APPENDIX – E

BCCA Part – I

Semester – I

Paper - I: English – I (Communication Skills)

UNIT – I
Language as Skill of Communication, Phonetics, Articles, The Proposition, Tenses, Subject-Verb Accord, The Infinitive, The Participle, Clauses, Degrees of Comparison, Transformation of Sentences, Direct and Indirect Speech.

UNIT – II
Modifiers, Sentence Connectives, The Gerund, Punctuation and Capitalization, Vocabulary, Use of Abbreviations, Correct Usage, Differentiating the Pairs of Words, Eponym, Concord, Homophones, Letter Writing.

UNIT – III
Paragraph Writing, Proposal Writing, Verbal Communication, Oral Presentation, Technical Written Communication, Forms of Technical Writing, Report Writing, Advertising, Precis Writing.

UNIT – IV
Collections of Short Essays, Collections of Short Stories, Interview Skills and Group Discussion, Communication : Process & Elements, Reading Comprehension, Principle of Public Speaking, How to Create a Power Presentation, Speaking Skills, Listening Skills.

Text Book:
1. Er. A. K. Jain, Dr. Pravin S. R. Bhatia, Dr. A. M. Sheikh, Professional Communication Skills, S. Chand.

Reference Books:
1. Tracy Bretag, Jaonna Crossman, Sarbari Bordia, Communication Skills, McGraw-Hill.
2. Dr. S. S. Narula, Personality Development & Communication Skills,Taxmann.
3. Anne Eisenberg, ABeginner's Guide to Technical Communication, McGraw-Hill.

Paper - II: Financial Accounting

UNIT – I

Introduction to Financial Accounting: Accounting as an information system, Financial, cost and management Accounting and their interrelationships, Finance Function and Accounting, Accounting as an academic Discipline, Accounting as an Career and Profession, Place of Accounting Officers in the Organization, Auditing and Internal Control, Ethical Issues in Accounting, Forms of Organizations and Their Effect on Accounting, Accounting and Corporate Governance. **Accounting Concepts, Standards and IFRS:** Introduction ,Accounting Concepts and Convention, Accounting Policies, Generally Accepted Accounting Principles(GAAP), International Financial Reporting Standards(IFRS),Indian Accounting Standards(Ind AS),India's Road map to Convergence with IFRS, Indian Government Accounting Standards(IGAS). **Presentation of Financial Statements: Balance Sheet:** Conceptual Basis of a Balance Sheet, Capital and Revenue Expenditure and receipts, Classification of Item on a Balance sheet, Format of Balance Sheet, Balance Sheet Equation, Preparing Balance Sheet.

UNIT – II

Preparation of final Accounts: The Income Statements: Introduction, Format of Profit and Loss Account, Profit and Loss account of a Manufacturing Concern, Appropriation of Profit, Advantages of Profit and Loss Account. **Mechanics of Accounting:** Introduction, Classification of Accounts, Double Entry System, Overview of Accounting cycle, Preparing journals, Subsidiary Books, Ledger, Preparation of Trial Balance, Accounting Errors and Their Rectification, Bank Reconciliation statement (BRS), Computerised Accounting. **Fixed Assets and Depreciation Accounting:** Introduction, Cost of Fixed Assets, Depreciation, Method of computing depreciation, Accounting Treatments for transactions, Impairment of Assets.

UNIT – III

Inventory Valuation: Introduction, Record Keeping for Inventory, Perpetual inventory System, Inventory Valuation/Measurement, Methods of Valuation of Inventories, Analysis of Inventories. **Corporate Accounts:** Introduction to Companies, Types of Companies, Shares and Share Capital, Issue of Shares. **Share Issue:** Payments in Installment, Buyback of Shares, Debentures and Bonds, Income Statement/Profit and Loss Account, Balance Sheet, Company Annual Report. **Cash Flow Statement:** Introduction to Cash Flow Statement, Cash and Cash Equivalents, Cash Flow Activities, Operating Activities, Some Special Items, Free cash Flow, Fund Flow Statement, Analysis of cash Flow Statement, Preparation of cash Flow Statement.

UNIT – IV

Financial Statement Analysis: Introduction Techniques for financial Statement Analysis Horizontal Analysis: Comparative and Trend Statements, Vertical Analysis: Common Size, Liquidity Ratios: Current and Quick Ratio, Solvency Ratios: D/E, Interest Coverage, Profitability ratios: (GP,NP,EBIT,EBDITA,EPS), Return Ratios: ROI, ROE, Turnover Ratios, Analysis of Stock and Debtors, Working Capital Management, Stock Prices and Financial Data: P/E. **Investments:** Introduction, Financial Instruments, Assets and Liabilities, Joint Ventures, Subsidiaries and Associates, Consolidated Financial Statement, Business Combinations, Accounting for Investments, Contemporary Issues in Accounting : Introduction ,Foreign Currency Accounting , Creative Accounting, Forensic Accounting , Environmental Accounting, Lean Accounting ,Human Resource Accounting, Objectives of Human resource Accounting, HRA in India, Inflation Accounting, Responsibility Accounting, Transfer Pricing, Segment reporting, Extensible business Reporting Language(XBRL).

Text Book:
1. Varadraj Bapat, Mehul Raithatha, Financial Accounting, McGraw-Hill.

Reference Books:
1. M.N. Arora, K.V.Achalapati, S.Brinda, Finiancial Accounting, Taxmann
2. M. Hanif, A. Mukherjee, Financial Accounting, McGraw-Hill.
3. N. Ramachandran, Ram Kumar Kakani, Financial Accounting for management, McGraw-Hill.
4. Dhanesh K Khatri, Accounting for Management, McGraw-Hill.

Paper - III: Fundamentals of Computer

UNIT – I
Understanding the Computer: Introduction, Evolution of computers, Generation of computers, Classification of computers, Computing concepts, The computer system, Application of computers. **Computer Organization and Architecture:** Introduction, Central processing unit, Internal communications, Machine cycle, The bus, Instruction set. **Memory and Storage Systems:** Introduction, Memory representation, Random Access Memory, Read Only Memory, Storage systems, Magnetic storage systems, Optical storage systems, Magneto optical system, Solid-state storage devices, storage evaluation criteria.

UNIT – II
Input Devices: Introduction, Keyboard, Pointing devices, Scanning devices, Optical recognition devices, Digital camera, Voice recognition system, Data acquisition sensors, Media input devices. **Output Devices:** Introduction, Display monitors, Printers, Impact printers, Non-impact printers, Plotters, Voice output systems, Projectors, Terminals. **Computer Codes:** Introduction, Decimal system, Binary system, Hexadecimal system, Octal system, 4-bit Binary Coded Decimal(BCD) Systems, 8-bit BCD Systems, 16-bit Unicode, Conversion of numbers

UNIT – III
Computer Software: Introduction, Types of computer software, System management programs, System development programs, standard application programs, Unique application programs, Problem solving, Structuring the logic, Using the computer. **Programming Languages:** Introduction, History of programming languages, Generations of programming languages, Characteristics of good programming languages, Categorization of High-level languages, Popular High-level languages, Factors affecting the choice of languages, Developing a program, Running a program. **Data Communication and Networks:** Introduction, Data communication using modem, Computer network, Network topologies, Network protocol and software, Application of network.

UNIT – IV
Operating Systems: Introduction, History of operating systems, Functions of operating systems, Process management, Memory management, File management, Device management, Security management, Types of operating systems, Providing user interface, Popular operating systems. **Microsoft Software:** Introduction, MS-DOS, MS Word systems, MS Excel systems, MS PowerPoint systems, MS Access systems, MS Publisher,

Text Book:
1. E Balagurusamy, Fundamentals of Computers, Mc Graw Hill Education.

Reference Books:
1. Dr. Rajiv Midha, S. Brinda, Fundamental of Information Technology, Taxmann.
2. Madhulika Jain, Shashank Jain, Satish Jain, Information Technology Concepts, BPB Publication.
3. Dr. Rajiv Midha, Information Technology, Taxmann
4. B. Ram, Computer Fundamentals (Architecture & organization), New Age International Publisher.
5. Turban, Rainer, Potter, Introduction to Information Technology, Wiley India Edition.
6. Sanjay Saxsena, Introduction to Information Technology, Vikash Publishing House Pvt. Ltd.
7. Dr. Sushila Madan, Information Technology, Taxmann.

Practical List of Fundamentals of Computer

1. Insert a line chart with the following data. Specify Chart title as "Yearly Income (In Lakhs)".

COUNTRIES	GOLD	DIAMOND	IRON ORE
INDIA	50	35	60
USA	40	40	35
CHINA	45	55	60
JAPAN	60	65	70

2. Create a Table of Contents for Generations of Computers.
3. Create the following result card in Ms-Word

Mount Carmel School
Sector 46, Chandigarh.

Class 9th Roll No. 123
Student Name   Maninder Raj
Father's Name   Sh.S.S. Chauhan

Result Card
Term-II Examination

Subject	Max. Marks	Marks Obtained
English	100	92
Maths	100	93
Science	100	98
Social Studies	100	88
Hindi	100	78
Computer Science	100	90
Total	600	539

Position in the Class: IInd
Remarks: Good
Parents Signature   Principal Signature

4. Write all the options of standard and formatting toolbar. Use different types of bullets and numbering. Divide the page in two columns.
5. Using Mail merge, write a letter to all the selected candidate for their final interview on 20th Sep 2008 at Dotcom Services Ltd, Nawab Layout, Nagpur 10 at 11:00 am along with necessary documents, resume and 2 Passport size photographs.
6. Create the following table by Insert Table option of MS Word

Country	Population Chart	
	Year	Population (In Lakhs)
INDIA	1998	80
	1999	90
	2000	100
USA	1998	60
	1999	70
	2000	80
UK	1998	70
	1999	75
	2000	80
Total Population		

Apply Auto format (Table web2) to the above table.
Calculate Total Population by using formula "SUM".

7. Create your resume using Resume Wizard.(Using Templates)
8. Write a Cotemporary letter regarding launch of new product in a company.(Using Templates).
9. Make a list of the following functions with example and syntax.

i.	Sum	ix.	Upper
ii.	Average	x.	Lower
iii.	Max	xi.	Today
iv.	Min	xii.	Now
v.	Count	xiii.	Roman
vi.	Round	xiv.	Mean
vii.	Sqrt	xv.	Median
viii.	ABS	xvi.	Mode

10. Calculate Profit and prepare a Column chart in MS Excel using the data.

Month	Net Sales (Rs. Lakhs)	Total Cost (Rs. Lakhs)	Profit (Rs. Lakhs)
Jan-02	22	18	
Feb-02	24	9	
Mar-02	32	24	
Apr-02	26	23	
May-02	30	24	
Jun-02	34	25	
Jul-02	35	30	

a) Give chart Title - Profit Report
b) X axis Title   - Months
c) Y axis Title   - Amt(in Lakhs)

11. Prepare billing report for M/s.Total Synergy Consultancy Private Limited (TSCPL) in MS Excel.

Consultant	Qtr 1	Qtr 2	Qtr3	Qtr 4	Yearly Total
				Figures in '000	
R.Bhatnagar	Rs9,752.00	Rs10,129.00	Rs8,212.00	Rs7,032.00	
M.Lath	Rs5,755.00	Rs6,477.00	Rs5,447.00	Rs4,584.00	
P.Sharma	Rs6,769.00	Rs6,758.00	Rs6,378.00	Rs1,644.00	
K.Pandey	Rs3,708.00	Rs5,795.00	Rs6,188.00	Rs1,636.00	
M.Swamy	Rs5,009.00	Rs2,009.00	Rs7,643.00	Rs7,323.00	
Total➔					

Prepare Pie Chart showing consultant's contribution to Total yearly Billing from the above example.

12. Prepare a statement of Marks (Calculate the Total Marks, Average and Grade using functions Sum, Average and IF).

Criteria for Grade: Average >=75 ----Distinction
Average >=60 ----First
Average >=50 ----Second
Average >=45 ----Third

13. Prepare the following table in a worksheet using Ms-Excel

Name	Basic	DA	HRA	Gross Pay	PF	Net Pay
Rojer	10000	2000	2780			
Mack	20000	1050	1500			
Simon	35000	2100	1900			
Fredric	25000	2500	2100			
Harry	20000	1000	1500			

Perform the following calculations:
   a) Gross Pay=Basic Pay +DA+HRA
   b) PF=12% of DA
   c) Net Pay=Gross Pay- PF

Perform the following formatting:
   a) Set column width=10
   b) Set row height=15
   c) Text Alignment:
         i. Horizontal : Center
        ii. Vertical   : Centre

14. Prepare following table for "DOTCOM SOLUTIONS LIMITED"

DOTCOM SOLUTIONS LIMITED				
INVENTORY DATABASE				
INV.CODE	DESC	QTY	RATE	PRICE
P1002	TV-COLOUR 21"	35	11000	
P1001	TV-COLOUR 29"	15	28000	
P1003	DVD	20	12000	
P1007	STERIO	53	6000	
P1008	WASHING MACHINE	21	18000	
P1005	REFRIGERATOR	40	8000	
P0004	DISH WASHER	5	20000	
P1009	MIXER	35	3000	
P1010	GRINDER	20	5000	

   i) Calculate price and apply Auto format to the above table.
   ii) Sort the records in the table in ascending order of INV.CODE.

15. Using conditional formatting on the above table perform the following :
   a) Highlight those INV.CODE values where INV.CODE is greater than P1005.
   b) Highlight those quantity values where Qty is between 30 and 50.
   c) Highlight (Single Underline) the rate values where rate is less than 10000 and (Bold) greater than or equal to 20000.
   d) Highlight (Strikethrough) the price value where price is equal to 3, 20,000 and (Bold-Italic) not equal to 1, 00,000.

16. Following data of DOTCOM SOLUTIONS LTD. is given
   Sales   Rs.40, 00,000
   Variable costs   Rs.30, 00,000
   Fixed expenses   Rs.70, 000

   Calculate:
   I. Contribution
   II. Profit Volume Ratio
   III. Break Even Point
   IV. Margin of Safety
      NOTE: Contribution=sales – variable cost
         PVR= (contribution /sales) *100
         BEP = (fixed cost / PVR)*100
         MOS=Profit / PVR*100
         Profit=contribution-fixed expense

17. Use IF Function
   i. From the data given below check whether the expenses are over budget or within budget using function IF.

Actual Expenses	Predicted Expenses	Over/Within Budget
1500	900	
500	900	
500	925	
2000	1500	

ii. Design a mark sheet and enter record of any 5 students for three subject and check whether their result is PASS or FAIL using (IF-AND).
Table structure should be as given:

Sr. No	Student Name	Marks			
		Subject 1	Subject2	Subject3	Result(PASS/FAIL)

Condition: result will be "PASS" if marks of each subject are greater than 45.

18. Enter the following data in MS-Excel

Property Value	Commission
100,000	7,000
200,000	14,000
300,000	21,000
400,000	28,000

From the above data calculate the following using function SUMIF
- Sum of the commissions for property values over 160,000
- Sum of the commissions for property values below 300,000.
- Sum of the commissions for property values over 100,000

19. Create Timetable by inserting table in Power Point.
20. Using the following data create a chart in power Point.

	Sub 1	Sub 2	Sub 3	Sub 4
John	56	56	60	67
Rita	45	67	80	45
Joseph	56	67	89	78

9. Create a Power Point presentation using Auto Content Wizard.
10. Create a PowerPoint presentation showing various features of MS Office. Demonstrate the use of master slide.
11. Create a Power Point presentation listing various design templates available. Use various types of bullets and numbering. Each slide should have Animation effect.
12. Create a Power Point Presentation for explaining various network topologies.
13. Create an advertisement in Power Point with maximum 6 slides. Each slide should have custom animation.

14. Create a table **EmpMaster** in MS-ACCESS with following details:

Field Name	Data Type	Description
Emp_Id	Text	Size=15, Input Mask: ###-##-###
Emp_Name	Text	Size=20, Format: > (Display in Uppercase)
Address	Text	Size=30
Joining_date	Date	Format="Short date", Validation rule = Employee joined between 01/01/07 and date()
Married	Yes/No	
No_of_Children	Number	Validation Rule : not more than 2 (<=2)

a) Set Emp_Id as Primary key. b) Insert information about 10 Employees.

c) Use column width as best fit.

d) Print the table design view and datasheet view.

15. Create a table **BookDetails** in MS-ACCESS with following details:

Field Name	Data Type	Description
Book_Id	Text	Size=3 , Like Eg: B101
Title	Text	Size=20, Format: < (Display in lowercase)
Author	Text	Size=20, Format: > (display in uppercase)
Publication	Text	Size=30
Edition_No	Number	Format=Byte
Price	Currency	Use Currency Symbol Rs.
Pages	Number	Format=Byte

a) Set Book_Id as Primary key. b) Insert information about 10 Books.

c) Use column width as best fit.

d) Print the table design view and datasheet view.

16. Consider the following table and perform the operation given below:

ProductDetails

Prod_Id	Prod_Name	Company_Name	Country
101	Chavanprash	Dabur Ltd	India
121	Chocolates	Amul Ltd	India
126	Face wash	Amway Ltd	USA
163	Soap	Hindustan Lever Ltd	India
132	Cold Cream	Nivea Ltd	Germany
135	Hair Gel	L'Oreal Pvt Ltd	Australia
111	Deodorant	Coty Incorporation	South Africa
106	Hair Shampoo	Amway Ltd	USA

a) Select only those records whose country = "India"

b) Select only those record whose company = "Amway Ltd"

c) Print the table datasheet view of both a) and b) after selection.

17. Consider the following table and perform the operation given below
    Employee_Details

Emp_Id	Emp_Name	Desg	Dept_Name	Add	City	Sal
1	Rakesh	Programmer	CMP	Ramanagar	Nagpur	Rs. 10,000.00
2	Amit	Clerk	ACT	Khamla	Nagpur	Rs. 4,500.00
3	Anjali	Operator	REC	Sadar	Nagpur	Rs. 2,200.00
4	Sachin	Accountant	ACT	Tilaknagar	Nagpur	Rs. 11,500.00
5	Sagar	Sr. Accountant	ACT	Ravinagar	Nagpur	Rs. 12,500.00
6	Abhilash	Operator	STO	Dharampeth	Nagpur	Rs. 2,200.00

  o Select Emp_Name, Desg and Sal from Employee_Details.
  o Select All fields from Employee_Details where Dept_Name = "ACT" AND Sal > 4000.
  o Print the Query design view, Datasheet view and SQL view of a) and b

18. Consider the following table and perform the operation given below
    Account

AcctId	AcctType	Amount
A1	Saving	Rs.50,000.00
A2	Saving	Rs.25,000.00
A3	Fixed	Rs.100,000.00
A4	Fixed	Rs.55,000.00
A5	Saving	Rs.25,000.00

  a) DELETE FROM Account WHERE Amount <=25,000
  b) Print the Query design view, Datasheet view and SQL view.

19. Make a directory naming CPC in DOS. Under that make three sub directories BCAI, BCA II, BCAIII. Also explain the commands used in making the directories and subdirectories in DOS.

20. Using Tree Command in DOS make the following tree diagram
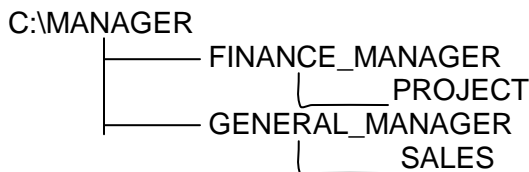
           C:\MANAGER
                   ┌──── FINANCE_MANAGER
                   │   └─────PROJECT
                   ├──── GENERAL_MANAGER
                              └───── SALES
    Also explain the commands used in making the above tree diagram.

21. Using tree command in DOS make the following tree diagram
                      C:\CPC
                      └──── BCA
                          ├──── BCAI
                          │   BCAII
                          └──── BCAIII
                          └──── MCM
                              ├──── MCMI
                              └──── MCMII
                          └──── PGDCCA
    Also explain the commands used in making the above tree diagram.
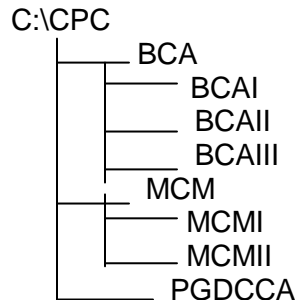
22. Make a file named "compute.txt" in DOS and write the definition and characteristics of computer in that file.

Rename the file compute.txt to computer.txt.

Also explain the commands used in making the file and renaming file. Explain the difference between copy and ren Command.

23. Make a file named "compute.txt" in DOS and write the definition and characteristics of computer in that file.

Copy the contents of file compute.txt to computer.txt.

Also explain the commands used in making the file and copying the contents of one file to another file.

24. Make a file named file1.txt in DOS and enter the following text in that file.

WWW can be defined as a set of standards for storing, retrieving, formatting and displaying information using client/server architecture, graphical user interfaces and a hypertext language that enables dynamic link to documents. World Wide Web is a repository of information spread all over the world and linked together.

Copy the contents of file1.txt to file2.txt also explain the difference between rename and copy command.

Paper - IV: Programming in 'C'

UNIT – I
Data Types, Operators and some statements: Identifiers and keywords, Constants, C Operators, Type Conversion. **Writing a Program in C:** Variable declaration, Statements, Simple C Programs, Simple Input Statements, Simple Output Statements, and Features of stdio.h. **Control Statements:** Conditional Expressions, Loop Statements, Breaking control statements.

UNIT – II
Function and Program Structures: Introduction, Defining a Function, Return Statement, Types of Functions, Actual & Formal Arguments, Local & Global Variables, Multifunction Program, and The Scope of Variables, Recursive Function, and ANSI Function Slandered. **Arrays:** Array Notation, Array Declaration, Array Initialization, Processing with Arrays, Arrays and Functions, Multidimensional Array, Character Array.

UNIT – III
Pointers: Pointer Declaration, Pointer Arithmetic, Pointers and Functions, Pointers and Arrays, Pointer and Strings, Array of Pointers, Pointers to Pointers. **More on Functions:** Pre-processors, Macros, Header Files, standard Functions.

UNIT-IV
Structures, unions and Bit Fields: Declaration of Structure, Initializing a Structure, Functions and Structures, Array of Structure, Arrays within Structure, Structure within structure, Pointer and ?Structure, Union, Bit Fields, Typedef Enumerations. **Data File Operations:** Review of input/output Functions, Opening and Closing of files, Simple File Operation, Structures and File Operation, Block Read/Write, More on File operations, Low level File operations, Random Access File processing.

Text Book:
1. D. Ravichandran, Programming in C, New Age International Publishers.

Reference Books:
1. E. Balaguruswami, Programming in ANSI C, McGraw-Hill.
2. R Subburaj, Programming in C, Vikash Publishing House Pvt. Ltd.
3. S. K. Shrivastava & Dipali Srivastava, C in Depth, BPB Publication.
4. Yashwant Kanetkar, Let Us C, BPB Publication, 9th Edition.
5. Veugopal Prasad, Mastering C, McGraw-Hill.
6. Schildt, The Complete Reference C, McGraw-Hill.

Practical List of Programming in C

A1. Draw a flowchart, write an algorithm and program in "C" to check whether the entered character is either alphabet, Digit or Special Character.

A2. Draw a flowchart, write an algorithm and program in "C" to check whether the entered character is in either Uppercase or Lowercase and also convert that character either in Uppercase or Lowercase by using toupper(), tolower(), getchar(), putchar( ), isupper( ) and islower( ) library functions.

A3. Draw a flowchart, write an algorithm and program in "C" to generate the mark sheet of student using following information.
   a. Name of the student.
   b. Roll Number
   c. Course Name
   d. Marks of 5 subjects, each subject carries 100 marks. Passing marks of each subject is 45.
   e. Calculate Total Marks.
   f. Calculate Percentage.
   g. Display the Result, the conditions for result is –
      ➢ Result = "Pass", if the student get 50% aggregate and must not get less than 45 marks in each subject.
      ➢ Else Result = "Fail"
   h. Display the Grade, The grade will be –
      ➢ Grade = "Distinction", If Percentage>=75.
      ➢ Grade = "First Class", If 60 <= Percentage < 75.
      ➢ Grade = "Second Class, If 50 <= Percentage <60.
      ➢ Grade = "Fail", If Percentage < 50.

A4. Draw a flowchart, write an algorithm and program in "C" to generate and print Fibonacci series and check whether each number is prime or unprimed.

A5. Draw a flowchart, write an algorithm and program in "C" to generate and print Fibonacci series and check whether each number is EVEN or ODD.

A6. Draw a flowchart; write an algorithm and program in "C" to convert the total number of days into number of years, months and remaining days. Consider 360 days in a year and 30 days in month.

A7. Draw a flowchart; write an algorithm and program in "C" to perform the following arithmetic operations using arithmetic operators in switch statement. The Arithmetic operations are addition (+), Subtraction (-), Multiplication (*), Integer Division (/) Real Division (/), modulo (%) and Raise to power (^).

A8. Draw a flowchart; write an algorithm and program in "C" to check the entered character is vowel or not using switch statement.

A9. Draw a flowchart; write an algorithm and program in "C" to convert Decimal Number to its equivalent Binary Number.

A10. Draw a flowchart; write an algorithm and program in "C" to convert Binary Number to its equivalent Decimal Number.

A11. Draw a flowchart; write an algorithm and program in "C" to find LCM and HCF of two numbers.

A12. Draw a flowchart, write an algorithm and program in "C" to Print and evaluate the following series. The series is -----
Sum = (x)+(x^2/2!))+(x^3/3!))+(x^4/4!) +(x^5/5!))+………………..

A13. Draw a flowchart, write an algorithm and program in "C" to Print and evaluate the following series. The series is -----
Sum = (x)+(x^3/3!))+(x^5/5!))+(x^7/7!) +(x^9/9!))+………………..

A14. Draw a flowchart, write an algorithm and program in "C" to enter the Nine digit number, find and print even and odd numbers from that nine digit number also find the summation of all even number and odd numbers.

A15. Draw a flowchart, write an algorithm and program in "C" to check the entered number is Palindrome or not also print the reverse of the given number.

A16. Draw a flowchart, write an algorithm and program in "C" to swap the values of two variables with and without using third variable.

A17. Draw a flowchart, write an algorithm and program in "C" to generate and print the Prime Factors of a given number.

A18. Draw a Flowchart; Write an Algorithm and Program in "C" to Calculate the Mean and Variance of 10 Integer Numbers.
　　　　　　Where　　　　　　Mean = $\Sigma(X_i)/N$ and
　　　　　　　　　Variance $=\Sigma (X_i-\ddot{X})^2/N$

A19. Draw a Flowchart; Write an Algorithm and Program in "C" to Find the Largest and smallest number form a single dimension array.

A20. Draw a Flowchart; Write an Algorithm and Program in "C" to Search an Element from a single dimension array with its position using Sequential search Technique. Print the message "Element found at position _____", if the element present in an array and print message "Element Not Found", If element is not present in an array.

A21. Draw a Flowchart; Write an Algorithm and Program in "C" to insert an element in a given position in an array.

A22. Draw a Flowchart; Write an Algorithm and Program in "C" to delete an element from a given position of an array.

A23. Draw a Flowchart; Write an Algorithm and Program in "C" to Sort elements of a given array using Bubble Sort in an ascending order.

A24. Draw a Flowchart; Write an Algorithm and Program in "C" to find the sum of Each Row and each column of a given Matrix and also find the sum of all elements.

A25. Draw a Flowchart; Write an Algorithm and Program in "C" to convert the matrix into Transpose of Matrix also print both the original and Transpose of Matrix.

A26. Draw a Flowchart; Write an Algorithm and Program in "C" to add two matrices of the given range and print all the three matrices.

A27. Draw a Flowchart; Write an Algorithm and Program in "C" to find the product of two matrices of the given range and print all the three matrices.

A28. Draw a Flowchart; Write an Algorithm and Program in "C" to check the entered String is Palindrome or not with and without using String Manipulation Functions.

A29. Draw a Flowchart; Write an Algorithm and Program in "C" to Find the given character and replace that character with new character of the original text also print the modified text.

A30. Draw a Flowchart; Write an Algorithm and Program in "C" to count the number of spaces, alphabets, digits, special symbols from a given text using String Manipulation Functions.

A31. Draw a Flowchart; Write an Algorithm and Program in "C" to count the number of spaces, alphabets, digits, special symbols from a given text using ASCII Characters.

A32. Draw a Flowchart; Write an Algorithm and Program in "C" to count the number of words and all characters excluding spaces from a given text without using string manipulation Functions.

A33. Draw a Flowchart; Write an Algorithm and Program in "C" to concatenate two strings into third string without using string manipulation Functions.

A34. Draw a flowchart, write an algorithm and program in "C" to Design and Print the following Output of any entered string, for example -

```
P
P    R
P    R    I
P    R    I    N
P    R    I    N    T
P    R    I    N
P    R    I
P    R
P
```

A35. Draw a Flowchart; Write an Algorithm and Program in "C" to Append to string arrays in third array.

A36. Draw a Flowchart; Write an Algorithm and Program in "C" to Sort a String array in either Ascending or Descending order.

A37. Draw a Flowchart; Write an Algorithm and Program in "C" to insert an element in an appropriate position in a sorted array. The array is sorted in an ascending order.

A38. Draw a flowchart, write an algorithm and program in "C" to Design and Print the following Output.

```
                1
            2   3   2
        3   4   5   4   3
    4   5   6   7   6   5   4
5   6   7   8   9   8   7   6   5
```

A39. Draw a flowchart, write an algorithm and program in "C" to Design and Print the following Output.

```
            *
        *   *   *
      *   *   *   *   *
    *   *   *   *   *   *   *
      *   *   *   *   *
        *   *   *
            *
```

A40. Draw a flowchart, write an algorithm and program in "C" to Design and Print the following Output.

```
1
0   1
0   1   0
1   0   1   0
1   0   1   0   1
0   1   0   1   0   1
```

A41. Write an algorithm, draw a flowchart and develop 'C' program to Create a structure Student containing fields for Roll No., Name, Class, Year and Total Marks. Create 10 students and store them in a file.

A42. Write an algorithm, draw a flowchart and develop 'C' program to create a file "abc.txt" and store the text. Copy the content from "abc.txt" to another file "xyz.txt" using putc() and getc() function. Also read the content of both files.

BCCA Part – I

Semester – II

Paper - I: English – II (Business Communication)

UNIT- I
Basic Ideas In The Study of Communication - Nature of Communication, Importance of Communication, Process of Communication, Barriers to Communication, Effective Communication, Communication Theories and Models, Audience Analysis, SWOT Analysis. **Forms of Communication** – Introduction to Classification of Communication, Verbal Communication-Written, Oral, Non-verbal Communication, Dimension/Direction of Communication, Formal and Informal Communication, Modern Forms of Communication-Fax, Internet/Email. **Listening As A Tool of Communication –** Introduction to Listening Skills, Approaches to Listening, Barriers to Effective Listening, Tips for Effective Listening. **Group Communication –** Introduction to Meaning and Definition of Group, Advantages of Group Decision-Making, Techniques of Decision-Making, Meetings, Notice, Agenda, Minutes, Conferences, Seminars, Symposia and Workshops. **Business Letter Writing** – Business Correspondence, Essentials of a Good Business Latter, Structure of a Business Latter, Format of Business Latter, Tips for Clear Writing/Craft of Business Letter Writing

UNIT- II
Enquiries, Quotations And Tender Notices - Enquiries, Quotations (Replies an Enquiries), Tender Notices. **Placing Order and Their Fulfillment –** Order, Fulfillment of Order. **Complaints (Claims) And Adjustments –** Complaints (Claim) Letters, Adjustment Letter (Replies to Complaints). **Circular And Letters –** Circular Letters, Sales Letters. **Collection Letter** – Introduction, Guideline for Writing Collection Letters, First Stage Collection Letter, Persuasive/Firm Reminder, Last Resort Letter/ Final Collection Letter

UNIT- III
Export-Import Correspondence – The Number of Export-Import Correspondence, Export Procedure, Import Procedure, Terminology in Foreign Trade, Specimen Letters **Correspondence With Banks** – Introduction: General Instruction for Writing Banking Letters, Specimen Letters. **Correspondence With Insurance Companies –** Principles of Insurance, Drafting Insurance Letter**,** Specimen Insurance Letters. **Job-Related Letters, Group Discussion, And Interviews –** Job Application, CV (Biodata, Resume), Writing References, Group Discussion, Personal Interview, Appointment and Discharge Letters

UNIT- IV
Correspondence With Public Authorities – Introduction, Correspondence With Government Departments, Correspondence With Income Tax and Sales Tax Authorities, Correspondence With Provident Fund(PF) Authorities, Correspondence With Postal Authorities. **Internal Communication-** Introduction, Memorandum, Office Order, Office Circular, Office Note, Correspondence With Branch Office. **Precis And Summarising –** What is Precis?, Uses of Precis, How to Write a Precis, Some Specimen Precis.**Report And Personal Writing –** Reports, Transmittal Letters, Proposals. **Corporate Communication -** Corporate Communication, House Journals, Corporate Brochures, Information Booklets, Press Releases and Press Conferences, Company Meeting, Agenda, Notice and Minutes, Relation, Basics of Advertisement, International Communication

Text Book:
1. Dr. V. K. Jain, Dr. Omprakash Biyani, Business Communication, S. Chand.

Reference Books:
1. Shalini Verma, Business Communication, Vikash Publishing House Pvt. Ltd.
2. K. K. Sinha, Business Communication, Taxmann.
3. Peter W. Cardon, Business Communication, McGraw-hill.
4. K. K. Sinha, Fundamental of Business Communication, Taxmann
5. Matthukutty M. Monipally, Business Communication, McGraw-hill.
6. P. S. Rathore, Business Ethecs and Communication, S. Chand.
7. Neera Jain, Shoma Mukherji, Effective Business Communication, McGraw-hill.
8. J. P. Parikh, Anshu Surve, Swarnabharati, Asma Bahrainwala, Business Communication, Orient BlackSwan.

Paper - II: Principles of Business Management

UNIT- I
Nature And Functions Of Management – Importance Of Management, Definition Of Management, Management Function Or The Process Of Management, Levels Of Management, Organizational Or Business Functions, Role Of A Senior Management, Managerial Skills, Managerial Effectiveness, Management And Administration, Management- A Science Or An Art?, Management- A Profession?, Professional Management Vs Family Management, Management Of International Business. **Development Of Management Thought-** Early Classical Approaches, Neo-Classical Approaches, Modern Approaches. **Planning**- Nature Of Planning, Importance Of Planning, Types Of Plans, Steps In Planning, Strategic Planning Process, Limitation Of Planning, Making Planning Effective, Planning Skills, Strategic Planning In The Indian Industry. **Decision Making**- Meaning Of Decision, Types Of Decision, Steps In Relational Decision-Making, Rationality In Decision-Making, Environment Of Decision-Making, Common Difficulties In Decision-Making.

UNIT- II
Organization- What Is An Organization?, Process Of Organizing, Principles Of Organizing, Span Of Management, Departmentalization, Process Departmentalization, Purpose Departmentalization, Organization Structure, What Type Of Structure Is Best?, Emerging Organization Structures, Committees, Teams, International Organization Structures. **Coordination** – Distinction Between Coordination And Cooperation, Distinction Between Coordination And Control, Need For Coordination, Requisites For Excellent Coordination, Types Of Coordination, Techniques Of Coordination, Difficulties Of Coordination, Coordinating Global Operations. **Informal Organization** – Why Do Informal Group Forms?, Types Of Informal Groups, Stages Of Group Development, Distinction Between Formal And Informal Organization, Benefits Of Informal Organization To Its Members, Benefits Of Informal Organization To Its Management, Dysfunctional Effects Of Informal Organization, How To Minimize The Dysfunctional Effects Of Informal Organization?, Group Dynamics. **Staffing**- Importance And Need For Proper Staffing, Manpower Planning, Recruitment, Selection, Placement, Induction, Manpower Planning In India, Staffing From A Global Perspective.

UNIT- III
Training And Development- Difference Between Training, Education And Development, Advantages Of Training, Steps In Setting Up A Training And Development Programme, Design And Development Of The Training Programme, Evaluation Of Training And Development, Executive Training Practices In India, Mentoring, Learning Organization, Knowledge Management. **Performance Management**- Purpose Of Appraisal, Steps In Designing Performance Management System, Criteria And Standards Of Performance Appraisal, Frequency Of Appraisal, Performance Appraisal Methods, Limitations Of Traditional Appraisal Methods, Post-Appraisal Interview, Appraisal Of Management, Performance Management In Indian Industries, Expatriate Performance Appraisal, Career Planning And Development, Appraisal Of Organizational Development. **Compensation Plans**- Classification Of Compensation, Primary Compensation, Monetary Incentive, Non-Monetary Incentive, Recognition As A Reward, Benefits, Wage Packet Of Indian Worker, International Compensation. **Direction And Supervision-** Requirements Of Effective Direction, Giving Orders, Motivation, Job Satisfaction, Organizational Commitment, Morale, First-Level Or Front- Line Supervision.

UNIT- IV
Communication- Importance Of Communication, Purpose Of Communication, Formal Communication, Forms Of Communication, Informal Communication, The Communication Process, Barriers To Communication, Principles Of Effective Communication, Communication Networks, Checks On In-Plant Communication, Communication In Indian Industries. **Leadership** – Difference Between A Leader And A Manager, Characteristics Of Leadership, Functions Of A Leader, Traditional Approaches To Leadership, Situational Factors Determining Choice Of Leadership Style, New Approaches To Leadership, Leadership Assessment, Leadership Style In Indian Organization, Worker Participation In Management In India. **Managerial Control-** Steps In A Control Process, Need For Control System, Benefits Of Control, Essentials Of Effective Control System, Problems Of The Control System, Control Techniques. **Organizational Change**- Need For Planned Change, Managing Organizational Change, Requisites For Successful Planned Chase, Recent Planned Changes In The Corporate Sector In India.

Text Book:
1. P. C. Tripathi, P. N. Reddy, Principles of Management, McGraw-Hill.

Reference Books:
1. Prof. Partho S. Sengupta, Principles and Practices of Management, Vikash Publishing House Pvt. Ltd.
2. Neeru Vaisishth, Vibhuti Vasishth, Principles of Management Text & Cases, Taxmann
3. Harold Koontz, Heinz Weihrich, Essentials of management, McGraw-Hill.
4. Neeru Vaisishth, Business Management, Taxmann.
5. R. S. N. Pillai, S. Kala, Principles and Practices of Management, S. Chand.
6. Chandra Bose, Principles of Management & Administration, PHI.

Paper - III: Programming in 'C++'

UNIT – I
Introduction to Object Oriented Programming: Introduction, What is Object Oriented Programming(OOP)?, Structured Procedural programming(SPP), Object Oriented Programming OOP, Characteristics of OOPs, Advantages of OOPs, Disadvantages of OOPs, Comparison of SPP and OOP, Steps in Developing OOP Programs, Structure of Object Oriented Programs, Object Oriented Languages, Importance of C++. **Data Types, Operators and Expressions:** Identifiers & Keywords, Data Types, C++ Simple Data Types, Literals, Variables, the Const Data type, C++ Operators, Type Conversion. **Input and Output Streams:** Comments, Declaration of Variables, the Main () Function, Simple C++ Programs, Program Termination, Features of IOStream, Keyboard and Screen I/O, Manipulator Functions, Input and Output (I/O) Stream Flags. **Control Statements:** Conditional Expressions, Loop Statements, Nested Control Structures, Breaking Control Statements.

UNIT – II
Function and Program Structures: Introduction, Defining a Function, Return Statement, Types of Functions, Actual & Formal Arguments, Local & Global Variables, Default Arguments, Structure of C++ Program, Order of the Function Declaration, Manually invoked Functions, Nested Functions, Scope Rules, Side Effects, Storage Class Specifiers, Recursive Function, Pre-processors, Header Files, Standard Functions. **Arrays:** Introduction, Array Notation, Array Declaration, Array Initialization, Processing with Arrays, Arrays and Functions, Multidimensional Array, Character Array. **Pointers and Strings:** Introduction, Pointer Arithmetic, Pointers and Functions, Pointers to Functions, Pointers and Arrays, Array of Pointers, Pointers to Pointers, Pointer and Strings, Deciphering Complex Declarations. **Structures, Unions and Bit Fields:** Introduction, Declaration of Structure, Processing with Structures, Initialization of Structures, Functions and Structures, Array of Structure, Array within a Structure, Nested Structure, Pointer and Structure, Unions, Bit Fields, Typedef, Enumerations.

UNIT – III
Classes and Objects: Introduction, Structures and Classes, Declaration of Class, Member Functions, Defining the Object of a Class, Accessing a Member of Class, Array of Class Objects, Pointer and Classes, Union and Classes, Classes within classes(Nested Class). **Special Member Function:** Introduction, Constructors,

Destructors, Inline Member Functions, Static Class Members, Friend Function, Dynamic Memory Allocations, This Pointer, Mutable. **Single and Multiple Inheritance:** Introduction, Single Inheritance, Types of Base Classes, Type of Derivation, Ambiguity in Single Inheritance, Array of Class Objects and Single Inheritance, Multiple Inheritance, Container Classes, Member Access Control.

UNIT-IV
Overloading Functions and Operators: Function Overloading, Operator Overloading, Overloading of Binary Operators, Overloading of Unary Operators. **Polymorphism and Virtual Functions:** Polymorphism, Early Binding, Polymorphism with Pointers, Virtual Functions, Late Binding, Pure Virtual Functions, Abstract Base Classes, Constructors under Inheritance, Destructors under Inheritance, Virtual Destructors, Virtual Base Classes. **Templates and Exception Handling:** Function Template, Class Template, Overloading of Function Template, Exception Handling. **Data File Operations:** Opening and Closing of Files, Stream State Member Functions, Reding/Writing a Character from a File, Binary File Operations, Classes and File Operations, Structure and File Operations, Array of Class Objects and File Operations, Nested Class and File Operations. Random Access File Processing.

Text Book:

 1. D. Ravichandran, Programming with C++, McGraw-Hill.

Reference Books:
1. E. Balaguruswami, Object Oriented Programming with C++, McGraw-Hill.
2. Rohit Khurana, Object Oriented Programming with C++, Vikash Publishing House Pvt. Ltd.
3. Anirban Das, Goutam Panigrahi, Object Oriented Programming with C++, Vikash Publishing House Pvt. Ltd.
4. Herbert Schildt, The Complete Reference – C++, McGraw-Hill.

Practical List of Programming in 'C++'

1. Write an algorithm, draw a flowchart and develop a C++ program to print the sum and product of digits of an integer.
2. Write an algorithm, draw a flowchart and develop a C++ program to reverse a number.
3. Write an algorithm, draw a flowchart and develop a C++ program to compute the sum of the first n terms of the following series - S = 1+1/2+1/3+1/4+……
4. Write an algorithm, draw a flowchart and develop a C++ program to compute the sum of the first n terms of the following series - S =1-2+3-4+5…………….
5. Write an algorithm, draw a flowchart and develop a C++ function that checks whether a given string is Palindrome or not. Use this function to find whether the string entered by user is Palindrome or not.
6. Write an algorithm, draw a flowchart and develop a C++ function to find whether a given no. is prime or not. Use the same to generate the prime numbers less than 100.
7. Write an algorithm, draw a flowchart and develop a C++ program to compute the factors of a given number.
8. Write an algorithm, draw a flowchart and develop a C++ program to print a triangle of stars as follows (take number of lines from user):
    *
    ***
    *****

****

****

9. Write an algorithm, draw a flowchart and develop a C++ program to perform following actions on an array entered by the user:
   i) Print the even-valued elements
   ii) Print the odd-valued elements
   iii) Calculate and print the sum and average of the elements of array
   iv) Print the maximum and minimum element of array
   v) Remove the duplicates from the array
   vi) Print the array in reverse order

The program should present a menu to the user and ask for one of the options. The menu should also include options to re-enter array and to quit the program.

10. Write an algorithm, draw a flowchart and develop a C++ program WAP that prints a table indicating the number of occurrences of each alphabet in the text entered as command line arguments.

11. Write an algorithm, draw a flowchart and develop a C++ program to swaps two numbers using pointers.

12. Write an algorithm, draw a flowchart and develop a C++ program in which a function is passed address of two variables and then alter its contents.

13. Write an algorithm, draw a flowchart and develop a C++ program which takes the radius of a circle as input from the user, passes it to another function that computes the area and the circumference of the circle and displays the value of area and circumference from the main() function.

14. Write an algorithm, draw a flowchart and develop a C++ program to find sum of n elements entered by the user. To write this program, allocate memory dynamically using malloc() / calloc() functions or new operator.

15. Write an algorithm, draw a flowchart and develop a C++ program to perform following operations on strings:
   a) Show address of each character in string
   b) Concatenate two strings without using strcat function.
   c) Concatenate two strings using strcat function.
   d) Compare two strings
   e) Calculate length of the string (use pointers)
   f) Convert all lowercase characters to uppercase
   g) Convert all uppercase characters to lowercase
   h) Calculate number of vowels
   i) Reverse the string

16. Write an algorithm, draw a flowchart and develop a C++ program to merge the two-arrays to get an ordered array.

17. Write an algorithm, draw a flowchart and develop a C++ program to display Fibonacci series (i)using recursion, (ii) using iteration

18. Write an algorithm, draw a flowchart and develop a C++ program to calculate Factorial of a number (i)using recursion, (ii) using iteration

19. Write an algorithm, draw a flowchart and develop a C++ program to perform following Matrix operations (2-D array implementation):
   a) Sum b) Difference c) Product d) Transpose

20. Write an algorithm, draw a flowchart and develop a C++ program to create the Person class. Create some objects of this class (by taking information from the user). Inherit the class Person to create two classes Teacher and Student class. Maintain the respective information in the classes and create, display and delete objects of these two classes (Use Runtime Polymorphism).

21. Write an algorithm, draw a flowchart and develop a C++ program to Create a class Triangle. Include overloaded functions for calculating area. Overload assignment operator and equality operator

22. Write an algorithm, draw a flowchart and develop a C++ program to create a structure Student containing fields for Roll No., Name, Class, Year and Total Marks. Create 10 students and store them in a file.
23. Write an algorithm, draw a flowchart and develop a C++ program to retrieve the student information from file created in previous question and print it in following format: Roll No. Name Marks
24. Write an algorithm, draw a flowchart and develop a C++ program to copy the contents of one text file to another file, after removing all whitespaces.
25. Write an algorithm, draw a flowchart and develop a C++ program to demonstrate the use of this pointer.
26. Write an algorithm, draw a flowchart and develop a C++ program to demonstrate the use of single inheritance.
27. Write an algorithm, draw a flowchart and develop a C++ program to create a Marksheet using multilevel inheritance.
28. Write an algorithm, draw a flowchart and develop a C++ program to find largest among two value using friend function.
29. Write an algorithm, draw a flowchart and develop a C++ program to perform unary operator overloading.
30. Write an algorithm, draw a flowchart and develop a C++ program to to perform binary operator overloading.

Paper - IV: E-Commerce and Web Designing

UNIT – I
Introduction to Electronic Commerce
Electronic Commerce : The Scope of Electronic Commerce, Definition of Electronic Commerce, Electronic Commerce and the Trade Cycle, Electronic Markets, Electronic Data Interchange, Internet Commerce, e-Commerce in Perspective. **Business Strategy in an Electronic Age: The** Value Chain, Supply Chains, Porter's Value Chain Model, Inter Organizational Value Chains. **Competitive Advantage:** Competitive Strategy, Porter's Model, First Mover Advantage, Sustainable Competitive Advantage, Competitive advantage using e-Commerce. **Business Strategy:** Introduction to Business Strategy, Strategic Implication of IT, Technology, Business Environment, Business Capability, Existing Business Strategy, Strategy Formulation and Implementation Planning, e-Commerce Implementation, e-Commerce Evaluation. **Case Study: e-Commerce in Passenger Air Transport:** Choices, Airline Booking Systems, Competition and customer Loyalty, Web Booking Systems, Competitive Outcomes

UNIT – II
Business to Business Electronic Commerce
Inter Organizational Transactions: Inter Organizational Transactions, the Credit Transaction Trade Cycle, A Variety of Transaction, Pens and Things. **Electronic Markets: Markets**, Electronic Markets, Usage of Electronic Markets, Advantages and Disadvantages of Electronic Markets, Future of Electronic Markets. **Electronic Data Interchange (EDI):** Introduction to EDI, EDI definition, The Benefits of EDI, EDI Example. **EDI:the Nuts and Bolts :**, EDI technology, EDI Standards, EDI Communications, EDI Implementation, EDI Agreements, EDI Security, Nuts, Bolts and the Tool kit. **EDI and Business :**Organizations that use EDI, EDI Trading Patterns, EDI Transactions, EDI Adoption and EDI Maturity, IOS,EDI an Internet e-Commerce. **Inter Organizational e-Commerce: Inter** Organizational Transaction, Purchasing Online, After Sales Online, e-Commerce in Desk top Facilities Management, Pens and Things and the Web.

UNIT – III
Business to Consumer Electronic Commerce

Consumer Trade Transactions: What you want, when you want it, Internet e-Commerce, The e-Shop, Internet Shopping and the Trade Cycle, Other e-Commerce Technologies, Advantages and Disadvantages of Consumer e-Commerce, Consumer e-Commerce at Pens and Things. **The Elements of e-Commerce :** Elements, e-Visibility, The e-Shop, Online Payments, Delivering the Goods, After Sales Service, Internet e-Commerce Security, A Web Site Evaluation Model. **E-Business: Introduction**, Internet Bookshops, Grocery Supplies, Software Supplies and Support. Electronic Newspapers, Internet Banking, Virtual Auctions, Online Share Dealing, Gambling on the Net, e-Diversity **Introduction to the Internet:** Computer in Business, Networking, Internet, Electronic Mail(E-Mail), Resource Sharing, Gopher, World Wide Web, Usenet, Telnet, Bulletin Board Service, Wide Area Information Service. **Internet Technologies:** Modem, Internet Addressing, Physical Connections, Telephone Lines, Internet Browsers, Internet Explorer, Netscape Navigator. **Introduction to HTML:** Designing a Home Page, History of HTML, HTML Generations, HTML Documents, Anchor Tag, Hyper Links, Sample Html Documents. **Header and Body Sections: Header** Section, Title, Prologue, Links, Colorful Web Page, Comment Lines, Some Sample Html Documents. **Designing the body Section:** Heading Printing, Aligning the Headings, Horizontal Rule, Paragraph Tab Setting, Image and Pictures, Embedding PNG Format Images.

UNIT – IV
Ordered and Unordered Lists: Lists, Unordered Lists, Headings in a List, Ordered Lists, Nested List. **Table Handling: Table**, Table Creation in HTML, Width of the Table and Cells, Cells Spanning Multiple Rows/Columns, Coloring Cells, Columns Specification, Some Sample Tables. **Dhtml and Style Sheets:** Defining Styles, Elements of Styles, Linking a Styles Sheet to an HTML Document, In-Line Styles, External Styles Sheets, Multiple Styles. **Frames:** Frameset Definition, Frame Definition, Nested Framesets. **A web Page Design Project:** Frameset Definition, Animals, Birds, Fish. **Forms: Action** Attribute, Method Attribute, Enctype Attribute, Drop Down List, Sample Forms

Text Books
1. David Whiteley, e-Commerce Strategy, Technologies and Applications, McGraw Hill Education
2. C Xavier, World Wide Web design with HTML, McGraw Hill Education.

Reference Books:
1. Bajaj, Nag, E-Commerce, McGraw-Hill.
2. Eric van der Vlist, Danny Ayers, Erik Bruchez, Joe Fawcett, AlessandroVernet, Professional Web 2.0 Programming, Wiely.
3. Michael P. Papazoglou, Pieter M.A. Ribbers, e-Business, Wiely.
4. Brian P. Hogan, HTML5 and CSS3, Shroff Publishers.
5. Sandeep panda, AngularJS – Novice to Ninja, Shroff Publishers.
6. Web Technologies – Black Book, Dreamtech Press.
7. Mike Mcgrath, Web Design in Easy Steps, McGraw-Hill.
8. Mike Mcgrath, JavaScript in Easy Steps, McGraw-Hill.
9. Mike Mcgrath, CSS3 in Easy Steps, McGraw-Hill.

Practical List of E-Commerce & Web Designing

A1. Write a program in HTML to illustrate the use of Formatting tags => BOLD, ITALIC, UNDERLINE, SUPERSCRIPT, SUBSCRIPT, AND STRIKETHROUGH.

A2. Write a paragraph centrally aligned and change the color of text to BLUE and Background to YELLOW. The size of the font should be 6.

A3. Write a program in HTML to illustrate the below given formats.
   a)   The page should contain a paragraph which is centrally aligned.
   b)   FIRST line of the paragraph should be BOLD and ITALIC.
   c)   STRIKEOUT the Second Line.
   d)   Underline and change the color to RED, of the third line.
   e)   Change the font size of the fourth Line to 5.
   f)   Change the color of the text to GREEN.
   g)   Two horizontal lines below the paragraph.

A4. Write a program in HTML to link two files.
The name of the first file is LINK1.HTML and that of second file is LINK2.HTML.
LINK2.HTML should contain a Back link also.

A5. Write a program in HTML to Design a Table containing 5 columns and 4 rows. The name of the columns should be ENO, NAME, DESIGNATION, SALARY and CITY.

A6. Write a program in HTML to design a Table containing 5 columns and 4 rows. The name of the columns should be ENO, NAME, DESIGNATION, SALARY and CITY. The table should also contain the below given specifications.
   a)   Table should contain BORDER.
   b)   Background color of the Table should be GREEN.
   c)   Color of the Text should be BLUE.
   d)   Text should be centrally aligned in the cell.

A7. Write a program in HTML to Design a Table containing 5 columns and 4 rows. The name of the columns should be ENO, NAME, DESIGNATION, SALARY and CITY. Illustrate the usage of cell padding and cell spacing. Also align the Table to the CENTRE of the page.

A8. Write a program in HTML to illustrate the usage of ROWSPAN in the below given format.

CITY	TOWN
	SHANKAR NAGAR
NAGPUR	DHARAMPETH
	RAMDASPETH
	DADAR
BOMBAY	V.T.
	THANE

A9. Write a program in HTML to illustrate the usage of COLUMN SPAN (COLSPAN) in the below given format.

NAME	LIVING CITY	COMPANY CITY
SUJEET	CHHINDWARA	
TAPAN	NAGPUR	BOMBAY
RAM	BOMBAY	
MOHAN	BANGALORE	

KRISHNA	PUNE	
MANGESH	BOMBAY	NAGPUR
AVINASH	DELHI	

A10. Write a program in HTML to divide the screen horizontally into two sections.

A11. Write a program in HTML to divide the screen vertically into two sections.

A12. Write a program in HTML to divide the Screen into 4 sections.

A13. Write a program in HTML to demonstrate the usage of Marquee text with the below given Specifications.
  a.   Marquee text is INTERNATIONAL COLLEGE.
  b.   Color of text is BLUE.
  c.   Background color is YELLOW.
  d.   Size of Text is 7.
  e.   Direction is LEFT to RIGHT.

A14. Write a program in HTML to demonstrate the use of the Marquee Text with the below given Specifications.
  a.   Marquee Text is INTERNATIONAL COLLEGE.
  b.   Text color is BLUE.
  c.   Repeat the Marquee Text five Times.
  d.   Make use of SCROLLAMOUNT.
  e.   Make use of SCROLLDELAY.

A15. Write a program in HTML to demonstrate the usage of Image file with the below given specification.
  a) Background color of page is GREEN.
  b) The size of Image is 400 x 400 pixels.
  c) The Image should contain a border.
  d) Alternate text is "IMAGE NOT FOUND".
  e) Image should appear on the centre of the page.

A16. Write a program in HTML to Demonstrate the usage of Image file with the below given specifications.
  a)   Background color is RED.
  b)   The size of Image is 300 x 300 pixels.
  c)   The image should contain a BORDER.
  d)   Alternate Text is "IMAGE is NOT FOUND".
  e)   Vertical space should be 100 pixels.
  f)   Horizontal space should be 350 pixels.

A17. Write a program in Java Script which should prompt the user to enter the result of Question-"What is the result of 10+10?". The user will be given a chance to answer the question. If the answer is correct then the program should raise a message-
"Congratulations". If the answer is wrong then the program should again ask the same question. If the answer is correct then the message should be –"Cleared in the second round" else another message should be generated specifying –" Sorry, try next time" and the program should exit. Note – Make use of If. Else.

A18. Write a program in Java Script which should prompt the user to enter the result of question –" What is the Result of 10 +10?. At the most the user will get 5 chances to answer the question. If the user gives the correct answer during the attempts then the program should exit the loop by raising a message-"Congratulations ".

Otherwise, whenever the answer is wrong the program should alert the user that the answer is wrong.

Even during the 5th attempt, if the answer is wrong then it should raise another alert message also specifying- "Sorry- Try Next Time". (Use Loop, Prompt and Alert).

A19. Write a program in Java Script which prompt the user to enter the Result of Question- "What is the Result of 10+10?.

The program should repeat the question in two cases-
   a.   If the user is wrong.
   b.   And he wants to continue.
The program should exit the loop in two cases-
   a)   If the answer is correct.
   b)   If the answer is wrong but the user doesn't want to continue.
(Use odd Looping, Prompt, Alert and Confirm Dialog Boxes).

A20. Write a program in Java Script which raises a Message:"
"Welcome To Our Website" as soon as the Site is loaded. It should also display a message : -"Thank You " when the user switch over from the page.

A21. Write a program in Java Script to check the username. If the user name is correct, the program should give an alert message-: "Welcome" along with user name else the program should alert the user specifying that the user name is wrong. Use DOM and onchange event.

A22. Write a suitable program in Java Script which displays a message depending on the radio button being clicked using DOM and onclick event.

A23. Write a program in Java Script to count the number of elements in a forms elements array.
Check the number of elements returned against the number of form elements described
between < Form> and </Form> tag in HTML page that is running in the browser.
Recognize that number of elements in the array match the number of elements described
between <FORM> and </FORM> tag in HTML page exactly.

A24. Write a program in Java Script to check whether the form is filled or not. If one of the elements is not filled then display an alert message to fill the particular element using DOM and BUTTON.

A25. Write a program in Java Script to check whether the form is completely filled or not. If one of the elements is not filled then display an alert message to fill the particular element using DOM and onsubmit event.

BCCA Part – II
Semester – I

Paper - I: Environmental Studies

UNIT - I
Multidisciplinary Nature of Environmental Studies- Environment, Environment Studies, Need for public Awareness, Environmental Degradation, Shelter Security, Economic Security, Social Security, Effects of Housing on Environment , Effects of Industry on Environment**. Natural Resources-** Introduction, Types of Natural Resource, Forest Resources, Water Resources, mineral Resources, Food Security Resources, Energy resources, Land Resources, Conservation of Natural Resources, Sustainable Lifestyles, Sustainable Water Management(SWM), Biogeochemical Cycle.

UNIT – II
Ecosystem- Introduction to Ecology and Ecological Succession, Ecosystem, Food Chain, Ecological Pyramids, Types of Ecosystems, Forest Ecosystems, Aquatic Ecosystems, Grassland Ecosystem, Desert Ecosystem. **Biodiversity and its Conservation-** Biodiversity, Values or Benefits of Biodiversity, Biogeographic Zones of India, Hot Spots of Biodiversity, Endangered and Endemic Species, Rare and Threatened Species, Threats to Biodiversity, Human –Wildlife Conflicts, Conservation of Biodiversity.

UNIT – III
Environmental Pollution and Its Effects- Introduction ,Requirements of a Nonpolluted Environment, Public Health Aspects, Air Pollution, Land Pollution, Land Pollution or Soil Pollution, Marine Pollution, Noise Pollution, Thermal Pollution, Hazardous Wastes, Nuclear Hazards (Radiation Pollution),Solid Waste and Its Management, Role of Individuals in Pollution Prevention, Disaster Management.

UNIT – IV

Social Issues and the Environment- Introduction, Sustainable Development, Urbanization, Water Conservation, Resettlement and Rehabilitation of People ; Its Problems and Concerns, Social Issues and The Environment, Wasteland Reclamation, ACTs for Environmental Protection, Carbon Credits, Industrial Symbiosis, Initiatives and Roles of Nongovernmental Organization (NGOs) in Environmental Protection, Issues Involved in Enforcement of Environmental Legislation ,Animal Husbandry. **Human population and the Environment-** Population Growth, Family Welfare Programs, Environment and Human Health, Fundamental Rights, Human Rights, Value Education, HIV/AIDS, Environmental Education, Women's Education, Role of Information Technology in Environment and Human Health.

Text Book
   1. Shashi Chawla , Environmental Studies, McGraw-Hill.

Reference Books
   1. Dr. D. K. Asthana, Dr. Meera Asthana ,Environmental Studies, S. Chand.
   2. Dr. K. Mukkanti, Environmental Studies, S. Chand.
   3. Dr. D. D. Mishra,Fundamental Concepts in Environmental Studies, S.Chand.
   4. Benny Joseph, Environmental Studies, McGraw Hill Education.

Paper - II: Business Economics

UNIT – I
Introduction: Economics And Business Economics - Introduction, What Is Economics, Definitions, Nature And Scope Of Business Economics, Some Economics Concepts Applied In Business Analysis. **The Economy, Its Basic Problems And Price Mechanism :-** Introduction, What Is An Economy?, How A Free Enterprise Economy Works, Kinds Of Economic Systems, Production Possibilities Of An Economy, Basic Problems Of An Economy, How Market Mechanism Solves The Basic Problems, All Is Not Well With Free Enterprise Economies, Role Of The Government In The Economy. **Laws Of Demand And Supply And Market Equilibrium** :- Introduction, The Concept Of Market, Demand Side Of The Market, Supply Side Of Market, Market Equilibrium, Stability Of Market Equilibrium. **Theory of Consumer Demand: Analysis Of Individual Demand** - Introduction, Meaning Of Individual Demand, Utility- The Basis Of Consumer Demand, Cardinal Approach To Consumer Demand, Ordinal Utility Approach To Consumer Demand –The Indifference Curve Approach, Comparison Of Cardinal And Ordinal Utility Approaches, Revealed Preference Theory, Consumer Surplus. **Elasticity Of Demand** :- Introduction, Meaning Of Demand Elasticity, Price Elasticity Of Demand, Cross-Elasticity Of Demand, Income-Elasticity Of Demand, Advertisement Elasticity Of Demand, Price Expectation-Elasticity Of Demand, Some Estimates Of Demand Elasticity. **Demand Forecasting: -** Introduction, Meaning And Purpose Of Demand Forecasting, Prerequisites Of Good Demand Forecasting, Methods Of Forecasting Demand, Concluding Remarks, Some Case Studies Of Demand Forecasting.

UNIT – II
Production And Cost Analysis: Theory Of Production - Introduction, Some Basic Concepts, Production Function, Laws Of Production-Meaning And Kinds, Short-Run Laws Of Production, Long-Term Laws Of Production-I:Tools Of Analysis, Long-Term Laws Of Production-II: Laws Of Return To Scale, Laws Of Returns To Scale Through Production Function. **Theory Of Cost** - Introduction, Cost Concepts, Cost Function, Short-Run Cost-Output Relations, Long-Run Cost Output Relations, Economics And Diseconomies Of Scale, Modern Theory Of Cost. **Market Structure And The Firm's Objectives -** Introduction, Market Structure And Degree Of Competition, Market

Structure And Pricing Decisions, The Firm And The Industry, Profit: Meaning And Concepts, Objectives Of Business Firms, A Reasonable Profit Target: A Pragmatic Approach, Profit As Control Measure. **Price And Output Determination Under Perfect Competition -** Introduction, What Is Perfect Competition? Features Of Perfect Competition, Price Determination Under Perfect Competition, Equilibrium Of The Firm In Short-Run, Derivation Of Supply Curve, Equilibrium Of Industry And Firm In Short-Run, Equilibrium Of The Firm And Industry In Long-Run, Long-Run Supply Curve Of The Industry.

UNIT – III
Pricing Decisions Under Monopoly - Introduction, Definition And Features Of Monopoly, Sources And Kinds Of Monopolies, Revenue Curves Under Monopoly, Price And Output Determination In Short-Run, Two Common Misconceptions About Monopoly, There Is No Supply Curve In Short-Run, Monopoly Equilibrium In The Long-Run, Capacity Utilization Under Monopoly, Equilibrium Of Multiplant Monopoly, Price Discrimination Under Monopoly, Monopoly *Vs.* Perfect Competition, Application Of Monopoly Theory, Measures Of Monopoly Power, Government Regulation Of Monopoly Prices. **Pricing Decision Under Monopolistic Competition -** Introduction, Monopolistic Competition: Definition & Characteristics, Basic Elements Of Monopolistic Competition, Firms Equilibrium Under Monopolistic Competition, Excess Capacity Under Monopolistic Competition, Selling Cost And The Firm's Equilibrium: Non-Price Competition, Monopolistic Competition *Vs* Perfect Competition: A Comparison, Drawbacks Of Chamberlin's Theory Of Monopolistic Competition. **Pricing Decisions Under Oligopoly -** Introduction, Oligopoly: A Market Of Few Sellers, The Oligopoly Models: An Overview, A Classical Model Of Duopoly: Cournet's Model, Chamberlin's Model Of Oligopoly : The Small Group Model, Sweezy's Kinked-Demand Curve Model, Price And Output Determination In Collusive Oligopoly, Baumol's Theory Of Sales Maximization, Oligopoly And The Game Theory.

UNIT – IV
Factor Market: Factor Demand And Supply - Introduction, Marginal Productivity Of Factor And Factor Demand, The Factor Supply: An Overview, Derivation Of Individual Labor Supply Curve, Derivation Of Market Labor Supply Curve. **Theory Of Wage Determination -** Introduction, Wage Determination Under Perfect Competition, Wage Differentials, Wage Determination Under Product Monopoly And Competitive Labor Market. **Theory Of Rent, Quasi-Rent And Economic Rent -** Introduction, Ricardian Theory Of Rent, Quasi-Rent: The Short-Term Rent On Fixed Factors, Factor Price, Transfer Earning And Economic Rent. **Theory Of Interest -** Introduction, Meaning Of Interest And Interest Rate, The Classical Theories Of Interest, The Loanable Fund Theory Of Interest, Keynesian Theory Of Interest. **Theory Of Profit -** Introduction, The Meaning Of Profit And Pure Profit, Accounting Profit *Vs* Economic Profit, Theories Of Profit, Does Profit Enter The Cost Of Production?.

Text Book
1. D. N. Dwivedi, Essentials of Business Economics, Vikas Publishing House Pvt. Ltd.

Reference Books
1. David P. Doane, Lori E. Seward, Applied Statistics in Business and Economics, McGraw-Hill.
2. Amit Kumar Upadhyay, Principles of Economics, Vikas Publishing House Pvt. Ltd.
3. P. K. Mehta, Business Economics, Taxmann.
4. Michael Mandel, Economics The basics, McGraw-Hill.
5. Sudip Chaudhuri, Anindya Sen, Economics, McGraw-Hill.

6. Geetika, Piyali Ghosh, Purba Roy Choudhury, Managerial Economics, McGraw-Hill.

Paper - III: Visual Basic Programming

Unit – I
Introduction To Visual Basic – Advantages Of Visual Basic, Hardware Requirement, Software Requirement, Installing Visual Basic, Starting Visual Basic, Exiting From Visual Basic. **Working With Visual Basic Window Components** – Menu Bar, Standard Toolbar, Project Explorer Window, Form Layout Window, Properties Window, Toolbox, Code Editor Window, Object Browser, Customizing The Application Development Environment, Editor Tab, Editor Format Tab, General Tab, Docking Tab , Environment Tab, Advance Tab. **Working With Forms** – Extension & With Function Of The File, Properties, Events And Method Of The Form. **Using The Controls Of Visual Basic –** Using Label Control, Using Commandbutton Control, Using Textbox Control, Using Option Button Control, Using Frame Control, Using Checkbox Control, Using Listbox Control, Using Combobox Control, Using Image Control, Using Scroll Control, Using Picture Control, Using Timer Control, Using Drivelistbox Control, Using Dirlistbox, Using Filelistbox Control, Using The Shape Control. **Basic Programming Fundamentals –** Scope Of Variables, Arrays, Operators, Decision Structure, Loop Structure.

Unit – II
Working With Procedure, Functions And Modules – Procedure, Functions, Modules **Accessing Files –** Sequential Method, Random Method, Binary Method. **Menus –** Creating Menus, Creating Popup. **Working With Common Dialog Control –** Showopen, Showsave, Showprint, Showfont, Showcolor, Showhelp. **Control Arrays** – What Is Control Arrays?, Creating Control Arrays Using The First Method, Control Arrays Using The Second Method, Control Arrays Using The Third Method, **Use Of Load And Unload Statement. Working With Custom Controls –** Imagelist Control, Imagecombo Control, Treeview Control, Listview Control, Sorting Listitems, Toolbar Control, Statusbar Control.

Unit – III
Creating Mdi Applications – Features Of Child Form, Arranginh Windows, Window List **Creating An Application** – Making An Exe File, Taking Printouts. **Database Handling** – Creating The Database, Accessing The Database By Using The Data Control, Using Ado Data Control. **Working With Advance Data Controls** – Datalist Control, Datacombo Control, Datagrid Controls, Setting The Properties Of The Datagrid Control, Mshflexgrid Control, Setting The Properties Of Mshflexgrid Control, Sorting A Column, Merging Cells, Description Of Merge Options, Using The Data Form Wizard, Working With Ms Chart

Layout. **Working With Sql Statement** – Displaying All Fields, Displaying Selected Fields, Modifing The Data, Creating Search Program, Creating Numeric Search Programs, Creating Complex Search Program.

Unit – IV
Debugging Techniques – Syntax Errors, Logical Errors, Run-Time Error, Debug Toolbar, Assert Method, Debugging Mode, Step Into, Step Out, Run To Cursor, Set Next, Show Next, Locals Window, Immediate Window, Watch Window, Edit Watch, Deleting Watch Expression, Quick Watch, Call Stack. **Handling Errors** – How Run-Time Error Occurs?, Trapping Error, Handling Errors, Resuming Program Execution, Resume, Resume Next, Using Resume Next, Err Object, Properties, Methods. **Working With Data Environment And Data Report** – SQL Query Builder, Data Report, Use Of Controls, Using The Function Control, Using The Page Footer. **Working With Com Components –** What Is COM?, Introduction, Activex Controls, Using The Activex Control, Creating The Activex Control, Using The Activex Control In The Standard EXE, Activex Documents, Benefits, Creating An Activex Documents, Lifetime Events Of An Activex Documents, Describing About Hyperlink Object, Propertybag Object, Write Property, Read Property, Property Change Method, Inserting Menus, Activex Document Migration Wizard, Activex Code Components, Setting Project Properties

Text Book
1. Soma Dasgupta, Visual Basic – to Advance, BPB Publications.

Reference Books
1. Mohammad Azam, Programming with Visual basic, Vikas Publishing House Pvt. Ltd.
2. Mike Mcgrath, Visual basics in Easy Steps, McGraw-Hill.
3. Michael Vine, Microsoft Visual Basic Programming, PHI.
4. Evangelos Petroutsos, Mastering Visual basic, Wiley India Pvt. Ltd.

Practical List of Visual Basic Programming

B1.   Draw a Flowchart. Write an Algorithm and Program to calculate the bonus for the Employee using user defined data types. If grade is A then bonus will be 1000, if B bonus 7000, if C bonus 5000, otherwise no bonus will be given. If the users have to reuse the program then all the values should be cleared and the cursor should be set to the first control. (Note - Use option button & frames)

B2.   Draw a Flowchart. Write an Algorithm and Program to give options of Font size, Font color and Font face in the check boxes. Convert the text in the text box by applying the selected fonts.

B3.   Draw a Flowchart, write an Algorithm and Program to increase & decrease the width of command button. And to change the position of command button (top & left) on the form using scrollbar.

B4.   Draw a Flowchart. Write an Algorithm and Program to generate a thermometer using vertical scrollbar.

B5.   Draw a Flowchart. Write an Algorithm and Program to accept an employee_no, emp_name from the user. Display several cities in the list box in which your company have the branches. Allow the user to do the following.

a. User should add the city if new branch opens.
b. Display the selected city.
c. Remove the city if the branch closed.
d. Create another list box in which user can add the metropolitan cities.
Note : Multiple cities can be added from the available cities.

B6. Draw a Flowchart. Write an Algorithm and Program to find the reverse of a 4 digit number and print the sum of all the digits.

B7. Draw a Flowchart. Write an Algorithm and Program to enter a base number and an exponent number from the user. Calculate exponential value of an entered base number.
(For Example, if base = 2and the exponent = 5 then the value will be 32)

B8. Draw the Flowchart. Write an Algorithm and Program to ask a Password while opening a project. Validate the user's password for 3 times, else do not allow the user to open the project.

B9. Draw a Flowchart. Write an Algorithm and Program to generate a stopwatch of 10 minutes using timer control.

B10. Draw a Flowchart. Write an Algorithm and Program to calculate the age of the user in year, month and days as on the current date.

B11. Draw a Flowchart. Write an Algorithm and Program to match the given pairs.

1.	Sachin Tendulkar	a.	Boxing
2.	Vishwanath Anand	b.	Tennis
3.	Leander Pace	c.	Chess
4.	MikeTyson	d.	Cricket

B12. Draw a Flowchart. Write an Algorithm and Program to conduct a competitive examination. The examination contains 5 questions and each question is having 4 option. Assign 10 marks for every appropriate answer & 0 for wrong. Display the total marks at the end.

B13. Draw a Flowchart. Write an Algorithm and Program to add and subtract two different matrices.

B14. Draw a Flowchart. Write an Algorithm and Program to prepare a calculator. The calculator includes following operations - addition, subtraction, multiplication, division.

B15. Draw a Flowchart. Write an Algorithm and Program to calculate the area of a triangle and the area of circle.
Area of Triangle   =   1/2 x Base x Height
Area of Circle   =   Pi x Radius x Radius

B16. Draw a Flowchart. Write an Algorithm and Program to enter the temperature in degree & convert it into Fahrenheit and vice versa.
Celsius   = (F - 32) x (5 / 9)
Fahrenheit   = (C + 32) x (9 / 5)

B17. Draw a Flowchart. Write an Algorithm and Program to calculate the average of five numbers using focus event.

B18. Draw a Flowchart. Write an Algorithm and Program to input text from the user & change it to Upper case and Lower case using option buttons.

B19. Draw a Flowchart. Write an Algorithm and Program to generate an Electricity Bill.Input customer number, customer name, current reading, last reading and area from the user. Are should be any one from the following -
I. Household   II. Industrial   III. Non Household
IV. Urban   V. Rural   VI. Agriculture
VII. Poultry Farm

   Rates for Household :   Rates for Industrial :
       1 to 30 - Rs.1   1 to 1000 - Rs.2.40
       31 to 100 - Rs. 2.55   1001 to 15000 - Rs. 3
       101 to 300 - Rs.2.95   15001 and above - Rs. 3.40
       301 and above - Rs. 4.55
   Rates for Non Household :   Rates for Urban :
       1 to 100 - Rs.2.50   For all - Rs. 2.25
       201 and above - Rs. 5
   Rates for Rural :   Rates for Agriculture :
       For all - Rs. 1.40   For all - Rs. 1.90

B20. Draw a Flowchart. Write an Algorithm and Program to input ASCII values from the user & classify them into Small letters, Capital letters, Numeric value & special characters.

B21. Draw a Flowchart; write an Algorithm and Program to generate a Telephone Bill. Input customer number, customer name, telephone number, current reading, last reading, the month of billing and area as Urban OR Rural from the user. Calculate the bill as follows -

   Call rates for Urban area :-
       Free Calls - 150
       151 to 400 - 0.80 Rs.
       401 to 1000 - Rs. 1
       1001 and above - Rs. 1.20
   Call rates for Rural area :-
       Free Calls - 250
       251 to 450 - 0.60 Rs.
       451 to 500 - Rs. 0.80
       501 to 1000 - Rs. 1
       1001 and above - Rs. 1.20

B22. Draw a Flowchart, write an Algorithm and Program to sort a Numeric Array using Linear Sort method.

B23. Draw a Flowchart. Write an Algorithm and Program to sort a String Array using Bubble Sort.

Paper - IV: Database Management System

UNIT – I
Introduction: Concept of the System, Types of Decisions, Information System, Classification of information System, Conventional File Processing System, Database System, Components of Database Management System, Economic Justification of Database Approach. **Database Concepts:** Introduction, Data, Information, Metadata, Terminologies of Files, Association between Fields, Association between Files (Record Types), File Organization. **Data Structure:** Introduction, Location Methods, Types of Pointer, Interrecord Data Structure.

UNIT – II
Data Models: Introduction, Classification of Data Model, Entity Relationship Model. **Database Design:** Introduction, Steps of Database Design, Normalization, Case Problem, Data Volume and Usage Analysis, Integrated Case Study-Database Design for Academic institution. **Implementation Design:** Introduction, Implementation Design, Guidelines for mapping Conceptual data model into a desired logical Data Model, Problem Design Guidelines.

UNIT – III
Hierarchical Database Management Systems: Introduction, Information Management System (IMS), PC-FOCUS. **Network Database Management Systems:** Introduction, Integrated Database Management Systems (IDMS). **Relational Database Management Systems:** Introduction, Relational Database Languages, Interactive SQL.

UNIT-IV
Distributed Database Management Systems: Introduction, Types of data Processing Application, Distinction between Centralized Databases and Decentralized Databases, Database Portioning, Case Study on Vertical Partitioning (Schema level Partitioning). **Client/Server Systems:** Introduction, Client/Server Concept, Examples of Client/Server Systems, Three-Tier Client/Server Architecture, Types of Client, Client/Server Protocols, Benefits and Drawbacks of Client/Server Systems, Design and Implementation Issues of

Client/Server Design. **Database Operations and Maintenance:** Introduction, Database Administration (DBA), Security Mechanisms, Concurrency Control, Database Recovery, Cryptography for Network Security.

Text Books
1. R. Panneerselvan, Database Management Systems, PHI Publication.

Reference Books
1. Silberschatz, Korth, Sudarshan, Database System concepts, McGraw-Hill.
2. Gupta, Database Management Systems, McGraw-Hill.
3. Alexis Leon, Mathews Leon, Database Management System, Leaon Vikas.
4. Mike Mcgrath, SQL in Easy Steps, McGraw-Hill.
5. Dr. P. S. Deshpande, SQL & PL/SQL for Oracle 11g, Dreamtech Press.
6. Ivan Bayross, SQL, PL/SQL, BPB Publications.

Practical List of Database Management System

1. Write a SQL Query to create a table**"employee"**:

Field Name	Datatype	Size
Emp_no	varchar2	5
Emp_name	varchar2	25
Address	varchar2	50
Phone_number	number	10
Designation	varchar2	15
Salary	number	15

1. Display the structure of table.
2. Add qualification field at the end of employee table.
3. Modify the size of the name field 25 to 30.
4. Display the employee name whose salary is greater than 20,000.
5. Display the employee details whose name starts with "A".

2. Write a SQL Query to create a table **"student"**:

Field Name	Datatype	Size	Constraint
Roll	number	5	
Name	varchar2	30	
Address	varchar2	30	
City	varchar2	30	
DOB	date		
Phone	number	11	
Class	varchar2	10	
Marks	number	(10, 2)	

1. Display the structure of database and insert 10 records.
2. Display student information for all student in city Pune and Nagpur.
3. Display student information where marks greater than 80 and less than 90.
4. Display student name where first two character of student name 'An'.
5. Change student name to Ashish where student roll number A001.

3. Write a SQL Query to create a table **"sales_details"**:

Field Name	Datatype	Size

S_id	varchar2	8
P_id	varchar2	8
P_name	varchar2	15
Price	number	10
Qty	number	8

1. Drop foreign key constraint on column p_no in table sales_details.
2. Add foreign key constraint on column sale_no   in table sales_details.
3. Modify the column qty to include not null constraint.
4. Insert 10 records in sale_details.
5. Display p_id and total of quantity qty for each product.
6. Display p_id and total of price for all the products.

4. Write a SQL Query to create a table **"customer"**:

FieldName	Datatype	Size
Cust_no	varchar2	10
Cust_name	usertype	
Address	varchar2	10
Salary	number	10

1. Modify address field with not null.
2. Add city field as it must keep city name Mumbai, Delhi and Kolkata.
3. Add salary field where salary greater than 20,000.
4. Display the structure of table customer.
5. Insert 10 records into the table customer.
6. Display all the customer details who lives in Mumbai and Kolkata.
7. Display all the customer records whose salary>20,000 and salary<30,000.
8. Modify the address field where customer number is 'C001'.

5. Write a SQL query to create **c_master** with fields c_no, name, address, city, state and pin_code:

Field Name	Datatype	Size
C_no	varchar2	10
Name	varchar2	10
Address	varchar2	10
State	varchar2	20
City	varchar2	20
Pin_code	number	10

1. Create sequence which will generate number from 1..999 in ascending order, with an interval of 1 and in cyclic order.
2. Insert 10 records.
3. Create index on c_master which column name c_no and state.
4. Create view on c_master .
5. Select columns c_no, city which belongs to Nagpur and Mumbai.

6. Write a SQL query to create a syntax seq_order which generating numbers from 1…9999 in   ascending will number with an interval of 1 in cyclic order.

Field Name	Datatype	Size
P_no	varchar2	10
P_name	varchar2	20
Qty	varchar2	10
P_rate	varchar2	10

1. Display next value of sequence seq_order.
2. Display current value of sequence seq_order.
3. Insert values in sal_order table must be generated using sal_order sequence.
4. Display all records of sal_order table.

5. Change a cache memory of 50 seq_order sequence having interval 2.
6. Drop sequence.

7. Write a SQL Query to-
1. Create an index employee_index depends on employee table using field name.
2. Create a view depends on employee table.
3. Display the records from the view where city as Delhi and Mumbai.
4. Update the view where employee id is 'E006'.

8. Write a SQL query to illustrate numeric function.
1. Sqrt	2. Ceil	3. Power	4. Floor	5. Round
6. Mod	7. Abs	8. Exp	9. Greatest	10. Least

9. Write a SQL query to create tablespace datauser or data where size of file 100MB extend it by 10MB reach upto 250MB in size. Create user data1 with default tablespace and temporary tablespace. Create role acc_create with create session, create user, alter user and assign role to user. Assign profile to user where user should fail after 5 attempt and valid for 3 days. Destroy user data1 and tablespace from system.

10. Write a SQL query for join, inner join, outer join, self join and Cartesian join.

BCCA Part – II

Semester – II

Paper - I: Mathematics

UNIT – I
Introduction Scope, Data Collection and Classification: Meaning of Statistics, Variable and Attribute, Primary Data and Secondary Data, Population (or Universe) and Sample, Complete Enumeration (or Census) and Sample Survey, Statistical Enquiry, Useful Terms Classification, Tabulation, Mechanical Tabulation. **Permutation:** Introduction, Fundamental Rules of Counting, Result on Permutation Examples. **Combination:** Introduction, Result of Combination. **Set Theory :** Method of Set Representation and Notation, Types of Sets, Venn Diagram, Set Operations, Union(Set Addition), Intersection (Set Multiplication), Complement, Difference, Examples on Set Operations, Laws of Algebra of Sets, Duality, Verification of Laws (Using Venn Diagram), Proof of the Laws of Set Algebra, Number of Elements in a set

UNIT – II
Logarithm: Introduction, Definition of Logarithm, Laws of Logarithm, Common Logarithm and Natural Logarithm, Antilogarithm. **Compound Interest:** Interest Compounded Continuously, Amount at the Changing rates of Interest, Nominal and Effective rate of Interest, Growth and Depreciation. **Other Useful Mathematics Devices: Rounding** of Numbers, Absolute, Relative and Percentage Errors, Significant Figures, Some Short Processes of Calculation, Roots and Reciprocals Expressed as Power, A.P. Series and G.P. Series, Sum and Sum of the Squares of Numbers, Inequalities, Concept of Function, Polynomial, Sigma ($\sum$) Notation, Simple Interpolation

UNIT –III
Charts and Diagrams: Objects of Diagrammatic Representation, Types of Charts and Diagrams. **Frequency Distribution :** Observation, Frequency, Simple Series(or

Ungrouped Data)and Frequency Distribution, Useful Terms Associated with Grouped Frequency Distributions, Construction of frequency Distribution, Cumulative Frequency Distribution, Relative Frequency Distribution, Diagrammatic Representation of Frequency Distributions, Frequency Curve. **Measures of Central Tendency :**Average or Measure of Central Tendency, Arithmetic Mean(A.M.), Important Properties of A.M., Simplified Calculation for A.M., Mean of Composite Group, Geometric Mean(G.M.), Properties of G.M., Harmonic Mean(H.M.), Advantages and Disadvantages of A.M.,G.M.,H.M., Relations between A.M.,G.M.,H.M., Median, Calculation of Median, Advantage and Disadvantage of Median, Mode, Calculation of Mode, Advantages and Disadvantages of Mode, Relation between Mean, Median, Mode, Partition Values - Quartiles, Deciles, Percentiles, Calculation of Partition Values. **Measures of Dispersion :**Meaning and Necessity of 'Measures of Dispersion, Range, Quartile Deviation (Or Semi – Interquartile Range), Mean Deviation (Or Mean Absolute Deviation), Standard Deviation(S.D.), Important Properties of S.D., Calculation of Standard Deviation (σ), S.D. of Composite Group, Relation between S.D. and Other Measures, Relative Measure of Dispersion.

UNIT- IV
Moments, Skewness and Kurtosis : Moments, Relation between central and Non-Central moments, Beta coefficients and Gamma-coefficients, Standardized Variable, Moments of Frequency Distributions, Skewness, Kurtosis. **Curve Fitting :**Curve Fitting, Straight Line and Parabola, Free- hand Method of Curve Fitting, Method of Least squares, Fitting Straight line, Simplified Calculations, Fitting Parabola, Fitting Exponential and Geometric Curves. **Correlation and Regression :**Concepts of 'correlation 'and 'Regression', Bivariate Data, Bivariate , Frequency Distribution, Scatter Diagram, Correlation, Covariance, Correlation Coefficient(r), Properties of Correlation coefficient, Calculation of r, Interpretation and use of r, Variance of the Sum (Difference)of Two Series, Regression, Properties of Linear Regression, Explained Variation and Unexplained Variation, Regression Curve in Bivariate Frequency Distribution , Rank Correlation. **Time Series** : Meaning and Necessity of 'Time Series Analysis', Components of Time Series, Adjustments to Time Series Data, Secular Trend, Measurement of Trend, Monthly Trend from Annual Data, Seasonal Variation, Measurement of Seasonal Variation, Cyclical Fluctuation, Business Forecasting, Exponential Smoothing. **Probability Theory :**Introduction, Random Experiment, Outcome, Event, Important Terminology, Techniques of Counting, Classical (or'a Priori')Definition of Probability, Theorems of Probability, Draw without Replacement, Repeated Trials-Drawing with Replacement, Bayes' Theorem Other Approaches to Probability Theory, Set and Probability, Finite Probability Space and Assignment of Probabilities, Finite Equiprobable Sample Space and Classical Definition, Conditional Probability, Independent Events.

Text Book
1. N G Das, J K Das, Business Management and Statistics, McGraw-Hill.

Reference Books
1. Mrintunjay Kumar, Business Mathematics, Vikas Publishing House Pvt. Ltd.
2. Ajay Goel, Alka Goel, Mathematics & Statistics, Taxmann.
3. Walter Rudin, Principals of mathematical Analysis, McGraw-Hill.
4. Dr. S. R. Arora, Dr. Kavita Gupta, Business Mathematics and Statistics, Taxmann.

Paper - II: Business Law

UNIT - I
THE INDIAN CONTRACT ACT, 1872
Meaning Of Essentials Of Contract, Offer And Acceptance, Capacity Of Parties, Considerations, Free Consent, Legality Of Object And Consideration, And Agreements Opposed To Public Policy, Void Agreement And Contingent Contracts, Performance Of A Contract, Discharge Of A Contract, Remedies For Breach Of Contract, Quasi-Contracts, Indemnity And Guarantee, Bailment And Pledge, Contract Of Agency.

UNIT- II
THE SALE OF GOODS ACT, 1930:- The Sale Of Goods Act,1930, Contract Of Sale, 'Sale' And 'Agreement To Sell' Distinguished, Meaning & Types Of Goods, Sale/Agreement To Sell, Price. **Condition And Warranties**-Meaning, Condition & Warranty Distinguished, Express And Implied Conditions And Warranties, Doctrine Of Caveat Emptor. **Transfer Of Property-** Meaning, Rules Regarding To The Transfer Of Property, Transfer Of Property In Specific Or Ascertained Goods, Transfer Of Property In Unascertained Goods And Future Goods, Rules Relating To Transfer Of Property Of Goods Sent 'On Approval' Or 'On Sale Or Return', Delivery. **Rights Of Unpaid Seller** - Meaning, Right Of Lien, Right Of Stoppage Of Goods In Transit, Lien And Stoppage In Transit Distinguished, , Effect Of Sub-Sale Or Pledge By Buyer Upon The "Two Rights Of The Unpaid Seller", Right Of Resale, Rights Of Seller And Buyers, Right Of Unpaid Sellers Against Buyer Personality, Auction Sale.
THE INFORMATION TECHNOLOGY ACT, 2000 :- Meaning, objectives, scheme, scope, provision relating to electronic signature, provision relating to electronic governance, acknowledgement and dispatch of electronic records, secure electronic records and secure electronic signature, regulation of certifying authorities, electronic signature certificates, duties of subscribers, penalties, compensation and adjudication, the cyber appellate tribunal, offences, constitution of advisory committee, power of controller to make regulations.

UNIT- III

THE INDIAN PARTNERSHIP ACT, 1932: Meaning & Essentials Of Partnership, Co-Ownership, Partnership Deed, Registration Of Firm, Types Of Partnership On The Basis Of Duration, Types Of Partners, Position Of Minor As A Partner, Mutual Rights And Duties, Relation Of Partners With Third Parties, Implied Authority Of Partners, Reconstitution Of Firms, Dissolution Of Firm, Settlement Of Accounts, Public Notice.

THE LIMITED LIABILITY PARTNERSHIP ACT, 2008 (LLP):-Meaning & Features Of LLP, Comparison Between Existing Partnership & LLP, Comparison Between Company & LLP, Minimum No. Of Partners, Designated Partners, Incorporation Document, Incorporation By Registration, Effects Of Registration, Registered Office Of LLP & Change Therein, Name Of LLP and change therin, partners of LLP and change therin, cessation of partnership interest, partner as agent of LLP And Not Of Other Partners, Extent Of Liability Of LLP, Extent Of Liability Of Partner, Unlimited Liability In Case Of Fraud, Whistle Blowing, Contribution. **Account, Audit And Taxation** :- Maintenance Of Books Of Account, Other Records And Audit, Etc, Annual Return, Parteners Transferable Interest, **Taxation of LLP**, Conversion From Firm Into LLP, Conversion From Private Co. Into LLP, Conversion From Unlisted Public Co. Into LLP , Winding Up Of LLP, compulsory winding up, commencement of winding up by tribunal, voluntary winding up of a LLP.

UNIT- IV

The Negotiable Instruments Act, 1881 (Part-I) :-Negotiable instrument, promissory note, bill of exchange, acceptance, distinction between bill of exchange & promissory note, cheque, distinction between a cheque and bill of exchange, crossing, bouncing or dishonor cheque, holder & holder in due course, distinction between holder & holder in due course, negotiation and assignment, distinction between negotiation and assignment, endorsement, material alteration.

The Negotiable Instruments Act, 1881 (Part-II):- liabilities of various parties, proportionate in case of partial failure of consideration, presentment for acceptance, presentment for payment, acceptance for honour, payment for honour, dishonor of bill, notice of dishonor, rights of holder in case of instrument acquired after dishonor or after maturity, noting and protesting, drawee in case of need, discharge of an instrument, discharge of a parity, distinction between discharge of an instrument & discharge of a parity, hundi, types of hundies.

Text Book
1. P C Tulsian, Bharat Tulsian, Business law, McGraw-Hill.

Reference Books
1. M. C. Kuchhal, Vivek Kuchhal, Business laws, Vikas Publishing House Pvt. Ltd.
2. Sushma Arora, Business Laws, Taxmann.
3. Akhileshwar Pathak, Legal Aspects of Business, McGraw-Hill.
4. C. L. Bansal, Business Laws, Taxmann.
5. Chandra Kumar Roy, Pravhat Kumar Roy, Business Laws, Vikas Publishing House Pvt. Ltd.
6. Satish B Mathur, Business Law, McGraw-Hill.
7. Dr. K. V. Achalapati, Ramanna Murthi, Business Laws, Taxmann

Paper - III: Core Java

UNIT- I

Getting Started - The HelloWeb Applet, What is Java?, Why Learn Java, Installing and Setting Up the Java SDK, Writing Your First Application, Learning Java Syntax Basics, Writing Your First Applet! **Variables, Data Types, and Simple I/O –** The Project: the NameGame Application, Variables and Data Types, Working with Numbers, Getting Simple User Input, Strings and String Operations, Getting Back to the Name Game. **The Fortune Teller:** Random Numbers, Conditionals, and Arrays – The Project: the Fortune Teller, Generating Random Numbers, Controlling the Random Numbers Range, The If Statement, The if-else Statement, Using the Switch Statement, Understanding the Arrays, Back to the Fortune Teller.

UNIT- II

Using Loops and Exception Handling – The Project: The NumberGuesser, Counting Forward with Loops, Skipping Values, Counting Backwords, Nested For Loops, Looping on Arrays, Using the while loop, Exception Handling, Back to the NumbersGuesser Program. **Blackjack: Object-Oriented Programming** – The Project: The BlackJack Application, Understanding Object-Oriented Concept, Examining Member Variables, Defining and Using Methods, Understanding Access Modifiers, The Card and CardDeck Class, Extending a Class, Back to the BackJack Game. **Creating a GUI Using the Abstract Windowing Toolkit** – The Project: MadLib Program, The java.awt Package, Using Frames, Using Components, Back to the MadLib Game Application.

UNIT- III

Advance GUI: Layout Managers and Events Handling – The Project: the AdvancedMadLib Application, Using Layout Managers, Handling AWT Events, Getting Back to the AdvancedMadLib Application. **Writing Applets** – The Project: QuizShow Applet, Understanding Applets, Including an Applet in a Web Page, Learning Applet Methods: init(), start(), stop(), and destroy(), Printing Status Messages, Writing Java Programs that Can Run as Applets or Applications, Using Sounds and Images, Back to the QuizShowApplet Applet.

UNIT- IV

The Graphics Class: Drawing Shapes, Images, and Text – The Project: Memory Game, The Graphics Class, Fonts and FontMatrics, Drawing Images, Using the Color Class, Getting Back to the Memory Game. **Custom Events Handling and File I/O –** The Project: The Block Game, Building the Block Class, Creating the BlockGrid Class, Building the PlayArea Event Model, Creating the PlayArea Class, Creating the ScoreInfoPanel Class, Creating the Block Game Application. **Creating Your Own Components and Packages** – The Project: MinePatrol, Creating Lightweight Components, Preparing to Create the jpr.lightweight Package, Building the MineCell Classes, Creating the Mine Field Classes, Creating the MinePatrol Application.

Text Book
1. Java Programming for the absolute beginner, PHI, Joseph P. Russel (Text book).

Reference Books
1. E. Balagurusamy, Programming with Java – A Premier, McGraw-Hill.
2. Mike Mcgrath, Java in Easy Steps, McGraw-Hill.
3. Rashmi Kanta Das, Core Java for Beginners, Vikas Publishing.
4. Schildt,The Complete Reference Java 2, McGraw-Hill.
5. Dr. R. NageswaraRao, Core Java – An Integrated Approach, Dreamtech Press.
6. Joel Murach, Murach's Java Programming, Shroff Pubishers.

Practical List of Core Java

A1. Write an algorithm, draw a flowchart and develop a Java program to accept a number from the user and print its factorial.

A2. Write an algorithm, draw a flowchart and develop a Java program to accept three numbers from the user and print the largest number.

A3. Write an algorithm, draw a flowchart and develop a Java program to print first 10 prime numbers.

A4. Write an algorithm, draw a flowchart and develop a Java program to to print the following designs

```
*       1            1            1
* *     1 2          2 2          2 2
* * *   1 2 3        3 3 3        3 3 3
* * * * 1 2 3 4      2 2          4 4 4 4
                     1
```

A5. Write an algorithm, draw a flowchart and develop a Java program to accept any 10 numbers from the user to store it in an Array and print the largest of all.

A6. Write an algorithm, draw a flowchart and develop a Java program to multiply two matrices by accepting matrix elements from the user.

A7. Write an algorithm, draw a flowchart and develop a Java program to accept 10 names from the user to store them in array of string and print them in Alphabetical order.

A8. Write an algorithm, draw a flowchart and develop a Java program to demonstrate multilevel inheritance.

A9. Write an algorithm, draw a flowchart and develop a Java program to demonstrate object references.

A10. Write an algorithm, draw a flowchart and develop a Java program to accept any digit number from the user and print its reverse.

A11. Write an algorithm, draw a flowchart and develop a Java program to find area of rectangle, square, cylinder using the concept of method overloading.

A12. Write an algorithm, draw a flowchart and develop a Java program to accept a number from the user and search that number in array of numbers.

A13. Write an algorithm, draw a flowchart and develop a Java program to demonstrate method overriding and method overloading.

A14. Write an algorithm, draw a flowchart and develop a Java program to define a package P1 with class A having method show1() and show2(). Write another class B in package P2 to access elements of class A in it.

A15. Write an algorithm, draw a flowchart and develop a Java program to declare abstract class student having methods getName(), showName() and define these methods in another class B and access them.

A16. Write an algorithm, draw a flowchart and develop a Java program to demonstrate
  i.   public variables and methods
  ii.   private variables and methods
  iii. Final class and Methods
  iv.   Default Variables
  v.   Protected Variables and Methods

A17. Write an algorithm, draw a flowchart and develop a Java program to display the following using Applet

        A
        A P
        A P P
        A P P L
        A P P L E
        A P P L E T

A18. Write an algorithm, draw a flowchart and develop a Java program to design user login screen using Applet and provide the facility of valid user login.

A19. Write an algorithm, draw a flowchart and develop a Java program to draw following using graphics class methods in a frame.
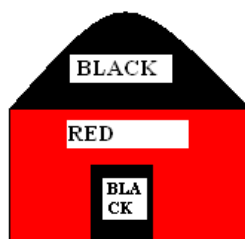
A20. Write an algorithm, draw a flowchart and develop a Java program to demonstrate multithreading using moving balls example in a frame.

A21. Write an algorithm, draw a flowchart and develop a Java program to demonstrate multithreading using moving strings example in a frame.

A22. Write an algorithm, draw a flowchart and develop a Java program to change color of applet window with following condition
  a. Green Color should be for exact 3 sec
  b. Red color should be for exact 1 sec

A23. Write an algorithm, draw a flowchart and develop a Java program to accept two numbers from user and perform their division. Define an array with size 10, accept index number from the user and store the value at that index of the array. The exception if occurred for division should be handled in inner try block and exception for array storage should be handled at outer try block.

A24. Write an algorithm, draw a flowchart and develop a Java program to define an user defined exception sal_out_of_range and write a class named employee with fields id, name, sal, phno and accept details of user according to id and store in the variables, if sal exceeds 10000, sal_out_of_range should be thrown and handled properly.

A25. Write an algorithm, draw a flowchart and develop a Java program to design a registration form for new user creation. It should include fields such as First_Name, Last_Name, User_Name, Password, Confirm_Password and Email. After user enters complete data and clicks on Ok button, a dialog box should display message of successful user creation else user creation failed message should be displayed. A validation for password and confirm password should be performed in this practical.

A26. Write an algorithm, draw a flowchart and develop a Java program to handle all mouse events using an example of cursor movement on a frame.

A27. Write an algorithm, draw a flowchart and develop a Java program to demonstrate card layout manager.

A28. Write an algorithm, draw a flowchart and develop a Java program to add a text field, a choice control and a label on a frame. User should enter some text in the text field then after hitting the enter key, entered text should be added to choice control and label should display the number of items present in the choice control.

A29. Write an algorithm, draw a flowchart and develop a Java program to design a menu called Text with MenuItems like Set Fore Color, Set Back Color, Set Font to the text in the TextField on the Frame.

A30. Create a class named EmpAccDetails, add a method getEmpAccDetails to accept Account Details of Employee such as Income tax paid, gross sal, basic sal, HRA allowance. Add this class to a package EMP. Create another class called EmpDetails with method getEmpPerDetails, also access getEmpAccDetails in the same class by importing the EMP Package.

A31. Write an algorithm, draw a flowchart and develop a Java program to create three child Threads, all threads should print numbers from 1 to 10 but condition is that Thread 1 whenever starts printing the number should print all numbers completely

without any break and then Thread 2 and 3 should print values as per the priority set by the system.

A32. Write an algorithm, draw a flowchart and develop a Java program to accept 10 numbers from the user, store it in an Array and print them in Ascending order, also print largest and smallest number of the array.

A33. Write an algorithm, draw a flowchart and develop a Java program to demonstrate Parameterized Applet by loading images to the Applet Window using specific name from the Parameter.

Paper - IV: PHP & MySQL

UNIT- I
Getting Started With PHP- Basic HTML Syntax, Basic PHP Syntax, Using FTP, Testing Your Scripts, Sending Text To The Browser, Using The PHP Manual, Sending HTML To The Browser, Adding Comment To The Script, Basic Debugging Steps. **Variables-** What Are Variables?, Variable Syntax, Types Of Variables, Variable Values, Understanding Quotation Marks. **HTML Forms And PHP-** Creating A Simple Forms, Choosing A Form Data In PHP, Displaying Errors, Error Reporting, Manually Sending Data To A Page. **Using Numbers-** Creating The Forms, Performing Arithmetic, Formatting Numbers, Understanding Precedence, Incrementing And Decrementing A Number, Creating Random Numbers.

UNIT- II
Using Strings- Creating The HTML Forms, Concatenating Strings, Handling Newlines, HTML And PHP, Encoding And Decoding Strings, Finding Substrings, Replacing Parts Of A String. **Control Structures-** Creating The HTML Forms, The if Conditional, Validation Functions, Using Else, More Operators, Using elseif, The Switch Conditional, The For Loop. **Using Arrays-** What Is An Array, Creating An Array, Adding Items To An Array, Accessing An Array From A Form.

UNIT- III
Creating Web Applications- Creating Templates, Using External Files, Using Constants, Working With The Date And Time, Handling HTML Forms With PHP, Making Forms Sticky, Sending Email, Output Buffering, Manipulating HTTP Headers. **Cookies And Sessions-** What Are Cookies?, Creating Cookies, Reading From Cookies, Adding Parameters To Cookies, Deleting A Cookie, What Are Sessions?, Creating Session, Accessing Session Variables, Deleting Session. **Creating Functions-** Creating And

Using Simple Functions, Creating And Calling Functions That Take Arguments, Setting Default Arguments Values, Creating And Using Functions That Return A Value, Understanding Variable Scope.

UNIT- IV
Files And Directories- File Permissions, Writing To Files, Locking To Files, Reading From Files, Handling File Uploads, Navigating Directories, Creating Directories, Reading Files Incrementally. **Intro To Database-** Introduction To SQL, Connecting To MYSQL, MYSQL Error Handling, Creating And Selecting A Database, Creating A Database, Inserting Data Into A Database, Securing Query Data, Retrieving Data From A Database, Deleting Data In A Database, Updating Data In A Database. **Putting It All Together-** Getting Started, Connecting To The Database, Writing The User-Defined Function, Creating The Template, Logging In, Logging Out, Adding Quotes, Listing Quotes, Editing Quotes, Deleting Quotes, Creating The Home Page.

Text Book
1. Larry Ullman, PHP for Web, Pearson.

Reference Books
1. Holznr, The Complete Reference – PHP, McGraw-Hill.
2. Mike Mcgrath, PHP & MySQL in Easy Steps, McGraw-Hill.
3. Steve Suehring, Tim Converse & Joyce Park, PHP and MySQL, Wiely.
4. Joel Murach & Ray Harris, murach's PHP and MySQL, Shroff Publishers.
5. Jason Gilmore, Beginning PHP and MySQL.

Practical List of PHP & My-SQL

1. Write an algorithm, draw a flowchart and Write a PHP script to print the value of variable in PHP and use print function for printing.
2. Write an algorithm, draw a flowchart and Write a PHP script to print the values of variable using echo.
3. Write an algorithm, draw a flowchart and Write a PHP script to print the following pattern using nested loop.
   *
   * *
   * * *
   * * * *
   * * * * *
4. Write an algorithm, draw a flowchart and Write a PHP script to that creates the following table using for loops. Add cell padding="3px" and cell spacing="0px" to the table tag.

1 * 1 = 1	1 * 2 = 2	1 * 3 = 3	1 * 4 = 4	1 * 5 = 5
2 * 1 = 2	2 * 2 = 4	2 * 3 = 6	2 * 4 = 8	2 * 5 = 10
3 * 1 = 3	3 * 2 = 6	3 * 3 = 9	3 * 4 = 12	3 * 5 = 15
4 * 1 = 4	4 * 2 = 8	4 * 3 = 12	4 * 4 = 16	4 * 5 = 20
5 * 1 = 5	5 * 2 = 10	5 * 3 = 15	5 * 4 = 20	5 * 5 = 25
6 * 1 = 6	6 * 2 = 12	6 * 3 = 18	6 * 4 = 24	6 * 5 = 30

5. Write an algorithm, draw a flowchart and Write a PHP script using nested for loop that creates a chess board as shown below. Use table width="270px" and take 30px as cell height and width.
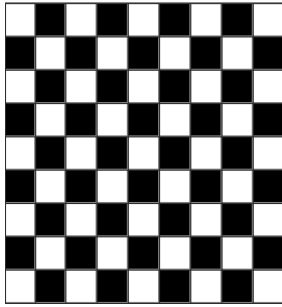
6. Write an algorithm, draw a flowchart and Write a PHP script to insert a new item in an array on any position.
7. Write an algorithm, draw a flowchart and Write a PHP script to sort an array of positive integers using the Sort function asort() and ksort().
8. Write an algorithm, draw a flowchart and Write a PHP script to for Creating, Retrieving and Deleting data from the cookie using POST Method.
9. Write an algorithm, draw a flowchart and Write a PHP script to convert a date from yyyy-mm-dd to dd-mm-yyyy.
   Sample Date: 2012-09-12
   Expected Result: 12-09-2012
10. Write an algorithm, draw a flowchart and Write a PHP script to remove the whitespaces from a string.
11. Write an algorithm, draw a flowchart and Write a PHP function that checks if a string is all lower case.
12. Write an algorithm, draw a flowchart and Write a PHP script to check whether a entered string is palindrome or not
13. Write an algorithm, draw a flowchart and Write a PHP script to print Fibonacci series using recursion.
14. Write an algorithm, draw a flowchart and Write a PHP script using switch case and dropdown list display a - Helloll message depending on the language selected in drop down list.
15. Write an algorithm, draw a flowchart and Write a PHP script to replace the first 'the' of the following string with 'That' –
16. Sample: 'the quick brown fox jumps over the lazy dog.'
17. Expected Result: That quick brown fox jumps over the lazy dog.
18. Write an algorithm, draw a flowchart and Write a PHP script to check that email id is valid or not.
19. Write an algorithm, draw a flowchart and Write a PHP script to create a simple 'birthday countdown' script, the script will count the number of days between current day and birth day.
20. Write a SQL statement to create simple table countries including columns country_id, country_name and region_id.
21. Write a SQL statement to create table countries including columns country_id, country_name and region_id and make sure that the column country_id will be unique and store an auto incremented value.
22. Write a SQL statement to create a table named countries including columns country_id, country_name and region_id and make sure that no countries except Italy, India and China will be entered in the table.
23. Write a SQL statement to insert a record with your own value into the table countries against each columns region_id.
24. Write a SQL statement to rename the table countries to country_new.

BCCA Part – III

Semester – I

Paper - I: Computerized Accounting using Tally

UNIT-I
Introduction to Tally.ERP 9- Features of Tally, Enhancement in Tally.ERP 9, Installation Procedure of Tally.ERP 9, Opening Tally.ERP 9, Components of the Tally.ERP 9 Window, Creating a Company. **Stock and Godown in Tally-** Stock Groups, Stock Categories, Stock Items, Units of Measure, Godowns.

UNIT-II
Groups, Ledgers, Vouchers and Orders- Introducing Groups, Introducing Ledgers, Introducing Vouchers, Introducing Purchase Orders, Introducing a Sales Order, Introducing Invoices. **Reports in Tally.ERP 9-** Working with Balance Sheet, Working with Profit & Loss A/c Report, Working with Stock Summary Report, Understanding Ratio Analysis, Working with Trial Balance Report, Working with Day Book Report.

UNIT-III
Exploring Payroll in Tally.ERP 9- Working with Payroll Vouchers, Defining Payroll Reports, Working with Statements of Payroll Report, Describing Salary Disbursement. **Taxation-** Indian Tax Structure, Tax Deducted at Source in Tally.ERP 9, Create a Tax Ledger, TDS Vouchers, Printing a TDS Challan, Tax Collected at Source in Tally.ERP 9,

TCS Reports in Tally.ERP 9, Calculating VAT in Tally.ERP 9, VAT Classification, VAT Vouchers, VAT Reports in Tally.ERP 9, Service Tax.

UNIT-IV
Important Features of Tally.ERP 9- Taking Backup in Tally.ERP 9, Restoring Data in Tally. ERP 9, Using E-mail in Tally.ERP 9, Migrating Data from Tally 7.2 to Tally.ERP 9, **Tally.NET in Tally.ERP 9-** Configuring the Tally.NET Feature, Assigning Security Levels, Creating Security Controls, Connecting a Company to the Tally.NET Server, Logging as a Remote User.

Text Book:
1. DT Editorial Services, Tally.ERP 9 in Simple Steps, Dreamtech Press.

Reference Books:
1. Computerized Accounting using Tally ERP 9, Sahaj Enterprise, Tally Education Private Ltd (TEPL).
2. Vikas Gupta, Business Accounting with MS Excel and Tally.ERP 9 Course Kit, Dreamtech Press.
3. Vishnu Priya Singh, Tally 9.
4. K. K. Nadhani, Accounting with Tally, BPB Publication.
5. K. K. Nadhani and A.K. Nadhani, Tally Tutorial, BPB Publication.

Practical List of Computerized Accounting using Tally

1. Create a company in Tally.Erp 9 with the following details:

Name of company	Universal Company Ltd.
Address	1804, world Tower, AB road, Baner, Pune _411080
Country	India
State	Maharashtra
Contact number	7894561230
Mobile number	7741258963
Email-Id	info@universalmfg.co.in
Books beginning from	01-04-2015
Financial year Beginning from	01-04-2015

2. Create a company in Tally.Erp 9 with the following details:

Name of company	Sambhav trading Company
Address	a/512, palm court, girgaam chaupaty, charni road, Mumbai-400007
Country	India
State	Maharashtra

Contact number	022-22886512
Mobile number	9898745555
Email-Id	enquiry@sambhav.com
Books beginning from	01-04-2014
Financial year Beginning from	01-04-2014

3. **Create the following ledgers in the books of universal company ltd.**

Name of ledger	Under (group)	Bill wise details set to	Opening balance
Share capital	Capital account	No	15,00,000
Purchase account	Purchase account	No	Nil
Sales accounts	Sales accounts	No	Nil
Ultra tech cement ltd	Sundry creditors	yes	270000
Building	Fixed assets	No	1200000
Computers	Fixed assets	No	50000
Office furniture	Fixed assets	No	175000
Cash in hand	Cash accounts	No	20000
Civic centre association	Sundry debtors	yes	290000
Bank of india	Bank accounts	No	80000
Petty cash	Cash in hand	No	50000

4. **Create the following ledgers in the books of universal company ltd.**

Name of ledger	Under (group)	Bill wise details set to	Opening balance
Proprieters capital	Capital account	No	10,00,000
Purchase account	Purchase account	No	Nil
Sales accounts	Sales accounts	No	Nil
Hindustan unilever ltd	Sundry creditors	yes	355000
Land and Building	Fixed assets	No	850000
Computers and peripheral	Fixed assets	No	30000
Office furniture	Fixed assets	No	75000
Cash in hand	Cash accounts	No	18000
Tahuraa Traders Pvt. ltd	Sundry debtors	yes	310000
Bank of Baroda	Bank accounts	No	102000

5. **Record the following vouchers in the books of Universal company ltd.**
a. 04-04-2014 withdrawn Rs. 20000 from bank of india and transferred to petty cash book.
b. 08-04-2014 paid 2000 from petty cash for buying stationery for office.
c. 15-04-2014 made purchase from ultra tech cement ltd. Worth Rs. 45000
d. 19-04-2014 issued cheque to ultra tech cement ltd for Rs. 45000
e. 21-04-2014 sold goods worth of Rs. 75000 to civic centre association
f. 25-04-2014 received a cheque from civic center association for Rs. 75000. The same was deposited in the bank on the same date.

g. 30-04-2014 paid staff salary of Rs. 9800 from petty cash

6. **Record the following vouchers in the books of Sambhav Trading Co. Pvt. ltd.**
    a. 02-04-2014 withdrawn RS. 10000 From bank of baroda and transeferred to petty cash book.
    b. 05-04-2014 paid 1000 from petty cash for office expences.
    c. 11-04-2014 made purchase from Hindustan unilever ltd. Worth Rs. 33000
    d. 13-04-2014 Issued cheque to Hindustan Unilever Ltd. For Rs. 20000
    e. 14-04-2014 Made purchase from Hindustan Unilever Ltd. Worth Rs. 26000
    f. 18-04-2014 Issued cheque of Rs. 38000 to Hindustan Unilever Ltd.
    g. 21-04-2014 sold goods worth of Rs. 90000 to Tahuraa Traders Pvt Ltd.
    h. 22-04-2014 received a cheque from Tahuraa Traders Pvt Ltd. For Rs. 75000 . The same was deposited in the bank on the same date.
    i. 23-04-2014 sold goods worth of rs. 85000 to Tahuraa Traders Pvt Ltd.
    j. 25-04-2014 received cheque from Tahuraa Traders Pvt Ltd. From Rs.75000. The same was deposited in the bank on the same date.
    k. 30-04-2014 Paid staff salary of Rs. 7200 from petty cash.

7. **Journalize the following transaction in the books of Sanjay Potdar for the month of March 2012.**

March 2012	Particular	Amt
1	Sanjay commenced business with cash	40000
2	Bought goods for cash	25000
5	Deposit in Bank	50000
7	Bought goods in credit from Anand	15000
10	Sold goods to Prakash	7000
12	Purchase Machinery Payment made by Cheque	10000

8. **Journalize the following transaction in the books of Prashant for April 2011 prepare Balance sheet.**

April 2011	Particular	Amt
1	Start business with capital borrowed from his friend Satish	1,10,000
3	Bought Machinery	40,000
5	Sold goods for cash to Satish	25000
7	Purchase goods from Somesh	30000
9	Bought goods for cash from Nitin	26000
11	Cash sales	10000
15	sold goods to Manish	8000

9. **Journalize the following transaction in the books of Rahul Thakur for the month of March 2012 and prepare profit and loss account.**

March 2012	Particulars	Amt
1	Start Business with Furniture	15000
	And machinery	40000
2	Borrowed from central Bank	45000
5	Bought goods	30000
8	Sold goods to Manoj on credit	12000
10	Paid Electricity Bill	1500
13	Bought Stationary from Vikas	8500

10. **Journalize the following transaction in the books of Rupesh for the year ended March 2012 and prepare Profit and loss account.**

March 2012	Particulars	Amt
1	Rupesh commenced business with cash	80000
2	Bought goods on credit from Ramesh	15000
6	Paid into Bank	8000
8	Bough from Sanket on credit	15000
10	Bought goods for cash	12000
12	Received goods from Sukesh	7500
15	Goods sold on credit to Chanda	9000

11. **Create cost centers Project A and Project B under primary cost category and record the following transaction in the books of sambhav trading company**
    a. On 07-09-2014 , purchased Cement worth Rs. 1,50,000/- from Ultratech cement Ltd. That will be shared equally between Project A and Project B . A credit period of 30 days was provided.
    b. Record transaction on 09-09-2014 for the purchase of Steel worth Rs. 450000 from Embee Enterprises. Allocate Rs. 50000 to Project A and the the rest to Project B . a credit period of 45 days was allowed .

12. **Create cost centers Mumbai and Pune under primary cost category and record the following transaction in the books of Universal co. Limited**
    a. On 05-10-2014 , purchases done worth Rs. 2,50,000/- from Hindustan Unilever Ltd. That will be shared equally between Mumbai and Pune.
    b. Record transaction on 09-10-2014 for the purchase worth Rs. 600000 from Hindustan Unilever Ltd. Allocate Rs. 250000 to Mumbai and the rest to Pune. . a credit period of 45 days was allowed.
    c. On 18-10-2014 record a transaction for the sale on Super technologies for Rs. 1575000/- of which 1200000 would be allocated to Mumbai branch and the rest to Pune.
    d. On 22-10-2014 one more sales entry was made for 1600000 to Super technologies of which 10,00,000 was allocated to pune branch and the rest to Mumbai.

13. Record the following transaction in the books of Universal Co. Ltd.

   a. On may 11,2014 they received a bill no. May /005/2014 for a sum of Rs. 125000/- from M/s. Rajesh shah and Co. , architects for consultancy towards designing their office and training centre.
   b. Universal company Ltd. Made the payment after deducting the TDS amount.
   c. On 27th May 2014 , company received bill no May/015/2014 for a sum of Rs. 75000 from M/s Rajesh shah and co., architects for consultancy.
   d. On 28th May , company made the payment after deducting TDS.

14. Record the following transaction in the books of Raj enterprises.

1. Goods purchase from "Kirti sales" on credit Bill no. 115 Rs. 62000
   a. Color tv (lg) 4% 3qty Rs. 30000
   b. Washing machine (samsung) 4% 4 qty Rs. 32000
2. Cash received from sangam enterprizes Rs. 15000
3. Goods purchase in cash bill no. 69 Rs. 35000
   a. B/W tv (sony) 4% 4 qty Rs. 20000
   b. Audio (onida) 4% 5 qty Rs. 15000
4. Goods sale on cash rs, 19000
   a. Color tv (lg) 4% 1 qty Rs. 15500
   b. Audeo (onida) 4% 1 qty Rs. 3500
5. Goods purchase in cash from vikram enterprises bill no. 45 Rs. 40000
   a. Color tv (lg) 4% 2 qty Rs. 20000
   b. Refregerator (vedeocon) 4% 2qty Rs. 20000
6. Cheaque no. received from ravi agency Rs. 10000 and deposited in state bank .
7. Credit sale to vijay enterprises bill no. 93 Rs.17200
   a. Washing machine (samsung) 4% 1qty Rs. 8000
   b. B/W tv (sony) 4% 1 Qty Rs. 5700
   c. Audio (onida) 4% 1 qty Rs. 3500
8. Cash paid to ravi kulkarni rs. 1500
9. Cheque no. 159 paid to central engineering co. Rs 15000
10. Refregerator purchase on cash Rs. 30000 fom k k agency 3 qty (videocon) 4%
11. Office rent paid in cash Rs. 1700
12. Received cheque from vijay enterprises Rs. 10000 & deposited in canara bank.
13. Bill received from lokmat Rs. 1500 bill no.5
14. Amount received from vaishali agency in cash rs. 5000 & cheque no. 336791 Rs. 10000 only. Cheque deposited in state bank.
15. Cash sale to telco ltd. Rs. 29900
   a. Color tv (Lg) 4% 1 qty Rs. 10000
   b. Washing machine (samsung) 4% 1 qty Rs. 9100
   c. Refregerator (vedeocon) 4% 1qty Rs. 10800
16. Cheque deposited in canara bank Rs.5000
17. Cash withdrawn from bank Rs. 34000

15. Record the following transaction in the books of Maharashtra Traders.

1. Opening stock for Wadi Godown
   a. Akai color Tv 4% 10 qty Rs.10500 each.
   b. Refregerator (videocon) 7qty 12000 each.
   c. Washing machine (samsung) 5 qty 8000 each
   d. Audio (Philips) 4% 2Qty 2000
   e. Onida color tv 4% 5 qty 12000   each
   f. B/W tv (akai) 4%   5 qty 18000

2. Opening stock for nandanwan godown
   a. Akai color tv 2 qty 10500 each
   b. refrigerator (videocon) 3qty 12000 each
   c. Audio (Philips) 3 qty 1000 each.
3. Cash sale to Bhagwandas Co. Rs. 41500 in wadi godown.
   a. Color tv (akai) 4% 2 qty Rs.21000.
   b. Refrigerator (Vedeocon) 4% 1qty Rs. 11300
   c. Washing Machine (samsung) 4% 1 qty Rs. 9200.
4. Goods purchase in cash from national Trading co. & store Nandanwan godown.
   a. Audio (Philips) 2qty 4% Rs.6000
   b. W/M (Samsung) 1qty 4% Rs. 10000
5. Credit sales to Ravina traders Rs. 51800 wadi godown.
   a. Refrigerator (vedeocon) 2qty 4% Rs. 22000.
   b. W/M (Samsung) 1qty 4% Rs.8300
   c. Color tv (akai) 2qty 4% 21500
6. Cheque received from vikas enterprises Rs. 20000 & deposited in state bank.
7. Cash withdrawn from state bank cheque no. 16 Rs. 15000/-
8. Received loan from state bank Rs. 10,00,000/- invensted in business, interest 10%.
9. Cheque paid to kirti sales rs. 25000/-
10. Goods purchase on credit from rama & sons Rs. 44000 store nandanwan.
    a. W/M (Lg) 3 qty 4% Rs. 24000
    b. Refrigerator (videocon) 1qty 4% Rs. 10000.
    c. Color tv (onida) 1qty 45 Rs. 10000
11. Akai color Tv purchase in cash Rs. 20000 2qty 4% Rao store in nandanwan.
12. Paid salary Rs. 10000
13. Paid bank loan Rs. 8,00,000
14. Cash sale on wadi godown Rs   42000\
    a. Audio 2 qty 4% Rs.7000
    b. w/m (s.s.) 2qty 4% Rs. 17000
    c. b/w tv (akai) 3qty 4% Rs. 18000
15. Paid to rama & sons by cheque rs. 18000 chq. No. 1152.
16. Paid electric bill Rs. 10000
17. Total cash sale after allowing discount Rs. 1000.
18. Paid total balance loan on state bank.
19. Advertisement exp. Rs.10000
20. Carriage exp. Rs. 5000
21. Purchase furniture for nandanwan godown Rs.28000 in cash.
22. Withdrawn for personal use Rs, 10000.

16. Record the following transaction in the books of Rathore Traders.

1. Goods purchase from sohan & sons Rs. 20000/-
   a. Gold 10gm (12.5%) rs. 10000/-
   b. Silver 1kg (12.5%) Rs.10000/-
2. Goods purchase from sagar computer Rs. 25000/-
   a. Monitor (compaq) 1qty 5000/-   4%
   b. Cpu (intel)   1qty 15000/- 4%
   c. Speaker (Logitex) 1qty 5000/- each
3. Goods sold on cash Rs. 22000/-
   a. Gold (12.5%) 10gm 12000/-
   b. Silver(12.5%) 1kg 10000/-
4. Withdrawn 400/- Rs. From canara bank.
5. Cash given to sagar computers Rs. 24000/- in full settlement.
6. Cheque given to mr. sohan & sons. Rs 20000.
7. Salary given to mr. sahil Rs. 2000/-
8. Withdrawn Rs. 4000/-
9. Paid insurance premium Rs. 200/-
10. Purchase table without vat Rs.2000/-

Paper - II: VB.Net

UNIT- I
Welcome to Visual Basic.NET – Windows Versus DOS Programming, Installing Visual Basic.NET, The Visual Basic.NET IDE, Creating a Simple Application, Using the Help System. **The Microsoft.NET Framework** – Microsoft's Reliance on Windows, Writing Software for Windows, Common Language Runtime, The Common Type System and Common Language Specification. **Writing Software –** Information and Data, **Variables**, Comments and Whitespaces, Data Types, Sorting Variables, Methods. **Controlling the Flow** – Making Decisions, The if Statement, Select Case, Loops.

UNIT- II
Working with Data Structure – Understanding Array, Understanding Enumerations, Understanding Constants, Structures, Working with Collection and Lists, Building Lookup Tables with Hashtable, Advanced Array Manipulation. **Building Windows Application** – Responding to Events, Building a Simple Application, Creating Complex Applications, Using Multiple Forms. **Displaying Dialog Boxes** – The MessageBox Dialog box, The OpenDialog Control, The SaveDialog Control, The FontDialog Control, The ColorDialog Control, The PrintDialog Control.

UNIT- III
Creating Menu – Understanding Menu Features, Creating Menu, Context Menu. **Debugging and Error Handling –** Major Error Types, Debugging, Error Handling.

Building Objects – Understanding Objects, Reusability, Our First Object, Constructor, Inheritance, The Framework Classes.

UNIT- IV
Accessing Database – What is Database, SQL Select Statement, Queries in Access, Data Access Components, Data Binding. **Database Programming with SQL Server and ADO.NET** –ADO.NET, The ADO.NET Classes in Action, Data Binding. **Deploying Your Application** – What is Deployment?, Creating a Visual Studio .NET Setup Application, Assemblies as Installers, The Core of Deployment, Deploying Different Solution, Advance Deployment Option.

Text Book
1. Jonathan, Richard Blair, Beginning VB.MET 2003, WILEY, Thearon Willis.

Reference Books
1. Thearon Willis, Jonathan Crossland, Richard Blair, Beginning CB.Net 2003, Dreamtech Press, Wiley.
2. Jeffry R. Shapiro, The Complete Reference, Visual Basic .NET, McGraw- Hill.
3. Francesco Balena, Programming Microsoft Visual Basic.net, Microsoft Press.
4. Jeffrey Kent, Visual basic.Net – A Beginner's Guide, McGraw- Hill.

Practical List of VB. Net

1. Write an algorithm, draw a flowchart and develop a VB.NET console application to calculate the reverse of a number.
2. Write an algorithm, draw a flowchart and develop a VB.NET console application to implement the Cos series.
3. Write an algorithm, draw a flowchart and develop a VB.NET console application to find largest and second largest number from the array.
4. Write an algorithm, draw a flowchart and develop a VB.NET console application to create all possible sets from given set {1, 2, 3 }.
5. Write an algorithm, draw a flowchart and develop a VB.NET console application to display the following pattern –
```
        *
       * *
      * * * *
     * * * * * *
```
6. Write an algorithm, draw a flowchart and develop a VB.NET console application to check a number is palindrome or not.
7. Write an algorithm, draw a flowchart and develop a VB.NET console application to calculate the binary number from decimal number.
8. Write an algorithm, draw a flowchart and develop a VB.NET console application to check a given number is prime or unprimed.
9. Write an algorithm, draw a flowchart and develop a VB.NET console application to calculate the reverse of a string and check the string is palindrome or not.
10. Write an algorithm, draw a flowchart and develop a VB.NET console application to Search an element from characters and as well as from numbers using linear search method.

11. Write an algorithm, draw a flowchart and develop a VB.NET console application to sort a given string in the order of alphabets, digits & symbol.
12. Write an algorithm, draw a flowchart and develop a VB.NET console application to input array element, sorting them using bubble sort method.
13. Write an algorithm, draw a flowchart and develop a VB.NET console application to create jagged array.
14. Write an algorithm, draw a flowchart and develop a VB.NET console application to demonstrate exception handling.
15. Write an algorithm, draw a flowchart and develop a VB.NET windows application to check the user id and password is valid or not.
16. Write an algorithm, draw a flowchart and develop a VB.NET windows application to create a calculator.
17. Write an algorithm, draw a flowchart and develop a VB.NET windows application to create notepad.
18. Write an algorithm, draw a flowchart and develop a VB.NET windows application to demonstrate MDI form.
19. Write an algorithm, draw a flowchart and develop a VB.NET windows application to create a start menu using status bar.
20. Write an algorithm, draw a flowchart and develop a VB.NET windows application to create a menu and perform any operation.
21. Write an algorithm, draw a flowchart and develop a VB.NET windows application to create MDI and arrange all forms as tiles and cascade form.
22. Write an algorithm, draw a flowchart and develop a VB.NET windows application to create popup menu.
23. Write an algorithm, draw a flowchart and develop a VB.NET windows application to create data bound control for retrieving the data from database.
24. Write an algorithm, draw a flowchart and develop a VB.NET windows application to create different dialog box and perform any operation.

Paper - III: Management Information Systems

UNIT- I
Management Information Systems: An Overview - Introduction, Need for Management Information Systems, Management Information Systems: A Concept, MIS: A definition, Management Information System and Information Technology, Nature and Scope of MIS, MIS Characteristics, Structure of MIS, Types of MIS, Role of MIS in Global Business, Challenges of Managing Information Systems. **Information, System and Organization Concepts -** Introduction: A definition, Types of Information, Information Quality, Dimensions of Information, System: A definition, Kinds of Systems, System -related Concepts, Elements of a System, Information System, Organization : A Concept, Impact of Information System on Organization. **Information System and Competitive Advantage -** Introduction, Changing Role of IS, Competitive Advantage, Strategic Information System(SIS).

UNIT- II
IT Infrastructure and Emerging Technology -
Introduction , A computer System, Computer Categories, Computer Evolution, IT Infrastructure Components ,Emerging Technology. **Data Resource Management -** Introduction, Database Concepts, Files : The Traditional Approach, The Database Management Approach: The Modern Approach, Database Management System, Data Models, Data Warehousing and Data Mining, Application of DBMS using MS-Access. **Telecommunication and Computer Networks -** Introduction, Telecommunications, Types of Signals, Communication Channels, Characteristics of Communication

Channels, Communication Hardware, Communication Networks, Computer Networks in India, Internet.

UNIT- III

E-Commerce, e-Business and e-Governance - Introduction, e-Commerce, e-Commerce Sales Life Cycle, e-Commerce Infrastructure, e-Commerce Applications , e-Commerce Challenges and Opportunities, E-Business, e-Governance. **Enterprise Systems -** Introduction, Enterprise Systems, Enterprise Resource Planning (ERP) System, Customer Relationship Management(CRM) System, Supply Chain Management(SCM) System. **Decision Support Systems -** Introduction, Decision-Making :A Concept, Simon's Model of Decision Making ,Types of Decisions, Methods for Decision-Making, Decision Support Techniques ,Decision Making and Role of MIS, Decision Support Systems (DSSs),Business Intelligence ,Knowledge Management Systems.

UNIT- IV

Information System Planning - Introduction, Information System Planning, Creating an IS Plan(CRISP), Resource Allocation Project Planning, Organization Structure and Location of MIS Department. **Is Choices and System Acquisition -** , Introduction Is Choices, Acquisition of Hardware and Software. **Is Development and Project Management -** Introduction, System Development Models, Project Management. **Information Requirements Analysis & Systems Design -** Introduction, Systems Analysis, Requirements Determination, Strategies for Requirements Determination, Structured Analysis Tools, System Design. **Evolution and Maintenance of IS -** Introduction Evaluation Approaches, Evaluation Classes, Product-Based MIS Evaluation, Cost/benefit –Based Evaluation, Models Used in Evaluation, Process-based Evaluation, System Maintenance.

Text Book
1. D. P. Goyal, Management Information System, Vikas Publishing House Pvt Ltd.

Reference Books
1. Waman S. Jawadekar, Management Information Systems, McGraw-Hill.
2. D. P. Nagpal, Management Information Systems, S. Chand.
3. Dr. Sushila Maden, Management Fundamental and Information System, Taxmann.
4. S. Sadagopan, Management Information Systems, PHI.
5. A. K. Gupta, Management Information Systems, S. Chand.
6. Mahesh Halale, Management Information Systems, Himalaya publishing house.

Paper - III: System analysis & Design

UNIT- I
System Concept And The Information Systems Environment- Introduction, The Systems Concept, Characteristics Of A System, Elements Of A System, Types Of A System. **The System Development Life Cycle** - Introduction, System Development Life Cycle, Considerations for the Candidate System, Prototyping. **The Role Of System Analyst**- Introduction, Definition, Historical Perspective, What Does It Take To Do Systems Analysis?, The Multifaceted Role Of The Analyst, The Analyst/User Interface, The Place Of The Analyst In The MIS Organization, Rising Positions In System Development, Conclusions.

UNIT- II
System Analysis- System Planning And The Initial Investigation- Introduction, Bases For Planning In System Analysis, Initial Investigation. **Information Gathering-** Introduction, What Kinds Of Information Do We Need?, Where Does Information Originate?, Information Gathering Tools. **The Tools Of Structured Analysis-** Introduction, What Is Structured Analysis?, The Tools Of Structured Analysis. **Feasibility Study-** Introduction, System Performance Definition, Feasibility Study.

UNIT- III
System Design- The Process And Stages Of System Design- Introduction, The Process Of Design, Design Methodologies, Major Development Activities, Audit

Consideration. **Input/output And Forms Design-** Introduction, Input Design, Output Design, Forms Design. **File Organization And Data Base Design-** Introduction, File Structure, File Organization, Data Base Design, The Role Of The Data Base Administrator.

UNIT- IV
System Implementation- System Testing And Quality Assurance- Introduction, Why System Testing?, What Do We Test For?, The Test Plan, Quality Assurance, Trends In Testing, Role Of Data Processing Auditor. **Implementation And Software Maintenance-** Introduction, Conversion, Combating Resistance To Change, Post-Implementation Review, Software Maintenance. **Hardware/ Software Selection And The Computer Contract-** Introduction, The Computer Industry, The Software Industry, A Procedure For Hardware/ Software Selection, Financial Considerations In Selection, The Used Computer, The Computer Contract.

Text Book
   1. Elias Awad, System Analysis and Design, Galgotia.

Reference Books
   1. Jeffrey L Whitten, Lonnie D Bentley, System Analysis and Design Methods, McGraw-Hill.
   2. Edward, System analysis and Design, McGraw-Hill.
   3. Hawryszkiwyez, Fundamentals of System analysis and Design, PHI.
   4. Vinod Garg, Workbook on System analysis and Design, PHI.

Paper - IV: Cost & Management Accounting

UNIT- I
Introduction to Cost and Management Accounting: Accounting Framework And Taxonomy, From Cost Accounting To Cost Management, The Dimensions Of Management Accounting. **Forces Shaping Business Environment And Their Effect On Cost And Management Accounting: Drivers** Defining The Future Of Business And Accounting, Trends In Cost And Management Accounting , Evolving Role Of Cost And Management Accountants, Profession Of Cost And Management Accountants.

UNIT- II
Strategic Management Accounting: Linking Strategy to Management Accounting Value Chain for Strategic Management Accounting, Life Cycle Costing, Target Costing, Kaizen Costing. **Cost Measurement and Estimation:** Definition and Measurement Of Cost, Costs On Financial Statements, The Statements Of Financial Position, The Income Statement, Cost Classification, Cost Estimation Methods.

UNIT- III
Costing Systems: Alternative Cost Accumulation Systems—Contingency Based Approach To Accounting, Levels Of Costing Systems, Income Analysis Under Alternative

Costing Systems, Reconciling Income Under Alternative Costing Systems, Impact Of Just In Time (JIT) Inventory System. **Job Order Costing:** An Overview Of Traditional Costing Systems, Job Order Costing System For Manufacturing Companies, Job Order Costing System For Service Companies, Job Order Costing For Planning Purposes.

UNIT- IV
Process Costing: Product And Cost Flows Through Process Costing System, Calculating Unit Cost, Process Costing Methods, Production Cost Report, Operation Costing, Accounting For By-Products, Allocation Of Support Service Costs. **Activity-Based Costing And Customer Profitability Analysis:** Traditional Volume-Based Costing, Activity Based Costing (abc), Comparision Of Traditional Volume-Based With The Activity-Based Costing, Advantage And Disadvantages Of Activity-Based Costing, Activity-Based Management(ABM), Scope And Advances In Activity Based Costing, Customer Profitability Analysis.

Text Book
1. Suveera Gill, Cost and Management Accounting, Vikas Publishing House Pvt. Ltd.

Reference Books
1. M. Hanif, Modern Cost and Management Accounting, McGraw-Hill.
2. Ravi M. Kishor, Cost and Management Accounting, Taxmann.
3. Puneet Bhatia, Cost and Management Accounting, Pooja Law publishing Co.
4. N. S. Zad, Cost and Management Accounting.
5. T. K Basu, Deborshi Bhattacharya, Cost And Management Accounting, Platinum Publishers.

Paper - IV: Corporate Accounting

UNIT-I
Corporate Accounting (Company Accounts)—Issue Of Share Capital- Definition, Characteristics Of A Company, Kinds Of Companies (Or) Types Of Companies, Privileges Of A Private Limited Company, Documents, Share Capital, Differences Between "Capital Reserve" And "Reserve Capital", Shares Of A Company, Equity Shares, Management Of Companies, General Meetings Of The Company, Quorum, Voting, Resolutions, Floating Of A Company (Forming A New Company), Minimum Subscription, Issue Of Shares, Accounting Treatment For Issue Of Shares For Cash, Over-Subscription, Under-Subscription, Calls-In-Arrears, Calls-In-Advance, Issue Of Shares From The Standpoint Of Issue Price, Cash Book, More Than One Type Of Shares, Shares Issued For Consideration Other Than Cash, Forfeiture Of Shares, Re-Issue Of Forfeited Shares, Employee Stock Option Plan, Issue Of Bonus Shares, Rights Issue, Sweat Equity, Underwriting, Buy-Back Of Shares, Escrow Account. **Underwriting Of Shares And Debentures**- Underwriting—Definition, Underwriting Commission And Payment, Sub-Underwriters, Brokers, Managers To The Issue, Applications—Marked, Unmarked And Firm-Underwriting Applications, Types Of Underwriting, Accounting Treatment. **Redemption Of Preference Shares-** Issue And Redemption Of Preference Shares, Determination Of The Amount Of New Issue Stages In Solving Problems.

UNIT-II
Issue And Redemption Of Debentures- Meaning And Definition Of Debenture, Meaning Of Some Terms, Types Of Debentures, Differences Between Shares And

Debentures, Debenture Trust Deed, Coupon Rate, Accounting For Issue Of Debentures, Terms Of Issue Of Debentures, Interest On Debentures, Discount Or Loss On Issue Of Debentures, Loss On Issue Of Debentures, Redemption Of Debentures. **Acquisition Of Business (Purchase Of Business)-** Factors Associated With Acquisition Of Business, Determination Of Purchase Consideration, Accounting Entries. **Profits Prior To Incorporation-** Meaning, Accounting Treatment Of Profits/Losses Prior To Incorporation In The Books Of The Company, Methods Of Ascertaining Profit Or Loss Prior To Incorporation, Basis Of Apportionment Of Expenses, Advanced Problems—Professional Course Level, Accounting Standard AS-5 Revised. **Final Accounts Of Companies-** Meaning Of Final Accounts, Preparation Of Final Accounts.

UNIT-III
Valuation Of Goodwill And Shares- Valuation Of Goodwill, Need For Valuation Of Goodwill, Factors Affecting The Value Of Goodwill, Components Of Goodwill, Methods Of Valuation Of Goodwill, Valuation Of Goodwill Advanced Problems, Valuation Of Shares, Methods Of Valuation Of Shares, Different Categories Of Equity Shares, Methods Of Valuation Of Shares—Other Methods Illustrated, Price–Earnings Ratio—(PE Ratio)**Amalgamation, Absorption And External Reconstruction-** Meaning, Types Of Amalgamation, Accounting Treatment As Per AS–14, Absorption, External Reconstruction. **Liquidation Of Companies-** Meaning And Salient Features Of Liquidation, Order Of Payments, Statement Of Affairs, Statement Of Deficiency Or Surplus (List H), Liquidator's Final Statement Of Account, "B" List Of Contributories, Receiver For Debentures. **Internal Reconstruction**-Need For Internal Reconstruction, Methods Of Internal Reconstruction, Handling Of Reconstruction Account, Balance Sheet After Reconstruction.

UNIT-IV
Holding Company Accounts- Holding Company, Subsidiary Company, Legal Requirements For A Holding Company Consolidated Financial Statements. **Accounts Of Banking Companies-** Definition And Meaning Of Bank, Banking And Banking Company, Forms Of Business Of Banking Companies, Classification Of Commercial Banks, Important Legal Provisions Of Banking Regulation Act 1949, Principal Books Of Accounts, Registers, System Of Banking Accounting, Preparation And Presentation Of Final Accounts, Guidelines Of RBI For Profit And Loss Account, Special Transactions, Provision For Non-Performing Assets, Income Recognition, Guidelines Of RBI For Preparing Balance Sheet. **Double Account System-** Double Account System, Final Accounts. **Cash Flow Statement-** Cash Flow Statement, Cash Flow Statement—Preparation, Cash Inflow From Debtors, Cash Inflow From Trading Commission, Calculation Of Cash Outflow On Purchases—Purchases Include Both Cash And Credit Purchases, Cash Outflow On Expenses Incurred.

Text Book
1. Corporate Accounting, V. Rajasekaran, R. Lalitha, Pearson.

Reference Books
1. Corporate Accounting, V. K. Goyal, Ruchi Goyal, PHI.
2. Corporate Accounting, S N Maheshwari & Suneel K Maheshwari, Vikas Publishing House Pvt. Ltd..
3. Corporate Financial Accounting, Dr. S.K. Singh, SBPD.

BCCA Part – III

Semester – II

Paper - I: C#.Net

UNIT - I
Introducing C# - What is C#?, Evaluation of C#, Characteristics of C#, Application of C#, How does C# Differ from C++?, How does C# Differ from Java?. **Understanding .NET: The C# Environment –** The .NET Strategy, The Origin of .NET Technology, The .NET Framework, The Common Langue Runtime, Framework Base Class, User and Program Interface, Visual Studio .NET, .NET Languages, Benefits of the .NET Approach, C# and .NET. **Overview of C#** - Introduction, A Simple C# Program, Namespaces, Adding Comments, Main Running Value, Using Aliases for Namespaces Classes, Passing String Objects to WriteLine Method, Command Line Argument, Main with Class, Providing Interactive Input, Using Mathematical Function, Multiple Main Methods, Compile Time Error, Program Structure, Program Coding Style. **Literals, Variables and Data Types** – Introduction, Literals, Variables, Data Types, Value Types, Reference Type, Declaration Types, Initialization of Variables, Default Value, Constant Variable,

Scope of Variables, Boxing and Unboxing. **Operators and Expressions** – Introduction, Arithmetic Operators, Relational Operators, Logical Operators, Assignment Operators, Increment and Decrement Operators, Conditional Operators, Bitwise Operators, Special Operators, Arithmetic Expressions, Evaluation of Expressions, Precedence of Arithmetic Operators, Type Conversion, Operator Precedence and Associativity, Mathematical Function.

UNIT - II
Decision Making and Branching – Introduction, Decision Making with if Statement, Simple if Statement, The if…else Statement, The else if Ladder, The Switch Statement, The ? : Operator, Decision Making and Looping – Introduction, The while Statement, The do Statement, The for Statement, The foreach Statement, Jumps in Loops. **Methods in C#** - Introduction, Declaring Methods, The Main Method, Invoking Methods, Nesting of Methods, Method Parameters, Pass by Value, Pass by Reference, The Output Parameters, Variables Argument List, Methods Overloading. **Handling Arrays** – Introduction, One-Dimensional Array, Creating an Array, Two-Dimensional Array, Variable-Size Arrays, The System.Array Class, ArrayList Class. Manipulating Strings – Introduction, Creating String, String Methods, Inserting String, Comparing String, Finding String, Mutable String Arrays of String, Regular Expressions.

UNIT - III
Structures and Enumerations – Introduction, Structurs, Structs with Methods, Nested Structs, Difference between Classes and Structs, Enumerations, Enumerator Base Type, Enumerator type Conversion. **Classes and Objects** - Introduction, Basic Principle of OOP, Defining a Class, Adding Variables, Adding Methods, Member Access Modifiers, Creating Objects, Accessing Class Members, Constructors, Overloaded Constructors, Static Members, Static Constructors, Private Constructors, Copy Constructors, Destructors, Member Initialization, The This Reference, Nesting of Members, Constant Members, Read-only Members, Properties, Indexers. **Inheritance and Polymorphism** – Introduction, Classical Inheritance, Containment Inheritance, Defining a Subclass, Visibility Control, Defining Subclass Constructors, Multilevel Inheritance, Hierarchical Inheritance, Overriding Methods, Hiding Methods, Abstract method, Sealed Class: Preventing Inheritance, Sealed Methods, Polymorphism.

UNIT - IV
Interface: Multiple Inheritance – Introduction, Defining an Interface, Extending Interface, Implementing Interface, Interface and Inheritance, Explicit Interface Implementation, Abstract Class and Interface. **Operator Overloading** – Introduction, Overloadable Operators, Need for Operator Overloading, Defining Operator Overloading, Overloading Unary Operator, Overloading Binary Operator, Overloading Comparison Operator. **Managing Errors and Exceptions** – Introduction, What is Debugging?, Types of Errors, Exceptions, Syntax of Exception Handling Code, Multiple Catch Statements, The Exception Hierarchy, General Catch Handler, Using Finally Statement, Nested Try Blocks, Throwing Our Own Exceptions, Checked and Unchecked Operators, Using Exceptions for Debugging.

Text Book:
1. E. Balagurusamy, Programming in C#, McGraw-Hill.

Reference Books:
1. Rod Stephens, C# 5.0 – Programmer's Reference, Wrox A Wiley Brand.
2. Rod Stephens, C# - 24 –Hour Trainer, Wrox A Wiley Brand.
3. Herbert Schildt, The Complete Reference C# 4.0, McGraw-Hill.

Practical List of C#.NET

1. Write an algorithm, draw a flowchart and develop a C#.Net console application to check whether the entered number is even or odd.
2. Write an algorithm, draw a flowchart and develop a C#.Net console application to develop Boxing and Unboxing concept.
3. Write an algorithm, draw a flowchart and develop a C#.Net console application to calculate the reverse of a number, to check the given number is palindrome or not.
4. Write an algorithm, draw a flowchart and develop a C#.Net console application to print the Following Pattern:

```
1
1    2
1    2    3
1    2    3    4
1    2    3    4    5
1    2    3    4
1    2    3
1    2
1
```

5. Write an algorithm, draw a flowchart and develop a C#.Net console application to display the following pattern-

```
                    *
            *    *    *
        *    *    *    *    *
    *    *    *    *    *    *    *
        *    *    *    *    *
            *    *    *
                    *
```

6. Write an algorithm, draw a flowchart and develop a C#.Net console application to Print and evaluate the following series. The series is -----
Sum = $(1)+(x^2/2!)+(x^4/4!)+(x^6/6!)+(x^8/8!)+\ldots\ldots\ldots\ldots$
7. Write an algorithm, draw a flowchart and develop a C#.Net console application to perform ascending order sorting using Jagged Array.
8. Write an algorithm, draw a flowchart and develop a C#.Net console application to find out the largest and smallest number from an array using jagged array.
9. Write an algorithm, draw a flowchart and develop a C#.Net console application to print abbreviation form of Name.
10. Write an algorithm, draw a flowchart and develop a C#.Net console application to count number of characters, words and blank spaces of given sentence.
11. Write an algorithm, draw a flowchart and develop a C#.Net console application to withdraw, deposit & transfer money to the account using method overloading.

12. Write an algorithm, draw a flowchart and develop a C#.Net console application to overload unary operator '-' and perform subtraction operation.
13. Write an algorithm, draw a flowchart and develop a C#.Net console application to overload binary operator '+' and perform addition operation between two complex numbers.
14. Write an algorithm, draw a flowchart and develop a C#.Net console application to implement the concept of constructor overloading.
15. Write an algorithm, draw a flowchart and develop a C#.Net console application to implement the concept of hierarchical inheritance.
16. Write an algorithm, draw a flowchart and develop a C#.Net console application to implement the concept of interface.
17. Write an algorithm, draw a flowchart and develop a C#.Net console application to combine two delegates.
18. Write an algorithm, draw a flowchart and develop a C#.Net console application to display the priority of the thread.
19. Write an algorithm, draw a flowchart and develop a C#.Net console application to convert feet to inches using Delegates.
20. Write an algorithm, draw a flowchart and develop a C#.Net console application to copy the contents from one file to another file.

Paper - II: Python

UNIT - I
Getting Started - Introducing python, Installing python on windows, Installing python on Linux, Meeting the interpreter, Writing your first program, Employing variables, Obtaining user input, Correcting Errors. **Performing operations -** Doing arithmetic, Assigning values, Comparing Values, Assessing logic. , Examining Conditions, Setting precedence, Casting data types, Manipulating bits. **Making statements -** Writing lists, Manipulating lists, Restricting lists, Associating list elements, Branching with if, Looping while true, Looping over items, Breaking out of loops.

UNIT - II
Defining Functions-Understanding scopes, Supplying arguments, Returning Values, Using callbacks, Adding placeholders, Producing generators, Handling exceptions, Debugging assertions. **Importing Modules -** ,Storing functions, Owning function names, Interrogating the system, Performing mathematics, Calculating decimals, Telling the time, Running a timer, Matching patterns.

UNIT - III
Managing strings -Manipulating strings, Formatting strings, Modifying strings, Accessing files, Reading and writing files, Updating file strings, Pickling data **Programming objects**, Encapsulating data, Creating instance objects, Addressing class attributes, Examining built-in attributes, Collecting garbage, Inheriting features, Overriding base methods, Harnessing polymorphism.

UNIT - IV

Processing requests-Sending responses, Handling values, Submitting forms, Providing text areas, Checking boxes, Choosing radio buttons, Selecting options, Uploading files
Building interfaces-Launching a window, Responding to buttons, Displaying messages, Gathering entries, Listing options, Polling radio buttons, Checking boxes, Adding images
Developing applications- Generating random numbers, Planning the problem, Designing the interface, Assigning static properties, Initializing dynamic properties, Adding runtime functionality, Testing the program, Freezing the program, Deploying the application.

Text Book:
1. Mike McGrath, Python in easy steps, McGraw-Hill.

Reference Books:
1. Charles Dierbach, Introduction to Computer Science using Python, Wiley.
2. Laura Cassell & Alan Gauld, Python Projects, Wrox A Wiley Brand.
3. Allen B. Downey, Think Python, Shroff Publishers, O'Reilly.
4. Paul Greis, Jennifer Campbell, Jason Montojo, Practical Programming – An Introduction to Computer Science using Python, Shroff Publishers.

Practical List of Python

1. Write a Python program to convert the given temperature from Fahrenheit to Celsius and vice versa depending upon users choice.
2. Write a Python program that allows the user to enter any integer base and integer exponent, and displays the value of the base raised to that exponent.
3. Write a Python program that prompts the user for a certain number of cities for the Travelling salesman Problem, and displays the total number of possible routes that can be taken.
4. Write a Python program that prompts the user to enter an upper or lower case letter and displays the corresponding Unicode encoding.
5. Write a Python program to calculate total marks, percentage and grade of a student. Marks obtained in each of the three subjects are to be input by the user. Assign grades according to the following criteria:
   Grade A: Percentage >=80
   Grade B: Percentage>=70 and <80
   Grade C: Percentage>=60 and <70
   Grade D: Percentage>=40 and <60
   Grade E: Percentage<40
6. Write a Python program to find the area of rectangle, square, circle and triangle by accepting suitable input parameters from user using user-defined function.
7. Write a Python program to display the Fibonacci series in a given range.
8. Write a Python program to Print and evaluate the following series. The series is -- Sum = (x)-(x^2/2!))+(x^3/3!))-(x^4/4!) +(x^5/5!))- ………………..
9. Write a Python program to calculate the subtraction of two compatible matrices.
10. Write a Python program to calculate the addition of diagonal elements of a matrix.

11. Write a Python program to search a given string from the list of strings using recursion.
12. Write a Python program to calculate factorial of a given number using recursion.
Visual Python
13. Write a Python program to create mathematical 3D objects –
    - I. curve
    - II. sphere
    - III. cone
    - IV. arrow
    - V. ring
    - VI. cylinder.
14. Write a Python program to read n integers and display them as a histogram.
15. Write a Python program to display sine and cosine curves.
16. Write a Python program to plot a graph of people with pulse rate p vs. height h. The values of p and h are to be entered by the user.
17. Write a Python program to calculate the mass m in a chemical reaction. The mass m (in gms) disintegrates according to the formula m=60/(t+2), where t is the time in hours. Sketch a graph for t vs. m, where t>=0.
18. A population of 1000 bacteria is introduced into a nutrient medium. The population p grows as follows:

    P(t) = (15000(1+t))/(15+ e)

    where the time t is measured in hours. Write a Python program to determine the size of the population at given time t and plot a graph for P vs t for the specified time interval.
19. Input initial velocity and acceleration, and plot the following graphs depicting equations of motion:
    - I. velocity wrt time (v=u+at)
    - II. distance wrt time (s=u*t+0.5*a*t*t)
    - III. distance wrt velocity (s=(v*v-u*u)/2*a)
20. Write a Python program show a ball bouncing between 2 walls.

Paper - II: Ruby on Rail

UNIT - I
Introduction - A Tour of Ruby, Try Ruby, A Sudoku Solver in Ruby. **The Structure and Execution of Ruby Programs -** Lexical Structure, Syntactic Structure, File Structure, Program Encoding, Program Execution. **Data types and Objects -** Numbers, Text, Arrays, Hashes, Ranges, Symbols, True, False, and Nil, Objects.

UNIT - II
Expressions and Operators - Literals and Keyword Literals, Variable References, Constant References, Method Invocations, Assignments, Operators. **Statements and Control Structures -** Conditionals, Loops, Iterators and Enumerable Objects, Blocks, Altering Control Flow, Exceptions and Exception Handling, BEGIN and END, Threads, Fibers, and Continuations. Methods, Procs, **Lambdas, and Closures -** Defining Simple Methods, Method Names, Methods and Parentheses, Method Arguments, Procs and Lambdas, Closures, Method Objects, Functional Programming.

UNIT - III
Classes and Modules - Defining a Simple Class, Method Visibility: Public, Protected, Private, Subclassing and Inheritance, Object Creation and Initialization, Modules, Loading and Requiring Modules, Singleton Methods and the Eigenclass, Method

Lookup, Constant Lookup. **Reflection and Meta programming -** Types, Classes, and Modules, Evaluating Strings and Blocks, Variables and Constants, Methods, Hooks, Tracing, ObjectSpace and GC, Custom Control Structure, Missing Methods and Missing Constants, Dynamically Creating Methods, Alias Chaining, Domain-Specific Languages.

UNIT - IV

The Ruby Platform – Strings, Regular Expressions, Numbers and Math, Dates and Times, Collections, Files and Directories, Input/Output, Networking, Threads and Concurrency. **The Ruby Environment -** Invoking the Ruby Interpreter, The Top-Level Environment, Practical Extraction and Reporting Shortcuts, Calling the OS, Security.

Text Book:
1. David Flanagan, Yukihiro Matsumoto, The Ruby Programming language, O'Reilly.

Reference Books:
1. Noel Rappin, Professional Ruby on Rails, Wrox.
2. Michael Fitzgerald, Ruby – Pocket Reference, O'Reilly.
3. Timothy Fisher, Ruby on Rails – Bible, Wrox.
4. Daniel Kehoe, Learn Ruby on Rails, Book One.
5. Michael Hartl, Ruby on Rail Tutorial,

Practical List of Ruby on Rail

1. Write a program of Ruby on Rail to find the largest number between three numbers.
2. Write a program of Ruby on Rail to swap the values of two variables with and without using third variable.
3. Write a program of Ruby on Rail to perform the following arithmetic operations using arithmetic operators in switch statement. The Arithmetic operations are addition (+), Subtraction (-), Multiplication (*), Integer Division (/) Real Division (/), modulo (%) and Raise to power (^).
4. Write a program of Ruby on Rail to generate and print Fibonacci series of a given range.
5. Write a program of Ruby on Rail to calculate LCM & HCF of two numbers.
6. Write a program of Ruby on Rail to check the entered number is Armstrong number or not.
7. Write a program of Ruby on Rail to check the entered number is Palindrome or not.
8. Write a program of Ruby on Rail to perform parallel iteration with external iterators.
9. Write a program of Ruby on Rail to find factorial of given number using function.
10. Write a program of Ruby on Rail to find reverse of given number using function.
11. Write a program of Ruby on Rail to demonstrate class and object.
12. Write a program of Ruby on Rail to demonstrate after and every method.
13. Write a program of Ruby on Rail to demonstrate thread.
14. Write a program of Ruby on Rail to tracing method invocations with method_missing.
15. Write a program of Ruby on Rail to perform attribute methods with define_method.
16. Write a program of Ruby on Rail to perform Alias chaining for thread safety.

17. Write a program of Ruby on Rail to check the string is palindrome or not.
18. Write a program of Ruby on Rail to calculate number of characters, words and blank spaces from a sentence.
19. Write a program of Ruby on Rail to insert and modify the data into the database.
20. Write a program of Ruby on Rail to upload a file on the server.

Paper - III: Entrepreneurship Development

UNIT - I
Entrepreneur: Introduction, Evolution of the concept of Entrepreneur, Characteristics of successful Entrepreneurs, The charms of becoming Entrepreneur, The Entrepreneurial decision process, Functions of Entrepreneur, Need of Entrepreneur, Types of Entrepreneurs, Distinction between an Entrepreneur and a Manager, Intrapreneur, social Entrepreneur **Entrepreneurship:** Concept of Entrepreneurship, Growth of Entrepreneurship in India, Role of Entrepreneurship in economic development. **Women Entrepreneurship:** Concept of women Entrepreneur, Functions of women Entrepreneurs, Growth of women Entrepreneurship in India, Problems of women Entrepreneurs, Developing women Entrepreneurship. **Rural Entrepreneurship:** Meaning of rural Entrepreneurship, Need of rural Entrepreneurship, Rural Entrepreneurship/ Industrialization in retrospect, Problems of rural Entrepreneurship, How to develop Rural Entrepreneurship?. **Tourism Entrepreneurship:** Meaning of tourism Entrepreneurship, The perspective, Tourism enterprise, Entrepreneur and Entrepreneurship, Policy Measures of Tourism Entrepreneurship in India.

UNIT - II
Agri-Preneurship: Introduction, Need for developing Agri-Preneurship in India, Opportunities for developing Agri-Preneurship, Challenges involved in developing Agri-

Preneurship. **Social Entrepreneurship:** Introduction, Meaning of Social Entrepreneurship, The Perspective of Social Entrepreneurship. **Family Business:** Introduction, Manning of family business, Types of family business, family business in India: A Historical Perspective, Advantages of family business, Disadvantages of family business, Major challenges faced by family business in India. **Factors affecting Entrepreneurship growth:** Factors affecting Entrepreneurship, Government Actions.
Entrepreneurial Motivation: Meaning of Entrepreneurial Motivation, Motivational Cycle or Process, Theories of Entrepreneurial Motivation. **Entrepreneurial Competencies:** Meaning of Entrepreneurial Competency, Major Entrepreneurial Competencies, Developing Entrepreneurial Competencies.

UNIT - III
Entrepreneurship Development Programmes (EDPs): Meaning of EDP, Need of EDPs, Objectives of EDPs, Entrepreneurship Development Programmes in India: A Historical Perspective, Course contents and curriculum of EDPs, Phase of EDP, Evaluation of EDPs, and Problems of EDPs. **Micro and small enterprises:** Small enterprise: Meaning & Definition, Micro & Macro units, Essentials, features & Characteristics, Relationship between Micro and Macro enterprises, Rationale behind Micro & small enterprises, Scope of Micro and Small Enterprises, Objectives of Micro enterprises, Enterprise & Society, Role of Micro enterprise in economic development, Quick Estimates of 4th All India Cenus of MSME, Package for promotion of Micro and Small-scale enterprise. **Opportunity Identification and Selection:** Need for Opportunity Identification and Selection, Environmental dynamics and change, Business opportunities in various sectors, Identification of business opportunity, Opportunity selection, Steps in setting up of a small business enterprise. **Formulation of Business Plans:** Meaning of business plan, Contents of business plan, Significance of business plan, Formulation of business plan, Planning Commission's Guidelines for formulating Project report 310, Network Analysis, Common Errors in business plan formulation.

UNIT - IV
Project Appraisal: Concept of Project Appraisal, Methods of Project Appraisal, and Environmental clearance of SMEs. **Financing of Enterprise:** Meaning and need for financial planning, Source of Finance, Capital Structure, Capitalization, Term Loans, Sources of short-term Finance, Venture Capital, Export Finance. **Forms of business Ownership:** Sole Proprietorship, Partnership, Company, Cooperative, And Selection of an appropriate form of ownership structure, Ownership Pattern in Micro-sale Enterprise in India: The Empirial Evidence. **Institutional Finance of entrepreneurs:** Need for institutional finance, Institutional Finance. **Institutional Support to Entrepreneurs:** Need for institutional support, Institutional Support to small Entrepreneurs.

Text Book
1. Dr. S. S. Khanka, Entrepreneurial Development, S. Chand.

Reference Books
1. Robert D. Hisrich, Mathew J. Manimala, Michael P. Peters, Dean A. Shepherd, Enterpreneurship, McGraw-Hill.
2. CA Dr. Abha Mathur, Business Entrepreneurship and Management, Taxmann.
3. Charles E. Bamford, Garry D. Bruton, Enterpreneurship – A Small Business Approach, McGraw-Hill.

Paper - III: Company Law and Secretarial Practice

UNIT - I
Introduction to Company Law : Meaning And Scope Of Company Law, History Of Company Law In India, The Companies Act, 2013, Landmark Provisions Of New Act, Definitions Of Important Terms, Frequently Referred Provisions, Securities And Exchange Board Of India And Provisions Of Companies Act. **Nature of Companies :** Definition, Meaning Of Company, Characteristics Of A Company, Principles Of Separate Legal Existence, Lifting Or Piercing The Corporate Veil, Body Corporate Or Corporation, Compulsory Registration Of Associations/Partnerships. **Classification of Companies** :On The Basis Of Mode Incorporation , On The Basis Of Number Of Members, On The Basis Of Liability Of Members, On The Basis Of Control, On The Basis Of Ownership, On The Basis Of Access To Capital Market, Other Companies. **Private and One Person Company** :Private Company, Privileges And Exemptions Of Private Companies, Distinction Between A Private And A Public Company, Conversion Of A Private Company Into A Public Company, Conversion Of A Public Company Into A Private Company, One Person Company, Provisions For The Formation Of OPC, Change /Alteration Of Nominee, Contract By A OPC With The Member, Privileges Of a OPC Over a MPC, Distinction Between a OPC and a MPC, cessation of OPC, conversion of OPC into a Public Or A Private Company, Conversion Of A Private Company Into a OPC.

UNIT - II

Formation and Incorporation of Company : Promotion Of A Company, Promoter , Legal Position Of A Promoter, Functions Of Promoter, Duties Of Promoter, Liabilities Of The Promoter, Remuneration Of The Promoters, Registration And Incorporation Of Company, Commencement Of Business, Integrated Process Of Incorporation, Incorporation On Incorrect Information: Implications, Effects Of Incorporation Of Company, Preliminary/ Pre-Incorporation Contracts. **Memorandum of Association:** Meaning And Definition, Framing The Memorandum, Contents Of The Memorandum, The Name Of The Company/Name Clause, The Registered Office/Place Clause, Object Of The Company And The Object Clause, The Liability Of Members Or The Liability Clause, The Capital Or The Capital Clause, The Subscribers Clause, The Nomination Clause, Alteration Of The Memorandum, Alteration Of The Name Or The Name Clause, Procedure Of Change In Name, Alteration Of Place Or Registered Office Clause, Alteration In Objects And The Object Clause, Alteration Of Liability Or The Liability Clause, Alteration Of Capital Or Capital Clause. **Articles of Association:** Definition And Meaning , Forms And Formalities Of Articles, Provision With Respect To Contents Of Articles, Relation Between The Memorandum And The Articles, Distinction Between The Memorandum And The Articles, Effects Of Memorandum And Articles, Alteration Of Articles, Procedure Of Alteration, Restrictions Or Limitations On Alteration, , Doctrine Of Constructive Notice, Doctrine Of Indoor Management.

UNIT - III

Share Capital: Concept Of Share Capital, Kinds Of Share Capital, Alteration Of Capital Or Capital Clause, Further Issue Of Capital, Further Issue Of Shares To Existing Shareholders, Issue Of Shares To Employees Of The Company, Issue Of Share To Any Person On Preferential Basis, Global Depository Receipts, Sweat Equity Shares, Capitalization Of Profits/Bonus Shares, Restriction On Purchase Of Own Shares, Buy-Back Of Own Securities By A Company, Conversion Of Debentures Or Loans Into Shares, Reduction Of Share Capital. **Securities / Share:** Definition And Nature Of Share, Distinction Between Share And Stock, Kinds Of Share, Redemption Of Preference Share, Voting Rights Of Shareholders /Members, Variation Of Shareholders Rights, Price Of Issue Of Shares, Issue At Par, Share/Security Certificate, Issue Of Share Certificate, Effects Of Share Certificate, Issue Of Renewed Or Duplicate Certificate, In Case Of Exchange Of Existing Certificate, Calls On Shares /Securities, Forfeiture Of Shares. **Deposits, Loans, Investments and Related Party Transactions :** Acceptance Of Deposits, Acceptance Of Deposits From Members Only, Deposits By Eligible Companies Or Public Deposits, Loan To Directors, Investment By Companies, Loan By Companies Or Intercorporate Loans, Investments In Own Name, Disclosure Of Interest By Director, Related Party And Relative, Related Party Transactions.

UNIT - IV

Directors Position, Appointment And Removal: Definition Of Directors, Position Of Director In A Company, Composition Of Board Of Directors, Number Of Directorship, Methods Of Appointment Of Directors, Some Other Provisions As To Directors Appointment, Appointment/Reappointment Of Rotational Directors, Appointment Of Directors By Board, Director Identification Number, Disqualifications For Director, Vacation Of Office Of Director, Resignation Of Director, Removal Of Directors. **Company Secretary :** Definition Of Company Secretary, Company Secretary In Practice, Provisions As To Appointment Of Company Secretary, Provision And Role Of Company Secretary, Importance Of Company Secretary, Functions Of Company Secretary, Duties Of Company Secretary, Rights Of Company Secretary, Legal Liabilities Of Company Secretaries, Removal /Dismissal Of Company Secretary, Secretarial Audit For Bigger Companies. **Company Meetings :** Annual General Meetings, Report On Annual General Meetings, Extraordinary General Meetings, Persons Entitled To Call EGM, Notice,

Quorum, Proxy, Resolutions, Etc., Circulation Of Members Resolution, Class Meetings, Certain Other Secretarial Standards.

Text Book
1. Ratan Nolakha, Company law and Practice, Vikas Publishing House Pvt. Ltd.

Reference Books

1. Dr. Ashok Sharma, Company Law & Secretarial Practice, V. K. (India) Enterprises.
2. P. P. S. Gogna, A Text Book of Company Law, S. Chand.
3. Dr. M. R. Sreenivasan, Company Law & Secretarial Practice, Margham Publications.
4. Dr. G. K. Kapoor, Sanjay Dhamija, Company Law and Practices, Taxmann.
5. Arun Kumar, Rachana Sharma, Secretarial Practice & Company Law, Atlantic.
6. Appannaiah, Reddy, Prabhudev, Company Law & Secretarial Practice, Himalaya Pub.House.