	-
5	DCA205	Computer Network & Embedded Technology	4	-	30	-	70	-	100	-
6	DCA206	Practical on DCA-201	-	3	-	20	-	30	-	50
7	DCA207	Practical on DCA-202	-	3	-	20	-	30	-	50
8	DCA208	Practical on DCA-203	-	3	-	20	-	30	-	50
9	DCA209	Computer Assembling and Hardware Maintenance	-	2	-	20	-	30	-	50
10	DCA210	System Development Project-I	-	-	-	20	-	150	-	200

PGDCA SEMESTER – II

DCA-201 : Object Oriented Concepts & Programming (C++)

Teaching Scheme (per week)		Examination Scheme					
		INT		EXT		TOTAL	
Th. (hours)	Pr. (hours)	Th. (marks)	Pr. (marks)	Th. (marks)	Pr. (marks)	Th. (marks)	Pr. (marks)
4	--	30	--	70	--	100	--

University Examination Duration : 3 Hours.

Unit 1. Fundamentals of Programming.   (17 Marks)

- Concept of Procedural, structured and object oriented programming.
- Concept of Encapsulation, Data hiding, Inheritance and Polymorphism.
- History of C++ and its object-oriented programming over procedural languages.
- Classes and objects.
- Advantages of object-oriented programming over procedural languages parts of C++ Program.
- Data types, variable and constants, Expression and statements, logical, relational, Mathematical operators, turnery operator.
- Simple I/O statements- reading and writing. Statement for formatted I/O.
- Usage of header files using INCLUDE statement.

Unit 2. Control Statements, Array, Structures and Classes.   (18 Marks)

- Looping : While..., Do.. While, for loop, Continue and break statement, Switch Statement, IF statement, IF...ELSE statement.
- Array : Initializing one dimensional and two dimensional array. Multidimensional Array. Passing arrays to functions. Array classes.
- Structures and Enumerated data types : Declaration of Structure, Initialization of structures, Array of structure and pointers to structure.
- Structure within structures.
- Operator overloading, Operator Precedence.
- Enumerated data types.
- Classes : Implementing class, Classes and members. Accessing class members, implementing class methods, constructors, and Distracters. Private and public class.

Unit 3. Functions   (17 Marks)

- Function Definition : Declaring & defining function, Passing of parameters, passing Structure variables as argument, Passing address (Passing by reference), Function with arguments, Overloading function, Inline functions, Storage Classes and Static Storage Class.

Unit 4. Pointer   (18 Marks)
- Pointer : concept of a pointer variable and its declaration. Pointer arithmetic, manipulating data by sing pointers. Pointers in string handling. Pointers to pointer, Arrays of Pointers, Pointers and array names, Dynamic Memory allocations, Pointers to objects, file handling – working with single file, multiple file.

Main Reference Books :
1. Rajaram : Object Oriented Programming & C++, New age international publishers.
2. E. Balaguruswamy : Programming in C++, TMH

Question Paper Scheme:
University Examination Duration : 3 Hours.

Q.1 - Unit-I   (17 Marks)
    A. Objective/ Short Questions.
    B. Descriptive/ Long questions.
Q.2 - Unit-II   (18 Marks)
    A. Objective/ Short Questions.
    B. Descriptive/ Long questions.
Q.3 - Unit-III   (17 Marks)
    A. Objective/ Short Questions.
    B. Descriptive/ Long questions.
Q.4 - Unit-IV   (18 Marks)
    A. Objective/ Short Questions.
    B. Descriptive/ Long questions.

Note: Options should be given in all questions.

PGDCA SEMESTER – II

DCA-202 : Advanced Database Management System

Teaching Scheme (per week)		Examination Scheme					
		INT		EXT		TOTAL	
Th. (hours)	Pr. (hours)	Th. (marks)	Pr. (marks)	Th. (marks)	Pr. (marks)	Th. (marks)	Pr. (marks)
4	--	30	--	70	--	100	--

University Examination Duration : 3 Hours.

UNIT I   **(17 Marks)**
Transition Management: Recovery, concurrency, security: Introduction, Discretionary access control, Mandatory access control, Statistical databases, Data encryption, **Distributed Databases:** Introduction, Some Preliminaries, The twelve objectives, Problems of distributed systems.

UNIT II   **(18 Marks)**
Structured Query Language (SQL): Introduction to SQL, Constraints, DDL, DML, DCL, Create, Alter, Drop, Rename, Grant, Revoke, Select Clause, Functions, Different Types of Joins, set operators.

UNIT III   **(17 Marks)**
PL/SQL: Index, View, Sequence, Trigger, Procedure, Cursor, Exception Handling.

UNIT IV   **(18 Marks)**
Decision Support: Introduction, Aspects of decision support, Database design for decision support, Data Warehouses and Data marts, Online analytical processing, Data mining

Books:
1. Introduction to Database System   → C. J. Date (7th edition) Low Price Edition
2. SQL, PL/SQL   → Evan Bayross (2nd edition) BPB
3. Database system concepts   → Henry F. Korth (3rd edition) TMH

Question Paper Scheme:
University Examination Duration : 3 Hours.
Q.1 - Unit-I   (17 Marks)
    A. Objective/ Short Questions.
    B. Descriptive/ Long questions.
Q.2 - Unit-II   (18 Marks)
    A. Objective/ Short Questions.
    B. Descriptive/ Long questions.
Q.3 - Unit-III   (17 Marks)
    A. Objective/ Short Questions.
    B. Descriptive/ Long questions.
Q.4 - Unit-IV   (18 Marks)
    A. Objective/ Short Questions.
    B. Descriptive/ Long questions.

Note: Options should be given in all questions.

PGDCA SEMESTER – II

DCA-203 : GUI Programming Using Visual Basic
University Examination Duration : 3 Hours.

Teaching Scheme (per week)		Examination Scheme					
		INT		EXT		TOTAL	
Th. (hours)	Pr. (hours)	Th. (marks)	Pr. (marks)	Th. (marks)	Pr. (marks)	Th. (marks)	Pr. (marks)
4	--	30	--	70	--	100	--

UNIT I   **(17 Marks)**
Client Server Basics: Discover Client-Server And Other Computing Architectures, Understand File Server Versus Client-Server Database Deployment, Learn About the Two Tier Versus Three Tire Client-Server Model, **Visual Basic Building Blocks And Default Controls:** Forms, Using Controls, Exploring Properties, Methods And Events, Introduction To Intrinsic Controls, Working With Text, Working With Choices, Special Purpose Controls, **VB Advance Controls:** Events, Menu bar, Popup Menus, Tool bar, Message Box, Input Box, Built-in Dialog Boxes, Creating MDI, Working with Menus

UNIT II   **(18 Marks)**
VB Programming Fundamentals And Variables: Introduction to Variables, Variable Declaration, Arrays, Introduction to Constants And Option Explicit Statement, Assignment Statements, Working With Math Operations, Strings, Formatting Functions, **Controlling And Managing Program:** All Control Statements, Loops, Error Trapping, Working With Procedures, Functions, Controlling How Your Program Starts, **Common controls and control arrays:** Introduction to common controls- Tree view, list view, tab strip, Creating and working with control arrays.

UNIT III   **(17 Marks)**
Visual Basic and databases: Understanding the Data Controls And Bound Controls, Introduction to Data Form Wizard, Introduce DAO, Working With Record sets, Record Pointer, Filters, Indexes, Sorts And Manipulation of Records. **Remote And activex Data Objects:** Working With ODBC, Remote Data Objects And Remote data Control, Introducing ADO, ADO Data Control, Using Data Grid Control And activex Data Objects. **Activex Controls, Extending activex Controls And Classes:** Creating, Testing, Compiling, Enhancing And User Drawn activex Controls, Using activex Control Interface Wizard And Property Pages Wizard, Introducing Ambient, Extender Objects, Creating Property Pages, Building Class Modules, activex DLL.

UNIT IV   **(18 Marks)**
Client-Server Development Tools: COM, Services Models, Development Tools Included with VB 6, Working With sourcesafe Projects. **Reports And Packaging:** Data Reports And Crystal Reports, Packaging A Standard EXE Project, **VB And Internet:** Introduction to vbscript, Tools used with vbscript and vbscript Languages, Introduction to Active Server Pages, ASP Objects.
Books:
1. Visual Basic 6 Client/Server How-To
2. Using Visual Basic 6
Question Paper Scheme:
University Examination Duration : 3 Hours.
Q.1 - Unit-I   (17 Marks)
   A. Objective/ Short Questions.
   B. Descriptive/ Long questions.
Q.2 - Unit-II   (18 Marks)
   A. Objective/ Short Questions.

B. Descriptive/ Long questions.
Q.3 - Unit-III   (17 Marks)
   A. Objective/ Short Questions.
   B. Descriptive/ Long questions.
Q.4 - Unit-IV   (18 Marks)
   A. Objective/ Short Questions.
   B. Descriptive/ Long questions.

Note: Options should be given in all questions.

PGDCA SEMESTER – II

DCA-204 : System Analysis & Design

Teaching Scheme (per week)		Examination Scheme					
		INT		EXT		TOTAL	
Th. (hours)	Pr. (hours)	Th. (marks)	Pr. (marks)	Th. (marks)	Pr. (marks)	Th. (marks)	Pr. (marks)
4	--	30	--	70	--	100	--

University Examination Duration : 3 Hours.

UNIT-I (17 Marks)
- System definition
- Need for system development
- Types of system
- Types of user
- System development strategies
  - SDLC
  - Structured Analysis Development Strategy
    - Physical and Logical DFD
    - Data Dictionary
  - System Prototype Method
- Role of system analyst
- System investigation:- Fact Finding Techniques
- Tools for Documenting Procedures & Decision
  - Decision Tree,
  - Decision Table
  - Structured English

UNIT-II (18 Marks)
- Code design
- Form design
- Input design
- Output design
- Computer Aided system tools

UNIT-III (17 Marks)
- System Engineering and Quality Assurance
  - Design of software
  - Software design and documentation tools
    - Structure Flowchart
    - HIPO
    - Warnier /Orr Diagrams
  - Testing
  - Documentation
- Managing System Implementation
  - Training
  - Conversion

UNIT-IV (18 Marks)
- **Case Studies**
  - Financial Accounting System
  - Payroll System
  - Library System
  - Inventory / Stock System
  - Billing System
    (Input, Output, DFD)

Books:
- Analysis & Design of Information Systems - James A. Senn
- System Analysis & Design, 1st Edition,   - S.Parthasarthy & B.W.Khalkar
- Introduction To S.A.D.   – LEE VOL. 1 & 2

Question Paper Scheme:
University Examination Duration : 3 Hours.
Q.1 - Unit-I   (17 Marks)
   A. Objective/ Short Questions.
   B. Descriptive/ Long questions.
Q.2 - Unit-II   (18 Marks)
   A. Objective/ Short Questions.
   B. Descriptive/ Long questions
Q.3 - Unit-III   (17 Marks)
   A. Objective/ Short Questions.
   B. Descriptive/ Long questions
Q.4 - Unit-IV   (18 Marks)
   Case study
              OR
Q.4 - Unit-I to III   (18 Marks)
   A. Objective/ Short Questions.
   B. Descriptive/ Long questions

Note: 1. Options should be given in Q-1 to Q-3.

PGDCA SEMESTER – II

DCA-205 : Computer Networks & Embedded Technology

Teaching Scheme (per week)		Examination Scheme					
		INT		EXT		TOTAL	
Th. (hours)	Pr. (hours)	Th. (marks)	Pr. (marks)	Th. (marks)	Pr. (marks)	Th. (marks)	Pr. (marks)
4	--	30	--	70	--	100	--

University Examination Duration : 3 Hours.

UNIT I (Text Book – 1) **(18 Marks)**
Telephone System: **(10 Marks)**
Structure of telephone system, the local loops, trunks and multiplexing (FDM and TDM)
Switching - Circuit switching, message switching, Packet Switching.

Data Communication Components: **(8 Marks)**
Modem, Routers, Bridges, Hubs, Switches.

UNIT II (Text Book – 2) **(20 Marks)**
Data Link Protocols: **(8 Marks)**
Asynchronous Protocols (XMODEM, YMODEM, ZMODEM, BLAST, Kermit, Synchronous Protocols - Character Oriented Protocols (BSC) and Bit Oriented Protocols (SDLC & HDLC).

TCP/IP Protocol Suite: Part-1 **(12 Mark)**
Network Layer: IP Protocol.
IP Address Class Dotted Decimal Notation, Network and Host Addressing, Subnet, Subnet Mask (Masking), Sub Netting, Super Netting, Finding the Subnet Address.
Other Protocol in Network Layer: Address resolution Protocol (ARP), Reverse Address Resolution Protocol (RARP), Internet Control Message Protocol (ICMP) and Internet Group Message Protocol (IGMP).

UNIT III (Text Book – 2) **(12 Marks)**
TCP/IP Protocol Suite: Part-II **(12 Marks)**
Transport Layer: User Datagram Protocol (UDP), Transmission Control Protocol (TCP).

Application Layer: Bootstrap Protocol (BOOTP), Dynamic Host Configuration Protocol (DHCP), Domain Name System (DNS), Telnet (terminal network), File Transfer Protocol (FTP) and Trivial File Transfer Protocol (TFTP)

[**Case Studies**: (There is no weightage of mark in Examination)
Simple Mail Transfer Protocol (SMTP), Simple Network Management Protocol (SNMP) and Hypertext Transfer Protocol (HTTP).]

UNIT IV (Text Book – 3, Ref. Book - 4) **(20 Marks)**
Embedded System:
[**Case Study:** (There is no Weightage of mark in examination)
Embedded fundamentals: (Ref. Book – 3)
Voltage and Current, Analog Signals, Power, Registers, Capacitors, RC Circuits, Inductors, Transformers, Diodes, Clocks and Oscillators, Digital Signals.
Intel 8051 Microcontroller Architecture. (Ref. Book – 5)]

An Overview of Embedded Software: (7 Marks)   (Text. Book – 3)
Definition of Embedded System, Categories of Embedded System, Requirements of Embedded System, Applications of Embedded System.
Embedded system Development Tools: (Ref. Book – 4)
Host& Target Machine, Linker/Locators for embedded Software and Getting Embedded Software into the Target System.

Embedded Hardware System: (8 Marks)   (Text. Book – 3)
Hardware Architecture, Processor, Memory, Latch & Buffers, Crystal, Reset Circuit, Watchdog timer, Chip-select logic circuit, ADC & DAC, Display Units, Keypads, Communication Interfaces, Programmable logic devices.

Embedded Software Development Process: (5 Marks) (Text. Book – 3)
Determine the requirements, Design the system architecture, Choose the operating system, Choose the processor, Choose the development platform and Choose the programming language.

Text Book:
1. Computer Networks – A. S. Tanenbaum. PHI
2. Data Communications and Networking – Behrous A. Forouzan. TMH, 2nd Edition
3. Programming for Embedded System – Dreamtech Software team. Wiley Publishing

Ref. Book:
1. Data Communications and Networking – Dr. M Jain & S. Jain. BPB
2. Internetworking with TCP/IP – Douglas E. Comer. PHI.
3. Designing Embedded Hardware – John Catsoulis O'Reilly-Shroff Publishers
4. An Embedded Software Primer – Devid E. Simon. Low Price Edition
5. The 8051 Microcontroller and Embedded System – Mazidi &Mazidi. Low Price Edition

Question Paper Scheme:
University Examination Duration : 3 Hours.
Q.1 - Unit-I   (18 Marks)
    A. Objective/ Short Questions.
    B. Descriptive/ Long questions.
Q.2 - Unit-II   (20 Marks)
    A. Objective/ Short Questions.
    B. Descriptive/ Long questions.
Q.3 - Unit-III   (12 Marks)
    A. Objective/ Short Questions.
    B. Descriptive/ Long questions.
Q.4 - Unit-IV   (20 Marks)
    A. Objective/ Short Questions.
    B. Descriptive/ Long questions.

Note: Options should be given in all questions.

P.G.D.C.A. SEMESTER – II

DCA-206 : Practical Based on DCA - 201

Teaching Scheme (per week)		Examination Scheme					
		INT		EXT		TOTAL	
Th. (hours)	Pr. (hours)	Th. (marks)	Pr. (marks)	Th. (marks)	Pr. (marks)	Th. (marks)	Pr. (marks)
--	03	--	20	--	30	--	50

University Examination Duration : 3 Hours (Per Batch)

C++ Programs List :
[1]   Write a cpp program which explain the use of a scope resolution operator.
[2]   write a cpp program which explain the use   of a manipulators operator.
[3]   write a cpp program which explain the use of reference variable.
[4]   write a cpp program which explain the   feature   of a inline function.
[5]   write a cpp program which explain the   concept   of   a default arguments.
[6]   write a cpp program for function overloading.
[7]   write a cpp program for arrays within a class. (how to use a array in a class).
[8] write a cpp program for   static class member. (class member should be a static variable)
[9] write a cpp program which show use of " static member function".
[10] write a cpp program which explain concept of   a   " array of object".
[11] write a cpp program which explain concept of "   object as a arguments".
[12] write a cpp program for a friend function.
[13] write a cpp program for a   function friendly to   two classes.
[14] write a cpp program of a swapping private data of   classes.
[15] write a cpp program which explain   concept   of   a   returning   objects.
[16] write a cpp program for   class with constructors.
[17] write a cpp program for   overloaded constructors.
[18] write a cpp program of a copy constructors.
[19] write a cpp program of a constructing matrix objects.
[20] write a cpp program of implementation of destructors.
[21] write a cpp program for   implementation   of   unary   minus operator.
[22] write a cpp program for   implementation   of   binary   plus(+) operator.
[23] write a cpp program for   implementation   of   overloading operators using friends
         Function.
[24] write a cpp program for   implementation   of   mathematical operations on strings..
        {overloads two operators + and <=}
[25] write a cpp program for   implementation   of   a   single inheritance of public data
        Member.
[26] write a cpp program for implementation of a single   inheritance of private data member.
[27] write a cpp program of multilevel   inheritance.
[28] write a cpp program of multiple   inheritance.
[29] write a cpp program of hybrid   inheritance.
[30] write a cpp program of   virtual base class.
[31] write a cpp program in which use constructors in derived class.
[32] write a cpp program of initialization list in constructors.
[33] write a cpp program for implementation of   pointers to objects.
[34] write a cpp program for implementation of   array of pointer   to objects.
[35] write a cpp program for implementation of   a this pointer.

[36] write a cpp program for implementation of virtual function.

[37] write a cpp program which explain a concept of runtime polymorphism.

[38] write a cpp program of working with single file. (creates a file with constructor Function).

[39] write a cpp program of working with multiple files (creates a file with open( ) function).

P.G.D.C.A. SEMESTER – II

DCA-207 : Practical Based on DCA - 202

Teaching Scheme (per week)		Examination Scheme					
		INT		EXT		TOTAL	
Th. (hours)	Pr. (hours)	Th. (marks)	Pr. (marks)	Th. (marks)	Pr. (marks)	Th. (marks)	Pr. (marks)
--	03	--	20	--	30	--	50

University Examination Duration : 3 Hours (Per Batch)
ADBMS Programs List :
Create following Three Tables.

1. Salesman

SNUM	SNAME	CITY	COMMISSION
1001	PIYUSH	LONDON	12%
1002	NIRAJ	SURAT	13%
1003	MITI	LONDON	11%
1004	RAJESH	BARODA	15%
1005	ANAND	NEW DELHI	10%
1006	RAM	PATAN	10%
1007	LAXMAN	BOMBAY	09%

SNUM : A Unique number assign to each salesman.
SNAME : The name of salesman.
CITY : The location of salesman.
COMMISSION : The salesman commission on order.

2. Customer

CNUM	CNAME	CITY	RATING	SNUM
2001	HARDIK	LONDON	100	1001
2002	GITA	ROME	200	1003
2003	LAXIT	SURAT	200	1002
2004	GOVIND	BOMBAY	300	1002
2005	CHANDU	LONDON	100	1001
2006	CHAMPAK	SURAT	300	1007
2007	PRATIK	ROME	100	1004

CNUM : A Unique number assign to each customer.
CNAME : The name of customer.
CITY : The location of customer.
RATING   : A level of preference indicator given to this customer.
SNUM : A salesman number assign to this customer.

3. Order

ONUM	AMOUNT	ODATE	CNUM	SNUM
3001	18.69	10/03/99	2008	1007
3002	767.19	10/03/99	2001	1001
3003	1900.10	10/03/99	2007	1004
3004	5160.45	10/03/99	2003	1002
3005	1098.25	10/04/99	2008	1007
3006	1713.12	10/04/99	2002	1003
3007	75.75	10/05/99	2004	1002
3008	4723.00	10/05/99	2006	1001
3009	1309.95	10/05/99	2004	1002
3010	9898.87	10/06/99	2006	1001

ONUM : A Unique number assign to each Order.
AMOUNT   : Amount of order in Rs.
ODATE : The date of order.
CNUM : The number of customer making the order.
SNUM : The number of salesman credited with the sale.
 Solve following request with the help of sql query.
1.   Produce the order no ,a mount and date of all orders.
2.   Give all the information about all the customers with   salesman number 1001.
3.   Display the information in the sequence of city, sname, snum, and Commission.
4.   List of rating followed by the   name of each customer in Surat.
5.   List of snum of all salesmen with orders in order table without an duplicates.
6.   List of all orders for more than Rs. 1000.
7.   List out names and cities of all salesmen in London with commission above 10%
8.   List all customers excluding those with   rating <= 100 or they are located in Rome.
9.   List all order for more than Rs. 1000 except the orders of snum,1006 of 10/03/97
10.   List all orders taken on October 3rd or 4th or 6th   1997.
11.   List all customers whose names   begins with a letter 'C'.
12.   List all customers whose names begins with letter 'A' to 'G'
13.   List all orders with zero or NULL amount.
14.   Find out the largest orders of salesman 1002 and 1007.
15.   Count all orders of 10-Mar-97.
16.   Calculate the total amount ordered.
17.   Calculate the average amount ordered.
18.   Count the no. Of salesmen currently having orders.
19.   Find the largest order taken by   each salesman on each date.
20.   Find the largest order taken by each salesman on 10/03/1997.
21.   Count the no. Of different non NULL cities in the Customer table.
22.   Find out each customer's smallest order.
23.   Find out the customer in alphabetical order whose name begins with 'G'
24.   Count the no. Of salesmen registering orders for each day.
25.   List all salesmen with their % of commission.
26.   Display the no. Of   order for each day in the following format. Dd-mon-yy.
27.   Assume each salesperson has a 12% commission. Write a query on the order table that will
      Produce the Order number, salesman no and amount of commission for that order.
28.   Find the highest rating in each city in the following format:
29.   List all customers in descending order of rating.
30.   Calculate the total of orders for each day.
31.   Show the name of all customers with their salesman's name.
32.   List all customers and salesmen who shared a same city.
33.   List all orders with the names of their customer and salesman.
34.   List all orders by the customers not located in the same city as their salesman.
35.   List all customers serviced by salesman with commission above 12%.
36.   Calculate the amount of the salesman commission on each order by customer with rating
      Above 100.
37.   Find all pairs of customers having the same rating with our duplication.
38.   List all customers located in cities where salesman Niraj has customers.
39.   Find all pairs of customers served by a single salesman with the salesman's name and no.
40.   List all salesmen who are living in the same city with out duplicate rows.
41.   Produce the name and city of all the customers with the same rati as Hardik'.
42.   Extract all orders of Miti.

43. Extract all orders of Baroda's salesmen.
44. Find all orders of the salesman who services 'Hardik'
45. List all orders that are greater than the average of April 10, 1997
46. Find all orders attributed to salesmen in 'London'.
47. List the commission of all salesmen serving customers in 'London'.
48. Find all customers whose cnum is 1000 above than the snum of Niraj.
49. Count the no. Of customers with the rating above than the average of 'Surat'.
50. List all orders of the customer 'Chandresh'.
51. Produce the name and rating of all customers who have above average orders.
52. Find all customers with orders on 3rd Oct., 1997 using correlate sub query.
53. List the name and number of all salesmen who has more than Zero customer.
54. Calculate the total amount ordered on each day eliminating the days where the total Amount was not at least Rs. 2000 above the maximum amount of that day.
55. Using correlated sub query find the name and number of all customer with rating equal to Maximum for their city.
56. Select the name and number of all salesmen who have customers their cities.
57. Find all salesmen who have customers with rating > 300
58. List all salesmen with customers located in their cities.
59. Find all salesmen for whom there are customers that follow them alphabetical order.
60. Find all customers having rating greater than any customer in 'Rome'.
61. List all order that has amount grater than at least one of the orders from 6th October, 1997.
62. Find all orders with amounts smaller than any amount for a customer in 'Rome'.
63. Find all the customers who have greater rating than every customer in 'Rome'.
64. Select all customers whose rating doesn't match with any rating customer of 'Surat'.
65. List all customers whose ratings are equal to or greater than ANY 'Niraj'
66. Find out which salesman produce largest and smallest orders on each date.
67. Create a union of two queries that shows the names, cities and ratings of all customers. Those with rating of >=200 should display 'HIGH RATING' and those with < 200 should Display 'LOW RATIN'
68. Insert a row into salesmen table with the values snum is 100 salesman name is Rakesh, City is unknown and commission is 14%.
69. Insert a row in to customer table with values London, Pratik a 2005 for the columns city, Name and number.
70. Create another table London staff having same structure as salesman table.
71. Insert all the rows of salesmen table with city London in the London staff table.
72. Create another table Day totals with two attributes date and total and insert rows into this Table from order table.
73. Create a duplicate of the salesmen table with a name Multicust. Now delete all the rows From the salesmen table.
74. Get back all the rows of salesmen table from its duplicate table.
75. Remove all orders from customer Chandresh from the orders table.
76. Set the ratings of all the customers of Piyush to 400.
77. Increase the rating of all customers in Rome by 100.
78. Salesman Miti has resigned. Reassign her number to a new salesman Gopal whose city is Bombay and commission is 10%.
79. Double the commission of all salesmen of London.
80. Set ratings for all customers in London to NULL.
81. Suppose we have a table called sales Manager with the same definition as Salesmen table. Company decides to promote salesmen having total order more than 5000 to Sales Manager. Fill up the Sales Manager table.

82. Assume that we have a table called smcity. Store the information of all salesmen with the Customers in their home cities into smcity.
83. Create a table Bonus that contains date wise maximum amount of order for all salesmen.
84. Create a table Multicust containing the salesmen with more than one customer.
85. New Delhi office has closed. Remove all customers assigned to salesmen in New Delhi.
86. Delete all salesmen who have at least one customer with a rating of 100 from salesmen Table.
87. Delete the salesmen who produce the lowest order for each day.
88. Find the smallest order for each day. Reduce the commission of all salesmen by 2% who Produce this order.
89. Delete all customers with no current orders.
90. Write a command to find out the orders by date.
91. Write a command to add the item-name column to the order table.
92. Create a copy of your order table. Drop the original order table.
93. Write a command to create the order table so that all onum values as well as all Combinations of cnum and snum are different from one another and so that NULL values Are excluded from the date field.
94. Write a command to create the salesmen table so that the default commission is 10% with No NULL permitted, snum is the primary key and all names contain alphabets only.
95. Give the commands to create our sample tables (salesmen, customer, orders) with all the Necessary constraints like PRIMARY KEY, NOT NULL UNIQUE, FOREING KEY.
96. Create a view called Big orders which stores all orders larger than Rs.4000.
97. Create a view Rate count that gives the count of no. Of customers at each rating.
98. Create a view that shows all the customers who have the highest ratings.
99. Create a view that shows all the number of salesman in each city.
100. Create a view that shows all the number of salesmen in each city.
101. Create a view that shows the average and total orders for each salesmen after his name And number.
102. Create a view that shows all the salesmen with multiple customers.
103. Create a view to keep track of the total no of customers ordering, no of salesmen taking Orders, the no of orders, the average amount ordered, and the total amount ordered for Each day.
104. Create a view Show name that shows for each order the order no, amount, salesman name And the customer name.
105. List all orders of salesman 'Rajesh' using Show name View along with his commission.
106. Create a view Max sales to store the name and number of salesman, along with the date, Who have the highest order on any given date.
107. Using above view, find out the name and number of salesman who have the highest order At least two times. Store the result in another view.
108. Create a view Same city that shows the no and name and city of the customers along with The city of the salesman serving them.
109. Create a view Commission of salesmen table to include only snum and commission field So that through. This view someone can enter or change the commission but only to Values between 10% and 20%.
110. Assume that the CURDATE is a constant representing current date. Give a command to Create orders table with CURDATE as a default date.
111. List all salesmen in London who had at least one customer located there as well.
112. List all salesmen in London who didn't have any customer there.

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HEMCHANDRACHARYA NORTH GUJARAT UNIVERSITY, PATAN

P.G.D.C.A. SEMESTER – II
DCA-208 : Practical Based on DCA - 203

Teaching Scheme (per week)		Examination Scheme					
		INT		EXT		TOTAL	
Th. (hours)	Pr. (hours)	Th. (marks)	Pr. (marks)	Th. (marks)	Pr. (marks)	Th. (marks)	Pr. (marks)
--	03	--	20	--	30	--	50

University Examination Duration : 3 Hours (Per Batch)

VB Programs List :
1. Write a program to calculate the sum of 100 natural numbers.
2. Write a program to calculate the sum of 100 odd numbers.
3. Write a program to display 'hello' in the text box when you click display hello button.
4. Write a sum program that allows user to select a number and then adds all the integers From 1 to the   selected numbers.
5. Write a timer program using timer control.
6. Write a draw program using mouse events.
7. Write a color program that let's you choose a color from a menu and paint the program's Window with the selected color. The program also lets you select the size of the program's Window from a menu.
8. Write a dialogs program using the msgbox statement and msgbox() function to display Various buttons in dialog boxes.
9. Write a points program which draws points at random locations in a form.
10. Write a program that let's you to use different types of shapes.
11. Write a program by that displaying data in the tabular form.
12. Write a program with using simple data control and store Information with the help of text box and insert into selected table.
13. Write a program to display two common dialog boxes the color selection and the open file Dialog box.
14. Write a program that includes three file system control in it. You can use it to select a file From a drive and display the size of the selected file.
15. Write a program to create random access file (the program lets you maintain a database File called phone.dat that keeps records of people and their phone numbers.
16. Write a program to create status bar.
17. Write a program in which the application provides convert exchange rate table for Converting between u.s.dollor and the local currency of a selected country. To Operate the program you simply pulldown the country list and select a name.
18. The database version of the international currency exchange data from an access Database file named currency.mdb (you can   develop this file directly in microsoft access Or you can use the visual data manager add- in to create the database file.
19. With the use of multiple document interface write a VB program by which you can access Any of multiple windows. In these window you can place any picture or text or any other Documents.
20. Write a VB program by which you can add, delete, modify, view the data from any table of Access database with proper validation. For this operation you can use data controls and Data manager.
21. Make one crystal report with or without wizard. For that you can use any of previous data Table. Access this crystal report from any of your prepared VB form.
22. Prepare one complete VB form by which you can access another VB form. For that you can

Take an example of entering data of students information in one form students marks in other form relate these two from with another one on which display all information of students with marks and result. Prepare one crystal reports also to print related information.

23. Create a dll component for database operation and use created component in another project.
    Required methods, events and properties
    A. Connect
    B. Add
    C. Delete
    D. Save
    E. Record navigation (first, next, previous, last)
    F. Properties for all database fields
    G. Events for validation of database fields.

24. Create activex user control for extending properties of text field and use a created control in
    To another project. Set following property.
    First character of contain convert in to capital.

P.G.D.C.A. SEMESTER – II

DCA-209 : Computer Assembling and Hardware Maintenance

Teaching Scheme (per week)		Examination Scheme					
		INT		EXT		TOTAL	
Th. (hours)	Pr. (hours)	Th. (marks)	Pr. (marks)	Th. (marks)	Pr. (marks)	Th. (marks)	Pr. (marks)
--	03	--	20	--	30	--	50

University Examination Duration : 3 Hours (Per Batch)

1. **Hardware Fundamentals.**
   - Function of Computer.
   - To identify the different parts of computer and peripherals.
   - Function of…
     - i. Power Supply Unit.
     - ii. Motherboard
     - iii. Central Processing Unit with heat sink.
     - iv. Other Chipset.
     - v. RAM – Random Access Memory & ROM – Read Only Memory.
     - vi. BIOS – Basic Input / Output System.
     - vii. CMOS IC.
     - viii. Different types of Buses (ISA & PCI) and Connectors.
     - ix. Different types of I/O Ports.
     - x. Jumpers.
     - xi. Display Card.
     - xii. HDD – Hard Disk Drive.
     - xiii. FDD – Floppy Disk Drive.
     - xiv. CD-ROM Disk & Disk Drive.
     - xv. DVD – Digital Versatile Disk.
     - xvi. NIC – Network Interface Card.
     - xvii. Sound Card.
     - xviii. Other Add-ON Cards.
     - xix. Keyboard & Mouse.
     - xx. MODEM.
     - xxi. Printers & Plotters
     - xxii. Scanner
     - xxiii. Different types of Computer batteries.
     - xxiv. Different types of Screws.
2. **Computer Assembling and Configuration.**
   Assembling:
     - i. Collect the proper/required computer parts and tools.
     - ii. Sequence steps to assemble a computer as per guidelines provided by the expert.
     - iii. Steps for upgrading a computer system.
   Configuration:
     - Run CMOS setup utility and configure computer system.
3. **Operating System Fundamentals.**
   - To identify the basic feature of different types of Operating Systems (DOS, Windows 9X, Windows NT, Windows 2000).
4. **Operating System Installation and Configuration.**
   - Select the operating system
   - Start installation as per guidelines provided by the expert.
   - Configure/install peripherals and its device drivers.

5. **Troubleshooting and Preventive Maintenance.**
   - To identify the proper area of error / trouble / Fault.
   - To identify the software / Hardware error.
     - Software Error.
       - Installation Problem
       - Booting Problem
       - Device Driver Problem
       - File Corruption
       - Virus Problem
       - Memory Problem
     - Hardware Error.
       - Power Problem
       - Short-Circuit
       - Fusing / Burning Problem
       - Display Problem
       - Memory Problem
       - Mal functioning
   - Solve it as per guidelines provided by the expert.

* The journal must be prepared for the external Examination.

P.G.D.C.A. SEMESTER – II

DCA-210 : System Development Project

Teaching Scheme (per week)		Examination Scheme					
		INT		EXT		TOTAL	
Th. (hours)	Pr. (hours)	Th. (marks)	Pr. (marks)	Th. (marks)	Pr. (marks)	Th. (marks)	Pr. (marks)
--	--	--	50	--	150	--	200

University Examination Duration : 3 Hours (Per Batch)

In-door / out door project must be done by each student on simple applications using any computer language/ RDBMS / Embedded Technology.

The internal / external guide must be schedule for a students project work & evaluate them from time to time.

The project report must be prepared for the external Examination.

External examination of this project-viva paper will be arranged after 50 days of completion of the external examination.