HEMCHAND YADAV VISHWAVIDYALAYA, DURG (C.G.)

SCHEME OF EXAMINATION

&

SYLLABUS

of

D.C.A. Semester Exam

UNDER

FACULTY OF COMPUTER SCIENCE

Session 2025-26

(Approved by Board of Studies)

Effective from June 2025

ORDINANCE NO. – 129

1. Name of the course : Diploma in Computer Application (Part-time course)

The course will be under the Board of Studies in Computer Science of the University for academic purposes.

2. Duration : One Year

The Examination shall consists of Total 8 papers in a year (Six Theory Papers and Two Practical), each carrying 100 marks. Candidate should pass in Theory and Practical Examinations separately. Candidate should pass in theory (Theory 80 + Sessional 20) jointly and practical examination separately. Sessional marks of each subject will be awarded internally by the concerned teachers and head of the respective department/college.

Minimum passing marks will be 25% in each theory paper, 40% for each practical paper whereas minimum passing sessional marks of each paper will be 65%.

A candidate failing in one or more subjects will be required to clear it in the next Annual examination. His/Her result will be declared only after he/she clears all the papers, the result should be declared according to the following.

1. Aggregate Less than 34.75% - FAIL
2. 34.75% & more but less than 50% - PASS DIVISION
3. 50% & more but less than 60% - SECOND DIVISION
4. 60% & more but less than 75% - FIRST DIVISION
5. 75% & more - FIRST DIVISION WITH DISTINCTION

A candidate will be permitted to appear in the examination of the course for a maximum period of 4 years. If he/she fails to clear the course within the period of 4 years, he/she will be dropped out of the course.

3. Eligibility and Admission :

A candidate who has passed the Higher Secondary Examination or Equivalent. The admission will be done on the basis of Entrance Test. Admission to Maximum 10% of total seats may be given to eligible candidate(s) under NRI/NRI-Sponsored /Industry/Organization Sponsored category. Entrance Test will not be required for the candidates under this category. In each course 40 students will be admitted in this course but University reserves the right to alter the intake. The reservation of seats will be made as per govt. Rules for SC/ST/OBC/PH category. In case no candidate is eligible /available for admission under reserved category the seats will be treated as unreserved and will be made available for general category candidates. Candidates doing any other Under Graduate or PG Course can also do this course.

4. Fee Structure :

University reserves the right to decide the fee structure, time to time.

5. Syllabus :

The syllabus & scheme of examination has been approved By Faculty of Computer Science Under Hemchand Yadav Vishwavidhalaya, Durg(C.G.) and subject to alteration by the Board of Studies.

Session - 2025-26

First Semester

Subject Code	Subject	Teaching Load Per Week			Examination Marks							
					Mar Marks				Min Marks			Total
		L	T	P	Th.	Ses.	Pra.	Total	Th.	Ses.	Pra.	Total
DCA 101	Essential of Information Technology	3	2	-	80	20	-	100	20	13	-	33
DCA 102	Essentials of office Automation	3	2	-	80	20	-	100	20	13	-	33
DCA 103	Programming in 'C' Language	3	2	-	80	20	-	100	20	13	-	33
DCA 104	Practical Based on DCA 102 & DCA 103	-	-	3×2	-	-	100	100	-	-	40	40
Total		9	6	06	240	60	100	400	60	39	40	139

Second Semester

Subject Code	Subject	Teaching Load Per Week			Examination Marks							
					Mar Marks				Min Marks			Total
		L	T	P	Th.	Ses.	Pra.	Total	Th.	Ses.	Pra.	Total
DCA 105	Programming in Python	3	2	-	80	20	-	100	20	13	-	33
DCA 106	E- Commerce	3	2	-	80	20	-	100	20	13	-	33
DCA 107	HTML & Internet Applications	3	2	-	80	20	-	100	20	13	-	33
DCA 108	Practical Based on DCA 105 & DCA 107	-	-	3×2	-	-	100	100	-	-	40	40
Total		9	6	06	240	60	100	400	60	39	40	139

DIPLOMA IN COMPUTER APPLICATION,
DURATION - ONE YEAR - PART TIME]

The duration of the course shall be one year consisting of two semesters. There shall be three theory and one practical course in the each semester. There shall be grading system of awards.

FIRST SEMESTER: DCA101: Essential of Information Technology and OS

DCA102	:	**Essentials of Office Automation.**
DCA103	:	**Programming in 'C' Language**
DCA104	:	**Practical based on DCA102 & DCA103.**

DCA101
Essential of Information Technology and OS

1. **Introduction to Computers**

    Computer System Characteristics and Capabilities: Speed, Accuracy, Reliability, Memory capability, Repeatability. *Computer Hardware and Software,* Block Diagram of a Computer. *Types of Computers:* Analog, Digital, Hybrid General and Special Purpose Computers. *Computer Generations:* Characteristics of Computer Generations Computer Systems – Micros, Minis & Main-frames. *Introduction to a PC:* The IBM Personal Computer Types of PC systems PC, XT & AT Pentium PC"s.

2. **Computer Organization**

    Introduction to Input Devices : Keyboard, Direct Entry – Card Readers, Scanning Devices – O.M.R., Character Readers, MICR, Voice Input Devices, Pointing Devices – Mouse, Light Pen. *Storage Devices:* Storage Fundamentals-Bits, Bytes, Primary Storage – RAM, ROM, Secondary Storage-Floppy Disks, Hard Disks, Optical Disks, CD/DVD. *Computer Output :* Output Fundamentals, Hardcopy Output Devices, Impact Printers, Non-Impact Printers, Plotters, Computer output, Softcopy Output Devices, Cathode Ray Tube, Flat Screen Technologies.

3. **Operating System**

    MS-DOS - Introduction, History and Versions of DOS. Booting Process, System Files and Command.com, Internal DOS Commands - DIR, MD, CD, COPY, DEL, REN, VOL, DATE, TIME, CLS, PATH, TYPE. Files & Directories, Elementary External DOS Commands - CHKDSK, MEM, XCOPY, PRINT, DISKCOPY, DISKCOMP, DOSKEY, HELP, TREE, SYS, LABEL, ATTRIB, Creating a Batch Files, Additional Commands - ECHO, PROMPT, MODE, EDIT, FORMAT, FDISK, BACKUP, RESTORE, MORE, SORT.

4. **Windows**

   Windows Concepts, Features, Structures, Desktop, Taskbar, Start Menu, My Computer, Recycle Bin. Accessories: Calculator, Notepad, Paint, Wordpad, Character Map. Explorer: Creating folders and other Explorer facilities, Internet Explorer basics, navigating the Web, Control Panel.

5. **Linux**

   Open Source Software concept and evolution of Linux, Features of Linux OS, Structure of Linux OS, File System, Directory Structure, Linux editors & Editor commands, Linux commands cd, md, rm, mv, ls, cat, find, grep.

Books

   1. Using IT : Williams T M Hill
   2. IT : Curtin T M Hill
   3. Fundamental of Information Technology : Chetan Shrivastava_Kalyani Publishers.
   4 Computer Fundamentals : P.K Sinha BPB Pubications
   5. Working with UNIX : Vijay Mukhi [BPB]

ESSENTIALS OF OFFICE AUTOMATION

1. MS-Word- Creating and editing word documents, formatting documents – aligning documents, indenting paragraphs, changing margin, formatting pages, formatting paragraph, printing labels, working with tables, formatting text in tables, inserting and deleting cells, rows and columns, use bulleted and numbering, checking spelling and grammar, finding synonyms, working with long documents, working with header and footer, adding page number and foot note, working with graphics, inserting clip art, working with pictures, Word art, creating chart & Graphs, creating flowcharts, working with mail merge, writing the form letter, merging form documents, merging to label, Working with Mailing lists and Data Sources, selecting merge records, creating macros, running macro.

2. Working with MS-Excel – Introducing Excel, use of excel sheet, saving, opening and printing workbook ,Apply formats in cell & text, Divide worksheet into pages , setting page layout, adding Header & Footer. Using multiple documents, arranging windows i.e. (Cascade, Tiled, Split), protecting your work, password protection. Working with Functions & Formulas, using absolute reference, referencing cell by name , using cell label , giving name to cell and ranges , working with formulas (mathematical & trigonometric , statistical, date time , most recently used), Working with Excel graphics, creating chart & graphs. Working with lists & database, sorting a database, filtering a database ,using auto filter ,criteria range, calculating total and subtotal, creating pivot table, goal seek, recording & playing macros, deleting and selecting macro location.

3. Presenting with PowerPoint – Creating presentation, working with slides, different types of slides, setting page layout, selecting background and applying design, adding graphics to slide, adding sound and movie, working with table, creating chart and graph, playing a slide show, slide transition, advancing slides, setting time, rehearsing timing, animating slide, animating objects, running the show from windows.

4. Introduction of DBMS through MS-Access – Introduction to Database, DBMS, RDBMS, Features of Access, Designing Database, Relationship (One to One, One to many, Many to Many), Create table (Design View, Wizard, Datasheet View), Query (Update Query, Delete Query, Selection Query, Cross table Query, Make table Query).

5. Introduction to TALLY

Accounting, Accounting Conventions (Single and Double Entry), Transactions, Types of Accounts, Personal Accounts, Real, Nominal, Rules of Accounting. Introduction to Accounting Software [Ex. TALLY] – Creating of Company, Ledgers & Groups. Voucher Entry; Types of Voucher, Capital and Revenue, Income, Expenditure, Receipts, Preparation of Trial Balance, Profit & Loss Account & Balance Sheet.

Suggested Books :
1. The Big Basics Book Of MS-OFFICE : Fulton, et al.

DCA103
PROGRAMMING IN 'C'

Unit 1 - Introduction to C programming structure and C compiler, Data representation : Simple data types like real integer, character etc. Program, statements and Header Files, Simple Input Output statements in C, Running simple C programs. Primitive data types in C, char, integer, float, Double Long, Double Void etc.

Unit 2- Operators and Expressions – Arithmetic Operators, Assignment Operators, increment and decrement operator, relational and Boolean operators, Mixing of Different data types and operators for forming expressions.

Unit 3- Control Structure: If - statement, If -else statement, Multiway decision, Compound Statement, Loops: For - loop, While -loop, Do-While loop, Break statement, Switch statement, Continue statement, Go to statement. Arrays, Strings, Multidimensional Arrays, Strings, Array of Strings.

Unit 4- Functions : Function main , Functions accepting more than one parameter, User defined and library functions, Concept associatively with functions, function parameter, Return value, recursion function, Structure and Union, Declaring and using Structure, Structure initialization, Structure within Structure, Operations on Structures, Array of Structure, Array within Structure.

Unit 5 Pointers: Definition and use of pointer, address operator, pointer variable, referencing pointer, void pointers, pointer arithmetic, pointer to pointer, pointer and arrays, passing arrays to functions, pointer and functions, accessing array inside functions, pointers and two dimensional arrays, array of pointers, pointers constants, pointer and strings.

TEXT BOOKS :-
1. Let us C - Yashwant Kanitkar.
2. Mastering in C - Venugopal
3. Shaum"s Series

DCA104 : Practical based on DCA102 & DCA103

1 Scheme of Examination:-

Practical examination will be two programs and a project demonstration. It will be of 3 hours duration. All programme with flowchart & algorithms. The distribution of practical marks will be as follows and

Programme 1 (Word / Power point / Tally)	-	10
Programme 2 (Excel / Access)	-	10
Programme 3 (C Program)	-	20
Programme 4 (C Program)	-	20
Viva	-	25
[Practical Copy + Internal Record]	-	15
Total	-	**100**

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

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

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

List of Practical
INPUT AND OUTPUT, FORMATTING

1. Write a program in which you declare variable of all data types supported by C language. Get input from user and print the value of each variable with alignment left, right and column width 10. For real numbers print their values with two digits right to the decimal.

LOOPS, DECISIONS

2. Write program to print all combination of 1 2 3.
3. Write program to generate following pattern

a) A B C D E F G
   A B C   E F G
   A B   F G
   A   G

c)
```
        *
      *   *
    *   *   *
```

b) 1
    1 2
    1 2 3

d) 1
    1 2 1
    1 3 3 1
    1 4 6 4 1

4. Write main function using switch...case, if..else and loops which when called asks pattern type; if user enters 11 then first pattern is generated using for loop. If user enters 12 then first pattern is generated using while loop. If user enters 13 then first pattern is generated using do-while loop. If user enters 21 then a second pattern is generated using for loop and so on.

5. Write program to display number 1 to 10 in octal, decimal and hexadecimal system.

6. Write program to display number from one number system to another number system. The program must ask for the number system in which you will input integer value then the program must ask the number system in which you will want output of the input number after that you have to input the number in specified number system and program will give the output according to number system for output you mentioned.

7. Write a program to perform following tasks using switch...case, loops, and conditional operator (as and when necessary).
    a) Find factorial of a number
    b) Print Fibonacci series up to n terms and its sum.
    e) Print prime numbers up n terms.
    f) Print whether a given year is leap or not.

ARRAY

8. Create a single program to perform following tasks using switch, if..else, loop and single dimension character array without using library function:
a) To reverse the string.
b) To count the number of characters in string.
c) To copy the one string to other string;
d) To find whether a given string is palindrome or not.
e) To count no. of vowels, consonants in each word of a sentence and no. of punctuation in sentence.
f) To arrange the alphabets of a string in ascending order.

9. Create a single program to perform following tasks using switch, if..else, loop and single dimension integer array:
   a) Sort the elements.

10. Write a program that read the afternoon day temperature for each day of the month and then report the month average temperature as well as the days on which hottest and coolest days occurred.

11. Create a single program to perform following tasks using switch, if..else, loop and double dimension integer array of size 3x3:
    a) Addition of two matrix.
    b) Subtraction of two matrix.
    c) Multiplication of two matrix.

12. Create a single program to perform following tasks using switch, if..else, loop and double dimension character array of size 5x40:
    a) Sorting of string.
    b) Finding the largest string.
    c) Finding the smallest string.

FUNCTIONS

13. Write program using the function power (a, b) to calculate the value of a raised to b.

14. Write a program to perform following tasks using switch...case, loops and function.
    a) Find factorial of a number
    b) Print Fibonacci series up to n terms and its sum.

15. Write a program to perform following tasks using switch...case, loops and **recursive** function.
    a) Find factorial of a number
    b) Print Fibonacci series up to n terms and its sum.

16. Write a function to accept 10 characters and display whether each input character is digit, uppercase letter or lower case letter.

STRUCTURE

17. Create a structure Student having data members to store roll number, name of student, name of three subjects, max marks, min marks, obtained marks. Declare a structure variable of student. Provide facilities to input data in data members and display result of student.

18. Create a structure Date with data member"s dd, mm, yy (to store date). Create another structure Employee with data members to hold name of employee, employee id and date of joining (date of joining will be hold by variable of structure Date which appears as data member in Employee Structure). Store data of an employee and print the same.

19. Create a structure Student having data members to store roll number, name of student, name of three subjects, max marks, min marks, obtained marks. Declare array of structure to hold data of 3 students. Provide facilities to displayresult of all students. Provide facility to display result of specific student whose roll number is given.

POINTER

20. Write a program of swapping two numbers and demonstrates call by value and call by reference.

21. Write a program in c using pointer and function to receive a string and a character as argument and return the no. of occurrences of this character in the string.

22. Write program to find biggest number among three numbers using pointer and function.

List of Practical

MS- WORD

File New, Open, Save, Cut, Copy, Paste, Drag Drop, Bullets and Numbering, Undo, Redo, Find, Replace, Paragraph Formatting, Character Formatting and Page Formatting.

1. Open a document. Type the following text and perform the tasks as instructed below:-

Working with Word Processor

As already mentioned, a word processor is a package that processes textual matter and creates organized and flawless documents. In addition to it a word processor not only remote all the limitations of typewriter but also offers various useful features that cannot be even dreamt of with typewriter.

Also if same textual matter is to be reproduced with minor changes, retyping the only option in typewriters.

The word processing (and word processor) originated way back in 1964 when special typewriters. Magnetic Tape Selectric typewriters (MIST) were launched by IBM (International Business Machines).

1. Insert the following text after the first paragraph

The main components of a word processing system are listed below:

- Computer
- Printer
- A word processing software

2. Save the document as Word1.doc
3. Move the second paragraph to the end of the document. Using darg & drop.
4. Move the second paragraph in the end of the document using cut, paste operations.
5. Undo the above actions.
6. Now use Redo actions
7. Go to the End of the document (in one step)
8. Go to the Beginning of document (in one step)
9. Insert page break before the third paragraph.
10. Search the word "computer: in your document with options Match case, find whole words only.
11. Replace the word "typewriters" with "word processor"
12. Undo the above action
13. Remove All page breaks from your document
14. Change the magnification of your document to different percentages using zoom features.
15. Format the above written paragraphs and give the options as follows:
    (1) Alignment justified
    (2) Indentation: left 0.2 right:0.2
    (3) Spacing: before 6 pt. after:6 pt.
    (4) Special: first line by :0.4"
    (5) Line spacing 1.5 lines.
16. Set the default tab stop to 0.3"
17. Set the margins to 1.25
18. Format the page using
    1. Left margin:0.5, right margin: 0.5
    2. Top margin:1.5, bottom margin:0.5
    3. Gutter Margin: 1indentation: left 0.2 right:0.2
    4. Header Margin:0.5

19. Format the each occurrence of group of words „Word Processor" as bold, italic, under line and small caps using find and replace with formatting options.
20. Align the heading to Centre and make it bold, underlined and italicized.

File New, Open, Save, Find, Replace, Paragraph Formatting, Character Formatting and Page Formatting.

21. Type the text as show below and perform the tasks as directed:

Computers
COMPUTER is an electronic device that processes data and gives meaningful information. Computers are being used in almost all the fields today
EXPERT SYSTEMS
HUMAN THINKING AND ARTIFICAL INTELLIGENCE
Can computer think?
AI at work Today: Natural Language programs and Expert Systems.
THE IMPACT OF COMPUTERS ON PEOPLE
The Positive Impact
The Potential Dangers
THE IMPACT OF COMPUTERS ON ORGANIZATIONS
The information Processing Industry
The Positive impact on Using Organizations
The Potential Dangers for Using Organizations

1. Search for the word „Computer" in the entire document. All the occurrences of the given word are to be searched irrespective of the case.
2. In the above question note that word also searches, computerization and computerizations". Now make sure that this time Word searches only for the word „computer" in the entire document.
3. Change the entire uppercase letter to lowercase.
4. Give a heading to the above written text „COMPUTERS IN TODAY"S WORLD"
5. Centre aligns the Heading text Computer that appears in first line.
6. Apply outside border to entire document.
7. Apply outside border to the just heading text.

8. Change page setup according to the following specifications
   Top margin: 1.5", bottom margin: 1.5"
   Gutter: 1", left margin: 1.5"
   Right margin: 1"
   Page width: 7.5", page height: 6.5 "
   Orientation: portrait
11. Give a header „Creations" and footer „The school of computing". The footer should also consist of page no"s.
12. Give appropriate commands for giving different header and footers for first page and odd & even pages.
11. Save and close the document.

3. Write the following equations in MS-Word:
   $4H_3PO_3 = 3H_3PO_4 + PH_3$, $PCL_3 + CL_2 = PCL_5$, $(x+y)2 = x2 + y2 + 2xy$

4. Write the following equations in MS-Word:
   $C_2H_5OH + PCL_5 = C_2H_5CL + POCL_3 + HCL$, , $a \div b \neq 0$

5. Write the following in MS-Word:
   1. Preheat the oven to 220°C.
   2. Copyright ©
   3. Registered ®
   4. Trademark ™

6. Create the following table in MS-Word:

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

7. Create a document in MS-Word. Set the watermark as Microsoft. Also write the following text as formatted below: ensuring programming progress by lines of code is like measuring aircraft building progress by weight. --Bill Gates

8. Create the following

Time is money.
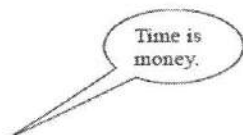
9. Create the following:

Computers

Multimedia

10. Create the following table in MS-Word:

Admission 2012-2013

Course	OC	OB	MBC	SC/ST	Total
Computer Science	9	18	5	5	37
Commerce	14	25	6	5	50
Mathematics	12	20	4	4	40

11. Create Table as shown

	Car	Price
Maruti	Omni Van	200000
	Maruti 800	242000
Tata	Sumo	390000
	Sierra	447000

12. Insert the following in MS-Word.

Welcome

PC
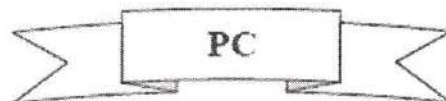
13. Insert the following in MS-Word.
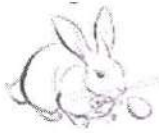
14. Write the following in MS-Word.

❖ This is sentencecase.
❖ this is lowercase.
❖ THIS IS UPPERCASE.
❖ This Is Capitalise Each Word.
❖ tHIS IS tOGGLE cASE.

15. Create the following list in MS-Word:

❖ Actors
  • Bruce Willis
  • Gerard Butler
  • Vin Diesel
❖ Actress
  • Julia Roberts
  • Angelina Jolie
  • Kate Winslet
  • Cameron Diaz

16. Write the following in MS-Word:

1. Cricket Players

   A. Batsman

      i.   Sachin Tendulkar
      ii. Rahul Dravid
      iii. Virendra Sehwag

   B. Bowler

      a. Kumble
      b. Zaheer Khan
      c. Balaji

C. Spinner

    a. Harbhajan
    b. Kumble
    c. Kartik

17. Write a letter to send invitation to your friend inviting on your birthday.

18. Create labels for your friends" address.

MS – EXCEL

1. Create the following worksheet and save the worksheet as wages.xls
   PACE COMPUTERS (ATC CEDT), Govt. of India
   Payroll for Employee (Temporary)

Today's date		Pay Rate :	

Worker's Name	Hired On	days Worked	Gross Wages
Kushagra	3-Mar-07		
Pradeep	4-Mar-07		
Puneet	5-Mar-07		
Rajeev	6-Mar-07		

(I)   Calculate days work and gross wages

2. Create the following worksheet and save the worksheet as wages.xls

Name Basic (monthly) (Rs.)	HRA(% of basic)	DA (Rs.)	Total Salary (1997)	Bonus (Rs)	Total Salary (1998)	% (Increase)
Shirome5000	10	450		1200		
Somya9000	15	800		200		
Tanya7000	12	900		1800		

i.   Calculate the total salary as sum of Basic salary, HRA ,DA, for each employee for 1997
ii.   Calculate total salary for year 1998 as sum of salary of 1997 and bonus
iii. Calculate % increase in salary from 1997 to 1998

3. Create a worksheet as follows

Pace computer (ATC CEDT) Govt. Of India
Payroll for employee (Permanent)

Empcode	name	doj	salary	bonus	net salary
E001	Meenu	3-Mar-95	5000		
E002	Manoj	4-Mar-06	4000		
E003	Preeti	3-Mar-95	4800		
E004	Sumita	6-Mar-07	7500		

4. create the worksheet as follows

Roll No	Name	English	Maths	Total	Average	Division
101	Kushagra	95	99			
102	Ajay	92	95			
103	Vijay	70	69			
			Class Average			

   i.   find Total of two subject for each student

   ii.   find average of two subject for each student

   iii. find class as average of average column

   iv. find division of student as first, second, third, assume percentage of division of your own and maximum marks in each student as 100

   v.   Apply conditional formatting for division column, first division should be in bold, second division should be in italic and third division should be underline

1. Create macro in excel to make selected cell, bold, italic outside bordered and center across select

2. create bar chart with given data

	2001	2002	2003
Tea	19	23	25
Coffee	22	24	22
Sugar	45	40	45

   i. Provide heading production detail

   ii. Provide z axis title; lacks metric tone

   iii. Provide x axis title year

3. Create a table with column heading as shown below and using form perform data entry of records.

Zone	Department	Employee	Salary
West	Marketing	Mukesh	10500
East	Sales	Rahul	20000
South	Marketing	Suresh	5500
North	Marketing	Anju	25000
South	Sales	Neeraj	8000
North	Sales	Ajay	8000
South	Marketing	Mahesh	7500
West	Sales	Rajesh	4500

i.   Sort the data according to Zone then by Department
ii.   ii. Use group and outline feature to show & hide details

4. Create a table with column heading as shown below and using form perform data entry of records.

Zone	Department	Employee	Salary
West	Marketing	Mukesh	10500
East	Sales	Rahul	20000
South	Marketing	Suresh	5500
North	Marketing	Anju	25000
South	Sales	Neeraj	8000
North	Sales	Ajay	8000
South	Marketing	Mahesh	7500
West	Sales	Rajesh	4500

i.   Use filter command to show records having zone: West
ii.   Use filter command to show records having zone: West and salary less than 5000
iii.   iii. Use filter command to show records having salary greater than 10000

5. Create pivot table using Data of exercise 8

1. Suppose a database exists in ms-access you are required to import the data.
How will you?

6. Create a able using feature

Principle 1500
Rate 4%
Time 5

300	3	4	5
1%	45	60	75
2%	90	120	150
3%	135	180	225

13. Using goal seek feature find out the interest rate it must be to earn interest
500
Principle 1500
Rate 4%
Time 5 Interest 300

MS-Access

Q.1. Create the following table in MS-Access:

Field Name	Data Type	Description
ContactID	AutoNumber	Primary Key
ContactType	Text 50	Type of contact (Wholesale, dealer, other)
Name	Text 50	Contact's first name
Company	Text 50	The Contact's employer
Address	Text 50	Contact's address
City	Text 50	Contact's city
State	Text 50	Contact's state
ZipCode	Text 50	Contact's zip code
Phone	Text 50	Contact's phone
Fax	Text 50	Contact's fax
E-Mail	Text 100	Contact's e-mail address
LastSalesDate	Date/Time	The most recent date the contact purchased something
DiscountPercent	Number	The customary discount provided to the customer
Notes	Memo	Notes and observations regarding this customer
Active	Yes/No	Whether the customer is still buying or selling products

Q.2. Create the following tables in MS-Access with the refential integrity-foreign key:

1. tblProducts

Primary Key - ProductID

ProductID	Description	Category	Quantity	Cost	RetailPrice	ProductNumber	SalePrice	Taxable

2. tblSalesLineItems

Primary Key - SalesLineItemID

SalesLineItemID	InvoiceNumber	ProductID	ProductNumber	Quantity	Description	Price	Discount

3. tblSales
   Primary Key – InvoiceNumber

InvoiceNumber	SaleDate	InvoiceDate	Buyer	PaymentMethod	TaxLocation	TaxRate

MS PowerPoint
Q 1 Create a PPT of Atleast 10 Slides with one slide for comparison, one slide displaying a chart with the table.
Q 2 Create a PPT presentation use rehearse timing for the slide show

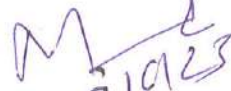Q 3 Create PPT presentation slide import sound and video clips.
Q 4 Create PPT presentation with hyperlinking.
 Q 5 Create PPT presentation and apply themes and transitions.

Tally
Preparing Balance Sheet for various companies.

PROGRAMMING IN PYTHON

Max Marks: 80   Min Marks: 27

Note: The question Paper setter is advised to prepare unit-wise question with the provision of internal choice.

Course Outcome: At the end of course, Student will able to
- Define the Structure and Components of a Python Program.
- Demonstrate proficiency in handling of loops and creation of functions. Identify the methods to create and manipulate lists, tuples and dictionaries.
- Discover the commonly used operations involving regular expressions and file systems.
- Determine the need of scrapping website and working with CSV, JSON and other file formats.
- Interpret the concepts of Object-Oriented Programming as used in Python.

Unit 1 : 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(Arithmetic Operator, Relational Operator, Logical or Boolean Operator, Assignment Operator, Ternary Operator, Bitwise Operator, Increment or Decrement Operator) and expressions; comments in the program, understanding error messages.

Unit-2:- Creating Python Programs: - Input and Output Statements, Control Statements (Branching, Looping, Conditional Statement, Exit function, Difference between break, continue and pass).
Function: Defining a function, calling a function, types of function, Function Arguments, Anonymous Functions, global and local variables, Recursion

Unit-3:- Strings and Text Files: - Manipulating files and directories, os and sys modules, text files: reading/writing text and numbers from/to a file, creating and deleting a formatted file (csv or tab-separated).

String Manipulations: subscript operator, indexing, slicing a string; strings and number system: converting string to numbers and vice-versa, Binary, octal and hexadecimal numbers.

Unit-4 :- Lists, Tuples and Dictionaries :- Basic list operators, replacing, inserting and 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.

Data Structures using Lists: Elementary Data Representation- Linear List Array, Stacks, Queues, Linked Lists, and Trees.

Unit-5:- Modules: - Importing module, Math module, Random Module, packages, Composition, Exception Handling: Exception, Exception Handling, except clause, try, finally clause, User-Defined Exceptions.

TEXT REFERENCE BOOKS:
1. T. Budd, Exploring Python, TMH, 1st Ed, 2011
2. Allen Downey, Jeffrey Elkner, Chris Meyers, How to think like a computer scientist: Learning with Python, Freely available online, 2012
3. Luca Massaron John Paul Mueller, Python for Data science For Dummies, Wiley,2ed,2019
4. https://docs.python.org/3/tutorial/index.html
5. http://interactivepython.org/courselib/static/pythonds

DCA106
E- Commerce

Unit – I : Introduction to Electronic Commerce –The scope of E-commerce; Size, growth and future projection of E-commerce market Worldwide and in India; Internet and its impact on traditional businesses; Definition of E-commerce; Business models in E –Commerce environment; Case studies.

Unit – II : Emergence of E-commerce - E-commerce on private networks, Electronic Data Interchange (EDI), What is EDI, EDI in action, EDI basics, EDI standards, financial EDI, FEDI for international trade transaction, FEDI payment system within the US, ACH credit transfer payment system FEDI, application of EDI, benefits of EDI, Electronics Payment system, E-commerce on the web, E-commerce in India,

Unit – III : Internet, Security and E-Commerce: Security of Data/Information in Internet/web environment; Client security, Network security; Virus protection and Hacking; Security Measures: Authentication, Integrity, Privacy, Non-repudiation; Public information, Private information, firewall tunnels, encryption, secret key encryption, public key encryption, digital signature.

Unit – IV: E-commerce Payment Systems – E-Commerce Payment Models: Pure and Hybrid ECommerce Payment Models; Credit Card; Debit Cards; Pre-paid Card; Online debit to the accounts; and Alternative Payment Systems employing Electronic Clearing System of Reserve Bank of India.

Unit – V : Types of E-commerce Business–to-Business (B2B), Business-to-Consumer (B2C); Business-to-Business-to-Consumer (B2B2C) and Consumer-to-Consumer (C2C) E-Commerce , Inter organizational transaction; Business transaction cycle, different types of transactions in Ecommerce environment; Electronic markets, advantages and disadvantages of E-Market, Future of E-Markets; Inter- Organizational E-Commerce transactions; Advantages and Disadvantages of Inter-Organizational E-Commerce.

Recommend Books – 1. Business on the net - by Kamlesh N. Agarawala , Amit Lal & Deeksha Agarawal (Macmillan India Ltd.).

HTML & Internet Applications

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

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

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

Anchor ,Targeting NAME Anchors ,TITLE attribute, Practical IT Application. Designing web pages links with each other, Designing Frames in HTML. Practical examples.

4. Creating Business Websites with Dynamic Web Pages – Concept of static web pages and dynamic web pages, Introduction to scripting, Types of Scripting languages, Scripting Files, Client Side Scripting with VB/Jscript/JavaScript, Practical examples of Client side scripting. Identifying Objects & Events, and Creating & Implementing Common Methods,. Hosting & promotion of the web site, Domain Name Registration, Web Space allocation , Uploading / Downloading the website- FTP, cute FTP. Web Site Promotion Search Engines, Banner Advertisements.

5. Internet - Technical foundation of Internet, Internet Service Provider, Anatomy of Internet, ARPANET and Internet History of World Wide Web, Services Available on Internet; Basic Internet Terminologies. Client server computing, Distributed Computing, Domain naming system, DNS Server, Internet Security, Internet Applications.

Recommend Books –

1. Business on the net - by Kamlesh N. Agarawala, Amit Lal & Deeksha Agarawal
2. Introduction to HTML by Kamlesh N. Agarwala, O.P.Vyas, Prateek A. Agarwala.
3.. ASP Developer"s Guide – by Greg Buczek (TATA McGraw Hill).
4. Information Technology Act 2000: www.mit.gov.in/it-bill.htm

Online Resources— Indian Case Studies: URL's of some of the websites

India"s first e-Commerce B2C e-tailer: www.fabmart.com

India"s first online trading netpreneurs www.icicidirect.com

India"s first alternative payment alternative: www.billjunction.com

Indian online grocery establishments: www.fabmart.com; www.sangam.com; www.subiksha.com; and www.myfoodworld.com for example.

India bank"s offering Internet banking services: www.icicibank.com; www.hdfcbank.com; www.gtb.com , for example.

DCA108 : Practical based on DCA105 & DCA107

PYTHON PROGRAMMING LAB

Course Outcome: At the end of course, Students will be able to
- Learn the Numbers, Math functions, Strings, List in Python.
- Learn the tuples and dictionaries in Python.
- Demonstrate proficiency in handling of loops and creation of functions.
- Identify the methods to create and manipulate lists, tuples and dictionaries.
- Express different decision making statements and functions.

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

Program 1	-	20
Program 2	-	20
Program 3	-	20
Viva	-	20
(Practical Record + Internal Record)	-	20
	Total	**100**

List of Practical

1. Write a program that reads an integer value and prints —leap year or —not a leap year.
2. Write a program that takes a positive integer a and then produces n lines of output shown as follows.
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.

List of Practical of 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, pape rname)

Write SQL statements for the following –
   a. Create the above tables with the given specifications and constraints.
   b. Insert about 10 rows as are appropriate to solve the following queries.
   c. List the names of the teachers teaching computer subjects.
   d. List the names and cities of all staff working in your college.
   e. List the names and cities of all staff working in your college who earn more than15,000
   f. Find the staffs whose names start with 'M' or 'R' and ends with 'A' and/or 7 characters long.
   g. Find the staffs whose date of joining is2005.
   h. Modify the database so that staff N1 now works in C2College.
   i. List the names of subjects, which T1 teaches in this session or all sessions.
   j. Find the classes that T1 do not teach at present session.
       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 ofC2
       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.
       f. List maximum, average, minimum salary of each college
       a. List the names of the teachers, departments teaching in more than one department.
       b. Acquire details of staffs by name in a college or each college.
       c. Find the names of staff that earn more than each staff of C2College.
       d. Give all principals a 10% rise in salary unless their salary becomes greater than 20,000 in such case give 5%rise.
       e. Find all staff that do not work in same cities as the colleges they work.
       f. List names of employees in ascending order according to salary who are working in your college or all colleges.
           a. Create a view having fields sname, cname, dept, DOJ, andpost
           b. Create a view consisting of cname, average salary and total salary of all staff in that college.
           c. Select the colleges having highest and lowest average salary using above views.
           d. List the staff names of a department using above views.

2. Create the following database,
   Enrollment (enrollno, name, gender, DOB, address, phone)

   Admission (admno, enrollno, course, yearsem, date, cname) Colleges (cname, city, address, phone, afdate)
   FeeStructure (course, yearsem, fee)
   Payment (billno, admno, amount, pdate, purpose)
   a. Create the above tables with the given specifications and constraints.
   b. Insert about 10 rows as are appropriate to solve the following queries.

e. Find the college that has the smallest payroll.
f. Find the colleges where the total salary is greater than the average salary of all colleges.
g. List maximum, average, minimum salary of each college

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

a. Find the classes that T1 do not teach at present session.
b. List the names of the teachers, departments teaching in more than one departments.
c. Acquire details of staffs by name in a college or each college.
d. Find the names of staff who earn more than each staff of C2college.
e. Give all principals a 10% rise in salary unless their salary becomes greater than 20,000 in such case give 5%rise.
f. Find all staff who do not work in same cities as the colleges they work.
g. List names of employees in ascending order according to salary who are working in your college or all colleges.

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

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

9. Enrollment (enrollno, name, gender, DOB, address, phone)
Admission (admno, enrollno, course, yearsem, date, cname)
Colleges (cname, city, address, phone,afdate)
FeeStructure (course, yearsem, fee)
Payment (billno, admno, amount, pdate, purpose)

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

10. Enrollment (enrollno, name, gender, DOB, address, phone)
Admission (admno, enrollno, course, yearsem, date, cname)
Colleges (cname, city, address, phone,afdate)
FeeStructure (course, yearsem, fee)
Payment (billno, admno, amount, pdate, purpose)

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

11. Subjects (paperid, subject, paper,papername)
Test (paperid, date, time, max,min)
Score (rollno, paperid, marks, attendance) Students (admno, rollno, class, yearsem)

c. Get full detail of all students who took admission this year class wise
d. Get detail of students who took admission in Bhilai colleges.
e. Calculate the total amount of fees collected in this session
  i) By your college ii) by each college iii) by all colleges
    a. List the students who have not 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.

3. Create the following database,
      Subjects (paperid, subject, paper, papername) Test (paperid, date, time, max, min)
      Score (rollno, paperid, marks, attendence) Students (admno, rollno, class, yearsem)
        a. Create the above tables with the given specifications and constraints.
        b. Insert about 10 rows as are appropriate to solve the following queries.
        c. List the students who were present in a paper of a subject.
        d. List all roll numbers who have passed in first division.
        e. List all students in BCA-II who have scored higher than average
           i) in your college   ii) in every college
        f. List the highest score, average and minimum score in BCA-II   i) in your college ii)in
           every college

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

Write SQL statements for the following –
a. Create the above tables with the given specifications and constraints.
b. Insert about 10 rows as are appropriate to solve the following queries.
c. List the names of the teachers teaching computer subjects.
d. List the names and cities of all staff working in your college.
e. List the names and cities of all staff working in your college who earn more than15,000

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

a. Find the staffs whose names start with 'M' or 'R' and ends with 'A' and/or 7 characters long.
b. Find the staffs whose date of joining is2005.
c. Modify the database so that staff N1 now works in C2college.
d. List the names of subjects which T1 teaches in this session or all sessions.

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

a. Find the classes that T1 do not teach at present session.
b. Find the college who have most number of staffs.
c. Find the staffs who earn a higher salary who earn greater than average salary of their college.
d. Find the colleges whose average salary is more than average salary ofC2

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

HTML LIST OF PRACTICALS

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

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

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

- C ☐ C++
- Fortran
- 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 REPORT

Pandit Ravishankar Shukla University		
NAME	ROLL NO.	CLASS
Rahul	40	BCA-1
Preeti	85	BCA-1
Priya	74	BCA-1
Richa	95	BCA-1

Q.10. 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.11. Create an HTML document and embed a flash movie in it.

Q.12. 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	75

Q.13. 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.14. Write an HTML program to create a form as the following:

Enter Name: [   ]

Enter Roll No.: [   ]

Enter Age: [   ]

Enter DOB: [   ]

Q.15. 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.16. Create the following HTML form.

USERNAME :
PASSWORD :

When user types characters in a password field, the browser displays
asterisks or bullets instead of characters.

Submit Query

Done   My Computer   100%

Q.17. Create the following HTML form.

FIRSTNAME :
LASTNAME :

GENDER :
Male ○ Female ○

SUBJECTS: Multimedia
Multimedia
Operating System
CSA

Submit Query

Q.18. Create the following HTML form.

Q.19. 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.20. Write the HTML code to display the following:

- Actors o Bruce Willis
  o Gerard Butler
  o Vin Diesel
  o Bradd Pitt
- Actress
  o Julia Roberts
  o Angelina Jolie
  o Kate Wins let
  o Cameron Diaz

Q.21. Write the HTML code to display the following:
1. Cricket Players
A. Batsman
    i. Sachin Tendulkar
    ii. Rahul Dravid
    iii. Virendra Sehwag
B. Bowler
    d. Kumble
    e. Zaheer Khan
    f. Balaji
C. Spinner
    d) Harbhajan
    e) Kumble
    f) Kartik

Enter your name : [   ]
Enter your rollno : [   ]

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

Class: [BCA I ▾]
       | BCA I |
       | BCA II |
       | BCA III |

[Submit Query]