

TEACHING & EXAMINATION SCHEME
For the Examination -2020
COMPUTER SCIENCE

B.Sc. Part-I

THEORY

			Pd/W (45mts.)	Exam. Hours	Max. Marks
CS.101	Paper I	Computer Oriented Numerical Methods and FORTRAN	2	3	50
CS.102	Paper II	Database Management System	2	3	50
CS.103	Paper III	Digital Electronics and Computer Organisation	2	3	50

PRACTICAL

					75
		(a) Digital Electronics Lab.	3(1 day)	} 5	37
		(b) Software Lab.	3(1day)		38
			Total		225

B.SC. PART-I

PAPER – 1

COMPUTER ORIENTED NUMERICAL METHODS AND FORTRAN

Note: The question paper for the examination will be divided in three parts i.e., Section – A, Section – B and Section – C.

Section – A: Will consist of 10 compulsory questions. There will be two questions from each unit and answer of each question shall be limited upto 30 words. Each question will carry 1 mark.

Section – B: Will consist of 10 questions. Two questions from each unit will be set and students will answer one question from each Unit. Answer of each question shall be limited upto 250 words. Each question carry 3.5 marks.

Section – C: Will consist of total 05 questions. The paper setter will set one question from each Unit and students will answer any 03 questions and answer of each question shall be limited upto 500 words. Each question will carry 7.5 marks.

UNIT 1:

Language FORTRAN: Numerical constants, Variable names, Type statements, Arithmetic operations, Arithmetic expressions, Mixed Mode, Builtin mathematical functions, unformatted input output, Formatted input output, Field specifications, output field specifications, literal field, records, Repetition factors.

UNIT 2:

Transfer of control: Unconditional and conditional transfer, relational expressions, Logical IF statement and computed GOTO statement, Do Loops: Use of Do Statements, Exit from Do loop, Continue statement, and Nested Do loops. Arrays: Declaration of arrays, Linear and multidimensional arrays, Input /Output Statement for arrays and Implied Do loops.

UNIT 3:

Function and Subroutine: Subprogram, declaration and calling a function subprogram, Arithmetic statement functions, subroutines, difference between function and subroutine. Logical constants and Logical variables, Logical operators and Logical expressions, Type statement, IMPLICIT Statements, Double precision, Unlabelled Common Statement, Labeled Common Statement, Equivalence Statements.

UNIT 4:

Computer Arithmetic: Floating point representation of numbers, arithmetic operations with normalized floating point numbers and their consequences, Errors in number representations. Iterative Methods for solving Equations: Successive approximation, Bisection, false position and Newton Raphson methods; Convergence of iterative methods.

UNIT 5:

Solution of simultaneous and ordinary differential equations: Taylor's series and Euler's method, Runge-Kutta methods and predictor –corrector method. Newton's and Lagrange's interpolation formula. Numerical differentiation, Numerical Integration: Newton cote's quadrature formula, Trapezoidal rule and Simpson's rule, Curve fitting by the method of least squares.

PAPER II

DATA BASE MANAGEMENT SYSTEM

Note: The question paper for the examination will be divided in three parts i.e., Section – A, Section – B and Section – C.

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Section – B: Will consist of 10 questions. Two questions from each unit will be set and students will answer one question from each Unit. Answer of each question shall be limited upto 250 words. Each question carry 3.5 marks.

Section – C: Will consist of total 05 questions. The paper setter will set one question from each Unit and students will answer any 03 questions and answer of each question shall be limited upto 500 words. Each question will carry 7.5 marks.

UNIT 1:

Data: Definition, uses, need, purpose of data base system, data abstraction, data models, data independence, data definition language, data manipulation language, data base manager, data base administrator, data base users, over all system structure, implementation and trade-offs of files.

UNIT 2:

Entity-Relationship Model: Entities and entities sets, relationships and relationship sets, attributes, mapping constraints, keys, E-R diagrams, reducing E-R diagrams to tables, generation, aggregation design of an E-R data base scheme.

UNIT 3:

Structure of relational databases, relational algebra, the tuple relational calculus, the domain relational calculus, modifying the database, relational commercial languages: SQL, Query-by-example.

UNIT 4:

RDBMS: Database file creation, updating, indexes, constants and functions and operators, logical functions, relational operators, logical operators, FOR and WHILE clauses.

UNIT 5 :

Report generation, design of report form, page layout, grouping, use of RQBE, understanding relational data bases, one to many relations, many to many and one to one relations, the RQBE window, the Select command.

PAPER III

DIGITAL ELECTRONICS AND COMPUTER ORGANISATION

Note: The question paper for the examination will be divided in three parts i.e., Section – A, Section – B and Section – C.

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Section – B: Will consist of 10 questions. Two questions from each unit will be set and students will answer one question from each Unit. Answer of each question shall be limited upto 250 words. Each question carry 3.5 marks.

Section – C: Will consist of total 05 questions. The paper setter will set one question from each Unit and students will answer any 03 questions and answer of each question shall be limited upto 500 words. Each question will carry 7.5 marks.

UNIT 1:

Logic fundamentals and Boolean algebra: Binary, Octal, Decimal and Hexadecimal numbers and their inter conversion, BCD, ASCII and Gray codes, logic gates: DTL and TTL circuits. Boolean algebra, De Morgan's theorems and their applications to logic circuit analysis and synthesis, formulation of minimization problem prime implicants, Karnaugh map.

UNIT 2:

Arithmetic and logic elements: logical construction and analysis of half adder, full adder, adder-subtractor, multiplexers, demultiplexer, Flip Flops: RS latches; level clocking, D-latches, edge triggered D-Flip Flop, JK Flip Flop, JK master slave Flip Flop,

UNIT 3:

Registers and Counters: Buffer register, Shift register: Shift-Left, Shift-Right and ring counter, Counters: Asynchronous & synchronous counter, Mod counters, Divide by N counters, sequential counters and BCD counters.

UNIT 4:

Data Representation: Sign magnitude representation, Fixed-point representation, Floating point representation. Comparison and subtraction of unsigned binary numbers: 4-bit magnitude comparator using logic gates, 4-bit adder-subtractor. Error detection and correction: Parity generator-checker, Hamming codes (1-bit detection-correction).

UNIT 5:

IC Fabrication: Basic monolithic IC, epitaxial growth, photo masking, etching, diffusion of impurities, isolation techniques. Fabrication of: resistance, capacitance, diodes, transistors and FET devices. Advantages of IC technology.

Books Suggested:

Lipschutz, S And Poe, A.: Programming With FORTRAN, Schaum's Outline Series, McGraw Hill

Rajaraman, V. : Computer Oriented Numerical Methods, Prentice Hall Of India.

Rajaraman, V. : Computer Programming In FORTRAN, Prentice Hall Of India.

Malvino : Digital Computer Electronics – Introduction To Micro-Computers, Tata McGraw Hill.

Malvino : Digital Principles and Application, Tata McGraw Hill.

Mottershed : Electronic Devices and Circuits, PHI

Korth, H.P. and Silberschatz, A: Data Base System Concepts, McGraw Hill

Martin, J.: An Introduction to Database System, Vol. I, Narosa Publishing House.

Ulman, J.D.: Principles of Database Management System, (Second Edition), Galgotia Publishers Pvt. Ltd.

Sze S.M. Physics of Semiconductor Devices: Physics & Technology. Wiley Eastern.

EXPERIMENTS FOR PRACTICAL WORK

DIGITAL ELECTRONICS

1. To study the function of Basic Logic Gates and verify their truth table. AND, OR, NOT, NAND, NOR, X-OR.
2. To study the application of AND, OR, NAND, X-OR gates for gating digital signals.
3. (a) To study the different Logical Expression and their simplifications.
(b) To familiarize and verify the Boolean algebraic theorems.
4. To study the different arithmetic circuits using logic gates:
(a) Half adder and Half subtractor.
(b) Full adder.
5. To study the BCD to Binary and Binary to BCD code converter.
6. To study the Binary to Gray and Gray to Binary code converter.
7. Study of Encoder circuits:
(a) Decimal to BCD encoder.
(b) Octal to Binary encoder.
8. Study of Decoder circuits:
(a) BCD to Decimal decoder.
(b) BCD to 7 segments decoder.
9. To study the Flip-Flop circuits using gates:
(a) R-S Flip-Flop.
(b) J-K Flip-Flop.
(c) Master slave J-K Flip-Flop.
(d) D Flip-Flop.
10. To study the R-S, J-K and D Flip-Flop ICs.
11. Study the Registers and Counters:
(a) Study of Shift Registers.
(b) Study of Ring Counter.
12. To study the Asynchronous counter using Flip-Flop ICs
13. To study the Asynchronous counter ICs
14. To study the Synchronous counter using Flip-Flops ICs
15. To study the Synchronous counter ICs

SOFTWARE LABORATORY

1. To write the program to show use of arithmetic operations with different data types.
2. To write the program to show use of Input and Output statements.
3. To write the program to show use of arithmetic expression using build-in functions.
3. To write the program using arithmetic IF statement.
4. To write the program using logical IF statement.
5. To write the program using DO loops.
7. To write the program using Arrays.
8. To write the program using function sub program.
9. To write the program using subroutine sub program.
10. To write the program using COMMON Statements.

11. Write a program to find solution of quadratic equation.
12. Write a program to find root of an equation by Bisection method.
13. Write a program to find root of an equation by Secant method.
14. Write a program to find transpose of matrix.
15. Write a program to solve the set of simultaneous equations by Gauss elimination method.
16. Write a program to evaluate a polynomial by nested multiplication method.
17. Write a program to solve the set of simultaneous equations by Gauss-Seidal elimination method.
18. Solution of a differential equation by Euler's method.
19. Solution of a differential equation by Predictor-Corrector's method.
20. Numerical integration using Trapezoidal Rule.

TEACHING & EXAMINATION SCHEME
For the Examination – 2020
COMPUTER SCIENCE

B.Sc. Part-II

THEORY

			Pd/W (45mts.)	Exam. Hours	Max. Marks
CS 201	Paper I	Computer Organisation –I	2	3	50
CS 202	Paper II	Pascal and Data Structures	2	3	50
CS 203	Paper III	System Analysis and Design	2	3	50
PRACTICAL					
CS 204	Practicals		6	5	75
Total					225

B.SC. PART-II

PAPER I

COMPUTER ORGANIZATION - I

Note: The question paper for the examination will be divided in three parts i.e., Section – A, Section – B and Section – C.

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Section – C: Will consist of total 05 questions. The paper setter will set one question from each Unit and students will answer any 03 questions and answer of each question shall be limited upto 500 words. Each question will carry 7.5 marks.

UNIT 1:

Architecture of 8085 microprocessor and programming: Organization of 8085: Register organization, Bus organization, timing and controls. Data transfer: synchronous and

asynchronous data transfer, memory mapped I/O and peripheral mapped I/O, Interrupt data transfer and DMA transfer.

UNIT 2:

Peripheral devices and controllers: Architecture of simple I/O devices: Hex keyboard, LED display, VDU, Floppy disk, Hard disk and Optical disk data storage devices, block diagram representation of programmable keyboard/display interface, CRT controller, and floppy disk controller.

UNIT 3:

Interfacing devices: I/O ports, interfacing memory and I/O with microprocessor, general purpose interfacing Devices: programmable peripheral interface 8255 A, 8253 programmable interval timer, 8259 programmable interrupt and DMA controller.

UNIT 4:

Assembly language programming: Instruction set of 8085: Instruction codes, functional groups and addressing modes, fetch and execution of instructions, Assembly language programming, stack and subroutines, Assembler and assembler directives, pseudo instructions.

UNIT 5:

Applications of 8085: Designing of a microcomputer system: Hardware design, software design and program coding. Transfer of data between two microcomputers in distributed processing, Temperature monitoring system, Data acquisition system.

PAPER II

PASCAL AND DATA STRUCTURES

Note: The question paper for the examination will be divided in three parts i.e., Section – A, Section – B and Section – C.

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Section – B: Will consist of 10 questions. Two questions from each unit will be set and students will answer one question from each Unit. Answer of each question shall be limited upto 250 words. Each question carry 3.5 marks.

Section – C: Will consist of total 05 questions. The paper setter will set one question from each Unit and students will answer any 03 questions and answer of each question shall be limited upto 500 words. Each question will carry 7.5 marks.

UNIT 1:

PASCAL: Constants, variables and labels, standard scalar data type, user defined scalar data type, type declaration, structure of Pascal program, Expressions, input and output statements, relational and logic operators, transfer of control: unconditional transfer, conditional transfer, IF-then, IF-then-else, case statements, iterative statements, While, Repeat and For statements, nested loops.

UNIT 2:

Structured data types: Arrays, one dimensional and multi dimensional arrays, declaration of arrays, Records, declaration of records, accessing the fields of record, hierarchical records, array of records, WITH statement,

Functions and procedures: function subprogram, declaration and calling a function, procedures, declaration and calling a procedure, block structure, Local and Global identifiers, values and variables parameters, Recursion.

Pointers: pointer data type, defining pointer data type, variable declaration, operations on pointers, dynamic variables, dynamic data structure, Link Lists.

UNIT 3:

Stack: stack data structure, operation on stack, PUSH and POP operation, array and record implementation of stack, application of stack: evaluation of arithmetic expressions, recursion, Postfix, Prefix and Infix notations, converting infix expression to postfix, evaluating post fix expression.

Queues: Queue data structure, entering and deleting elements in queue, array implementation of queue, circular queue.

UNIT 4:

Link LISTS: linked representation, structure of list, linear linked list, insertion and deletion in a linear linked list, Header and Trailer nodes, Circularly linked list.

Tree: Tree data structures, general and binary tree, tree terminology, linear and linked representation, inserting and deleting elements in a binary tree, tree traversal, in order, pre order and post order traversal.

UNIT 5:

Graph : definition and representation, adjacency matrix, graph traversal, depth first search traversal, breadth first search traversal, Sorting: Introduction, Internal sorting and external sorting, Selection sort, Insertion sort, Bubble sort, Quick sort, Merge sort.

PAPER III SYSTEM ANALYSIS & DESIGN

Note: The question paper for the examination will be divided in three parts i.e., Section – A, Section – B and Section – C.

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Section – B: Will consist of 10 questions. Two questions from each unit will be set and students will answer one question from each Unit. Answer of each question shall be limited upto 250 words. Each question carry 3.5 marks.

Section – C: Will consist of total 05 questions. The paper setter will set one question from each Unit and students will answer any 03 questions and answer of each question shall be limited upto 500 words. Each question will carry 7.5 marks.

UNIT 1:

System concepts : Definition, characteristics, types of systems, management information system, definition and importance in business organization, system development life cycle, recognition of need, feasibility study, analysis, design, implementation and maintenance, planning and control for system success, prototyping.

UNIT 2:

System Planning and initial investigation : Information gathering about user staff, work flow, information gathering tools : review of literature, procedure and forms, on-site observation, interview and questionnaire, their types. Analysis tools: Data flow diagrams, data dictionary, decision trees and structures English, decision-tables, pros and cons of each tool, feasibility study and objectives, cost benefit analysis.

UNIT 3:

System Design and Implementation : Logical and physical design, structured design, IPO charts, processing controls and data validation, audit trails, documentation, input and output forms design, system testing and quality assurance, system security and disaster recovery.

UNIT-4:

Basic Network Functions: Overview, evolution of computer networks, elements of LAN and WAN, Network architecture, ISO-OSI architecture, hardware elements: modems, multiplexers, concentrators, transmission media, twisted pair, coaxial cable, optical fibre, LAN topologies: bus, ring and star.

UNIT 5:

Network interconnection issues: Internetworking bridges, routers, communication methods, store and forward techniques, circuit switching, packet switching, introduction to TCP/IP protocol family, issues related to network reliability and security.

Books suggested :

Award, E.M. : System Analysis and design, Galgotia Publications

Martin, J. Networks and Distributed Processing, Prentice Hall of India.

Marris-Mano : Computer System Architecture, Prentice Hall of India

Mathur, A.P. : Introduction to Microprocessors, Tata McGraw Hill

Gaonkar, R: Microprocessor Architecture, Programming and Application, New Age International

Ram, B. : Fundamentals of Micro-Processor and Micro-Computers, Dhanpat Rai & Sons, New Delhi

Raffiqzaman.M : Microprocessor : Theory and Application, Prentice Hall Of India

Gosh and Sridhar : Introduction to Microprocessor for Engineers and Scientists, Prentice Hall Of India
Grover P.S. : PASCAL Programming and Fundamentals, Allied Publishers
Rajaraman : Computer Programming in PASCAL, Prentice Hall of India
Jensen, K. and Wirth, N. : PASCAL Users Manual and Report, Narosa Publishers House

Dale, N. and Lily, S.C. : PASCAL Plus Sdata Structure, Algorithms and Advance Programmking, Tata McGraw Hill
Tremblaman, J.P. and Sorensen, P.G. : An Introduction to Data Structures with Applications, McGraw Hill

EXPERIMENTS FOR PRACTICAL WORK

MICRO PROCESSOR LABORATORY

(i) Digital Laboratory

- (1) To study 4 bit adder and 4 bit subtractor.
- (2) To design and study 2 bit parity generator and checker.
- (3) To design and study 2 to 1 multiplexer and 1 to 2 de multiplexer.
- (4) To design logic circuit to find 2's complement of a 4 bit number.
- (5) To study a 4 bit magnitude comparator.

(ii) Assembly Language Programming

Note: All programmes be written in indirect addressing mode.

- (1) Write a program to find the sum of a series of 8 bit numbers.
- (2) Write a program to find the sum of a series of 16 bit numbers.
- (3) Write a program to find 2's compliment of 16-bit number.
- (4) Write a program to find least/most significant 4 bits of an 8-bit number.
- (5) Write a program to find the smallest of the series of 8 bit numbers.
- (6) Write a program to find the largest of the series of 8 bit numbers.
- (7) Write a program to arrange a series of 8 bit numbers into ascending order/ descending order.
- (8) Write a program to find the product of (i) 8-bit * 8-bit (ii) 16-bit * 8-bit.
- (9) Write a program to divide an 8-bit number by an 8-bit number up to 1 binary Point.
- (10) Write a program to divide a 16bit number by an 8-bit/ 16: bits number.
- (11) Write a program to find square root of a perfect/imperfect 8-bit number.

SOFTWARE LABORATORY

(i) Elementary PASCAL Programming

- (1) Write a program to show the use of different standard scalar data types.
- (2) Write a program to show the use of sub range and enumerated data types
- (3) Write a program to show the use of arithmetic operations and build in functions in expression evaluation
- (4) Write a program to show the use of if-then and if-then-else statements.
- (5) Write a program to show the use of if-then and case statement.
- (6) Write a program to show the use of arrays.
- (7) Write a program to show the use of while, repeat and for statements.
- (8) Write a program to show the use of procedure.
- (9) Write a program using recursion
- (10) Write a program to show the use of record data type.
- (11) Write a program to implement stack using array.
- (12) Write a program to show the operation of pointers.

- (13) Write a program to create a linked list using pointers.
- (14) Write a program to sort data using selection sort.
- (15) Write a program to sort data using insertion sort.
- (16) Write a program to sort data using bubble sort.

TEACHING & EXAMINATION SCHEME
For the Examination – 2020
COMPUTER SCIENCE

B.Sc. Final

THEORY

			Pd/W (45mts.)	Exam. Hours	Max. Marks
CS.301	Paper I	Computer Organisation –II	2	3	50
CS.302	Paper II	Programming Language C and C++	2	3	50
CS.303	Paper III	Computer Graphics	2	3	50
PRACTICAL					
CS304		Advanced Computer Lab	6	5	75
				Total	225

B.Sc. PART-III
PAPER I
COMPUTER ORGANIZATION – II

Note: The question paper for the examination will be divided in three parts i.e., Section – A, Section – B and Section – C.

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Section – C: Will consist of total 05 questions. The paper setter will set one question from each Unit and students will answer any 03 questions and answer of each question shall be limited upto 500 words. Each question will carry 7.5 marks.

UNIT 1:

Microprogram Control Organisation; Control memory, Address sequencing microprogram and its sequencing , microinstruction formats. Software aids, Advantages and applications of microprogramming.

UNIT 2:

Arithmetic processors; Addition and subtraction Algorithms, multiplication and division Algorithms for arithmetic with 2's compliment, floating point arithmetic and decimal arithmetic operations and their hardware implementation.

UNIT 3:

8086 & other microprocessors; Organisation of 8086 –Instruction set, addressing modes and instruction codes, assembler directives and pseudo instructions, simple assembly language programming examples, interfacing with I/O and memories, 8086 interrupts and DMA.

UNIT 4:

Memory Organisation : Auxiliary memory, microcomputer memory, memory hierarchy, Associative memory, virtual memory, Cache memory, Memory mangement.

UNIT 5:

Analog interface : O.P.- AMP basics, D/A converter , DAC 0800, successive approximation, A/D converter–ADC 0801, software handshaking, Hardware handshaking, successive approximation with software, voltage controlled oscillator, sample and hold circuits.

Paper II PROGRAMMING LANGUAGE C and C++

Note: The question paper for the examination will be divided in three parts i.e., Section – A, Section – B and Section – C.

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Section – C: Will consist of total 05 questions. The paper setter will set one question from each Unit and students will answer any 03 questions and answer of each question shall be limited upto 500 words. Each question will carry 7.5 marks.

UNIT 1:

Programming language C: structure of C program, Identifiers and keywords, data types, constants, arithmetic operations, library functions, expressions, input/output statements: getchar and putchar, scanf and printf, relational and logical operators, unary operators, hierarchy of operations.

UNIT 2:

Transfer of control: IF-else statement, Switch statement, Goto statement, iterative statements: While, Do-while, For statement, nested loops, break statements, Arrays: definitions, one-dimensional and multi-dimensional, functions; define and accessing a function, arguments of a function, passing arguments and array to a function, recursion.

UNIT 3:

Pointers: pointer declaration, operations on pointers, pointers to array, array of pointers, passing pointers to a function, user defined data types: structures, defining a structure, processing a structure, structure and pointers, passing structure to a function unions, Introduction to C++, Basic data types, Derived data types, reference variables, Input/ Output statements in C++.

UNIT 4:

Operators in C++, manipulators, type cast operator, functions in C++, main function, function prototyping, call by reference, return by reference, inline functions, friend function, virtual functions. Class data type, creating objects, member functions, private member functions, static data members, static member functions, pointers to members.

UNIT 5:

Constructors, multiple constructors in a class, copy and dynamic constructors, destructors, operator overloading, type conversions: Basic to class, class to basic and class to class. Inheritance, single inheritance, multilevel inheritance, multiple inheritance, hierarchical inheritance, hybrid inheritance, pointers to objects.

Paper III COMPUTER GRAPHICS

Note : The question paper for the examination will be divided in three parts i.e., Section – A, Section – B and Section – C.

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Section – C: Will consist of total 05 questions. The paper setter will set one question from each Unit and students will answer any 03 questions and answer of each question shall be limited upto 500 words. Each question will carry 7.5 marks.

UNIT 1:

Geometry and Line Generation : Points and lines, line segments, vectors, pixels and frame buffer, vector generation, DDA algorithm, Bresenham's algorithm, antialiasing of lines, thick lines, character generation.

UNIT 2:

Graphic Primitives: Display devices, display file structure, and interpreters, normalized device coordinates, entering commands in display file, display file interpreter, entering text, line style, entering Polygons in display file.

UNIT 3:

Transformation: Matrices, scaling transformation, angles, rotation, homogeneous coordinates, coordinate translations, coordinate transformation, rotation about arbitrary point, inverse transformations, transformation routines.

UNIT 4:

Segmentation: Segment, segment creation, image transformations, saving and showing of segments, windowing and Clipping; window and view port, Viewing transformations, clipping, Cohen Sutherland algorithms.

UNIT 5:

Graphic interactions: Principle and working of common interactive graphic devices, selectors and locators, Mouse, Joystick, light pen and tablet.

3D-Graphics : Introduction, geometrical and coordinate transformations, rotation about an arbitrary axis, various kinds of projections, parallel and perspective projections, viewing parameters, special projections.

Books suggested :

Rajaraman : Computer Programming in C, Prentice Hall of India

Gottfried, B. :Programming with C, Schaum's Outline Series, Tata McGraw Hill

Balguruswamy, E. : Programming in ANSI C, Tata McGraw Hill

Harrington S. : Computer Graphics . A Programming Approach, McGraw Hill

Hearn D. and Baker : Computer Graphics, Prentice Hall of India

Morris Mano : Computer System Architecture, Prentice Hall of India

Hall,D.V.: Microprocessor and Interfacing, , Tata McGraw Hill.

Balguruswamy, E. : Object Oriented Programming with C++ in ANSI C, Tata McGraw Hill

EXPERIMENTS FOR PRACTICAL WORK

ADVANCE COMPUTER LABORATORY (Programming Language C++)

1. Write a program to show the use of arithmetic operations and library functions in evaluating expressions.
2. Write a program to show the use of input and output statements.
3. Write a program to show the use of if-else statement.
4. Write a program to show the use of switch and case statements.
5. Write a program to show the use of one dimensional and multi-dimensional arrays.
6. Write a program to show the use of while statements.
7. Write a program to show the use of do-while statements.
8. Write a program to show the use of for statements.
9. Write a program to show the use of functions.
10. Write a program to show the use of recursion.
11. Write a program to create a linked list using pointers.
12. Write a program to define and use a structure.
13. Write a program to find roots of an equation by Newton-Raphson method.
14. Write a program to sort a list of data using selection sort.
15. Write a program to manipulate strings.
16. Write a C++ program to show the use of class & object.
17. Write a C++ program to show the use of operator overloading.
18. Write a C++ program to show the use of pointers to objects.
19. Write a C++ program to show the inheritance.