DEPARTMENT OF COMPUTER SCIENCE

COURSE CURRICULUM & MARKING SCHEME

PGDCA

Semester - II

Session : 2024-25

ESTD: 1958

GOVT. V.Y.T. PG AUTONOMOUS COLLEGE, DURG, 491001 (C.G.)

(Former Name – Govt. Arts & Science College, Durg)

NAAC Accredited Grade A+, College with CPE - Phase III (UGC), STAR COLLEGE (DBT)

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Syllabus and Marking Scheme for PGDCA IIND SEMESTER
Session 2024-25

Paper No.	Paper Code	Title of the Paper	Marks Allotted in Theory	
			Max	Min
I	PDC-106(Elective-I) PDC-106(Elective-II)	PROGRAMMING IN VB .NET PROGRAMMING IN PYTHON	100	20
II	PDC-107	DATABASE MANAGEMENT SYSTEMS	100	20
III	PDC-108	INTERNET AND WEB TECHNOLOGY	100	20
IV	PDC-109	PRACTICAL BASED ON PDC-106	100	20
V	PDC-110	PRACTICAL BASED ON PDC- 107AND PDC-108	100	20
		Total	**500**	

1. **Theory papers - 300**
2. **Practical - 200**

Total Marks - 500

Name and Signatures

V.C. Nominee ..... **Subject Expert .....** **Subject Expert.....** **Alumni(member).....** **Prof. from other Dept. of Sc. Faculty .....** **Specialist from Industry .....**	**Departmental members** 1. **HOD- Mr. Sanat Kumar Sahu.....** 2. **Mr. Dileep Kumar Sahu .....** 3. **Dr. Latika Tamrakar .....**

GOVT.V.Y.T. P.G. AUTONOMOUS COLLEGE, DURG (C.G.)
SYLLABUS FOR SESSION: (2024-25)
PGDCA – SECOND SEMESTER
PDC-106
Elective-I-PROGRAMMING IN VB .NET

Max Marks: 100 **Min Marks: 20**

NOTE: - The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice. Only Simple calculator is allowed not scientific calculator.

Course Objective: The student will use VB.Net to build Windows applications using structured and object-based programming techniques.

Course Outcome:After completion of this course student will be able to:

- Design, formulate, and construct applications with VB.NET
- Determine logical alternatives with VB.NET decision structures
- Implement lists and loops with VB.NET controls and iteration
- Assemble multiple forms, modules, and menus into working VB.NET solutions
- Create VB.NET programs using multiple array techniques
- Build integrated VB.NET solutions using files and structures with printing capabilities
- Translate general requirements into data-related solutions using database concepts

UNIT - I : Introduction to .NET framework

Overview of .net framework features & architecture, Managed Execution process, CLR, common language specification, JIT Compilation, MSIL, Namespaces, Assemblies, metadata, Common Type System, Visual development & event driven programming, cross language, interoperability, Garbage collection.

UNIT - II : Programming with .NET Framework

Windows form: working with Visual Studio IDE, creating a .NET solution, MDI application, components and controls, Data types, variables, Type conversions, Operators, Methods and events, Scope and life time of variables, Creating Enumerations.

UNIT - III Control Structures

Control Structures: conditional statements, loops, arrays, types of methods, method data, creating Sub Procedures and Functions, Msgbox, Inputbox, Introduction to exception handling-try catch statement, finally statement, throw, user define Exception.

UNIT - IV GUI Programming

GUI Programming with window forms, Showing & hiding forms, Textbox, RichTextbox ,Lable, Button, Listbox, Combobox, Checkbox, Picturebox, Radio button, Toggle Button,Panel, Groupbox, Scrollbar, Timer, Dialog boxes, OpenFile Dialog, SaveFile dialog ,Print dialog, Font dialog, Color dialog, Designing menus and sub menus.

UNIT - V Database programming with ADO.net

ADO .NET Architecture, .NET data provider, dataset components, creating database applications using Window forms (Database connectivity through ADO .NET), Accessing data using server explorer, Data Adapters & Data sets, Command & Data reader, data bind control, displaying data in data grid.

BOOKS RECOMMENDED

- ✓ **MSDN online – by Microsoft**
- ✓ **Visual Basic .NET Complete** - By BPB Publications, New Delhi.
- ✓ **The Complete Reference VB .NET** – By Jeffery R. Shapiro, Tata Mcgraw Hill.
- ✓ **Professional VB .NET 2003** – by bill Evjen& others, Wiley Dreamtech India (P) Ltd. New Delhi.

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GOVT.V.Y.T. P.G. AUTONOMOUS COLLEGE, DURG (C.G.)
SYLLABUS FOR SESSION: (2024-25)
PGDCA – SECOND SEMESTER
PDC-110
Elective-II- Programming in Python

Course Objective: Python is next generation multi-purpose programming language that allows different users to create applications of various domains. Students will be able to learn primary fundamentals of python programming and potential of python is to achieve modern computing requirements.

Course Outcomes: After completion of this course, student will be able to:

1. Apply various fundamentals for problem solving using python. (Application)
2. Implement modular programming and differentiate mutability of various datatypes. (Analyze)
3. Create object-oriented solution by applying various concept like polymorphism, Inheritance and package with python programming. (Create)
4. Implement multithreading and manage security in Linux operating system. (Create).
5. Understand data handling with pandas ,data visualization.

Pre-requisite of course: Object oriented concepts, Programming fundamentals

UNIT - I

Introduction to Python: Installing Python, basic syntax, interactive shell, editing, saving, and running a script, the concept of data types; variables, assignments; immutable variables; numerical types, **Operators in Python** (Arithmetic Operator, Relational Operator, Logical or Boolean operator, Assignment, Operator, Ternary operator, Bit wise Operator, Increment or Decrement operator) and Expressions, Input and Output Statements, understanding error messages.

UNIT-II

Creating Python Programs:, Control statements (Branching, Looping, Conditional Statement, exit function, **Function:** Defining a function, calling a function, Types of functions, Function Arguments, Anonymous functions, Global and local variables.

UNIT - III

String manipulations: subscript operator, indexing, slicing a string; **strings and number system**: converting strings to numbers and vice- versa. Binary, Octal, Hexadecimal numbers. **Lists, Tuples, Dictionaries and Set ;** Basic list Operators, replacing, inserting, removing an element, searching and sorting lists, Accessing tuples, Operations, Working, Functions and Methods, dictionary literals, adding and removing keys, accessing and replacing values, Traversing Dictionaries. Using Set data types, operations on Set.

UNIT—IV

Classes and Objects: Class Fundamentals, Declaring Object, Constructors, Defining Methods, method overloading, Inheritance: Inheritance basic and types, Member accessibility modifier: public, protected, private.

Exception Handling: Exception, Exception Handling, except clause, try, finally clause, User defined exceptions.

UNIT-V

Python File Operations: manipulating files and directories, os and sys modules; text files: reading/writing text and numbers from/to a file; creating and reading a formatted file (csv or tab-separated).

Data Visualization using Matplotlib: - Purpose of plotting, drawing and saving of different basic Matplotlib charts (line plot, bar graph, histogram). Basic customization of plots: adding label, title, and legend in plots.

BOOKS RECOMMENDED

1. Starting Out with Python (2009) Pearson, Tonny Gaddis
2. Beginning PyhtonWrox Publication Peter Norton, Alex Samuel
3. Python Algorithms Apress, Magnus LietHetland,
4. Python Object Oriented Programming PACKT Press, Dusty Phillips
5. Python for Unix and Linux System Administration O'Relly, Noad Gift
6. PYTHON COMPLETE REFERENCE - BY ATRICKNAUGHTEN&MESUTSCPDDT. [TMH]
7. Python Programming Anurag Gupta, G P Biswas Mc Graw Hill
8. Complete Reference Python Martin C. Brown Mc Graw
9. Python for beginners Harsh Bhasin

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GOVT.V.Y.T. P.G. AUTONOMOUS COLLEGE, DURG (C.G.)
SYLLABUS FOR SESSION: (2024-25)
PGDCA – SECOND SEMESTER
PDC-107
Database Management Systems

Max Marks: 100 **Min Marks: 20**

NOTE: - The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice. Only Simple calculator is allowed not scientific calculator.

Course Objectives:
The objective of the course is to present an introduction to database management systems, with an emphasis on how to organize, maintain and retrieve - efficiently, and effectively - information from a DBMS.

Course Outcomes: After completion of this course, student will be able to:
1. Knowledge & Understanding: Databases and their design & development
2. Understand E-R Model and case studies of E-R Modeling.
3.Understand Relational model and different types of joins.
4. Intellectual Cognitive/ analytical skills: Normalization of Databases.
5. Practical Skills: Using SQL and PL/SQL

UNIT – I: Introduction To DBMS

Purpose of database systems, views of data, Data Modeling, Database Languages, Transaction Management, Storage Management, Database Administrator and User, Database System Structure.

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. Converting an ER model into relational Schema

UNIT – III: Relational Model

Structure to Relational Database, select, project, cross product different types of joins (inner join, outer joins, self-join); set operations, Tuple relational calculus, Domain relational calculus, Simpleand complex queries using relational algebra, stand alone and embedded query languages.

UNIT – IV: Relational Database Design

Normalization concept in logical model; Pitfalls in database design, update anomalies: Functional dependencies, Join dependencies, Normal forms (1NF, 2NF, 3NF). Boyce Codd Normal form, Decomposition, Multi-Valued Dependencies, 4NF, 5NF, De-Normalization.

UNIT – V: Introduction to RDBMS Software – SQL/Oracle

Introduction to personnel and Enterprises Oracle, Data Types, Commercial Query Language, SQL, SQL* PLUS.**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.

Recommended Books:

1. Data Base Systems : Silberschatz&Korth.
2. An Introduction to Data base System : C.J. Date
3. Data Base Management System : Raghu Ramakrishnan.
4. Data Base Management System : Elmasri&Nawathe.
5. Data Base Management System : Alexies& Mathews

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GOVT.V.Y.T. P.G. AUTONOMOUS COLLEGE, DURG (C.G.)
SYLLABUS FOR SESSION: (2024-25)
PGDCA – SECOND SEMESTER
PDC-108
INTERNET AND WEB TECHNOLOGY

Max Marks: 100 **Min Marks: 20**

NOTE: - The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice. Only Simple calculator is allowed not scientific calculator.

Course Objective:

1. This course is intended to teach the basics involved in publishing content on the World Wide Web
2. The main objective of the course is present the basic web technology concepts that are required for developing web applications
3. Explain and develop solutions for implementing an ecommerce site

Course Outcomes: After completion of this course, student will be able to:

1. Understand the basics of Internet and its protocol.
2. Analyze a web page and identify its elements and attributes.
3. Create web pages using HTML and Cascading Styles sheets
4. Build dynamic web pages using JavaScript (client side programming).
5. Explain and develop solutions for implementing an ecommerce site

UNIT – I

Introduction to Computer and Hardware: Introduction of Information Technology, History of Computers, Organization of computers, Number Systems, Programming language and types, Public domain software, Applications of Information Technology in business, industry, entertainment, science, engineering and medicine.

UNIT – II

Internet and its Application: Evolution of internet, Internet applications, TCP/IP, Addressing in Internet (IP), Domains, Internet service providers, Connectivity such as dial up, leased line, VSAT. E-mail protocols (X-400, SMTP, UUCP), Description of E-Mail headers, Email routing , e-mail client, POP-3, IMAP- 4.

UNIT – III

FTP and Telnet: Introduction to File Transfer Protocol(FTP), Types of FTP servers (including anonymous), Telnet protocol, Telnet client, Terminal emulation. Usenet and Internet relay chat, Web publishing tool, Website planning, Website Hosting , Multiple sites on one server, Maintaining a web site, WWW servers, HTTP & URLs, Registration of website on search engines , maintenance of website.

UNIT – IV

Dynamic HTML and Web Designing: HTML Basic concepts, Web designing issue, Structure of HTML documents, HTML Elements: Core attributes, Language attributes, Core Events, Block Level Events, Text Level Events, Linking Basics, Linking in HTML, Images and Anchors, Anchor Attributes, Image Maps, Semantic Linking Meta Information, Image Preliminaries, Image Download issues, Images as Buttons, Introduction to Layout: Backgrounds, Colors and Text, Fonts, Layout with Tables, Introduction to CSS.

UNIT – V

Internet Security: Internet security vulnerability and threats, Firewalls, Introduction to AAA, Malwares. **E-Commerce**: Introduction, Concepts & technology, Advantages, Limitations, Various electronics payment system, Payment Gateways, Introduction to EDI.

Text Books:

1. Computers Today, S.K.Basadra ,Galgotia Publication.2nd edition.
2. Internet for Every One , Alexis Leon and Mathews Leon, Tech World.2008 print.

Reference Books:

1. Introduction to Computers, P.K.Sinha ,BPB Publication, 6th edition.
2. Fundamentals of Computers, V.Rajaraman ,Prentice Hall of India,4th edition.
3. HTML Complete Reference, Thomas A. Powell, TMH
4. Frontiers of Electronics of Commerce , Ravi kalakota& Andrew B. Whinston Addison Wesley ,1196

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GOVT.V.Y.T. P.G. AUTONOMOUS COLLEGE, DURG (C.G.)
SYLLABUS FOR SESSION: (2024-25)
PGDCA – SECOND SEMESTER
PDC-109
Practical based on PDC-106, PDC-107 AND PDC-108

1. Scheme of Examination: -

Practical examination will be of 3 hours duration. The distribution of practical marks is as follows :

Program 1 (VB.NET OR PYTHON)	-	15
Program 2 (SQL)	-	15
Program 3 (HTML)	-	15
Program 4 (HTML)	-	20
Viva-Voice	-	20
[Practical Copy + Internal Record]		
Total	-	**100**

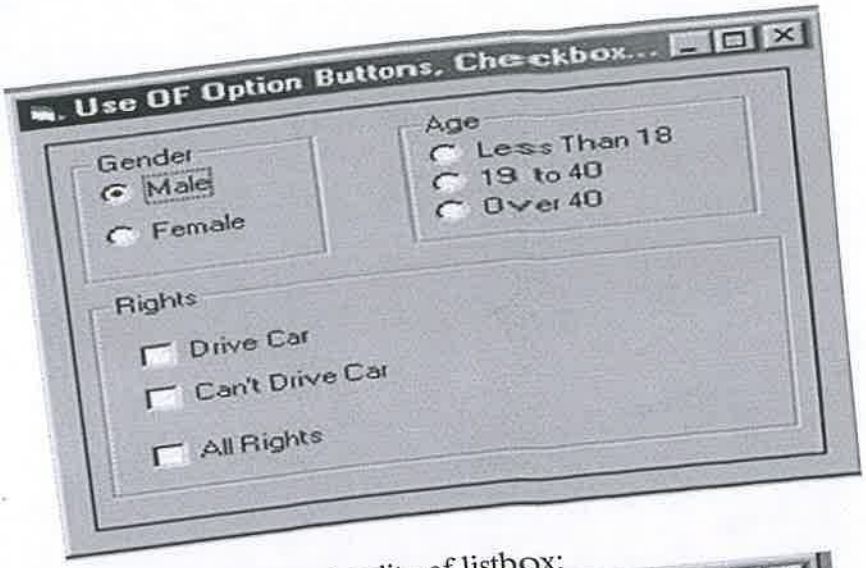
2 In every program there should be comment for each coded line or block of code.

3 Practical file should contain printed programs with name of author, date, path of program, unit no. and printed output.

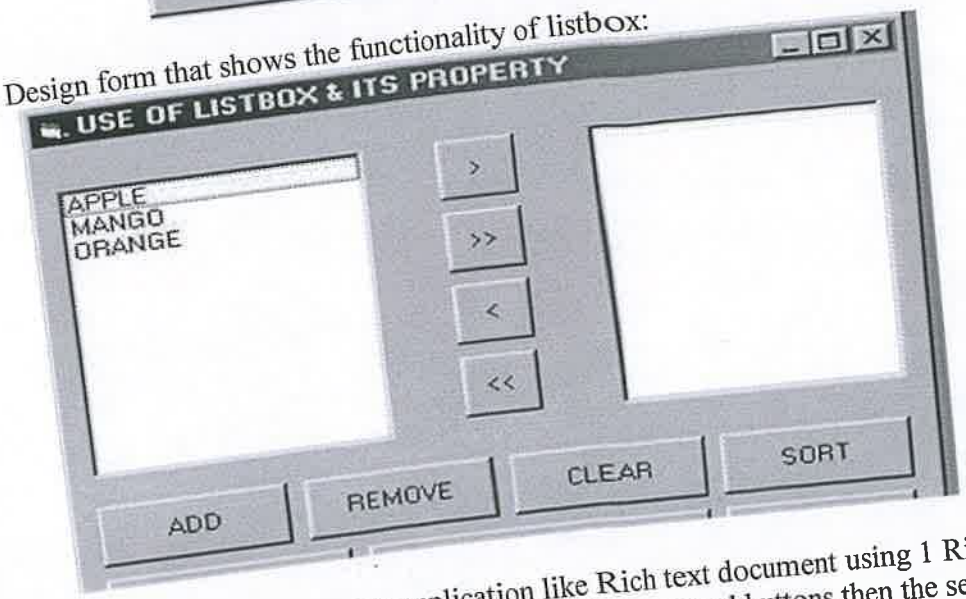
5 All the following programs or a similar type of programs should be prepared.

VB.Net Program List

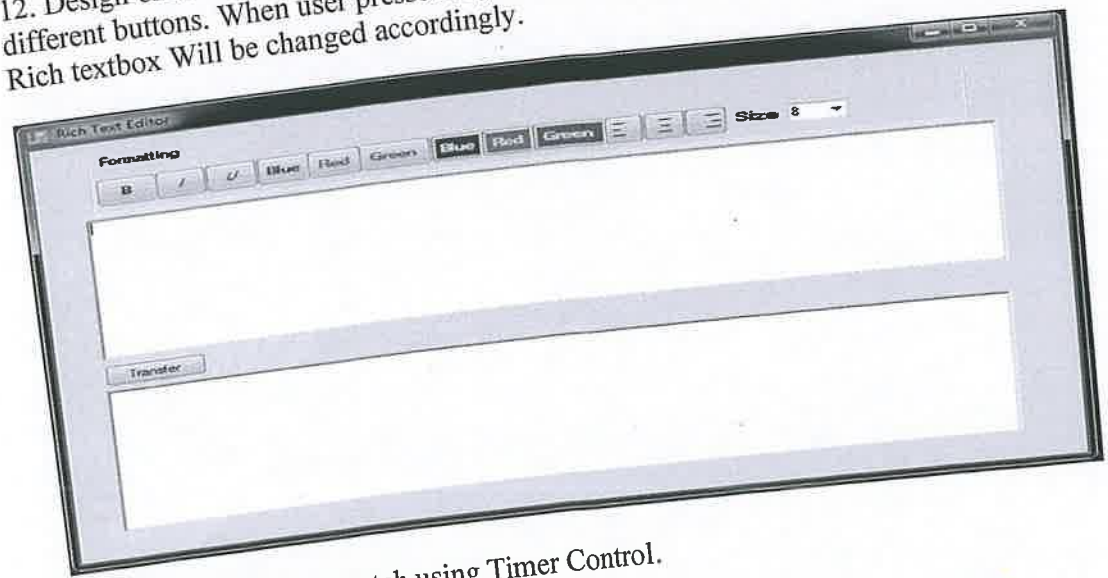
1. Design the form that calculates Sum, Multiplication, Division and Subtraction of two numbers.
2. Design Simple calculator.
3. Design the form to input radius of a circle and find its circumference and area.
4. Design the form to input length in centimeter and convert it into meter.
5. Design the form to input temperature in Celsius and convert it into Fahrenheit.
6. Design the form to input Principal amount, Time, Rate and calculate Simple Interest and Compound Interest show result information in msgbox.
7. Design a form that shows following operation related to array.
   a) Sort array elements in ascending or descending order.
   b) To insert an element in an array
   c) To delete an element from an array at specified position.
   e) Print all unique elements in the array.
8. Design a form to check whether a number is PRIME or NOT, using input box and msgbox.
9. Design the form to show the result and percent of PGDCA.
10. Design the following form. So when user clicks on Radio Button then select appropriate checkbox.



11. Design form that shows the functionality of listbox:

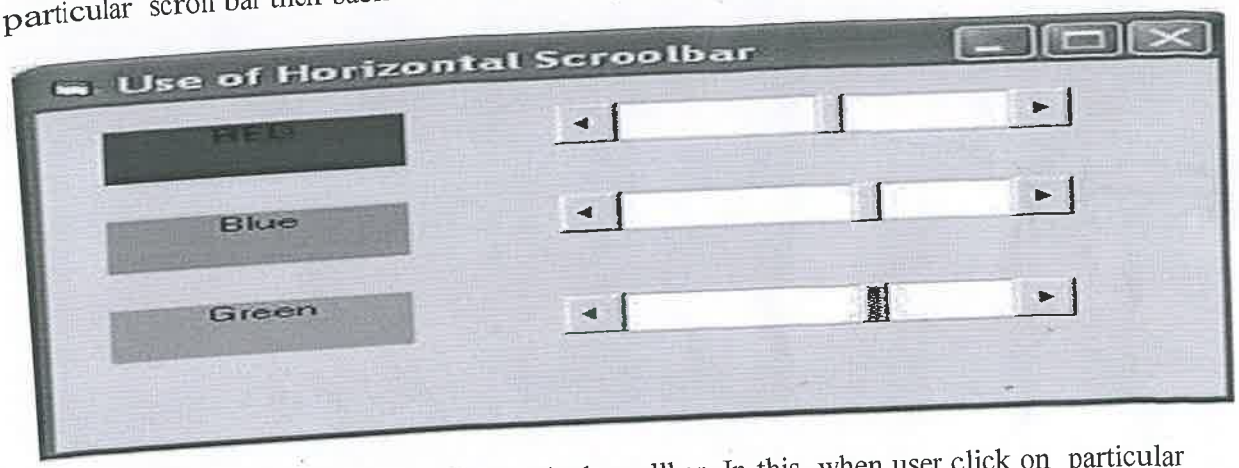


12. Design one form to create application like Rich text document using 1 Rich Textbox and different buttons. When user presses any of this command buttons then the selected content of Rich textbox Will be changed accordingly.

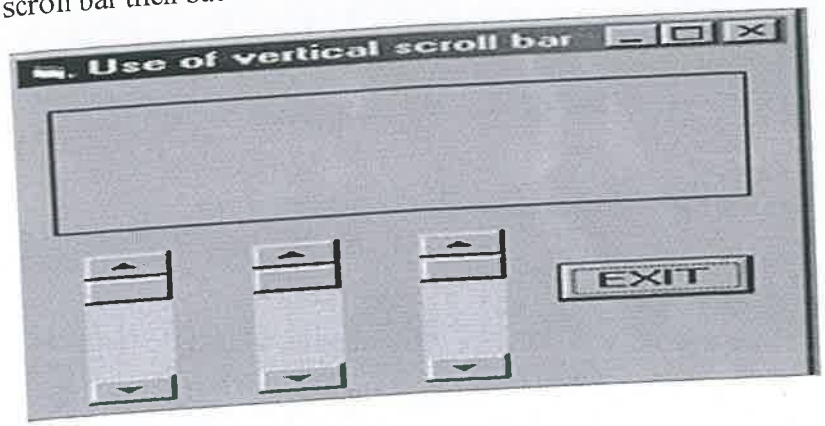


13. Design the digital watch using Timer Control.

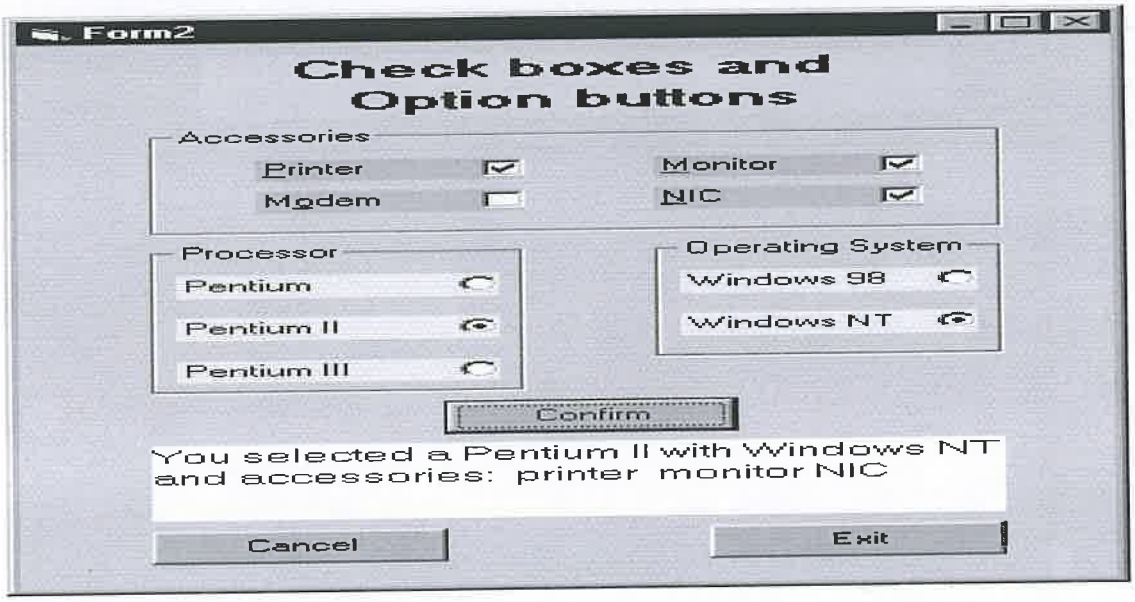
14. Design the following form using horizontal scrollbar. In this, when user click on particular scroll bar then back color of shape will be changed to Red, Green & Blue color



15. Design the following form using vertical scrollbar. In this, when user click on particular scroll bar then back color of shape will be changed to Red, Green & Blue color



16. Design the form with different controls.



17. WAP for Exception handling of throwing an exception when dividing by zero condition occurs during arithmetic operation.

18.WAP in vb.net such that throw a user define exception when Temperature is zero.

19.WAP to demonstrate handling of multiple exceptions generated in program.

20. Create following table

Student(id, name, course, DOB, address)

Write vb.net application to

Add records

view all the records

Delete the particular record

View all the student who are studying in course PGDCA using DataSet.

21. Write vb.net application to maintain loan database using connected scenario

Loan(id, cust_num, name, amount, no_of_inst, amt_inst, no_of_inst_over)

Print all the customer who has to pay only one installment.

Print the total amount to be repaid by all the customer

22. Write vb.net application which accesses the following table.

Product_master (pdt_no, description,profit_percent, uni_measure, qty_on_hand, recorder_level, cost_price, sell_price)

Perform insert, delete, view and search for items whose cost price is less than sell price.

23. Write a vb.net application that perform insert, update and delete operations on Employee table & perform a navigation operation on employee records using disconnected scenario.

24. Create table STUDENT with the following columns and datatypes.
Sid Alphanumeric
Name Varchar(20)
DOB DateTime
AddrVarchar(20)
Contact Varchar(10)

1. Insert following records into the table:

Sid	S1	S2	S3
Name	OshoJuneja	NishantSahni	SanyaDua
DOB	28-jan-93	1-oct-92	30-jul-94
Addr	ABC	XYZ	PQR
Contact	9000000000	8000000000	7800000000

ii) Select records from table where age>22.[Use DOB for age calculation].
iii) Count the record in the table.
iv) Display records of the table order by DOB.
Perform using ADO.net in vb.net

25. Write a vb.net program to show data in data grid view.

List of Python Programs:
1. Write a program that reads an integer value and prints —leap year or —not a leap year.
2. Write a program that takes two number an print the sum of these numbers.
3. Write a program to create the following Pattern
For example enter a size: 5 -
*
**
**
****
*****
4. Write a function that takes an integer n as input and calculates the value of 1 + 1/1! + 1/2! + 1/n!
5. Write a function that takes an integer input and calculates the factorial of that number,
6. Write a function that takes a string input and checks if it is a palindrome or not.
7. Write a list function to convert a string into a list, as in list (-abc) gives [a, b, c].
8. Write a program to generate Fibonacci series.
9. Write a program to check whether the input number is even or odd.
10. Write a program to compare three numbers and print the largest one.
11. Write a program to print factors of a given number.
12. Write a method to calculate GCD of two numbers.
13. Write a program to create Stack Class and implement all its methods, (Use Lists).

14. Write a program to create Queue Class and implement all its methods, (Use Lists)
15. Write a program to implement linear and binary search on lists,
16. Write a program to sort a list using insertion sort and bubble sort and selection sort.

Note: List of experiments may be changed by the concerned teacher.

HTML

Q.1. Write an HTML program to create the following table:

Class	Subject1	Subject2	Subject3
PGDCA I	Visual Basic	PC Software	Electronics
PGDCA II	C++	DBMS	English
BCA III	Java	Multimedia	CSA

Q.2. Write an HTML program to create the following lists:

(I) C

(II) C++

(III) Fortran

(IV) COBOL

Q.3. Write an HTML program to create the following lists:

1. Java
2. Visual Basic
3. BASIC
4. COBOL

Q.4. Write an HTML program to demonstrate hyperlinking between two web pages. Create a marquee and also insert an image in the page.

Q.5. Write an HTML program to create frames in HTML with 3 columns (Width = 30%, 30% , 40%).

Q.6. Write an HTML program to create a web page with a blue background and the following text:

New Delhi

New Delhi, the capital and the third largest city of India is a fusion of the ancient and the modern. The refrains of the Muslim dynasties with its architectural delights, give the majestic ambience of the bygone era.

Q.7. Write an HTML program to create the following table:

Admission

Course	OC	BC	MBC	SC/ST	TOTAL
Computer science	9	18	5	5	37
Commerce	14	25	6	5	50
Grand total					87

Q.8. Write an HTML program to create the following table:

Car Price List

Maruti		Tata		Ford	
Model	**Price**	**Model**	**Price**	**Model**	**Price**
Maruti 800	2 Lac	Sumo	2 Lac	Ikon	5 Lac
Omni	3 Lac	Scorpio	3 Lac	Gen	2 Lac

Q.9. Write an HTML program to create the following table:

Students Records

Name	Subject	Marks
Arun	Java	70
	C	80
Ashish	Java	75
	C	69

Q.10. Create an HTML document and embed a flash movie in it.

Q.11. Write the HTML coding to display the following table. Also insert an image in the web page.

Subject	Max	Min	Obtain
Java	100	33	75
Multimedia	100	33	70
Operating System	100	33	68
C++	100	33	73

Q.12. Write the HTML coding to display the following table:

Name		Rahul	
Roll No.		101	
Subject	**Max**	**Min**	**Obtain**
Java	100	33	75
Multimedia	100	33	70

Q.13. Write an HTML program to create a form as the following:

Enter Name:
Enter Roll No.:
Enter Age:
Enter DOB:

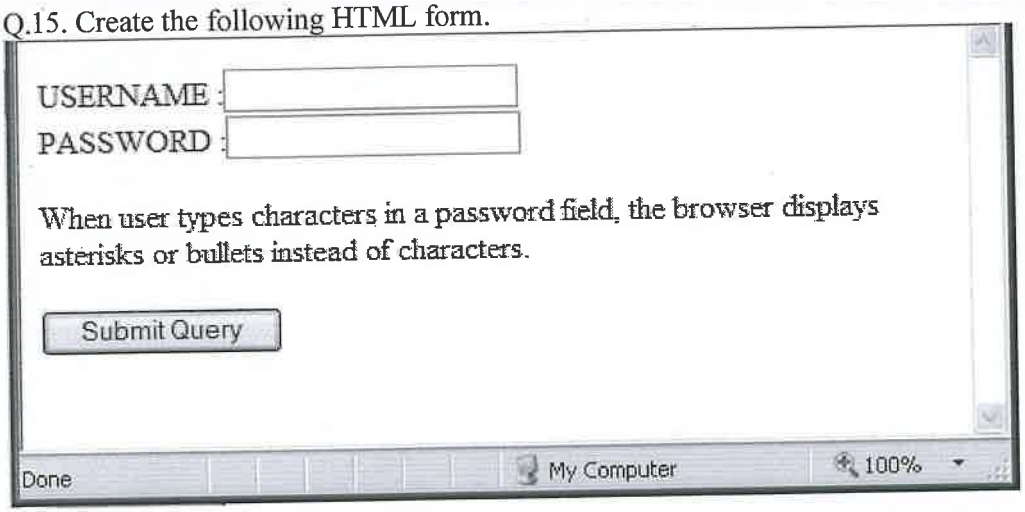
Q.14. Write an HTML program to create a web page with an image as background and the following text:

New Delhi

New Delhi, the capital and the third largest city of India is a fusion of the ancient and the modern. The refrains of the Muslim dynasties with its architectural delights, give the majestic ambience of the bygone era.

On the other side New Delhi, the imperial city built by British, reflect the fast paced present. The most fascinating of all is the character of Delhi which varies from the 13th present century mausoleum of the Lodi kings to ultra modern glass skyscrapers.

Q.15. Create the following HTML form.



Q.16. Create the following HTML form.

FIRSTNAME :
LASTNAME :

GENDER :
Male ○ Female ○

SUBJECTS: Multimedia
Multimedia
Operating System
CSA

Submit Query

Q.17. Create the following HTML form.

Enter your name :
Enter your rollno :

Subjects :
☐ Java
☐ C
☐ Visual Basic
☐ C++

Class: BCA I
BCA I
BCA II
BCA III

Submit Query

Q.18. Write the HTML coding for the following equations:

$C_2H_5OH+PCL_5=C_2H_5CL+POCL_3+HCL$

$4H_3PO_3=3H_3PO_4+PH_3$

$PCL_3+CL_2=PCL_5$

Q.19. Write the HTML code to display the following:

1. Actors
    1. Bruce Willis
    2. Gerard Butler
    3. Vin Diesel
    4. Bradd Pitt
2. Actress
    1. Julia Roberts
    2. Angelina Jolie
    3. Kate Winslet
    4. Cameron Diaz

Q.20. Write the HTML code to display the following:

1. Cricket Players
    1. Batsman
        1. Sachin Tendulkar
        2. Rahul Dravid
        3. Virendra Sehwag
    2. Bowler
        d. Kumble
        e. Zaheer Khan
        f. Balaji
    3. Spinner
        d) Harbhajan
        e) Kumble
        f) Kartik

SQL

1. **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 –

d. Create the above tables with the given specifications and constraints.
e. Insert about 10 rows as are appropriate to solve the following queries.
f. List the names of the teachers teaching computer subjects.
g. List the names and cities of all staff working in your college.
h. List the names and cities of all staff working in your college who earn more than 15,000

2. **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. 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.
e. Find the classes that T1 do not teach at present session.

3. **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. Find the colleges who have most number of staffs.
b. Find the staffs that earn a higher salary who earn greater than average salary of their college.
c. Find the colleges whose average salary is more than average salary of C2
d. Find the college that has the smallest payroll.
e. Find the colleges where the total salary is greater than the average salary of all colleges.

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. List maximum, average, minimum salary of each college
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 that 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.

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)

Write SQL statements for the following –

a. Find all staff that do not work in same cities as the colleges they work.
b. List names of employees in ascending order according to salary who are working in your college or all colleges.
c Create a view having fields sname, cname, dept, DOJ, and post
d Create a view consisting of cname, average salary and total salary of all staff in that college.
e Select the colleges having highest and lowest average salary using above views.
f List the staff names of a department using above views.

6. **Using 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)

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. 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

7. **Using 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)

Write SQL statements for the following –

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.
e. Delete all the records of student who live in city Raipur.

8. Subjects (paperid, subject, paper, papername)
Test (paperid, date, time, max, min)
Score (rollno, paperid, marks, attendence)
Students (admno,rollno, class, yearsem)
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 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 PGDCA-II who have scored higher than average
      i) in your college ii) in every college

Name and Signatures

V.C. Nominee	**Departmental members**
Subject Expert	**1. HOD- Mr. Sanat Kumar Sahu.....**
Subject Expert.....	**2. Mr. Dileep Kumar Sahu .....**
Alumni(member).....	**3. Dr. Latika Tamrakar .....**
Prof. from other Dept. of Sc. Faculty	
Specialist from Industry	

GOVT. V.Y.T. P.G. AUTO. COLLEGE, DURG (C.G.)
SYLLABUS FOR: (2024-25)
PGDCA – II Semester
SUBJECT CODE: PDC-110
PROJECT Lab

1. Scheme of Examination: The Project should be done by individual student. Practical Examination will be of 3 hours duration. The distribution of practical marks is as follows:

Software Demonstration -	40
Project Report (Hard Copy + Soft Copy) -	20
Project Demonstration/Presentation -	20
Project Viva -	20
Total - 100	

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 Evaluation
- Declaration / Self certificate
- Acknowledgement
- Synopsis of the project
- Main Report
  - Objective & Scope of the project
  - Theoretical Background of Project
  - Definition of problem
  - System Analysis & Design
  - System Planning (PERT Chart)
  - Methodology adopted, system Implementation & details 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 aspect, access rights, backup control etc.
  - Conclusion
  - References
  - Soft copy of the project on CD

Live Project Survey/Visit of a part of IT Industry – Recognized It Company, NIC, CHIPs, Science Center, IT Park, NIT, IIT or Software company to make a student experienced of the Software/ Project development.

GENERAL INSTRUCTIONS FOR STUDENTS

1. The candidate has to obtain minimum 20%marks in each theory paper.

2. The candidate has to secure minimum 36%marks as an aggregate in order to pass the semester examination.

3.The grading system was implemented from 2024-25 onwards for the students admitted in at the first semester of all PG subjects.

Name and Signatures

V.C. Nominee ..... **Subject Expert .....** **Subject Expert.....** **Alumni(member).....** **Prof. from other Dept. of Sc. Faculty .....** **Specialist from Industry .....**	**Departmental members** **1. HOD- Mr. Sanat Kumar Sahu.....** **2. Mr. Dileep Kumar Sahu .....** **3. Dr. Latika Tamrakar .....**

Govt. V.Y.T. PG Autonomous College, Durg (C.G.)

Autonomous Examination Cell

Question Paper Format and Distribution of Marks for PG Semester Examination

Question paper format for the Post-Graduate Examination has been revised from the Session 2020-21.The revised format will be applicable for all the question papers of Semester I, II. The following are the main points of the new format:

1. The question paper will be of **100 marks** (as before)
2. Questions will be asked Unit-wise in each question paper.
3. From each Unit, the questions will be asked as follows:

Q.1 Very short answer type questions **(Answer in one or two sentences)** **(02 Marks)**
Q.2 Short answer type questions **(Answer in 200-250 words)** **(04 Marks)**
Q.3 Long answer type questions **(Answer in 400-450 words)** **(12Marks)**

Type of Question	Unit-I	Unit-II	Unit-III	Unit-IV	Unit-V
Very Short (1 Questions) (Maximum two sentences)	2 x 2 = 4 Marks	2 x 2 = 4 Marks	2 x 2 = 4 Marks	2 x 2 = 4 Marks	2 x 2 = 4 Marks
Short (1 Question) 200-250 words	1 x 4 = 4 Marks	1 x 4 = 4 Marks	1 x 4 = 4 Marks	1 x 4 = 4 Marks	1 x 4 = 4 Marks
Long answer (1 Question) 400-450 words	1 x 12 = 12 Marks	1 x 12 = 12 Marks	1 x 12 = 12 Marks	1 x 12 = 12 Marks	1 x 12 = 12 Marks

Note: 1. Question no. 1 will be compulsory.
2. Question no. 2 and 3 will consist of 2 optional questions of which one has to be attempted.

As mentioned above, one compulsory very short answer type questions (2marks), one short answer type question with internal choice (4 marks) and one long answer type question with internal choice (12 marks) will be asked from each unit. Thus, there will be questions of 20 marks from each unit and of total 100 marks from all the five units of the syllabus/syllabi. **Name and Signatures**

V.C. Nominee	**Departmental members**
Subject Expert	**1. HOD- Mr. Sanat Kumar Sahu.....**
Subject Expert.....	**2. Mr. Dileep Kumar Sahu .....**
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