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# B.Sc.(IT)

**Bachelor of Science ( Information  
Technology)**

**Batch 2022- 25**

**Program Outcomes (PO)**



**Faculty of Computer Science & Applications**  
**Gokul College of Computer Science & Applications**



University Campus, State Highway-41, Sidhpur - 384151, Dist. Patan, Gujarat, INDIA

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### B.SC.IT SEM 1 SUBJECTS

Subject code	Name of subject	Cours e Credit	Interna l Marks	Externa l Marks	Total Mark s
FCAB11020 1	Fundamentals of Programming Language 'C'	04	30	70	100
FCAB11020 2	OFFICE AUTOMATION TOOLS	04	30	70	100
FCAB11020 3	Computer Organization	04	30	70	100
FCAB11020 4	Communication Skills	04	30	70	100
FCAB11020 5	Practical - Fundamentals of Programming Language 'C'	04	30	70	100
FCAB11020 6	Practical – DBMS & Office	04	30	70	100
	<b>Total</b>	24	180	420	600

### B.SC.IT SEM 2 SUBJECTS

Subject code	Name of subject	Cours e Credit	Interna l Marks	Externa l Marks	Total Mark s
FCAB12020 7	Advance Programming Language 'C'	04	30	70	100
FCAB12020 8	Internet & Web Design	04	30	70	100
FCAB12020 9	Statistics	04	30	70	100
FCAB12021 0	Computer Network	04	30	70	100
FCAB12021 1	Practical - Advance Programming Language 'C'	04	30	70	100
FCAB12021 2	Practical – Internet & Web Design	04	30	70	100
	<b>Total</b>	24	180	420	600



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### B.SC.IT SEM 3 SUBJECTS

Subject code	Name of subject	Cours e Credit	Interna l Marks	Externa l Marks	Total Mark s
FCAB13020 1	Object Oriented Programming Language C++	04	30	70	100
FCAB13020 2	Advance Database Management System	04	30	70	100
FCAB13020 3	Computer Security	04	30	70	100
FCAB13020 4	System Analysis	04	30	70	100
FCAB13020 5	Practical-Object Oriented Programming Language C++	04	30	70	100
FCAB13020 6	Practical -Advance Database Management System	04	30	70	100
<b>Total</b>		24	180	420	600

### Program Outcomes (PO)

After the completion of the course, the student will attain the ability to:

#### PO1: Analytical Abilities

To develop the necessary analytical abilities for developing computer based solutions for real life problems

#### PO2: Computing paradigms (hardware & software)

Explain different computing paradigms (hardware & software) needed for a proper understanding of Computer Applications as a subject.

#### PO3: Domain knowledge of the programing:

The students will be able to learn adequate knowledge, practical skills, basic principles related to software development and expertise for enhancing educational pursuits and research capability. Develop a range of Software skills applicable for employment.



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**P04 : Project management Skill:**

Demonstrate knowledge and understanding of the development and management principles to inculcate quality practices in Information Technology solutions development.

**P05: Communication Skills:**

Communicate effectively on complex computer applications activities with the computer science community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

**P06: Design and marketing skills:**

The course creates highly skilled, adaptable graduates who are able to design computer-based solutions to address information management and processing complications in industry, commerce, science, entertainment and the public sector. They will also be able to do marketing for their information management system.

**P07: Successful Career in Information Technology:**

This course helps a student to apply their knowledge and skills to be employed and excel in IT professional careers and to continue their education in IT and related post graduate programs.





## Program Specific Outcomes (PSO)

PSO1: Aspire for higher studies in the area of Computer Science and information technology and research work.

PSO2: Attain Specialization in specific domains of Computer science and information technology.

PSO3: Gain knowledge in Software Development for employment in Indian & global software market.

PSO4: Work for Banking, Insurance, Teaching and other services in Corporate and Government sectors.

PSO5: Start up new business venture through Startups and as entrepreneurs in IT Sector.

Course Outcomes Semester-I B.SC.(IT)		
subject with code		course outcomes
Communication Skills FCAB110201	CO1	They will be able to use grammar properly , they develop basic antique in their behavior.
	CO2	The students will communicate professionally in any organization with proper business communication. They will develop their self confidence which is more important.
	CO3	They will Increase vocabulary and develop more interest in learning English language.
Office Automation Tools FCAB110202	CO1	To perform documentation
	CO2	Create spreadsheet
	CO3	make a small presentation and would be aware with internet.
Digital Computer System Architecture FCAB110203	CO1	To develop logic for assembly language programming.
	CO2	Analyze the performance of commercially available



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		computers.
	C03	Demonstrate computer architecture concepts related to design of modem processors, memories and I/Os.
Fundamentals Of Programming Language 'C' FCAB110204	C01	Read, understand and trace the execution of programs written in C language
	C02	Understand the fundamentals of programming language for problem solving
	C03	Understand basic concepts of File Management in C language
Pra. - Fundamentals Of Programming Language 'C' FCAB110205	C01	Read, understand and trace the execution of programs written in C language
	C02	Understand the fundamentals of programming language for problem solving
	C03	Understand basic concepts of File Management in C language
Practical – Dbms & Office FCAB110206	C01	To perform documentation
	C02	Create spreadsheet
	C03	make a small presentation and would be aware with internet.
<b>Course Outcomes Semester-II B.SC.(IT)</b>		
<b>subject with code</b>		<b>course outcomes</b>
Advance Programming Language 'C' FCAB120207	C01	Read, understand and trace the execution of programs written in C language
	C02	Understand the fundamentals of programming language for problem solving
	C03	Understand basic concepts of File Management in C language
Internet & Web Design FCAB120208	C01	Describe the concepts of World Wide Web, and the requirements of effective web design.
	C02	Develop web pages using the HTML and CSS features with different layouts as per need of applications.
	C03	Use the JavaScript to develop the dynamic web



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		pages.
Statistics FCAB120209	CO1	Students will formulate complete, concise, and correct mathematical proofs.
	CO2	Students will frame problems using multiple mathematical and statistical representations of relevant structures and relationships and solve using standard techniques.
	CO3	Students will create quantitative models to solve real world problems in appropriate contexts.
Computer Networks FCAB120210	CO1	To develop logic for assembly language programming.
	CO2	Understand basic computer network technology.
	CO3	Discuss the elements and protocols of transport layer
Practical - Advance Programming Language 'C' FCAB120211	CO1	Read, understand and trace the execution of programs written in C language
	CO2	Understand the fundamentals of programming language for problem solving
	CO3	Understand basic concepts of File Management in C language
Practical -Internet & Web Design FCAB120212	CO1	Describe the concepts of World Wide Web, and the requirements of effective web design.
	CO2	Develop web pages using the HTML and CSS features with different layouts as per need of applications.
	CO3	Use the JavaScript to develop the dynamic web pages.
<b>Course Outcomes Semester-III B.SC.(IT)</b>		
<b>subject with code</b>		<b>course outcomes</b>
Object Oriented Programming Language C++ FCAB130201	CO1	Read, understand and trace the execution of programs written in C++ language Will be able to Understand basic concepts of File Management in C++ language
	CO2	Will be able to Understand the fundamentals of object



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		oriented concept for problem solving
	C03	Will be able to Understand basic concepts of File Management in C++ language
Advance Database Management System FCAB130202	C01	Design, Develop and manage databases for simple applications using Structured Query Language (SQL).
	C02	Understanding of the relational data model.
	C03	Ability to use databases for building web applications.
	C04	Gaining knowledge about the internals of a database system
Computer Security FCAB130203	C01	Analyze and evaluate the cyber security needs of an organization.
	C02	Conduct a cyber security risk assessment.
	C03	Measure the performance and troubleshoot cyber security systems.
	C04	Implement cyber security solutions.
System Analysis FCAB130204	C01	understand the principles and tools of system analysis,design
	C02	understand the principles and tools of system analysis,design
	C03	analysis and design of system of small sizes.
Practical-Object Oriented Programming Language C++ FCAB130205	C01	Read, understand and trace the execution of programs written in C++ language
	C02	Will be able to Understand the fundamentals of object oriented concept for problem solving
	C03	Will be able to Understand basic concepts of File Management in C++ language
Practical -Advance Database Management System FCAB130206	C01	Design, Develop and manage databases for simple applications using Structured Query Language (SQL).
	C02	Understanding of the relational data model.



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	CO3	ability to use databases for building web applications.
	CO4	Gaining knowledge about the internals of a database system.

### BSCIT Semester-I

<b>Program :</b>	BSCIT	<b>Subject / Branch :</b>	NA
<b>Year :</b>	2022/23	<b>Semester :</b>	I
<b>Course title :</b>	COMMUNICATION SKILLS	<b>Course code :</b>	FCAB110201
<b>Course type :</b>	Theory	<b>Course credit :</b>	04
<b>Pre-requisite :</b>	Basic Knowledge of English Language		
<b>Rationale :</b>	To make the students confident and make them aware about their personality development.		

### Teaching Examination Scheme:

Teaching (Hours/week)			Examination Scheme			
Lecture	Tutorial	Practical	Internal		External	Total
4	0	0	Mid	CE	70	100
			15	15		

### Course Objective :

1. Students will develop their confidence.
2. Students will understand the importance of personality development and self awareness.
3. Students understand the importance of language and learn different techniques of interview, presentation etc.

### Course Outcome:



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1. They will be able to use grammar properly , they develop basic antequate in their behavior.
2. The students will communicate professionally in any organization with proper business communication. They will develop their self confidence which is more important
3. They will Increase vocabulary and develop more interest in learning English language.

### Content

Unit	Theory of Communication	Credit	Weightage
I	Communication – Meaning and Objectives, Process and Importance, Barriers Methods of Communication - Verbal and Non-Verbal Horizontal, Grapevine Steps of Effective Communication	1	25 %
II	<b>Grammar</b> Parts of Speech Subject Verb Agreement Indirect speech Auxiliaries and Modals Questions and Negatives	1	25 %
III	<b>Business Communication</b> Application for Job, Loan, Leave, Demanding Original Documents from Office Business Letters for Inquiry, reply, Quotation, Placing of Order, Complaint, Adjustment ,Comprehension ,Paragraph Writing	1	25 %
IV	<b>Listening and Speaking</b>	1	25 %



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	<ul style="list-style-type: none"> <li>• Importance of Listening</li> <li>• Listening Process</li> <li>• Barriers of Listening</li> <li>• Speech preparation</li> <li>• Guidelines for Effective Speaking</li> <li>• Group discussion</li> <li>• Interview – types and preparation</li> </ul>		
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### Reference Books:

1. Communication Skills – Vithal Patel
2. English Grammar Composition and Effective Business Communication- Pink and Thomas – S. Chand

### Suggested Readings:

1. Story books to increase vocabulary.
2. Listen Motivational videos.
3. Read interested area in English News Papers.

### Online Resources:

1. <https://learnenglish.britishcouncil.org/grammar-reference>
2. <https://en.m.wikipedia.org/communication>

Course Outcomes  Communication Skills FCAB110201	Expected Mapping with Programme Outcomes						
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7
CO-1	-	-	-	-	***	-	-
CO-2	-	-	-	-	***	***	-
CO-3	-	-	-	-	-	-	-







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<b>Program :</b>	BSC.IT	<b>Subject / Branch :</b>	NA
<b>Year :</b>	2022/23	<b>Semester :</b>	I
<b>Course title :</b>	OFFICE AUTOMATION TOOLS	<b>Course code :</b>	FCAB110202
<b>Course type :</b>	Theory	<b>Course credit :</b>	04
<b>Pre-requisite :</b>	Knowledge about Office Automation Tools		
<b>Rationale :</b>	Student can understand how to reduce manual efforts and store large amount of data in a little space which is very important in day to day task for the speed up information retrieve.		

#### Teaching Examination Scheme:

Teaching (Hours/week)			Examination Scheme			
Lecture	Tutorial	Practical	Internal		External	Total
			Mid	CE		
4	0	0	15	15	70	100

#### Course Objective :

Basics of office automations Tools Like,

Ms Office

Ms Word

Ms Excel

Ms Powerpoint

Google Tools

#### Course Outcome:



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Student would be able to

1. To perform documentation
2. Create spreadsheet
3. make a small presentation and would be aware with internet.

### Content

Unit	Description in detail	Credit	Weightage
I	<b>MS Windows: Windows Basic:</b> Introduction to Windows; Using start menu; Using Run to start a program; Move or size a window; computer hardware; Viewing Files: Using My Computer; Using Windows Explorer. <b>Working with Files:</b> Select, open, move, copy rename, delete, restore deleted files; create a new file and folder, search for files; create a shortcut; Printing: print files, pictures; Introduction to Accessories and Control Panel	1	25 %
II	Introduction to MS Office; Introduction to MSWord; Features & area of use; Working with MS Word. – Menus & Commands, Toolbars & Buttons, Shortcut Menus, Wizards & Templates; Creating a New Document; Different Page Views and layouts; Applying various Text Enhancements; Working with – Styles, Text Attributes; Paragraph and Page Formatting; Text Editing using various features – Bullets, Numbering, Auto formatting, Printing & various print options. <b>Advanced Features of MS-Word:</b> Using bookmarks; Spell Check and Thesaurus; Find & Replace;	1	25 %





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	Headers & Footers ; Inserting – Page Numbers, Pictures, Files, Auto texts, Symbols ; Working with Columns, Tabs & Indents; Creation & Working with Tables ; Margins & Space management in Document; Mail Merge.		
III	Introduction and area of use; Working with MS Excel; concepts of Workbook & Worksheets; Using different features with Data, Cell and Texts; Inserting, Removing & Resizing of Columns & Rows; Working with Data & Ranges; Different Views of Worksheets; Column Freezing, Labels, Hiding, Splitting etc.; Using different features with Data and Text; Use of Formulas, Calculations & Functions; Cell Formatting including Borders & Shading; Working with Different Chart Types; Printing of Workbook & Worksheets with various options.	1	25 %
IV	Introduction & area of use; Working with MS PowerPoint; Creating a New Presentation; Working with Presentation; Using Wizards; Slides & it's different views; Inserting, Deleting and Copying of Slides; Working with Notes, Handouts, Columns & Lists; Adding Graphics, Sounds and Movies to a Slide; Working with PowerPoint Objects; Designing & Presentation of a Slide Show; Printing Presentations, Notes, Handouts with print options.. <b>MS Access:</b> DBMS Concept; Creating database, table, fields & its properties; Data types; Adding primary key into table; Relationship; Adding/Editing data; sorting; indexing; designing queries; using forms; Report generation.	1	25 %

#### Reference Books:



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1. Master Visually Windows XP complete visual reference, Hungry Minds
2. Straight to the Point – MS Office 2003 By Dinesh Maidasani Publisher: firewall
3. Master Visually Microsoft Office 2003 By Michael S. Toot Publisher: visual

### Suggested Books:

Straight to the Point – MS Office 2003 By Dinesh Maidasani Publisher: firewall

### Online Resources:

<https://www.w3schools.com>

<https://www.geeksforgeeks.org>

Course Outcomes  Office Automation Tools FCAB110202	Expected Mapping with Programme Outcomes						
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7
CO-1	-	***	***	-	-	***	-
CO-2	***	-	-	-	-	-	***
CO-3	-	-	***	***	-	-	-

Program :	BSC_IT	Subject / Branch :	NA
Year :	2022/23	Semester :	I
Course title :	DIGITAL COMPUTER SYSTEM ARCHITECTURE	Course code :	FCAB110203
Course type :	Theory	Course credit :	04
Pre-requisite :	The students should have a basic Understanding of Digital computer Organization and Architecture or Micro Processors		



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<b>Rationale :</b>	It gives information to students which gives the means of interconnectivity for a computer's hardware components as well as the mode of data transfer and processing exhibited.
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### Teaching Examination Scheme:

Teaching (Hours/week)			Examination Scheme			
Lecture	Tutorial	Practical	Internal		External	Total
4	0	0	Mid	CE	70	100
			15	15		

### Course Objective :

1. To understand the structure, function and characteristics of computer system.
2. To identify and compare different method for computer I/O.
3. Identify and understand the Number system.

### Course Outcome:

1. To develop logic for assembly language programming.
2. Analyze the performance of commercially available computers.
3. Demonstrate computer architecture concepts related to design of modem processors, memories and I/Os.

### Content

Unit	Description in detail	Credit	Weightage
I	Digital & Analog systems, Logic levels and pulse wave forms, digital computer, Major parts of computer, Hardware, Software - Application and System Software Computer generations First generation, Second generation, Third generation, Forth generation, Fifth generation  Super Computers, Mainframes, Mini Computers, Palmtop PC, Laptop PC, Personal Computer, Workstations, Mainframe,	1	25 %





	Supercomputer.  Dos, Windows, Linux		
II	Communication devices -Modem, NIC, Switch, Hub Keyboard, Mouse, Light pen, Joystick, Scanner, Voice input system, Touch Monitor - CRT terminals (Monitor / VDU) Non – CRT terminals, LCD, Plasma display, LED Printer - Dot matrix printer, Ink jet printer, Laser printer, Line printer, Plotter Magnetic memory - Magnetic disk, Hard disk, Floppy disk, Semiconductor memory - RAM, ROM, Flash memory Optical memory - CD, CD-ROM, CD-RAM, DVD, DVD-ROM, DVD-RAM Cache memory, Physical & Virtual memory	1	25 %
III	Number system - Binary, decimal, octal, hexadecimal Conversion - Binary to decimal, decimal to binary, octal to decimal, decimal to octal, octal to binary, binary to octal, hexadecimal to binary, binary to hexadecimal, hexadecimal to decimal, decimal to hexadecimal, hexadecimal to octal, octal to hexadecimal Binary arithmetic – Addition, subtraction (simple method)	1	25 %
IV	Logic gates - AND, OR, NOT, NAND, NOR, Exclusive-OR, Exclusive-NOR Data Processing circuit - Decoder, Encoder	1	25 %

### Reference Books:

- 1.Fundamentals of computers – By. V. Rajaraman PHI Publication
- 2.How computer work: Ron White – Tech media
- 3.O-Level (Information Technology) - By V.K.Jain (Module- M1.1)
- 4.Computer Fundamentals: Pradeep K. Sinha &Priti Sinha (BPB)
- 5.Fundamentals of computers – By. Anand Kumar PHI Publication

### Suggested Books:

- 1.Fundamentals of computers – By. Anand Kumar PHI Publication





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### Online Resources:

1. <https://edu.gcfglobal.org/en/computerbasics/what-is-a-computer/1/>
2. [https://www.tutorialspoint.com/digital\\_circuits/digital\\_circuits\\_logic\\_gates.htm](https://www.tutorialspoint.com/digital_circuits/digital_circuits_logic_gates.htm)
3. [https://www.tutorialspoint.com/computer\\_fundamentals/computer\\_number\\_system.htm](https://www.tutorialspoint.com/computer_fundamentals/computer_number_system.htm)

Course Outcomes  Digital Computer System Architecture FCAB110203	Expected Mapping with Programme Outcomes						
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7
<b>CO-1</b>	-	***	***	-	-	-	***
<b>CO-2</b>	-	-	-	-	-	***	***
<b>CO-3</b>	***	***	-	***	-	-	-

<b>Program :</b>	B.SC.IT	<b>Subject / Branch :</b>	NA
<b>Year :</b>	2022/23	<b>Semester :</b>	I
<b>Course title :</b>	FUNDAMENTALS OF PROGRAMMING LANGUAGE 'C'	<b>Course code :</b>	FCAB110204
<b>Course type :</b>	Theory	<b>Course credit :</b>	04
<b>Pre-requisite :</b>	Basic Knowledge of Computer		
<b>Rationale :</b>	To introduce students the essentials of computer Programming and programming methodology using C language		



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### Teaching Examination Scheme:

Teaching (Hours/week)			Examination Scheme			
Lecture	Tutorial	Practical	Internal		External	Total
4	0	0	Mid	CE		
			15	15	70	100

### Course Objective :

- Students will understand to formulate a computing problem to executable computer program using C language.
- Students will understand about compiler based programming languages
- Students will learn concepts of variables, literals, data types, conversions of data types, input and output data and processing of data, inbuilt functions, arrays, header files, conditional and iterative statements.

### Course Outcome:

- Read, understand and trace the execution of programs written in C language
- Understand the fundamentals of programming language for problem solving
- Understand basic concepts of File Management in C language

### Content

Unit	Description in detail	Credit	Weightage
I	<b>Introduction to Programming</b> Concepts of Algorithm and Flowcharts, problem solving examples using algorithm and flowchart, Types of Programming languages, Characteristics of higher level language, Compiler and Interpreter <b>Overview of C Introduction</b> Importance of C, Sample C programs, Basic structure of C programs, Programming style, executing of C program <b>Constants, Variables and data Types</b> Introduction, Character Set, C tokens, Keywords and Identifiers, Constants, Variables, Data types, Declaration of Variables, Defining symbolic constants	1	25 %
II	<b>Operators and Expression</b> Introduction, Arithmetic of Operators,	1	25 %







	<p>Relational Operators, Logical Operators, Assignment Operators, Increment and Decrement Operators, Conditional Operators, Bit-wise Operators, Special Operators, Arithmetic Expressions, Evaluation of expressions, Precedence of arithmetic operators, Type conversions in expressions, Operator precedence and associativity, Mathematical functions.</p> <p><b>Input &amp; Output Operators</b> Introduction, reading a character, writing a character, formatted input, formatted output.</p>		
III	<p><b>Branching and Looping</b> Introduction Decision making with Simple IF statement, IF ELSE statement, Nesting of IF ELSE statements, The ELSE IF ladder, The switch statement, the ternary (? :) Operator, the GOTO statement. <b>Iterative Statement</b> Introduction WHILE statement, the DO statement, The FOR statement, Jumps in loops Break and continue</p>	1	25 %
IV	<p><b>Array &amp; String</b> Introduction, One-dimensional, arrays, Two-dimensional arrays, Initialization of two- dimensional arrays, Concept of Multidimensional arrays <b>Handling of Character strings</b> Introduction, Declaring and initializing string variables, Reading strings from terminal, Writing strings to screen, Arithmetic operations on characters, Putting string together, String Operations: String Copy, String Compare, String Concatenation And String Length, String Handling functions, Table of strings</p>	1	25 %

#### Reference Books:

3. Programming in C, Balaguruswami – TMH
4. C: How to Program, Deitel & Deitel - PHI
5. C Programming Language, Kernigham & Ritchie - TMH

#### Suggested Readings:

1. Mastering Turbo C, Kelly & Bootle - BPB
2. C Language Programming – Byron Gottfried - TMH
3. Let us C, Yashwant Kanetkar - BPB Publication

#### Online Resources:







1. <https://www.w3schools.com/>
2. <https://www.tutorialspoint.com/>
3. <https://www.programiz.com/>
4. <https://www.cprogramming.com/>

Course Outcomes  Fundamentals Of Programming Language 'C' FCAB110204	Expected Mapping with Programme Outcomes						
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7
CO-1	***	-	***	-	***	-	-
CO-2	-	-	***	-	-	-	-
CO-3	-	-	***	***	-	-	-

<b>Program :</b>	B.SC.IT	<b>Subject / Branch :</b>	NA
<b>Year :</b>	2022/23	<b>Semester :</b>	I
<b>Course title :</b>	PRA. - FUNDAMENTALS OF PROGRAMMING LANGUAGE 'C'	<b>Course code :</b>	FCAB110205
<b>Course type :</b>	Practical	<b>Course credit :</b>	04
<b>Pre-requisite :</b>	Basic Knowledge of Computer		
<b>Rationale :</b>	To introduce students the essentials of computer Programming and programming methodology using C language		

### Teaching Examination Scheme:

Teaching (Hours/week)			Examination Scheme			
Lecture	Tutorial	Practical	Internal		External	Total
4	0	0	Mid	CE		
			15	15	70	100





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### Course Objective :

7. Students will understand to formulate a computing problem to executable computer program using C language.
8. Students will understand about compiler based programming languages
9. Students will learn concepts of variables, literals, data types, conversions of data types, input and output data and processing of data, inbuilt functions, arrays, header files, conditional and iterative statements.

### Course Outcome:

7. Read, understand and trace the execution of programs written in C language
8. Understand the fundamentals of programming language for problem solving
9. Understand basic concepts of File Management in C language



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## Content

### Practical:

1. Write a C program to display "Gokul University" on the screen.
2. Write a C program to find the area of circle using the formula  $\text{Area} = \pi * r * r$ .
3. Write a C program to find the area of rectangle, cube and triangle. (Formula are: Rectangle =  $l * b * h$ , triangle =  $(I * b) * 0.5$ , cube =  $L * L * L$ )
4. Write a C program to evaluate simple interest  $I = P * R * N / 100$ .
5. Write a C program to enter a distance into K.M and convert it in to meter, feet, inches and Centimeter
6. Write a C program to interchange two numbers.
7. Write a C program to convert Fahrenheit into centigrade
8. Write a C program for summation, subtraction, multiplication, division of two number using Arithmetic operator
9. Write a C program to find out the largest value from given three numbers using conditional Operator
10. Write a C program to find the maximum number from given three numbers.
11. Write a C program to find that the enter number is Negative, or Positive or Zero.
12. Write a C program to Checked whether entered char is capital, small, digit or any special Character
13. Write a C program to find out the max. and min. number from given 10 numbers.
14. Write a C program to find the sum of digit of accepted number.
15. Write a C program to find the sum of first 100 odd numbers. And even numbers.
16. Write a C program to display first 25 Fibonacci nos.
17. Write a C program to check the accepted number is prime number or not.
18. Write a C program to display first' 100 prime numbers.
19. Write a C program to find factorial of accepted numbers.
20. Write a C program to print accepted no and its reverse number.
21. Write a C program to convert decimal numbers into equivalent hexadecimal number.
22. Write a C program to display first 5 Armstrong number.
23. Write a C program to arrange the accepted numbers in ascending order and descending order.
24. Write a C program to find whether the accepted string is palindrome or not.





25. Write a C program to convert given line into upper case or lower case.  
26. Write a C program to count no of word, character, line and space from given text.  
27. Write a C program to display following output on the screen.

```
1
12
123
1234
```

28. Write a C program to display following output on the screen.

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

29. Write a C program to display following output on the screen.

```
1
22
3 3 3
4 4 4 4
```

30. Write a C program to find maximum & minimum value from the given array

### Reference Books:

1. Programming in C, Balaguruswami – TMH
2. C: How to Program, Deitel & Deitel - PHI
3. C Programming Language, Kernigham & Ritchie - TMH

### Suggested Readings:

1. Mastering Turbo C, Kelly & Bootle - BPB
2. C Language Programming – Byron Gottfried - TMH
3. Let us C, Yashwant Kanetkar - BPB Publication

### Online Resources:

1. <https://www.w3schools.com/>
2. <https://www.tutorialspoint.com/>
3. <https://www.programiz.com/>
4. <https://www.cprogramming.com/>





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Course Outcomes  Pra. - Fundamentals Of Programming Language 'C' FCAB110205	Expected Mapping with Programme Outcomes						
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7
<b>CO-1</b>	***	-	***	-	-	-	-
<b>CO-2</b>	-	-	***	-	-	-	-
<b>CO-3</b>	-	-	***	***	-	-	-

Course Outcomes  Practical – Dbms & Office FCAB110206	Expected Mapping with Programme Outcomes						
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7
<b>CO-1</b>	-	***	***	-	-	***	-
<b>CO-2</b>	***	-	-	-	-	-	***
<b>CO-3</b>	-	-	***	***	-	-	-

## BSCIT Semester-II



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<b>Program :</b>	B.SC.IT	<b>Subject / Branch :</b>	NA
<b>Year :</b>	2022/23	<b>Semester :</b>	II
<b>Course title :</b>	Advance Programming Language 'C'	<b>Course code :</b>	FCAB120207
<b>Course type :</b>	Theory	<b>Course credit :</b>	04
<b>Pre-requisite :</b>	Basic Knowledge of Computer		
<b>Rationale :</b>	To introduce students the essentials of computer Programming and programming methodology using C language		

### Teaching Examination Scheme:

Teaching (Hours/week)			Examination Scheme			
Lecture	Tutorial	Practical	Internal		External	Total
4	0	0	Mid	CE	70	100
			15	15		

### Course Objective :

- Students will understand to formulate a computing problem to executable computer program using C language.
- Students will understand about compiler based programming languages
- Students will learn concepts of variables, literals, data types, conversions of data types, input and output data and processing of data, inbuilt functions, arrays, header files, conditional and iterative statements.

### Course Outcome:

- Read, understand and trace the execution of programs written in C language
- Understand the fundamentals of programming language for problem solving
- Understand basic concepts of File Management in C language

### Content

Unit	Description in detail	Credit	Weightage
<b>Unit – 1</b>	<b>Introduction to Function</b>	1	25 %



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	Concepts of Function, Types of Function, Prototype, Need for User define function, Classifications of function using arguments and return types , Nesting of functions, Recursion, Functions with arrays, The scope and lifetime of variables in functions		
<b>Unit – 2</b>	<b>Pointer</b>	1	25 %
	Introduction, Advantage of using pointer, Accessing the address of a variable, Declaring and initializing pointers, Accessing a variable through pointer, Pointer expressions, Pointer increments and scale factor, Pointers and arrays, Pointers and character strings, Pointers and Functions, Pointers and structures.		
	<b>Dynamic Memory Allocation and Linked List</b>		
	Introduction, Dynamic Memory allocation, Memory allocation functions (malloc, calloc)		
<b>Unit – 3</b>	<b>Structures &amp; Unions</b>	1	25 %
	Introduction, defining a structure, Structure initialization, copying and Comparison of structures members, Arrays of structures, Arrays within structures, Structures within Structures, Structures and functions, Unions, Size of structures.		
<b>Unit – 4</b>	<b>File Management in C</b>	1	25 %
	Introduction, creating and opening a file, closing a file, Input / Output operations on files, Error handling during I/O operations, Random access files and Command line arguments		

#### Reference Books:

6. Programming in C, Balaguruswami – TMH
7. C: How to Program, Deitel & Deitel - PHI
8. C Programming Language, Kernigham & Ritchie – TMH

#### Suggested Readings:

4. Mastering Turbo C, Kelly & Bootle - BPB
5. C Language Programming – Byron Gottfried - TMH
6. Let us C, Yashwant Kanetkar - BPB Publication
7. Programming in C, Stephan Kochan - CBS





## 8. Magnifying C, Arpita Gopal - PHI

### Online Resources:

5. <https://www.w3schools.com/>
6. <https://www.tutorialspoint.com/>
7. <https://www.programiz.com/>

<https://www.cprogramming.com/>

Course Outcomes  Advance Programming Language 'C' FCAB120207	Expected Mapping with Programme Outcomes						
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7
CO-1	***	-	***	-	***	-	-
CO-2	-	-	***	-	-	-	-
CO-3	-	-	***	***	-	-	-

<b>Program :</b>	B.SC(IT)	<b>Subject / Branch :</b>	NA
<b>Year :</b>	2022/23	<b>Semester :</b>	II
<b>Course title :</b>	Internet & Web Design	<b>Course code :</b>	FCAB120208
<b>Course type :</b>	Theory	<b>Course credit :</b>	04
<b>Pre-requisite :</b>	Basic knowledge of internet		
<b>Rationale :</b>	Students will develop and understanding of information design web page and usability as it applies to interactive media projects.		

### Teaching Examination Scheme:

Teaching (Hours/week)			Examination Scheme			
Lecture	Tutorial	Practical	Internal		External	Total
4	0	0	Mid	CE	70	100
			15	15		







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### Course Objective :

- (a) Learn about E-Services like E-Banking, E-Learning etc.
- (b) Understanding the basic concept of HTML tags.
- (c) Learn the language of the web: HTML and CSS.
- (d) Develop skills in analyzing the usability of a web site.

### Course Outcome:

At the end of the course students will be able to:

- (a) Describe the concepts of World Wide Web, and the requirements of effective web design.
- (b) Develop web pages using the HTML and CSS features with different layouts as per need of applications.
- (c) Use the JavaScript to develop the dynamic web pages.

### Content

Unit	Description in detail	Credit	Weightage
I	<b>Introduction to Internet</b> Introduction, Evaluation of Internet, Internet Service, Computer Networks, Internet, URL (Uniform Resource Locator), Internet Service Provider, Intranet, Extranet, Virtual Private Network, 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 Difference between Internet, Intranet, Extranet, Internet Protocols (TCP,IP, UDP, FTP, HTTP), ISP (Internet Service Provider), E-mail, E-Learning, E-Banking, E-Governance, Social Networking, Instant Messaging, Audio and Video Conferencing, Data Encryption & Decryption, Concepts of Digital Signature, Concepts about Firewall Security	1	25 %
II	<b>HTML</b> HTML tag, Web Page and its Types, Publishing HTML Pages, Basic Tags.	1	25 %



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	HTML document Structure, adding text in Newline , Creating heading: <H1> to <H6>, Creating a paragraph<P>--</P>, Creating a Horizontal ruler<HR>--</HR>, Scrolling text <marquee>--</marquee>, Linking to other page :< a> and <link> tags, Text formatting tags, Font tag with attribute, Working with List tags<OL> and <UL>, Creating Table: Related tags with attribute, Creating HTML Form with adding controls, Frame and frameset tag, Putting Graphics on a Web page, Custom Background and colors.		
III	<b>Introduction to Cascading Style Sheet</b> Concepts of workbook, Defining Style with HTML tags, Features of Style sheet, Types of Style Sheets: External, Internal, and Inline, Style Properties, Style Class & ID Selector.	1	25 %
IV	<b>Introduction to Java Script</b> Writing First Java Script, HTML and Java script, Variables: Rules for variable names, declaring the variable, assign a value to a variable, Scope of variable, Using Operators, Control Statements, JavaScript loops. Types of JavaScript: External, Internal. JavaScript Functions: Defining a Function, Returning value from function, User Define Function.	1	25 %

#### Reference Books:

1. Internet and Web Design Based on DOEACC III Revised syllabus 'O' Level - Mac Millan India Ltd
2. Teach Yourself HTML 4 in 4 Hours By Dick Oliver – Tech Media 4<sup>th</sup> Edition
3. Introduction To Internet And HTML Scripting-Fourth Edition-Bhaumik Shroff

#### Suggested Readings:

1. Introduction To Internet And HTML Scripting-Fourth Edition-Bhaumik Shroff

#### Online Resources:

1. [https://www.tutorialspoint.com/internet\\_technologies/internet\\_overview.htm](https://www.tutorialspoint.com/internet_technologies/internet_overview.htm)
2. <https://www.w3schools.com/html/>
3. <https://www.w3schools.com/w3css/defaultT.asp>
4. <https://www.geeksforgeeks.org/javascript/>





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Course Outcomes  Internet & Web Design FCAB120208	Expected Mapping with Programme Outcomes						
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7
CO-1	-	***	-	***	-	***	-
CO-2	-	-	-	***	-	***	-
CO-3	-	-	-	-	****	***	***

Program :	B.SC(IT)	Subject / Branch :	NA
Year :	2022/23	Semester :	II
Course title :	Statistics	Course code :	FCAB120209
Course type :	Theory	Course credit :	04
Pre-requisite :			
Rationale :			

### Teaching Examination Scheme:

Teaching (Hours/week)			Examination Scheme			
Lecture	Tutorial	Practical	Internal		External	Total
4	0	0	Mid	CE	70	100
			15	15		

### Course Objective :

- Defining the type and quantity of data need to be collected.
- Organizing and summarizing the data.
- Analyzing the data and drawing conclusions from it.
- Assessing the strengths of the conclusions and evaluating their uncertainty.



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### Course Outcome:

- Students will formulate complete, concise, and correct mathematical **proofs**.
- Students will frame problems using multiple mathematical and statistical representations of relevant structures and relationships and **solve** using standard techniques.
- Students will create quantitative **models** to solve real world problems in appropriate contexts.

### Content

Unit	Description in detail	Credit	Weightage
I	<b>Measure of Central Tendency</b> <b>Arithmetic Mean:</b> <ul style="list-style-type: none"><li>• Arithmetic Mean for raw data</li><li>• Discrete frequency distribution</li><li>• Continuous frequency distribution</li><li>• Properties of Arithmetic Mean</li><li>• Merits &amp; Demerits of A.M.</li></ul> <b>Median:</b> <ul style="list-style-type: none"><li>• Median for raw data</li><li>• Discrete frequency distribution</li><li>• Continuous frequency distribution</li><li>• Merits &amp; Demerits of Median</li></ul> <b>Mode:</b> <ul style="list-style-type: none"><li>• Mode for raw data</li><li>• Discrete frequency distribution</li><li>• Continuous frequency distribution</li></ul> Merits & Demerits of Mode	1	25 %
II	<b>Measure of Dispersion</b> <ul style="list-style-type: none"><li>• Introduction</li><li>• Range &amp; its Co-efficient</li><li>• Quartile deviation &amp; its Co-efficient</li><li>• Mean deviation &amp; its Co-efficient</li></ul> Standard deviation & its Co-efficient	1	25 %
III	<b>Correlation Co-efficient</b> <ul style="list-style-type: none"><li>• Definition of Correlation</li><li>• Types of Correlation</li><li>• Scatter Diagram Method</li><li>• Karl Pearson's Correlation Co-efficient</li><li>• Correlation Co-efficient for Bivariate frequency distribution</li></ul> Probable error for correlation	1	25 %





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IV	<b>Regression Analysis</b> <ul style="list-style-type: none"> <li>• Definition of Regression</li> <li>• Regression Lines</li> <li>• Regression Co-efficient</li> <li>• Properties of Regression Co-efficient</li> </ul> Least square fit linear regression curve fitting	1	25 %
----	--	---	------

### Reference Books:

1. Introduction to mathematical statistics : P.G.Hoel
2. Introduction to mathematical statistics : Goon Gupta, Das Gupta
3. Fundamental of Statistics : D.N.Elhance

### Suggested Readings:

1. Fundamental of mathematical Statistics : S.G.Gupta & V.K.kapoor
2. Elements of statistical method : S.P.gupta.

### Online Resources:

Course Outcomes  Statistics FCAB120209	Expected Mapping with Programme Outcomes						
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7
CO-1	***	-	-	-	***	-	***
CO-2	-	-	-	-	***	-	-
CO-3	***	-	-	-	***	-	-

<b>Program :</b>	BSC_IT	<b>Subject / Branch :</b>	NA
<b>Year :</b>	2023	<b>Semester :</b>	II
<b>Course title :</b>	Computer Networks	<b>Course code :</b>	FCAB120210



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<b>Course type :</b>	Theory	<b>Course credit :</b>	04
<b>Pre-requisite :</b>	The students should have a basic Understanding of computer Network ,Models and Layer.		
<b>Rationale :</b>	It gives information to students which gives the means of interconnectivity for a computer's hardware components as well as the mode of data transfer and processing exhibited.		

### Teaching Examination Scheme:

Teaching (Hours/week)			Examination Scheme			
Lecture	Tutorial	Practical	Internal		External	Total
4	0	0	Mid	CE		
			15	15	70	100

### Course Objective :

1. To understand the data and database management of computer system.
2. To identify and compare different method for computer I/O.
3. Identify and understand the models.

### Course Outcome:

1. To develop logic for assembly language programming.
2. Analyze the performance of commercially available computers.

### Content

Unit	Basic concepts of Database Systems	Credit	Weightage
I	Introduction of Computer Networks, Uses of Computer Networks, Advantage & Disadvantage of Computer Networks Transmission mode: Simplex communication, Half-duplex and Full-duplex Introduction of Internet & Intranet, Baseband & Broadband Transmission	1	25 %



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II	<p>Network Hardware: PAN (Personal Area Network) , LAN (Local Area Network), MAN (Metropolitan Area Network), WAN (Wide Area Network) The Internet (network of all networks) Network Topology: Linear bus, Ring, Star, tree, mesh &amp; Hybrid. Reference Model: OSI Reference Model &amp; TCP/IP Reference Model, Comparison of OSI reference model Connecting Devices: Repeater, HUB, Switch, Bridge, Router, and Gateway. The Telephone System – its structure, the local loop, transmission Impairments Introduction of Modem, Introduction of Communication satellites.</p>	1	25 %
III	<p>Guided Media - Twisted Pair, coaxial cable, Fiber optics. Unguided transmission media - Radio wave, micro wave and infrared, Multiplexing – FDM, TDM, WDM. Switching – Circuit switching, Message Switching, Packet switching.</p>	1	25 %
IV	<p>Design Issues - Framing, Error control, Flow control, Error detection and correction. Elementary data link protocols - Simplex, stop and wait, sliding window protocol - Go Back N, Selective repeat.  <b>The Medium Access Control Sublayer:</b> The channel allocation problem, Multiple Access protocols – CSMA/CD, CSMA/CA</p>	1	25 %

### Reference Books:

1. Data Communication & Networking by Behrouz A. Forouzan, Tata McGraw Hill Edition
2. Computer network, Andrew S. Tanenbaum, fourth edition, Pearson 3.TCP/IP Protocol Suit by Behrouz A. Forouzan, Tata McGraw Hill Edition.

### Suggested Books:

1. Computer network, Andrew S. Tanenbaum, fourth edition, Pearson







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### Online Resources:

1. [https://www.tutorialspoint.com/computer\\_fundamentals/computer\\_networking.htm](https://www.tutorialspoint.com/computer_fundamentals/computer_networking.htm)
2. [https://www.tutorialspoint.com/data\\_communication\\_computer\\_network/data\\_communication\\_computer\\_network\\_tutorial.pdf](https://www.tutorialspoint.com/data_communication_computer_network/data_communication_computer_network_tutorial.pdf)

Course Outcomes  Computer Networks FCAB120210	Expected Mapping with Programme Outcomes						
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7
CO-1	-	-	***	-	-	-	-
CO-2	-	***	-	-	-	-	***
CO-3	-	-	-	-	-	-	-

<b>Program :</b>	BSCIT	<b>Subject / Branch :</b>	NA
<b>Year :</b>	2022/23	<b>Semester :</b>	II
<b>Course title :</b>	Practical - Advance Programming Language 'C'	<b>Course code :</b>	FCAB120211
<b>Course type :</b>	Practical	<b>Course credit :</b>	04
<b>Pre-requisite :</b>	Basic Knowledge of Computer		
<b>Rationale :</b>	To introduce students the essentials of computer Programming and programming methodology using C language		

### Teaching Examination Scheme:

Teaching (Hours/week)			Examination Scheme			
Lecture	Tutorial	Practical	Internal		External	Total
4	0	0	Mid	CE		
			15	15	70	100

### Course Objective :



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University Campus, State Highway-41, Sidhpur - 384151, Dist. Patan, Gujarat, INDIA  
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13. Students will understand to formulate a computing problem to executable computer program using C language.
14. Students will understand about compiler based programming languages
15. Students will learn concepts of variables, literals, data types, conversions of data types, input and output data and processing of data, inbuilt functions, arrays, header files, conditional and iterative statements.

### Course Outcome:

13. Read, understand and trace the execution of programs written in C language
14. Understand the fundamentals of programming language for problem solving
15. Understand basic concepts of File Management in C language

### Content

#### Practical:

1. Write a program to check the given number is Palindrome or not using User Defined Function (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 integers.
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 uses a UDF to sort an array of integer.
9. Write a program which explains the use of nesting of functions.
10. Define a structure type struct personal that would contain person name, date of joining and salary using this structure to read this information and Display on screen.
11. Design a structure student\_records to contain Roll\_no, Name, City and Percentage obtained. Develop a program to read data for 5 students and Display them.
12. Write a program using structure within structure.
13. Write a program using structure within Function.
14. Write 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.
15. Write a program to use of pointer in arithmetic operation.
16. Write a program to accept 10 numbers and display its sum using pointer.
17. Write a program to accept 10 numbers and sort them with use of pointer.
18. Write a program to swap the two values using pointers and UDF.





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19. Write a program with structure and pointer.
20. Write a program using pointer to determine the length of a character string.
21. Write a program using pointers to read an array of integers and print its elements in reverse order.
22. Write a program using UDF and pointers to add two matrices and to return the resultant matrix to the calling function.
23. Create one text file store some information into it and print the same information on Terminal.
24. 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.
25. 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.
26. Write a program that counts the number of characters and number of lines in a file.
27. 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 filenames.
28. Write a C program to work as a dos type command using command line argument.
29. Write a C program to work as a dos copy command using command line argument.
30. Write a program which explains the use of macro.

#### Reference Books:

1. Programming in C, Balaguruswami – TMH
2. C: How to Program, Deitel & Deitel - PHI
3. C Programming Language, Kernigham & Ritchie – TMH

#### Suggested Readings:

1. Mastering Turbo C, Kelly & Bootle - BPB
2. C Language Programming – Byron Gottfried - TMH
3. Let us C, Yashwant Kanetkar - BPB Publication
4. Programming in C, Stephan Kochan - CBS
5. Magnifying C, Arpita Gopal - PHI

#### Online Resources:

1. <https://www.w3schools.com/>
2. <https://www.tutorialspoint.com/>
3. <https://www.programiz.com/>
4. <https://www.cprogramming.com/>



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Course Outcomes  Practical - Advance Programming Language 'C' FCAB120211	Expected Mapping with Programme Outcomes						
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7
CO-1	***	-	***	-	***	-	-
CO-2	-	-	***	-	-	-	-
CO-3	-	-	***	***	-	-	-

<b>Program :</b>	B.SC(IT)	<b>Subject / Branch :</b>	NA
<b>Year :</b>	2022/23	<b>Semester :</b>	II
<b>Course title :</b>	Practical -Internet & Web Design	<b>Course code :</b>	FCAB120212
<b>Course type :</b>	Practical	<b>Course credit :</b>	04
<b>Pre-requisite :</b>	Basic knowledge of internet		
<b>Rationale :</b>	Students will develop and understanding of information design web page and usability as it applies to interactive media projects.		

### Teaching Examination Scheme:

Teaching (Hours/week)			Examination Scheme			
Lecture	Tutorial	Practical	Internal		External	Total
4	0	0	Mid	CE		
			15	15	70	100



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### Course Objective :

- (e) Learn about E-Services like E-Banking, E-Learning etc.
- (f) Understanding the basic concept of HTML tags.
- (g) Learn the language of the web: HTML and CSS.
- (h) Develop skills in analyzing the usability of a web site.
- (i) Develop basic programming skills using Javascript.

### Course Outcome:

At the end of the course students will be able to:

- (d) Describe the concepts of World Wide Web, and the requirements of effective web design.
- (e) Develop web pages using the HTML and CSS features with different layouts as per need of applications.
- (f) Use the JavaScript to develop the dynamic web pages.

### Content

#### Practical:

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 Ordered List and Unordered List



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Using Nested list.

5. Write an HTML document with an example of Table format to print your Bio-Data.
6. Write an HTML document to create complex Table like Telephone Bill, Mark sheet, Time-table.
7. Write the Frameset tags and Frame tags for the following frameset.

Physics.html	Welcome.html	Maths.html
Chemistry.html		Computer.html
Biology.html		
Zoology.html	Heading.html	Account.html

8. Develop a complete web page using Frames and Frameset which gives the Information about Hospital.
9. Write an HTML code for designing the subscription form of mail account in the e-mail Website with appropriate fields.
10. Write an example of External Stylesheet.
11. Write HTML program which contains Inline Style sheet for <p>, <h1> and <body>tags.
12. Write HTML program which contains Internal Style sheet for <p>, <h1> and <body>tags.
13. Describe yourself on a webpage and experiment with colors in bicolor, text, and link, try out different and sizes and also the other tags you studies so far, such as the rules tag as wells.
14. Write HTML code to develop a web page having background in blue and title "Well come to my home page" in red other color.
15. Create an HTML document of giving details of your name, age, telephone no, address and enrolment no, aligned in proper order.
16. Calculate a web page that provides links to five different web page or to entirely different websites.
17. Write a HTML code for making table to containing different option for different questions.

18. Create form to fill information student.
19. Create a JavaScript code to display any message.





20. Create a JavaScript code using Arithmetic Operator, Assignment Operator, Comparison Operator, Logical Operator and String Operator.
21. Create a JavaScript code using Control Statement.
22. Create a JavaScript code to display  $5*1=5$ ,  $5*10=50$  using for loop.
23. Create a JavaScript code using User Defined Function which will calculate the area of circle.
24. Write a JavaScript code to change the background color of the webpage.
25. Write a JavaScript code to display Factorial of the given number.

### Reference Books:

1. Internet and Web Design Based on DOEACC III Revised syllabus 'O' Level - Mac Millan India Ltd
2. Teach Yourself HTML 4 in 4 Hours By Dick Oliver – Tech Media 4<sup>th</sup> Edition
3. Introduction To Internet And HTML Scripting-Fourth Edition-Bhaumik Shroff

### Suggested Readings:

1. Introduction To Internet And HTML Scripting-Fourth Edition-Bhaumik Shroff

### Online Resources:

1. [https://www.tutorialspoint.com/internet\\_technologies/internet\\_overview.htm](https://www.tutorialspoint.com/internet_technologies/internet_overview.htm)
2. <https://www.w3schools.com/html/>
3. <https://www.w3schools.com/w3css/defaultT.asp>
4. <https://www.geeksforgeeks.org/javascript/>

Course Outcomes  Practical - Internet & Web Design FCAB120212	Expected Mapping with Programme Outcomes						
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7
<b>CO-1</b>	-	***	-	***	-	***	-
<b>CO-2</b>	-	-	-	***	-	***	-





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CO-3	-	-	-	-	****	***	***
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### BSCIT SEM-3

<b>Program :</b>	B.Sc.(IT)	<b>Subject / Branch :</b>	NA
<b>Year :</b>	2023/24	<b>Semester :</b>	III
<b>Course title :</b>	Object Oriented Programming using C++	<b>Course code :</b>	FCAB130201
<b>Course type :</b>	Theory	<b>Course credit :</b>	04
<b>Pre-requisite :</b>	Knowledge of Programming		
<b>Rationale :</b>	It is deliberated for software engineers, system analysts, data analysts and student support personnel who wish to learn the C++ programming language.		

#### Teaching Examination Scheme:

Teaching (Hours/week)			Examination Scheme			
Lecture	Tutorial	Practical	Internal		External	Total
4	0	0	Mid	CE	70	100
			15	15		

#### Course Objective :

- Will understand the concept of object oriented programming.
- Will learn to create the C++ program.
- Will handle the exception to control the error.

#### Course Outcome:

- Read, understand and trace the execution of programs written in C++ language
- Will be able to Understand the fundamentals of object oriented concept for problem solving
- Will be able to Understand basic concepts of File Management in C++ language



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## Content

Unit	Description in detail	Credit	Weightage
I	<b>Fundamentals of programming:</b> Concept of Procedural, structured and object oriented programming, History of C++ and its object-oriented programming over procedural languages, Concept of Encapsulation, Abstraction, Data hiding, Inheritance, Operator Overloading and Polymorphism, Classes and objects, Advantages of object-oriented programming over procedural languages, parts of C++ program	1	25 %
II	Data types, variable and constants, Expression and statements, logical, relational, mathematical operators, ternary operator, Simple I/O statements- reading and writing. Statement for formatted I/O, Usage of header files using INCLUDE statement <b>Looping:</b> While... Do. While, for loop, Continue and break statement, Switch statement, IF statement, IF...ELSE statement <b>Array:</b> Initializing one-dimensional and two-dimensional array. Multidimensional array, Passing arrays to functions, Array classes	1	25 %
III	<b>Structures and Enumerated data types:</b> Declaration of Structure, Initialization of structures, Array of structure and pointers to structure, Structures within Structures <b>Classes:</b> Implementing class, Classes and members. Accessing class members, implementing class methods, constructors and Destructors, Private and public class, <b>Function:</b> Fundamental, passing structure variable to function, pass by value, pass by reference, overloading of function, Inline function, static variable and static function, friend function , friend class	1	25 %
IV	<b>Pointer:</b> concept of a pointer variable and its declaration, Pointer arithmetic, Pointers in string handling, Pointers to pointer, Arrays of Pointers, Pointers and array names, Dynamic Memory allocations, Pointers to objects <b>Inheritance:</b> Introduction, defining derived class, single inheritance, multilevel , multiple hierarchical, hybrid inheritance,	1	25 %





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	containership <b>File Management:</b> c++ streams, c++ stream classes, Opening and closing a file, File modes, File pointers and their manipulations, Sequential Input and Output Operations, Random Access		
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#### Reference Books:

1. Object-Oriented Programming with C++ By E. Balagurusamy- TMH Publication
2. Object-Oriented Programming in Turbo C++ By Robert Lafore- Galgotia
3. 'C++ Primer' by Stanley B. Lippman, Josée Lajoie, and Barbara E.

#### Suggested Readings:

1. A Complete Guide to Programming in C++, Ulla Kirch-Prinz, 1<sup>st</sup> Edition
2. Learn To Program With C++, John Smiley, 1<sup>st</sup> Edition
3. 'The C++ Programming Language' by Bjarne Stroustrup

#### Online Resources:

8. <https://www.w3schools.com/>
9. <https://www.tutorialspoint.com/>
10. <https://www.programiz.com/>
11. <https://www.cprogramming.com/>

Course Outcomes	Expected Mapping with Programme Outcomes						
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7
Object Oriented Programming using C++, FCAB130201							
<b>CO-1</b>	-	***	-	***	-	***	-
<b>CO-2</b>	-	-	-	***	-	***	-
<b>CO-3</b>	-	-	-	-	****	***	***



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<b>Program :</b>	B.Sc.(IT)	<b>Subject / Branch :</b>	NA
<b>Year :</b>	2023/24	<b>Semester :</b>	III
<b>Course title :</b>	Advance Database Management System	<b>Course code :</b>	FCAB130202
<b>Course type :</b>	Theory	<b>Course credit :</b>	04
<b>Pre-requisite :</b>	Basic knowledge of Database management System.		
<b>Rationale :</b>	Student will learn to use data manipulation language to query, update, and manage a database. Student will understand essential DBMS concepts such as: database security, integrity, concurrency, storage strategies etc. The students will get the hands on practice of using SQL and PL/SQL concepts.		

### Teaching Examination Scheme:

Teaching (Hours/week)			Examination Scheme			
Lecture	Tutorial	Practical	Internal		External	Total
4	0	0	Mid	CE	70	100
			15	15		

### Course Objective:

- (d) Learn new ways to query and model data.
- (e) Become familiar with the expanding role of database technology.
- (f) To learn SQL functions and PL/SQL Program in SQL plus.

### Course Outcome:

- (iv) Design, Develop and manage databases for simple applications using Structured Query Language (SQL).
- (v) Understanding of the relational data model.
- (vi) ability to use databases for building web applications.
- (vii) Gaining knowledge about the internals of a database system.



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## Content

Unit	Description in detail	Credit	Weightage
I	<b>Basic concepts of Database Systems</b>  Client/server architecture <b>Relational and other models</b> Relational model concepts and constraints, relational algebra, queries in relational algebra. <b>Database Design using RDBMS</b> Functional dependency & normalization. Schema design and normal forms. Database design process and tools	1	25 %
II	<b>Interactive SQL Part – I</b>  ✓ Introduction to SQL, ✓ Logging into SQL * Plus, ✓ Naming rules and Conventions, ✓ Data Types ✓ Creating a Table, ✓ Inserting, ✓ Viewing data in the tables ✓ Sorting data in a table, Delete operations, Updating contents of a table ✓ Modifying the structure of tables, Renaming, Truncating and Destroying tables, Dropping a column from a table Constraints (I/O and Business rule constraints), Computations on table data.	1	25 %
III	<b>Interactive SQL Functions</b>  Functions	1	25 %





	<p><b>Aggregate :</b> AVG, MIN, COUNT, COUNT(*), MAX, SUM  <b>Numeric :</b> ABS, POWER, ROUND, SQRT, EXP, GREATEST, LEAST, MOD, TRUNC, FLOOR, CEIL  <b>String:</b>          LOWER, INITCAP, UPPER, SUBSTR, ASCII, INSTR, TRANSLATE, LENGTH, LTRIM, RTRIM, TRIM, LPAD, RPAD  <b>Conversion:</b> TO_NUMBER, TO_CHAR(NUMBERCONVERSION), TO_CHAR(DATECONVERSION), TO_DATE  <b>Date function:</b> ADD_MONTHS, LAST_DAY, MONTHS_BETWEEN, NEXT_DAY  <b>Advance Queries:</b></p> <ul style="list-style-type: none"> <li>Group by Clause, Having Clause, EXISTS/ NOT EXISTS operator,</li> <li>Sub query, Different Types of Joins, Set Operators</li> </ul> <p>Sql Performance Tuning</p> <ul style="list-style-type: none"> <li>Index, View, Sequence, Setting environment using SET command</li> </ul> <p>Security Management using SQL</p> <ul style="list-style-type: none"> <li>Granting and revoking permissions, revoking privileges given</li> </ul>		
IV	<p><b>PL/SQL</b></p> <p>Variable declaration          Control Structure</p> <ol style="list-style-type: none"> <li>Condition structure.</li> <li>Iterative structure.</li> </ol> <p>Cursor</p> <ol style="list-style-type: none"> <li>Implicit</li> <li>Explicit</li> </ol> <p>Store Procedure, Trigger, View, Function          Exceptions.</p> <ol style="list-style-type: none"> <li>Predefine exceptions.</li> <li>Users define exceptions.</li> <li>Handling Raised exceptions.</li> </ol>	1	25 %





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### Reference Books:

1. Database System Concepts: – Henry F. Korth & Abraham Silberschatz – McGraw Hill Education
2. Introduction to Database System C. J. Date (7 Edition) Low Price Edition
3. Database System Concepts, A. Silberschatz, Henry Korth and S. Sudarshan, McGraw-Hill, 1997

### Suggested Readings:

4. SQL, PL/SQL: The Programming Language of Oracle (3rd, 4rd edition) By Ivan Bayross-BPB

### Online Resources:

12. [https://www.w3schools.com/sql/sql\\_ref\\_sqlserver.asp](https://www.w3schools.com/sql/sql_ref_sqlserver.asp)
13. <https://www.javatpoint.com/pl-sql-tutorial>
14. <https://www.tutorialride.com/plsql/plsql-control-statements.htm>

Course Outcomes  Advance Database Management System, FCAB130202	Expected Mapping with Programme Outcomes						
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7
<b>CO-1</b>	-	***	-	***	-	***	-
<b>CO-2</b>	-	-	-	***	-	***	-
<b>CO-3</b>	-	-	-	-	****	***	***



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<b>Program :</b>	B.Sc.(IT)	<b>Subject / Branch :</b>	NA
<b>Year :</b>	2023/24	<b>Semester :</b>	III
<b>Course title :</b>	SYSTEM ANALYSIS	<b>Course code :</b>	FCAB130204
<b>Course type :</b>	Theory	<b>Course credit :</b>	04
<b>Pre-requisite :</b>	The purpose of the system requirements analysis is to structure the system independent of any implementation environment. This phase can determine system behavior and limitations		
<b>Rationale :</b>	This course mainly focuses on different of system analysis and design such as foundation , planning, analysis, design, implementation, and maintenance.		

### Teaching Examination Scheme:

Teaching (Hours/week)			Examination Scheme			
Lecture	Tutorial	Practical	Internal		External	Total
			Mid	CE		
4	0	0	15	15	70	100

### Course Objective :

- 1.define system
- 2.explain different phase of SDLC and their use
- 3.design system component and environment
- 4.analyze and specify the requirements of system

### Course Outcome:

- 1.understand the principles and tools of system analysis,design
- 2.understand the principles and tools of system analysis,design
- 3.analysis and design of system of small sizes.



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## Content

Unit	Description in detail	Credit	Weightage
I	<p>Introduction to System, System Analysis and Design, Need for System Analysis and Design, Types of System, Role of the System Analyst.</p> <p><b>System Development Strategies:</b> SDLC, Structured Analysis Development Method, System Prototype Method.</p> <p><b>Fact-Finding Techniques:</b> Interview, Questionnaire, Record Review, Observation. Data Flow Diagram: Advantages, Notations, Rules, Logical and Physical DFD. Data Dictionary: Importance and detail</p> <p><b>Structured Decisions:</b> Decision Tree, Decision Tables, Structured English</p>	1	25 %
II	<p><b>Code Design:</b> Principle of Code Design, Types of code</p> <p><b>Output:</b> Principle of output, types of output, output media</p> <p><b>Form Designing:</b> Objectives, Guideline for Form design, Types of form</p> <p><b>Designing User Interface:</b> Objectives, Types of user interface Check Digits, Data Validation and Data Verification</p> <p><b>Case Tools:</b> Benefits of Computer-Assisted Tools, Categories of Automated Tools, Case Components.</p>	1	25 %
III	<p>System Engineering Definition, Quality assurance: definition and Need</p> <p><b>Design of software:</b> Importance, Software design principles</p> <p><b>Software design and documentation tools:</b> Structure Flowchart, HIPO, Warier /Orr Diagrams.</p>	1	25 %



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	<b>System key concepts:</b> Testing, System conversion, Documentation.		
IV	Financial Accounting System, Payroll System, Library System, Inventory / Stock System	1	25 %

### Reference Books:

1. Analysis & Design of Information Systems, James A. Sen
2. System Analysis & Design, 1st Edition, Parthasarathy & B.W. Khalkar

### Suggested Books:

1. Introduction to S.A.D, LEE VOL. 1 & 2

### Online Resources:

1. [https://www.tutorialspoint.com/system\\_analysis\\_and\\_design/system\\_analysis\\_and\\_design\\_quick\\_guide.htm](https://www.tutorialspoint.com/system_analysis_and_design/system_analysis_and_design_quick_guide.htm)
2. <https://study.com/academy/course/computer-science-302-system-analysis-design.html>

Course Outcomes  SYSTEM ANALYSIS, FCAB130204	Expected Mapping with Programme Outcomes						
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7
CO-1	-	***	-	***	-	***	-
CO-2	-	-	-	***	-	***	-
CO-3	-	-	-	-	****	***	***

<b>Program :</b>	B.Sc.(IT)	<b>Subject / Branch :</b>	NA
<b>Year :</b>	2023/24	<b>Semester :</b>	III
<b>Course title :</b>	COMPUTER SECURITY	<b>Course code :</b>	FCAB130203
<b>Course type :</b>	Theory	<b>Course credit :</b>	04
<b>Pre-requisite :</b>	Vulnerabilities in the Information Technology systems. Anticipating and		



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University Campus, State Highway-41, Sidhpur - 384151, Dist. Patan, Gujarat, INDIA  
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	detecting threats. Routing and switching. Being aware of the network architecture and protocol. Firewalls
<b>Rationale :</b>	Computer security helps keep valuable information protected and maintain the health of a computer with no disruptive behavior in its performance caused by viruses and malware. That's all for the importance and need of computer security.

### Teaching Examination Scheme:

Teaching (Hours/week)			Examination Scheme			
Lecture	Tutorial	Practical	Internal		External	Total
			Mid	CE		
4	0	0	15	15	70	100

### Course Objective :

1. To prepare students with the technical knowledge and skills needed to protect and defend computer systems and networks.
2. To develop graduates that can plan, implement, and monitor cyber security mechanisms to help ensure the protection of information technology assets.
3. To develop graduates that can identify, analyze, and remediate computer security breaches.

### Course Outcome:

1. Analyze and evaluate the cyber security needs of an organization.
2. Conduct a cyber security risk assessment.
3. Measure the performance and troubleshoot cyber security systems.
4. Implement cyber security solutions.

### Content

Unit	Introduction:	Credit	Weightage
I	<b>Introduction:</b> What Does "Secure" Mean?, Attacks, The Meaning of C	1	25 %





	omputerSecurity,ComputerCriminals,MethodsofDefense. <b>CyberSecurity:</b> MakingaBusinessCase,QuantifyingSecurity, ModelingCyber-security,CurrentResearch andFutureDirections		
II	<b>SystemSecurity</b> <ul style="list-style-type: none"> <li>- Intruders <ul style="list-style-type: none"> <li>• Intruders,Intrudersdetection,Passwordmanagement.</li> </ul> </li> <li>- MaliciousSoftware <ul style="list-style-type: none"> <li>• VirusesandRelatedThreats</li> </ul> </li> <li>- Firewalls <ul style="list-style-type: none"> <li>• FirewallsDesignprinciple,establishedsystems.</li> </ul> </li> </ul>	1	25 %
III	<b>Cryptography</b> <ul style="list-style-type: none"> <li>- Foundationsofcryptographyandcomputersecurity <ul style="list-style-type: none"> <li>• Mathematicalfoundations,Randomness</li> </ul> </li> <li>- Symmetrickeycryptography <ul style="list-style-type: none"> <li>• ClassicalEncryptionTechniques</li> <li>• BlockCiphersandTheDataEncryptionStandard</li> <li>• AdvanceEncryptionStandard</li> <li>• ConfidentialityUsingSymmetricEncryption</li> </ul> </li> <li>- Publickeycryptography <ul style="list-style-type: none"> <li>• Public Key Cryptography And RSAMessageAuthenticationandHashFunction</li> </ul> </li> </ul>	1	25 %
IV	<b>NetworkSecurity</b> <ul style="list-style-type: none"> <li>- Protocols:DigitalSignaturestandards</li> <li>- ElectronicsMail Security-PGP(PrettyGood Privacy)MIME,dataCompressiontechnique</li> <li>- IP Security: Architecture, Authentication Leader, Encapsulating security Payload–Key management</li> <li>- Web security: -Secure Socket Layer &amp; Transport Layer security, secure electronictransactions</li> </ul>	1	25 %

### TextBooks:

1. Security inComputing, FourthEditionBy Charles P. Pfleeger,ShariLawrence PfleegerPublisher:PrenticeHall.
2. CryptographyandNetworkSecurity(2ndedition)WilliamStallings(PearsonEducation).

### Reference Books:

1. ComputerSecurityBasicsbyDebbyRussell,G.T.Gangemi (Orielly)





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2. Network Security Private Communication in a Public World by Charlie Kamfman, Radia P  
arolman, Mike Speciner

**Online Resources:**

1. <https://www.britannica.com/technology/computer-security>
2. <https://bootcamp.berkeley.edu/blog/what-is-computer-security/>

Course Outcomes  COMPUTER SECURITY, FCAB130203	Expected Mapping with Programme Outcomes						
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7
CO-1	-	***	-	***	-	***	-
CO-2	-	-	-	***	-	***	-
CO-3	-	-	-	-	****	***	***



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<b>Program :</b>	B.Sc.(IT)	<b>Subject / Branch :</b>	NA
<b>Year :</b>	2023/24	<b>Semester :</b>	III
<b>Course title :</b>	Practical - Object Oriented Programming using C++	<b>Course code :</b>	FCAB130205
<b>Course type :</b>	Practical	<b>Course credit :</b>	04
<b>Pre-requisite :</b>	Knowledge of Programming		
<b>Rationale :</b>	It is deliberated for software engineers, system analysts, data analysts and student support personnel who wish to learn the C++ programming language.		

#### Teaching Examination Scheme:

Teaching (Hours/week)			Examination Scheme			
Lecture	Tutorial	Practical	Internal		External	Total
4	0	0	Mid	CE	70	100
			15	15		

#### Course Objective :

1. Will understand the concept of object oriented programming.
2. Will learn to create the C++ program.
3. Will handle the exception to control the error.

#### Course Outcome:

1. Read, understand and trace the execution of programs written in C++ language
2. Will be able to Understand the fundamentals of object oriented concept for problem solving
3. Will be able to Understand basic concepts of File Management in C++ language



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## Content

### Practical:

1. Write a cpp program which explains the use of a scope resolution operator.
2. Write a cpp program which explains the use of a manipulators operator.
3. Write a cpp program which explains the use of reference variable.
4. Write a cpp program which explains the feature of a inline function.
5. Write a cpp program which explains the concept of default arguments.
6. Write a cpp program for function overloading.
7. Write a cpp program for arrays within a class. (How to use a array in a class).
8. Write a cpp program for static class member.(Class member should be a static variable)
9. Write a cpp program which shows use of "static member function".
10. Write a cpp program which explain concept of a "array of object".
11. Write a cpp program which explain concept of "object arguments".
12. Write a cpp program for a friend function.
13. Write a cpp program for a function friendly to two classes.
14. Write a cpp program of a swapping private data of classes.
15. Write a cpp program which explain concept of a returning objects.
16. Write a cpp program for class with constructors.
17. Write a cpp program for overloaded constructors.
18. Write a cpp program of copy constructors.
19. Write a cpp program of a constructing matrix objects.
20. Write a cpp program of implementation of destructors.
21. Write a cpp program for implementation of unary minus operator.

### Reference Books:

1. Object-Oriented Programming with C++ By E. Balagurusamy- TMH Publication
2. Object-Oriented Programming in Turbo C++ By RobertLafore- Galgotia
3. 'C++ Primer' by Stanley B. Lippman, Josée Lajoie, and Barbara E.

### Suggested Readings:

1. A Complete Guide to Programming in C++, Ulla Kirch-Prinz, 1<sup>st</sup> Edition
2. Learn To Program With C++, John Smiley, 1<sup>st</sup> Edition
3. 'The C++ Programming Language' by Bjarne Stroustrup

### Online Resources:

1. <https://www.w3schools.com/>
2. <https://www.tutorialspoint.com/>







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3. <https://www.programiz.com/>

Course Outcomes  Practical - Object Oriented Programming using C++, FCAB130205	Expected Mapping with Programme Outcomes						
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7
<b>CO-1</b>	-	***	-	***	-	***	-
<b>CO-2</b>	-	-	-	***	-	***	-
<b>CO-3</b>	-	-	-	-	****	***	***

<b>Program :</b>	B.Sc.(IT)	<b>Subject / Branch :</b>	NA
<b>Year :</b>	2023/24	<b>Semester :</b>	III
<b>Course title :</b>	Practical -Advance Database Management System	<b>Course code :</b>	FCAB130206
<b>Course type :</b>	Practical	<b>Course credit :</b>	04
<b>Pre-requisite :</b>	Basic knowledge of Database management System.		
<b>Rationale :</b>	Student will learn to use data manipulation language to query, update, and manage a database. Student will understand essential DBMS concepts such as:		



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	database security, integrity, concurrency, storage strategies etc. The students will get the hands on practice of using SQL and PL/SQL concepts.
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### Teaching Examination Scheme:

Teaching (Hours/week)			Examination Scheme			
Lecture	Tutorial	Practical	Internal		External	Total
4	0	0	Mid	CE		
			15	15	70	100

### Course Objective :

- Student will learn the physical and logical database designs, database modeling, relational, and network models.
- Become familiar with the expanding role of database technology.
- Understand PL/SQL concept: Cursor, Trigger, Stored Procedure etc.

### Course Outcome:

- Design, Develop and manage databases for simple applications using Structured Query Language (SQL).
- Understanding of the relational data model.
- ability to use databases for building web applications.
- Gaining knowledge about the internals of a database system.

### Content



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**Practical:**

Create following Three Tables.

1. Salesman

SNUM	SNAME	CITY	COMMITION
1001	PIYUSH	LONDON	12%
1002	NIRAJ	SURAT	13%
1003	MITI	LONDON	11%
1004	RAJESH	BARODA	15%
1005	ANAND	NEW DELHI	10%
1006	RAM	PATAN	10%
1007	LAXMAN	BOMBAY	09%

SNUM : A Unique number assign to each salesman.  
SNAME : The name of salesman.  
CITY : The location of salesman.  
COMMITION: The salesman commission on order.

2. Customer

CNUM	CNAME	CITY	RATING	SNUM
2001	HARDIK	LONDON	100	1001
2002	GITA	ROME	200	1003
2003	LAXIT	SURAT	200	1002
2004	GOVIND	BOMBAY	300	1002
2005	CHANDRESH	LONDON	100	1001
2006	CHAMPAK	SURAT	300	1007
2007	PRATIK	ROME	100	1004
2008	MANOJ	LONDON	200	1007

CNUM : A Unique number assign to each customer.  
CNAME : The name of customer.  
CITY : The location of customer.  
RATING : A level of preference indicator given to this customer.  
SNUM : A salesman number assign to this customer.

3. Order





ONUM	AMOUNT	ODATE	CNUM	SNUM
3001	18.69	03/03/99	2007	1007
3002	767.19	05/03/97	2001	1001
3003	1900.10	10/03/97	2007	1004
3004	5160.45	12/03/99	2003	1002
3005	1098.25	15/04/99	2008	1007
3006	1713.12	10/04/95	2002	1003
3007	75.75	20/05/96	2004	1002
3008	4723.00	30/05/99	2006	1001
3009	1309.95	08/05/97	2004	1002
3010	9898.87	06/06/99	2006	1001

ONUM : A Unique number assign to each Order.  
AMOUNT : Amount of order in Rs.  
ODATE : The date of order.  
CNUM : The number of customer making the order.  
SNUM : The number of salesman credited with the sale.

**Solve following request with the help of sql query.**

1. Produce the order no, amount and date of all orders.
2. Give all the information about all the customers with salesman number 1001.
3. Display the information in the sequence of city, sname, snum, and Commission.
4. List of rating followed by the name of each customer in Surat.
5. List of snum of all salesmen with orders from order table.
6. List of all orders for more than Rs. 1000.
7. List out names and cities of all salesmen in London with commission above 10%
8. List all customers excluding those with rating <= 100 or they are located in Rome.
9. List all order for more than Rs. 1000 except the orders of snum 1006 of 10/03/97
10. List all orders taken on March 3rd or 4th or 6th.
11. List all customers whose names begin with a letter 'C'.
12. List all customers whose names begins with letter 'A' or 'B' or 'c'.
13. List all orders with zero or NULL amount.
14. Find out the largest orders of salesman 1002 and 1007.
15. Count all orders of 10-Mar-97.
16. Calculate the total amount ordered.





17. Calculate the average amount ordered.
18. Count the no. of salesmen currently having orders.
19. Find the largest order taken by each salesman.
20. Find the largest order taken by each salesman on 10/03/1997.
21. Count the no. of different non NULL cities in the Customer table.
22. Find out each customer's smallest order.
23. Find out the customer in alphabetical order whose name begins with 'G'
24. Count the no. of salesmen registering orders for each day.
25. List all salesmen with their amount calculated with commission.

### **PL/Sql PRACTICAL LIST**

#### **GROUP I (PL/SQL Examples)**

- P1. Display any string using pl/sql block.
- P2. Check whether accepted number is positive or negative.
- P3. Accept three different numbers from terminal and display biggest one.
- P4. Make the sum of first 100 natural number and display it.
- P5. Make the sum of odd and even numbers up to 100 and display it.

#### **GROUP II (PL/SQL)**

1. Simple PL/SQL block construction
  - a. Displaying message on terminal
  - b. Calculation on given data and prepare result for display
  - c. Accept the value from user and do accordingly.
2. Decision making and looping
  - a. If..then, if..then..else, else..if ladder, and nested if.
  - b. Different looping concepts like loop..end loop, while, for
  - c. Nested looping.
  - d. Use of go to clause.

### **Reference Books:**

1. Database System Concepts: – Henry F. Korth & Abraham Silberschatz – McGraw Hill Education
2. Introduction to Database System C. J. Date (7 Edition) Low Price Edition
3. Database System Concepts, A. Silberschatz, Henry Korth and S. Sudarshan, McGraw-Hill, 1997





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### Suggested Readings:

1. SQL, PL/SQL: The Programming Language of Oracle(3nd, 4rd edition)By Ivan Bayross-BPB

### Online Resources:

1. [https://www.w3schools.com/sql/sql\\_ref\\_sqlserver.asp](https://www.w3schools.com/sql/sql_ref_sqlserver.asp)
2. <https://www.javatpoint.com/pl-sql-tutorial>
3. <https://www.tutorialride.com/plsql/plsql-control-statements.html>

Course Outcomes  Practical - Advance Database Management System, FCAB130206	Expected Mapping with Programme Outcomes						
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7
CO-1	-	***	-	***	-	***	-
CO-2	-	-	-	***	-	***	-
CO-3	-	-	-	-	****	***	***



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