Ahmednagar Jilha Maratha Vidya Prasarak Samaj's

New Arts, Commerce, and Science College, Ahmednagar (Autonomous)

(Affiliated to Savitribai Phule Pune University, Pune)

National Education Policy (NEP)
Choice Based Credit System (CBCS)

Programme Skeleton and Syllabus of

B.C.A Science (Minor)

Implemented from

Academic Year 2023-24

New Arts, Commerce and Science College, Ahmednagar (Autonomous)

Board of Studies in Computer Applications

Sr. No.	Name	Designation
1.	Prof.Arun.D.Gangarde	Chairman
2.	Prof. Priyamvada Patil	Member
3.	Dr.Shraddha Ingale	Member
4.	Dr.Mudassar Shaikh	Member
5.	Dr.Santosh Khamitkar	Academic Council Nominee
6.	Dr. Shankar Mali	Academic Council Nominee
7.	Dr.Nitin Patil	Vice-Chancellor Nominee
8.	Mr.Summit Suryawanshi	Alumni
9.	Dr.Deepak Shikarpur	Industry Expert
10.	Prof.Deepali Jagdale	Co-Opted Member
11.	Dr.Madhukar Shelar	Co-Opted Member

Prologue/ Introduction of the programme:

1. The Bachelor of Computer Applications (BCA) ia a undergraduate program of four-year that span eight semesters.
2. The course is mainly designed to bridge the gap between the study of computers and its applications.
3. This program aims to shape computer professionals with the right moral and ethical values and can prepare students to face the challenges and opportunities in the IT Industry of India by building strong foundations.
4. The syllabus focuses on the core fundamentals of computer science, but generally undergoes revision according to the industry requirement with the aim of increasing employment opportunities for students.
5. BCA graduates can seek job opportunities in fields like software development, web design, systems management, quality assurance and software testing, Data Science,Cloud Computing.
6. BCA graduate can work in IT companies big and small in various roles.

2. Programme Outcomes (POs)

1. An ability to apply knowledge of computing fundamentals for the solution of complex Problems.
2. An ability to design and develop as model, component, or process to meet desired needs with in constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability and sustainability.
3. Select and apply appropriate techniques, resources and modern IT tools, including prediction and modeling.
4. An understanding of professional, social and ethical responsibility, norms of Industry practice.
5. An ability to function with multi-disciplinary teams
6. An ability to exhibit knowledge understanding and application management principles.

Credit Distribution: B.Sc. including Minor and OE and other courses.

	Type of Courses	III Yr	IV Yrs (Honours)	IV Yrs Research
Major Computer Applications	Discipline-Specific Courses (DSC)	46	74	66
	Discipline Specific Elective (DSE)	08	16	16
	Skill Enhancement Courses (SEC)	06	06	06
	Vocational Skill Courses (VSC)	08	08	08
	On-Job Training (OJT)	04	08	04
	Field Project (FP)	04	04	04
	Community Engagement and Service (CEP)	02	02	02
	Research project	00	00	12
	Research Methodology	00	04	04
	Total (I, II and III Year)	78	122	122
Minor	Minor	20	20	20
Other Courses	Open Elective (OE)/ Multidisciplinary Courses	12	12	12
	Indian Knowledge System	02	02	02
	Co-Curricular Courses	08	08	08
	Ability Enhancement Courses	08	08	08
	Value Education Courses	04	04	04
	Total	132	176	176

Programme Framework (Courses and Credits): B.C.A. Science

Minor-I

Sr. No.	Year	Semester	Level	Course Type	Course Code	Title	Credits
1.	I	I	4.5	MNR-1	BCA-SC101	Fundamentals of ICT	03
2.	I	II	4.5	MNR-2	BCA-SC102	Web Designing	03
3.	II	III	5.0	MNR-3	BCA-SC103	Graphic Designing-I	03
4.	II	IV	5.0	MNR-4	BCA-SC104	Graphic Designing-II	03
5.	III	V	5.5	MNR-5	BCA-SC105	Graphic Designing-III	04
6.	III	VI	5.5	MNR-6	BCA-SC106	Graphic Designing-IV	04
							20

Minor-II

Sr. No.	Year	Semester	Level	Course Type	Course Code	Title	Credits
7.	I	I	4.5	MNR-1	BCA-SC101	Problem Solving Techniques Using C	03
8.	I	II	4.5	MNR-2	BCA-SC102	Advance C Programming	03
9.	II	III	5.0	MNR-3	BCA-SC103	Python Programming	03
10.	II	IV	5.0	MNR-4	BCA-SC104	Data Structure Using Python	03
11.	III	V	5.5	MNR-5	BCA-SC105	NOSQL	04
12.	III	VI	5.5	MNR-6	BCA-SC106	DevOps	04
							20

Ahmednagar Jilha Maratha Vidya Prasarak Samaj's

New Arts, Commerce and Science College, Ahmednagar (Autonomous)

Syllabus

B.C.A.Science (Minor-I)

Title of the Course: Fundamentals of ICT								
Year: I				**Semester: I**				
Course Type	Course Code	Credit Distribution		Credits	Allotted Hours	Allotted Marks		
		Theory	Practical			CIE	ESE	Total
MNR-1	BCA-SC101 T/P	02	01	03	60	30	70	100

Learning Objectives:

1. Effectively use ICT tools, software applications and digital resources.
2. Integrate ICT into teaching-learning and its evaluation.
3. Acquire, organize and create her own digital resources.
4. Participate in the activities of teachers' networks.
5. Participate in the evaluation and selection of ICT resources

Course Outcomes (Cos)

1. To learn and understand the basic concepts of the Computer Systems and its concepts.
2. Understand various Operating systems used on computers.
3. Understand various word processors and communication systems.

Detailed Syllabus: Example

Unit 1	**Computer Basics**	**05 Hrs.**
Computer: Definition, Characteristics of Computers, Basic Applications of Computer, Generations of computers. Components of Computer System: Central Processing Unit (CPU), input/output Devices, computer Memory: primary and secondary memory, magnetic and optical storage devices, Concepts of Hardware and Software. Data processing: concepts of data processing, Definition of Information and data, Basic data types, Storage of data/Information as files, Representation of data/Information. Number Systems, Decimal, Binary, Octal, Hexadecimal, Arithmetic's and inter conversions		
Unit 2	**Peripherals of Computer**	**06 Hrs.**
Primary storage devices – RAM, ROM, PROM, EPROM Secondary Storage Devices – HDD, CD, DVD, Pen drive I/O Devices- Keyboards, Scanners, Digitizers, Plotters, LCD,		

Plasma Display, Pointing Devices –Mouse, Joystick, Touch Screens Introduction to Network devices – Hubs, Switches, Routers, NAS, MODEM, Access		
Unit 3	**Operating System and Application Software**	**07 Hrs.**
Definition of Software, Types of software: System Software, Application Software. System Software: Operating System. Types of O.S., Basic Commands in DOS, Introduction to GUI: Desktop Icons, File and Directory structure, Menu Items, Control Panel, File and Directory Search Utility programs: Anti-plagiarism software, Anti-virus, Disk Cleaning, Defragmentation, Compression/Decompression of files. Application software: Examples of commercial software with brief introduction Unit IV Editors, Word Processors, Spreadsheets & Presentation Tools		
Unit 4	**Editors, Word Processors, Spreadsheets & Presentation Tools**	**06 Hrs.**
Editors and Word Processors: Features and functionalities, examples of basic and advanced editors like notepad, vi and Emacs, Introduction to desktop publishing – Features and functionalities Spreadsheets: Features and functionalities, Spreadsheet Applications Introduction to Google Apps: Google Docs, Sheets and Forms and its applications Presentation Tools: Design Slides (using Text, images, charts, clipart), Slide Animation, Template and theme creation		
Unit 5	**Computer communication and Networking**	**06 Hrs.**
Basic of Computer networks: LAN, WAN, MAN. Introduction to Network devices – Hubs, Switches, Routers, NAS, MODEM, Access points. Internet: Introduction to internet and its application/services. Service on Internet: WWW and web-sites, Electronic mails, Communication on Internet. Web Browsers: Internet Explorer, Netscape Communicator. Surfing the Internet: Giving the URL address, Search, Moving Around in a web-site, Printing or saving portion of web pages, down loading Chatting on Internet		

Suggested Readings/Material:

1. Computer Fundamentals, P.K. Sinha & Priti Sinha, 3rd edition, BPB Publication.
2. Computer Fundamentals, Anita Goel, Pearson Education India.
3. PC/HARDWARE, Join Josh, O'Reilly Publication.

List of Assignments to be conducted in practical sessions

Practical Exercise	**30 Hrs.**

1. Create a new folder and do the following:
    1. Make a word document in it.
    2. Make an Excel document in it.
    3. Make a new folder in it
    4. Rename the initial folder
    5. Move the initial folder
    6. Copy the initial folder.
    7. Delete the initial folder
2. Implement the various well known features of Windows operating system such as Notepad, WordPad, Paint, System tools, Entertainment etc. enclosed in Start→Programs→Accessories.
3. Implement various display properties by right clicking on the Windows Desktop.
4. Explore the taskbar of Windows, Set the wall paper and screen saver, Set the data/time.

MS Word

5. Create a document and
    a. Put Bullets and Numbers
    b. Apply various Font parameters.
    c. Apply Left, Right, and Centre alignments.
    d. Apply hyperlinks
    e. Insert pictures
    f. Insert ClipArt
    g. Show the use of WordArt
    h. Add Borders and Shading
    i. Show the use of Find and Replace.
    j. Apply header/footers
6. Create any document and show the difference between paste and paste special.
7. Create a document to show the use of Watermark.
8. Implement the concept of mail merge.
9. Implement the concept of macros.
10. Implement the concept of merging the documents.
11. Crate a student table and do the following:
    a) Insert new row and fill data

b) Delete any existing row

c) Resize rows and columns

d) Apply border and shading

e) Apply merging/splitting of cells

12. Create your resume using General Templates.

MS PowerPoint Presentation

13. Make a presentation of College Education System using

    1. Blank Presentation
    2. From Design Template
    3. From Auto Content Wizard

14. Make a presentation on "Wild Life" and apply the following:

    1. Add audio and video effects
    2. Apply various Color Schemes
    3. Apply various animation schemes.
    4. Apply Slide Show

MS Excel Spreadsheets

15. Compute the division of each and every student of a class.
16. Generation of Electricity Bill
17. Generation of Telephone Bill
18. Generation of Salary statement of an employee
19. Generation of Mark Sheet of a student.
20. To compute mean/median/mode.

Ahmednagar Jilha Maratha Vidya Prasarak Samaj's

New Arts, Commerce and Science College, Ahmednagar (Autonomous)

Syllabus

B.C.A.Science (Minor-I)

Title of the Course: Web Designing								
Year: I				**Semester: II**				
Course Type	Course Code	Credit Distribution		Credits	Allotted Hours	Allotted Marks		
		Theory	Practical			CIE	ESE	Total
MNR-2	BCA-SC102 T/P	02	01	03	60	30	70	100

Learning Objectives:

1. To learn HTML tags and JavaScript Language programming concepts and techniques.
2. To develop the ability to logically plan and develop web pages.
3. To learn to write, test, and debug web pages using HTML and JavaScript

Course Outcomes (Cos):

After successfully completing this course, a student should be able to:

1. Support the development of web pages
2. Write scripts using JavaScript in a web page
3. To learn and understand the basic concepts of the fundamentals of the web applications.
4. Understand various languages to write the codes for the web pages.

Detailed Syllabus:

Unit 1	**Web Fundamentals**	**05 Hrs.**
Introduction to WWW: Protocols and programs, secure connections, application and development tools, the web browser, what is server, Client Server Architecture, dynamic and Static Web Design: Web site design principles, planning the site and navigation.		
Unit 2	**HTML**	**06 Hrs.**
Introduction to HTML, What is HTML, HTML Documents, Basic structure of an HTML document, Creating an HTML document, Mark up Tags Heading-Paragraphs, Line Breaks, HTML Tags.		

Elements of HTML,, Introduction to elements of HTML, Working with Text, Working with Lists, Tables and Frames, Working with Hyperlinks, Images and Multimedia, Working with Forms and controls.		
Unit 3	**CSS**	**07 Hrs.**
Style sheets: Need for CSS, introduction to CSS, basic syntax and structure, using CSS, background images, colors and properties, manipulating texts, using fonts, borders and boxes, margins, padding lists, positioning using CSS, CSS2		
Unit 4	**Javascript**	**06 Hrs.**
Javascript: Client side scripting, What is Javascript, How to develop Javascript, simple Javascript, variables, Operators, functions, conditions, loops and repetition		
Unit 5	**XML and Advanced tools**	**06 Hrs.**
XML: Introduction to XML, uses of XML, simple XML, XML key components, DTD and Schemas, Well formed, using XML with application, Advances in Web Design, Hosting Website, Introduction to Web Design Tools, Introduction to Google Site		

Suggested Readings/Material:

1. HTML & CSS: design and build websites (Vol. 15), Duckett, J, (2011). Indianapolis, IN: Wiley
2. Learning web design: A beginner's guide to HTML, CSS, JavaScript, and web graphics, Robbins, J. N., 2 (2012). " O'Reilly Media, Inc.".
3. https://www.w3schools.com

List of Assignments to be conducted in practical sessions

Practical Exercise	30 Hrs
1. Introduction to HTML. Create a basic HTML file0 2. Create a static webpage using table tags of HTML 3. Create a static web page which defines all text formatting tags of HTML in tabular format 4. Create webpage using list tags of HTML 5. Create webpage to include image using HTML tag 6. Create your class timetable using table tag. 7. Create user Student feedback form (use textbox, text area , checkbox, radio button, select box etc.) 8. Create employee registration webpage using HTML form objectsWrite html code to develop a webpage having two frames that divide the webpage into two equal rows and then divide the row into equal columns fill each frame with a different background color. 9. Create your resume using HTML tags also experiment with colors, text , link , size and also other tags you studied. **CSS** Apply style sheet in Web page. [inline, embedded and linked] 2. Design a web page of your home town with an attractive background color, text color, an Image, font etc. (use internal CSS). 3. Use Inline CSS to format your resume that you created. 4. Use External CSS to format your class timetable as you created. 5. Use External, Internal, and Inline CSS to format college web page that you created. **JavaScript** Develop a JavaScript to display today's date. 2. Develop simple calculator for addition, subtraction, multiplication and divisionoperation using JavaScript 3. Create HTML Page with JavaScript which takes Integer number as input and tells whether the number is ODD or EVEN. 4. Create HTML Page that contains form with fields Name, Email, Mobile No , Gender , Favorite Color and a button now write a JavaScript code to combine and display the information in textbox when the button is clicked. 5. Create simple site by using any tool	

Ahmednagar Jilha Maratha Vidya Prasarak Samaj's

New Arts, Commerce and Science College, Ahmednagar (Autonomous)

Syllabus

B.C.A.Science (Minor-II)

Title of the Course: Problem Solving Techniques Using C								
Year: I				**Semester: I**				
Course Type	Course Code	Credit Distribution		Credits	Allotted Hours	Allotted Marks		
		Theory	Practical			CIE	ESE	Total
MNR-1	BCA-SC102 T/P	02	01	03	60	30	70	100

Learning Objectives:

1. Design solutions to simple engineering problem by applying the basic programming principles of C language and basic mathematical knowledge.
2. Choose a suitable C-construct to develop C code for a given problem.
3. Recognize the bugs in the C program.
4. Apply the C-language syntax rules to correct the bugs in the C program.
5. Develop simple C programs to illustrate the applications of different data types such as arrays.

Course Outcomes (Cos) : After the completion of this course, students will be able to:-

1.Illustrate and explain the basic computer concepts and programming principles of C language.
2. Develop C programs to solve simple mathematical and decision making problems.
3. Develop C programs to solve simple engineering problems using looping constructs and functions.
4. Develop C programs to demonstrate the applications of derived data types such as arrays.

Detailed Syllabus:

Unit I	**Introduction to Programming:** 1.1 Basic Difference between Procedure Oriented Language and Object Oriented Language. 1.2 Concepts of Machine level, Assembly level and High level programming. 1.3 Flow charts and Algorithms .	**4 hrs**
Unit II	**Fundamentals of 'C':** 2.1 Features of C language, structure of C program, comments, header files. 2.2 Data types, constants and variables. 2.3 Operators : Arithmetic operators , Increment and decrement operators,	**6 hrs**

	Relational operators, Logical operators, The bitwise operators, The assignment operators, The conditional operator, The size of operator, The comma operator, Type casting operator. 2.4 Expressions: evaluation of expressions, type conversion, precedence and associativity. 2.5 Basic I/O functions.	
Unit III	**Control Structures in 'C':** 3.1 Types of Statements: 3.2 Simple statements. 3.3 Decision making statements: If, if…else, switch 3.4 Looping statements or Iterative Statements: for loop, while loop, do-while loop 3.5 Nesting of control structures. 3.6 Jump Statements: Break and continue statement, goto statement .	**5 hrs**
Unit IV	**Function:** 4.1 Introduction: Definition, need of using functions, Advantages of using functions. 4.2 Function Prototype : Declaration, calling a function, Defining a function, Return statement. 4.3 Types of functions: main() function, Library Function, Local and global variables 4.4 Recursion, Nested functions.	**7 hrs**
Unit V	**Array :** 6.1Introduction : Definition, Declaration of array, Need, Boundary Checking 6.2 One Dimensional arrays: Initialization, accessing element of 1D arrays, Reading and displaying elements 6.3 Two dimensional arrays : Declaration of 2D arrays, Initialization of 2D arrays, Accessing element of 2D arrays ,Reading and displaying elements. 6.4 Memory representation of array [Row Major, Column Major] 6.5 Multidimensional array 6.6 Array and Function: 1D array and function, 2D array and function	**8 hrs**

Suggested Readings/Material:

1. R.G.Dromey, "How to Solve it by Computer", Pearson Education, India, 2008.
2. "C" Programming" Brian W. Kernighan and Denis M. Ritchie.
PHI 2nd Edition
3. Let us C Yashwant P. Kanetkar,
BPB publication
4. 21st Century C Ben Klemens OReilly 1st 2012
5. E. Balaguruswamy, "Programming in ANSI C", ISBN: 9781259004612, Tata Mc-Graw

Hill Publishing Co Ltd.-New Delhi

List of Assignments to be conducted in Lab Sessions:

Sr.No	Assignments	30 Hrs.
Assignment 1	a)Write a C program to find sum and average of three numbers. b)Write a C program to find the sum of individual digits of a given positive integer. c)Write a C program to find the roots of a quadratic equation..	
Assignment 2	a)Write a C program to generate prime numbers between 1 to n. b)Write a C program to Check whether given number is Armstrong Number or Not. c) Write a C program to evaluate algebraic expression (ax+b)/(ax-b).	
Assignment 3	a)Write a C program to check whether given number is perfect number or Not. b)Write a C program to check whether given number is strong number or not.	
Assignment 4	a) Write a C program to generate the first n terms of the Fibonacci sequence b)Write a C program perform arithmetic operations using switch statement.	
Assignment 5	a)Write a C program to find factorial of a given integer using function. b)Write a C program to find factorial of a given integer using recursive function. c)Write C program to find GCD of two integers by using recursive function. d)Write C program to find GCD of two integers using non-recursive function.	
Assignment 6	a)Write a C program to find both the largest and smallest number in a list of integers. b) Write a C Program to Sort the Array in an Ascending Order. c) Write a C Program to find whether given matrix is symmetric or not.	
Assignment 7	a) Write a C program to perform addition of two matrices. b)Write a C program that uses functions to perform Multiplication of Two Matrices.	
Assignment 8	a)Write a C program to use function to insert a number in to given main array at a given position. b) Write a C program that uses functions to delete n numbers from a given position in a given array.	
Assignment 9	a)Write a C program using user defined functions to determine whether the given number is palindrome or not. b)Write a C program using user defined functions to determine whether the given number is armstrong or not. c) Write a C program using user defined functions to determine x raise to y	
Assignment 10	a) Write a C program to pass a 1 D array to a function. using user defined function calculate the sum and average of the array. b) Write a C program to pass a 2 D array to a function. using user defined function calculate the sum and average of the array elements	

Ahmednagar Jilha Maratha Vidya Prasarak Samaj's

New Arts, Commerce and Science College, Ahmednagar (Autonomous)

Syllabus

B.C.A.Science (Minor-II)

Title of the Course: Advance C Programming								
Year: I				**Semester: II**				
Course Type	Course Code	Credit Distribution		Credits	Allotted Hours	Allotted Marks		
		Theory	Practical			CIE	ESE	Total
MNR-2	BCA-SC102 T/P	02	01	03	60	30	70	100

Learning Objectives:

1.Arranging data in arrays and strings.
2.Implementing pointers
3.Understanding derived data types like strucutres and unions
4.File management and dynamic memory allocation

Course Outcomes (Cos):

After Completion of the course student will be able to :

1.Implement strings in your C program
2.Store different data types in the same memory
3.Repeat the sequence of instructions and points for a memory location
4.Apply code reusability with functions and pointers
5.Understand the basics of file handling mechanisms
6.Explain the uses of pre-processors and various memory models

Detailed Syllabus:

Unit I	**Introduction to C Preprocessor:** 1.1Introduction: Definition of Preprocessor , Types of Preprocessors 1.2Macros : Macros versus function,advantages, types. 1.3 File inclusion directives 1.4 Conditional compilation processors 1.5 Predefined macros 1.8 Preprocessor Operator	**6 hrs**
Unit II	**Pointers:** 2.1 Introduction Definition and declaration,Initialization. 2.2 Indirection operator,Address of operator 2.3 Types of Pointers	**12 hrs**

	2.4 Pointer arithmetic 2.5 Dynamic memory allocation 2.6 Arrays and pointers 2.7 Pointer to array 2.8 Array of pointers 2.9 Function and pointers : Call by value and call by reference,Function pointer. 2.10 Pointers & const- Constant pointer, pointer to a constant	
Unit III	**Strings:** 3.1 Introduction- Definition,Declaration, Initialization 3.2 Importance of terminating NULL character 3.3 Strings & pointers 3.4 String and Function :User Defined ,Standard library function strlen(), strcpy(), strcat(),strcmp() etc 3.5 Command line arguments – argc and argv	**10 hrs**
Unit IV	**Structures and Union:** 4.1 Introduction to structures -Definition Declaration ,Variables initialization , Accessing fields and structure operations 4.2 Nested structures 4.3 Array of structure variables 4.4 Structure and function 4.5 pointer and structure- Declaration, Initialization ,Accessing members using pointer. 4.6 Introduction to unioin- Definition, Declaration, Initialization 4.7 Differentiate between Union and structure 4.8 Nested structures and unions 4.9 Use of Bitfields	**10 hrs**
Unit V	**File Handling:** 5.1 Introduction- Defining and opening a file, closing a File.(fopen, fclose) 5.2 Input/output and Error Handling on Files-library functions for file handling –fgetc, fseek, fgets, fputc etc,feof,rewind etc	**7 hrs**

Suggested Readings/Material:

1. R.G.Dromey, “How to Solve it by Computer”, Pearson Education, India, 2008.
2. “C” Programming” Brian W. Kernighan and Denis M. Ritchie.PHI 2nd Edition
3. Let us C Yashwant P. Kanetkar, BPB publication
4. 21st Century C Ben Klemens OReilly 1st 2012
5. E. Balaguruswamy, “Programming in ANSI C”, ISBN: 9781259004612, Tata Mc-Graw Hill Publishing Co Ltd.-New Delhi

List of Assignments to be conducted in Lab Sessions:

Sr.No	Assignments	30 Hrs.
Assignment 1	a) Write the Program to implement macros for example:-define constant and array size b) Write the Program to : 1. find maximum of two integers 2. check whether a number is positive ,negative or Zero 3. check given number is even or odd C)Write the Program to illustrate the use of #pragma	
Assignment 2	a) Write a program to Interchange values of two numbers using pointers b)Write a program to display the elements of an array containing n integers in reverse order using pointer c)Write a program to reverse the elements of an array containing n integers using pointer	
Assignment 3	a) Write a program to multiply two numbers using function pointer b) Write a Program to accept an array and print the same using double pointer c) Write a program to calculate average of array of n numbers . Pass the array to a function and use pointers	
Assignment 4	a) Write a program to find the number of vowels, consonants, digits and white space in a string. b) Write a program to accept a word and a string .Remove / delete the given word from a string. Example: - if word is= “Hello” and the String is “Hello All Well Come” The output is:- “All Well Come”	
Assignment 5	a) Write a program to compare two strings. If they are not equal display their length and if equal concatenate them b) Write a program to pass two strings to user defined function and copy one string to another using pointer c) Write a program to reverse string, without using another string variabl	
Assignment 6	a) Write a program which accepts a sentence from the user and replaces all lower case letters by uppercase letters. b) Write a program to find the First Capital Letter in a String. write a function iscap() to find the first capital letter. c) Write a program to remove all other characters in a string except alphabets d) Write a program that accepts names of n cities and write functions for the following: 1)Search for a city 2) Display the longest names	
Assignment 7	a) Write a program to add two numbers using Command Line Arguments b) Write a program to create student structure having fields roll_no, stud_name, mark1, mark2, mark3. Calculate the total and average of marks	

	c) Write a program to create student employee having field emp_id, emp_name, designation.Pass this entire structure to function and display the structure elements
Assignment 8	a) Write a program to declare a structure "employee"(name, age, salary) which contains another structure "address"(house number, street) as member variable. Accept the details of one employee and display it. (using pointer variable) b) Write a program to to store and access “name, subject and percentage” for two student.(using union) c) Write a program to create a file, read its contents and display on screen with each case of character reversed.
Assignment 9	a) Write a program to create a file, read its contents and display on screen with each case of character reversed. b) Write a program to create a file called emp.rec and store information about a person in terms of his name, age and salary.
Assignment 10	Write a program to accept two filenames as command line arguments. Copy the contents of the first file to the second such that the case of all alphabets is reversed. 26) Write a program to write data of 5 employees to a binary file and then read the file.