B.C.A. Semester – II

BCA-201 : Advanced Programming Language 'C'

Teaching Scheme (per week)		Teaching Scheme (per semester)		Examination Scheme					
				INT		EXT		TOTAL	
Th. (hours)	Pr. (hours)	Total Hours	Credit	Th. (marks)	Pr. (marks)	Th. (marks)	Pr. (marks)	Th. (marks)	Pr. (marks)
4	--	40	4	30	--	70	--	100	--

Unit - I **[18 Marks]**

User-Defined Functions:

Introduction, Need for user-defined functions, The form of C function, Return values and their types, Calling a function, category of functions, No arguments and no return values, Argument with no return values, Arguments with return values, Handling of non-integer functions, Nesting of functions, Recursion, Functions with arrays, The scope and Lifetime of variables in functions

Unit - II **[17 Marks]**

Structures and Unions:

Introduction, Structure definition, Giving values to members, Structure initialization, Comparison of structures variables, Arrays of structures, Arrays within structures, Structures within Structures, Structures and functions, Unions, Size of structures, Bit fields.

Unit - III **[18 Marks]**

Pointers:

Introduction, Understanding pointers, Accessing the address of a variable, Declaring and initializing pointers, Accessing a variable through its pointer, Pointer expressions, Pointer increments and scale factor, Pointers and arrays, Pointers and character strings, Pointers and Functions, Pointers and structures.

Unit - IV **[17 Marks]**

File Management in C:

Introduction, Defining and opening a file, Closing a file, Input / Output operations on files, Error handling during I/O operations, Random access files, Command line arguments.

Dynamic Memory Allocation

Introduction, Dynamic Memory allocation, Memory allocation functions

The Preprocessors:

Introduction, Macro Substitution, File inclusion, Compiler control directives

Text Book:

1. **Programming in ANSI C**, Balagurusamy, Tata McGraw-Hill

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Reference Books:

1. Programming in C, by Pradip Dey & Manas Ghosh, Publisher – Oxford
2. The Complete Reference, Herbert schildt Fourth Edition
3. Let Us C , Yashwant Kanetkar, BPB Publications

Question Paper Scheme:

University Examination Duration: 3 Hours.

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

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

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

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

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

Note: All Objective/ Short Questions are compulsory, no option will be given.

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B.C.A. Semester – II
BCA-202 : Internet & Web Designing

Teaching Scheme (per week)		Teaching Scheme (per semester)		Examination Scheme					
				INT		EXT		TOTAL	
Th. (hours)	Pr. (hours)	Total Hours	Credit	Th. (marks)	Pr. (marks)	Th. (marks)	Pr. (marks)	Th. (marks)	Pr. (marks)
4	--	40	4	30	--	70	--	100	--

Unit - I **[18 Marks]**

Concept of Internet

A brief Introduction to the Internet: Computer Networks, Internet, URL (Uniform Resource Locator), Internet Service Provider, Intranet, Extranet, Virtual Private Network.

Application of Internet: World Wide Web, Search Engines, News groups, Electronic Mail, Web Portal, Chat, Video Conferencing, FTP, Remote Login, E-Commerce, E-Learning, E-Governance, E-Banking.

Unit - II **[17 Marks]**

Static Web Page Development

Basics of HTML: What is Internet Language?, Understanding HTML, Create a Web page, Linking to other Web Pages, Publishing HTML Pages, Text Alignment and Lists, Text Formatting Fonts Control, Email Links and link within a Page, Creating a Table, Creating HTML Forms, Creating Web Page Graphics, Putting Graphics on a Web Page, Custom Backgrounds and Colors, Creating Animated Graphics.

Unit - III **[18 Marks]**

Dynamic Web page Development

Cascading Style Sheet: CSS, Defining Style with HTML Tags, Features of Style Sheet, Style Properties, Style Classes, External Style Sheet

Unit - IV **[17 Marks]**

JavaScript

Introduction to JavaScript: Writing First Java Script, External JavaScript, Variables: Rules for variable names, Declaring the variable, Assign a value to a variable, Scope of variable, Using Operators, Control Statements, JavaScript loops, JavaScript Functions: Defining a Function, Returning value from function, User define function.

Text Books:

1. Internet and Web Design
   Based on DOEACC III Revised syllabus 'O' Level
   Mac Millan India Ltd.
2. Teach Yourself HTML 4 in 24 Hours By Dick Oliver
   (Tech media) 4th edition

3. The Complete Reference JavaScript
   By Thomas Powell & Fritz Schneider
   2nd Edition.
4. Introduction to Internet and HTML Scripting By Bhaumik Shroff, Books India Publ.

Reference Books :

1. HTML and CSS
   By Dick Oliver and Michael Morrison (Pearson Education) 7th edition
2. HTML, DHTML, JavaScript, Perl CGI
   By Ivan Bayross(BPB) 3rd Edition
3. CSS
   By Kynn Bartlett(Pearson Education)2nd Edition
4. Introduction to Internet & HTML Scripting
   By Bhaumik Shroff
   Books India Publication 3rd Edition.

Question Paper Scheme:

University Examination Duration : 3 Hours.

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

Q.2 - Unit-II (17 Marks)
- A. Objective/ Short Questions.
- B. Descriptive/ Long questions.

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

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

Note: All Objective/ Short Questions are compulsory, no option will be given.

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B.C.A. Semester – II

BCA-203 : Discrete Mathematics

Teaching Scheme (per week)		Teaching Scheme (per semester)		Examination Scheme					
				INT		EXT		TOTAL	
Th. (hours)	Pr. (hours)	Total Hours	Credit	Th. (marks)	Pr. (marks)	Th. (marks)	Pr. (marks)	Th. (marks)	Pr. (marks)
4	--	40	4	30	--	70	--	100	--

Unit - I **[18 Marks]**

Set Theory:

Introduction, Definition and Concepts, Representation of Sets, Finite Sets, Infinite Sets (Definition), Set Operations : Union, Intersection, Addition theorem, difference, Symmetric difference, D' Morgons Law, Subsets, Power Sets, Partitions Sets.

Unit - II **[17 Marks]**

Functions:

Introduction: Definitions and Concepts, One to One, onto functions, Invertible Functions.

Mathematical Functions (Definition and Examples) : Floor and ceiling functions, Integer and Absolute value functions, Remainder functions, Exponential functions, logarithmic functions, Recursive functions

Unit - III **[18 Marks]**

Determinants and Matrices:

Determinants, Basic theorems of determinants,

Metrics -Definition and Concept, square Matrix, unit Matrix, null Matrix, Matrix Addition, Multiplication, Scalar multiplication, Transpose of a Matrix, Invertible Matrices, Inverse of a Matrix.

Unit - IV **[17 Marks]**

Sequences and Series:

Sequences: Introduction, Types of sequence, Arithmetic progression (A.P), Geometric progression (G.P).

Series : Introduction, Types of series, Arithmetic series (A.P)

Permutation, Combinations

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Reference Books:

1. Discrete Mathematics (Second Edition) S.LIPSCHUTZ, M. LIPSON (TMH)
2. Elements of Discrete Mathematics C.L. LIU (TMH)
3. Discrete Mathematics J K SHARMA (Macmillan Publishers)

Question Paper Scheme:

University Examination Duration: 3 Hours.

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

Q.2 - Unit-II (17 Marks)
- A. Objective/ Short Questions.
- B. Descriptive/ Long questions.

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

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

Note: All Objective/ Short Questions are compulsory, no option will be given.

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B.C.A. Semester – II
BCA-204 : Communication skills- II

Teaching Scheme (per week)		Teaching Scheme (per semester)		Examination Scheme					
				INT		EXT		TOTAL	
Th. (hours)	Pr. (hours)	Total Hours	Credit	Th. (marks)	Pr. (marks)	Th. (marks)	Pr. (marks)	Th. (marks)	Pr. (marks)
4	--	40	4	30	--	70	--	100	--

Unit – I

Writing **[18 Marks]**

- Application for job.
- Application for loan.
- Application demanding original documents from office.
- Application for leave.

]

Unit - II **[17 Marks]**

Grammar

- Prepositions.
- Nouns and pronouns.
- Questions and negatives.
- Conjunctions.

Unit - III **[18 Marks]**

Translation and Comprehension

- Translation from English into Gujarati or Hindi.
- Comprehension.

Unit - IV **[17 Marks]**

Listening and Speaking.

- Dialogues.

1. At the college.
2. On the campus.
3. Out side the campus.
4. At the post office.
5. At the hospital.
6. At the railway station.

- Group discussion.
- Presentations.
- Interview.

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Reference books:

1. English Online, Mohanraj & Mohanrah, Orient Longman.
2. The Good Grammar Book Swan M & Catherine Walter, Oxford.
3. English Grammar Composition and Effective Business Communication, Pink and Thomas, S Chand.
4. Business Communication, Meenakshi Raman & Sangeeta Sharma, Oxford.
5. Oxford Business English Dictionary, Oxford.
6. Technical Communication: Principles and Practice, Meenakshi Raman & Sangeeta Sharma, Oxford.

Question Paper Scheme:

University Examination Duration: 3 Hours.

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

Note: All Objective/ Short Questions are compulsory, no option will be given.

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B.C.A. Semester – II

BCA-205 : Advanced Programming Language 'C'

Teaching Scheme (per week)		Teaching Scheme (per semester)		Examination Scheme					
				INT		EXT		TOTAL	
Th. (hours)	Pr. (hours)	Total Hours	Credit	Th. (marks)	Pr. (marks)	Th. (marks)	Pr. (marks)	Th. (marks)	Pr. (marks)
--	4	40	4	--	30	--	70	--	100

Practical based on Advanced Programming Language 'C'

University Examination Duration: 3 Hours (Per Batch)

(Practical List)

1. Write a program to check the no. is Palindrome or not using UDF.
2. Write a program to find factorial of given no using UDF.
3. Write a program to find factorial of given no using recursion.
4. Write a program to display first 25 terms of Fibonacci series using recursion.
5. Write a program using a recursive function to find the GCD(Greatest Common Divisor) of two Positive integer numbers.
6. Write a program to swap value of two integer number using UDF
7. Write a function prime that returns 1 if its argument is a prime and return zero Otherwise.
8. Write a program that will print the longest word written in a line using UDF.
9. Write a program that will scan a character string passed as an argument and convert all Lowercase character into their uppercase equivalents using UDF.
10. Write a program that uses a UDF to sort an array of integer.
11. Write a program to search a number within an array using UDF.
12. Write a program which explains the use of nesting of functions.
13. Write a function **power** that computes x raised to the power y for integers x and y and return Double-type value.
14. Define a structure type struct personal that would contain person name, date of joining and salary using this structure to read this information of 5 people and print the same on screen.
15. Design a structure student_record to contain name, branch and total marks obtained. Develop a program to read data for 10 students in a class and print them.
16. Write a program using structure within structure.
17. Define a structure called cricket that will describe the following information
    Player name, Team name, Runs
    Using cricket, declare an array player with 10 elements and write a program to read the information about all 10 players and print a team-wise list containing names of players with their runs.
18. In a program declare following structure member: name, code, age, weight and height. Read all members of the structure for 10 persons and find list of persons with all related data whose weight > 50 and height > 40 and print the same with suitable format and title.
19. Write a program to print the value and address of the element.
20. Write a program to accept 10 numbers and display its sum using pointer.
21. Write a program to accept 10 numbers and sort them with use of pointer.
22. Write a program to swap the two values using pointers and UDF.

23. Write a program with structure and pointer.
24. Write a program using pointer to determine the length of a character string.
25. Write a program using pointers to read an array of integers and print its elements in reverse order.
26. Write a program using UDF and pointers to add two matrices and to return the resultant matrix to the calling function.
27. Create one text file store some information into it and print the same information on Terminal.
28. A file named data contains series of integer no. Write a c program to read that no. and then Write all odd no into file named odd no. and write all even no into file named even no. Display all the contents of these file on screen.
29. Write a c program to read data from keyboard, write it to a file called input and Display data of input file on the screen.
30. Write a program that counts the number of characters and number of lines in a file.
31. Write a c program to read mark data which contains roll no, name, sub1, sub2, sub3 file and Generate the annual examination results are tabulated as follows:

Result

Roll no Name Sub1 Sub2 Sub3 Total per% Class

---

32. Write a c program to input employee no, employee name and basic and to store output into empdata file in following format.

A/c Department

Emp-No Name Basic DA HRA MA PF GROSS NET-PAY

---

1 xyz 5000 2500 500 100 500 8100 7600

2

3

DA = 50% of Basic HRA =10% of Basic

MA = 100 PF = 10% of Basic

GROSS = BASIC + DA + HRA + MA NET-PAY = GROSS – PF

33. Write a c program to read empin data file which contains empno, empname and basic. To create empout data file as per practical no 23 format.
34. Write a program using fseek and ftell functions.
35. Two files DATA1 and DATA2 contain sorted lists of integers. Write a program to produce a third file DATA which holds a single sorted, merged list of these two lists. Use command line arguments to specify the file names.
36. Write a program to work as a dos copy con command using command line argument.
37. Write a C program to work as a dos type command using command line argument.
38. Write a C program to work as a dos copy command using command line argument.
39. Write programs which explain the use of memory allocation functions.
40. Write a program which explains the use of macro.

Practical Exam Scheme:

Program	Output	Viva	Journal	Total
25 Marks	15 Marks	20 Marks	10 Marks	70 Marks

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B.C.A. Semester – II
BCA-206 : Internet & Web Designing

Teaching Scheme (per week)		Teaching Scheme (per semester)		Examination Scheme					
				INT		EXT		TOTAL	
Th. (hours)	Pr. (hours)	Total Hours	Credit	Th. (marks)	Pr. (marks)	Th. (marks)	Pr. (marks)	Th. (marks)	Pr. (marks)
--	4	40	4	--	30	--	70	--	100

University Examination Duration: 3 Hours (Per Batch)

(Practical List)

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

<table>
<tr><td>Physics.html</td><td rowspan="2">Welcome.html</td><td>Maths.html</td></tr>
<tr><td>Chemistry.html</td><td rowspan="2">Computer.html</td></tr>
<tr><td>Biology.html</td><td rowspan="2">Heading.html</td></tr>
<tr><td>Zoology.html</td><td>Account.html</td></tr>
</table>

7. Develop a complete web page using Frames and Frameset which gives the Information about Hospital.
8. Write an HTML code for designing the subscription form of mail account in the e-mail website with appropriate fields.
9. Write an example of Style Sheet.
10. Describe yourself on a webpage and experiment with colors in bgcolor ,text, link, try out different and sizes and also the other tags you studies so far, such as the rules tag as well as.
11. Design a single page web site for a university containing a description of the courses offered , it should also contain some general information about the university such as its history, the campus and its unique features the page should be colored and each section should have different color.
12. Write a HTML code to designate a section of text that is already formatted for display preformatted text is usually used for compute output.

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Solution

```
<BODY>
<P> C Programme</p>
<Pre>
#include<stdio.h>
Void main ()
{
        printf("Hello world");
}
</Pre>
</BODY>
```

13. Write a HTML code for specifying the heading BS or cities in the HTML document.
    Solution
    ```
    <h1>_ _ _ _ _ _</h1>
    ```
14. Write a HTML code using Nested list.
15. Write HTML code to devlop a web page having background in blue and title "Wel come to my home page" in red other color.
16. Create an HTML document of giving details of your name, age, telephone no, address and enrolment no, aligned in proper order.
17. Write HTML code to create a web page of green color and display a mouing message in yellow color.
18. Write HTML code for following list
    Full time program.
        BCA
        PGDCA
        BBA
    Euening program
        MCA
        MBA
    Clash course.
    Computer.
19. Calculate a web page that provides links to five different web page or to entirely different websites.
20. Design page that has 5 equal columns the table should look the same in all screen resolution.
    Solution
    ```
    <table border cellspacing = 3 border color "#00000">
    <TR> <td width ="20 %">
    <p>Column1</td>
    <p>Column1</td>
    <td width="20 %">
    <p>Column1</td>
    </TR>
    </table>
    <p></p></body>
    ```

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</html>

21. Write a HTML code for making table to containing different option for different questions.

Which is your favorite color	Who is your national leader	Who is the highest test centuries person in India
Red	Sardar Patel	Sunil Gawskar
Green	Gandhiji	Kapil Dev
Yellow	Indiraji	Sachin tendulkar
Blue	Nehruji	Ajay Jadeja

22. Devlop your academic time table in HTML using <table> Tag and use class to change the background of different allows of your time table.

23. Write a HTML code using a Frame concept

    Solution

    <body bgcolor= # effaced text = “dark red”>
    <h1 align = “center”>
    Inline frame
    </h1>
    <iframe name = “inline Frame” src = “inline.html” width=”65%” height = “80 %”>
    </frame>
    </p>
    </body>

24. Create form to fill information student.
25. Create a JavaScript code to display any message.
26. Create a JavaScript code using Arithmetic Operator, Assignment Operator, Comparison Operator, Logical Operator and String Operator.
27. Create a JavaScript code using Control Statements.
28. Create a JavaScript code to display

    5 * 1 = 5
    5 * 2 = 10
    . .
    5 * 10 = 50 using ‘for loop’.

29. Create a JavaScript code using User Defined Function which will calculate the area of circle.
30. Write a JavaScript code to change the background color of the Web Page.
31. Write a JavaScript code to display Factorial of the given number.

Practical Exam Scheme:

Practical HTML	**Practical JAVA Script**	**Viva**	**Journal**	**Total**
25 Marks	15 Marks	20 Marks	10 Marks	70 Marks

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