B.Sc. Part I

The Examination in Computer Science of First Semester shall comprise of one theory paper of 80 Marks of three hours duration and internal assessment of 20 Marks. The practical examination will be of 4 Hrs. duration and carry 50 Marks.

The distribution of marks for practical examination is as under:

1. Program writing/execution(on group A & B)	**: 30 Marks**
2. Practical record	**: 10 Marks**
3. Viva Voce	**: 10 Marks**

Total 50 Marks

1S: Computer Science or Computer Application/ Information Technology

Paper – I

Fundamentals of Information Technology and C Programming

Unit I

Introductions to Computers: Characteristics, Generation & classification of computers, block diagram of computer, Memory and their types: Primary and secondary, Flash & Serial access memory, Peripheral devices: Keyboard, Mouse, scanner, Printers :Impact, Non-Impact, DMP, inkjet, Laser.

Unit II

Introduction to OS: Need, Types of OS: Batch, multiprogramming, Time Sharing, online real time System, features of Unix OS, Windows XP & windows 7.

File Handling: File naming, Files Structure, File Types, File access, File Attributes: protection, password, creator, owner, hidden flag, read only flag, actual size. Operations on file: create, delete, open, close, read, write, append, seek, rename

Unit III

Networking: Introduction, Need of computer communication network, Communication protocol, Types of network. Topology: Star, Ring, Bus & Mesh

Introduction to Internet: History, Types of Internet Connection: Direct, dial-up, broadband, Internet protocol: TCP/IP, FTP, HTTP, Domain, URL, e-mail address, Web browser: Internet Explorer, Netscape navigator, search engines.

Unit IV

Programming Concept: Algorithm, Flowcharting, Programming languages, assembler, interpreter, compiler, programming process: Program Design, coding, compilation, Execution, testing, debugging, documentation, structured programming: features and approaches.

Elements of C : Introduction to C, History, Features, structure of C Program, Header file, character set, keywords, identifiers

Unit V

Constants and Variables, Data types: Primary, derive, user define, typedef, storage class, Symbolic constant and their types. Operators: Arithmetic, Relational, logical, assignment, Increment and decrement, bitwise, Conditional Expressions: Arithmetic expression and Precedence of arithmetic expressions, type conversion.

Unit VI

I/O Operations: Formatted I/O statements: printf(), scanf(), Unformatted I/O statements: getch(), getche(), getchar(), putch(), putche(),putchar(),gets(),puts().

Control statements: conditional: simple if, if-else nesting of if else, switch, goto statement. Looping statement: while, Do-While, for, Nesting of loops, Break and Continue Statement.

Books Recommended:

1. **Fundamentals of Computers : V Rajaraman, PHI publications**
2. **Computer Fundamental and Networking : P.K.Sinha.**
3. **Information Technology concepts : Dr. Madhulika Jain, Shashank & Satish Jain [BPB Publication, New Delhi].**
4. **Fundamental of Information Technology - Alexis and Mathews Leon [Vikas Publication].**
5. **Let us C - Y.Kanetkar, BPB Publications**
6. **Programming in C : E Balagurusamy, TMH publications**
7. **Programming with C : Ravichandran**
8. **Programming with C : Byron Gottfried, Tata McGraw-Hill Pubplication**
9. **C Programming Techniques - A.M.Padma Reddy, Sri Nandi Publication, Bangalor**
10. **C Programming - Holzner, PHI Publication**
11. **Modern Operating Systems: Andrew S. Tanenbaum**
12. **Computer Network : Andrew S. Tanenbaum, PHI Publication.**
13. **Programming in ANSI C : Ramkumar and Rakesh Agrawal, TMH Publication**

Practical : Minimum 16 Practical base on

A: MS-Office (word, Excel, PowerPoint) (Minimum 8 practical)

B: Unit IV to Unit VI (Minimum 8 practical)

B.Sc. Part I

The Examination in Computer Science of Second Semester shall comprise of one theory paper of 80 Marks of three hours duration and internal assessment of 20 Marks. The practical examination will be of 4 Hrs. duration and carry 50 Marks.

The distribution of marks for practical examination is as under:

1. Program writing/execution (On group A & B)	**: 30 Marks**
2. Practical record	**: 10 Marks**
3. Viva Voce	**: 10 Marks**
	Total 50 Marks

2S: **Computer Science or Computer Application/ Information Technology**

Paper – II

Web Technology and Advanced programming in C

Unit I

HTML : History of Markup Languages, Introduction to HTML, Structure of HTML Document, Elements, attributes, Tags: <HTML>, <HEAD>, <TITLE>, <BODY>, Heading tags, <P>,
,<B>,<I>,<HR>, Table tags, List tags, <A>, <LINK>, <IMG>, <MARQUEE>, <BLOCKQUOTE>, Attributes : align, background color, text color .

Unit II

XML: Features of XML, Simple XML document, Elements, Attributes, Components of XML document: document prolog and document instance.
DTD(Document Type Definition): Introduction, Need of DTD, declaring elements, element content model, declaring attributes, attribute types, Internal and External DTD.

Unit III

Style Sheet : Introduction, Advantages and applications of style sheet, CSS: Introduction, syntax of CSS with example, Type of style sheet(Internal, External and Inline), Units, Classes and Id attributes, Properties: Test, Font, Color, background, border, display, height, line-height, margin, width. CSS with HTML and XML.

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Unit IV

Array: Introduction, Declaration and Initialization of one and two dimensional array.

Pointers: Introduction, Understanding pointers, Declaration and initialization, accessing variable through its pointer, pointer expression, pointer increment and scale factor , pointers and arrays, pointers and character strings, pointers and functions.
Strings: Declaring and initialization of string variable, operations on string: reading and writing, String functions: strcpy(), strcmp(), strcat(),strlen().

Unit V
Functions: Introduction, Need of function, function, prototype, function calling, call by value, call by reference, return value and their types, function parameters, local and global variable, functions with arrays, function recursion.

Unit VI
Structure: Introduction, declaration, initialization, Accessing Structure Elements , arrays of structure , nested structure
Unions: Introduction, Comparison of Structure and Union.

File Handing : Introduction, defining and opening a file, Reading from a File, Writing to a File, closing a file , I/O Operations on file : fgetc(),fputc(), fputs(), fgets(), fscanf(), fprintf(), fread(), fwrite() and simple programs on these functions.

Books Recommended:

1. **Let us C - Y.Kanetkar, BPB Publications**
2. **Programming in C : E Balagurusamy, TMH publications**
3. **Programming with C : Ravichandran**
4. **C Programming Techniques - A.M.Padma Reddy, Sri Nandi Publication, Bangalore.**
5. **Programming in ANSI C : Ramkumar and Rakesh Agrawal, TMH Publication**
6. **C Programming - Holzner, PHI Publication**
7. **Mastering XML: Ann Navaro, Chuck White, Linda Burman, BPB Publication.**
8. **The Complete reference-Web Design, Second Edition By Thomas A. Powell, TMH.**
9. **HTML 4.0 : E.Stephen Mack & Janan Platt, BPB Publication.**
10. **HTML IN 21 Days: Tech Media Publication.**
11. **HTML Complete :BPB Publication.**
12. **Inside XML : BPB Publication.**
13. **Web References www.w3c.org, W3Schools.com.**

Practical : Minimum 16 Practical base on

A: Unit I , Unit II and Unit III (Minimum 8 practical)

B: Unit IV, Unit V and Unit VI (Minimum 8 practical)