

SAURASHTRA UNIVERSITY

RAJKOT – INDIA



Accredited Grade A by NAAC (CGPA 3.05)

CURRICULAM

FOR

B.C.A.

Bachelor of Computer Application

(Semester - 1 and Semester - 2)

Effective From June – 2016

Bachelor of Computer Application
(Semester - 1 and Semester - 2)
Saurashtra University
Effective from June – 2016
Bachelor in Computer Application (B.C.A.)
[3 years – Six Semester Full Time Program]

Ordinance, Regulations and Examination Scheme:

Ordinance:

O. B.C.A. – 1 : Candidate for admission to the Bachelor of Computer Application must have passed standard 12th or equivalent examination from Gujarat higher secondary board or any other board.

O. B.C.A. – 2 : Candidate seeking admission directly in third semester of Bachelor of Computer Application must have passed Examination of Diploma in Engineering in Computer Engineering(CE) / Computer Science(CS) / Information Technology(IT).

O. B.C.A. – 3 : The duration of the course will be of three full time academic years. The examination for the Bachelor of Computer Application course will be divided into six semesters. No candidate will be allowed to join any other course or service simultaneously.

O. B.C.A. – 4 : Candidate who have passed an equivalent examination from any other board or examining body and is seeking admission to the B.C.A. course will be required to provide necessary eligibility certificate.

O. B.C.A. – 5 : No candidate will be admitted to any semester examination for B.C.A. unless it is certified by the Principal that he has attended the course of study to the satisfaction of the principal of the college.

O. B.C.A. – 6 : Candidate desirous of appearing at any semester examination of the B.C.A. course must forward their application in the prescribed form to the University through the principal of the college on or before the date prescribed for the purpose under the relevant ordinances.

O. B.C.A. – 7 : No candidate will be permitted to reappear at any semester examination, which he has already passed. The marks of successfully completed paper will be carrying forwarded for the award of class.

O. B.C.A. – 8 : There shall be an examination at the end of each semesters to be known as first semester examination, second semester examination respectively. At which a student shall appear in that portion of theory papers, practical and viva – voice if any, for which he has kept the semester in accordance with the regulations in this behalf.

A candidate whose term is not granted for what so ever reason shall be required to keep attendance for that semester or term when the relevant papers are actually taken at the college.

O.B.C.A. 9: After successfully passing all the subjects of semester – 1 candidate will be awarded by certificate CCC and after passing all the subjects of Semester – 1 and Semester – 2 candidate will be awarded by CCC+

O. B.C.A. – 10: Medium of instruction is English.

O.B.C.A. -11:

Any candidate can go up to take admission in pre to pen-ultimate semester irrespective of failure in any number of subjects.

A Candidate can take admission to pen-ultimate semester if he/she is not failing to more than two subjects.

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A candidate can take admission to ultimate {final} semester if he/she is clear all semesters before pen-ultimate semester and not failing in more than two subjects of pen-ultimate semester.

That is a candidate will be permitted to continue his/her study upto the 4th semester examination without passing his/her previous semester examination.

A candidate can take admission to fifth (pen-ultimate) semester if he/she is failing in NOT more than two subjects of previous (1 to 4) semesters.

A candidate can take admission to Sixth (Ultimate Final) Semester if he/she is not failing in more than two subjects of 5th Semester. Provided he/she should have cleared all 1 to 4 semester.

Regulations:

R.S.B.C.A. – 1. Standard Of Passing

The standard of passing the B.C.A. degree examination will be as under:

- (1) To pass any semester examination of the B.C.A. degree, a candidate must obtain at least 40% marks in the university examination separately in each course of theory and practical.
- (2) Class will be awarded based on Earned Grade Point, SGPA and CGPA as per rules of University.
- (3) A result of candidate who has obtained admission directly in Bachelor of Computer Application semester – 3 will be declared by considering his marks of semester 3 to 6 in aggregate and accordingly class will be awarded.

R.S.B.C.A. – 2. Marks and credit hours of each course

Marks of Internal examination, university examination and credit hours will be as under:

- (1) Total marks of each theory course are 100 (university examination of 70 marks + internal examination of 30 marks).
- (2) Marks of each unit in the course are equal (i.e. 14 Marks). Total marks of each course are $14 \times 5 = 70$ for university examination.
- (3) Credit hours (lectures) for each unit in the course are equal (i.e. 12 hours). Total credit hours (lectures) of each course are $12 \times 5 = 60$.
- (4) Total marks of each practical and project-viva course are 100. No internal examination of marks in practical and project-viva courses.

R.S.B.C.A. – 3. Structure of Question Paper

Question Paper contains 5 questions (each of 14 marks). Every question will be asked from corresponding unit as specified in the syllabus of each course. (i.e. Question-1 from Unit No.1 and remaining questions from their corresponding units)

Every question is divided in four parts like (a), (b), (c) and (d). Part (a) contains four objective type questions (not MCQ) like definition, reason, answer in one line, answer in one word etc., each of one marks and no internal option. Part (b) contains two questions each of two marks and student will attempt any one out of two. Part (c) contains two questions each of three marks and student will attempt any one out of two. Part (d) contains two questions each of five marks and student will attempt any one out of two.

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R.S.B.C.A. – 4. Following is the syllabus of each course of B.C.A. Program.

B.C.A. (Semester – 1)

SR. NO.	COURSE	No. OF LECT./Lab. PER WEEK	CREDIT
1.	CS – 01 TECHNICAL COMMUNICATION SKILL	5	5
2.	CS – 02 PROBLEM SOLVING METHODOLOGIS AND PROGRAMMING IN C	5	5
3.	CS – 03 COMPUTER FUNDAMENTALS AND EMERGING TECHNOLOGY	5	5
4.	CS – 04 NETWORKING & INTERNET ENVIRONMENT	5	5
5.	CS – 05 PRACTICALS-1 (BASED ON CS-04 & PC SOFTWARE)	5	5
6.	CS – 06 PRACTICALS-2 (BASED ON CS-2)	5	5
Total Credits of Semester – 1			30

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CS-01: TECHNICAL COMMUNICATION SKILL		
Objective: To Understand the correct use of English Language and improve the Communication Skills for technical communication		
Unit No.	Topic	Detail
1	Concepts and Fundamentals	<p>Introduction to Technical Communication, meaning of communication, Importance of communication, Communication scope, types, Process of communication, Communication models and theories, Essentials of good communication</p> <p>The seven Cs of communication, Factors responsible for growing importance of communication, Channels of communication, Verbal and Non-Verbal communication, Formal and Informal communication, Barriers of, and aids to communication.[T1, T2, T3, T4]</p>
2	Written Communication	<p>Objectives of written communication, Media of written communication, Merits and demerits of written communication, Planning and preparing of effective business messages. Persuasive writing.</p> <p>Overview of Technical Research and Report Writing : Definition and Nature of Technical Writing, Properties/features and process of Technical Writing, Basic Principles of Technical Writing, Styles in Technical Writing, The Role of Technical Writing, The Wholistic Guide of Technical Writing , End-products of Technical Writing. Writing Proposals.</p> <p>Writing Letters: Business letters, Office memorandum, Good news and bad news letters, Persuasive letters, Sales letters, Letter styles/ layout.</p> <p>Report Writing: Meaning & Definition, Types of report (Business report & Academic report), Format of report, Drafting the report, Layout of the report, Essential requirement of good report writing.</p> <p>Job Application: Types of application, Form & Content of an application, drafting the application, Preparation of resume. [T1,T2,T3,]</p>
3	Oral Communication-1	<p>Principles of effective oral communication, Media of oral communication, Advantages of oral communication, Disadvantages of oral communication, Styles of oral communication.</p> <p>Interviews: Meaning & Purpose, Art of interviewing, Types of interview, Interview styles, Essential Features, Structure, Guidelines for Interviewer, Guidelines for interviewee. Meetings: Definition, Kind of meetings,</p>

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		<p>Advantages and disadvantages of meetings/ committees, Planning and organization of meetings.</p> <p>Project Presentations: Advantages & Disadvantages, Executive Summary, Charts, Distribution of time (presentation, questions & answers, summing up), Visual presentation, Guidelines for using visual aids, Electronic media (power-point presentation).</p>
4	Oral Communication-2	<p>Listening Skills: Good listening for improved communications, Art of listening, Meaning, nature, process, types and importance of listening, Principles of good listening, Barriers in listening</p> <p>Negotiation Skills : Definition of negotiation, Factors that can influence negotiation, what skills do we need to negotiate, Negotiation process (preparation, proposals, discussions, bargaining, agreement, implementation). Strategies to, improve oral, presentation, speaking and listening skills. [T1,T2, T3,T4]</p>
5	Soft Skills & Language Skills:	<p>Soft Skills: Non Verbal communication- kinesics & Proxemics, parlanguage, interpersonal skills, Corporate communication skills - Business Etiquettes [T1,T2,T4]</p> <p>Language Skills: Improving command in English, improving vocabulary, choice of words, Common problems with verbs, adjectives, adverbs, pronouns, tenses, conjunctions, punctuations, prefix, suffix, idiomatic use of prepositions. Sentences and paragraph construction, improve spellings, introduction to Business English. [T3, R1, R3]</p>

Seminar - 5 Lectures

Expert Talk - 5 Lectures

Test - 5 Lectures

Total Lectures 60 + 15 = 75

Text Books:

[T1] Kavita Tyagi and Padma Misra , “Advanced Technical Communication”, PHI, 2011

[T2] P.D.Chaturvedi and Mukesh Chaturvedi, “Business Communication – Concepts, Cases and Applications”, Pearson, second edition.

[T3] Rayudu, “C.S- Communication”, Himalaya Publishing House, 1994.

[T4] Asha Kaul , “Business Communication”, PHI, second edition.

Reference Books:

[R1] Raymond Murphy, “Essential English Grammar- A self study reference and practice book for elementary students of English” , Cambridge University Press, second edition.

[R2] Manalo, E. & Fermin, V. (2007). Technical and Report Writing. ECC Graphics. Quezon City.

[R3] Kavita Tyagi and Padma Misra , “Basic Technical Communication”, PHI, 2011.

[R4] Herta A Murphy, Herbert W Hildebrandt and Jane P Thomas, “Effective Business Communication”, McGraw Hill, seventh edition.

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CS-02: PROBLEM SOLVING METHODOLOGIS AND PROGRAMMING IN C		
Objective: To develop basic programming skill, concept of memory management and file handling.		
Unit No.	Topic	Detail
1	Introduction of C Language	<ul style="list-style-type: none"> • Introduction of Computer Languages • Introduction of Programming Concept • Introduction of C Language (History & Overview) • Difference between traditional and modern c. • C character set • C tokens <ul style="list-style-type: none"> ▪ Keywords ▪ Constants ▪ Strings ▪ Identifiers and variables ▪ Operators (all 8 operators) • Hierarchy of operators • Type casting • Data types in c • PRE-PROCESSORS IN C
	Introduction of Logic Development Tools	<ul style="list-style-type: none"> • Introduction of Logic. • Necessary Instructions for Developing Logic • Basics of Flow Chart • Dry-run and its Use. • Other Logic development techniques
2	Control Structures	<ul style="list-style-type: none"> • Selective control structure <ul style="list-style-type: none"> ▪ If statements ▪ Switch statement • Conditional ternary operator • Iterative (looping) control statements <ul style="list-style-type: none"> ▪ For loop ▪ Do...while loop ▪ While loop • Nesting of loops • Jumping statements <ul style="list-style-type: none"> ▪ Break statement ▪ Continue statement ▪ Goto statements
3	Library Functions	<ul style="list-style-type: none"> • Types of library functions <ul style="list-style-type: none"> ▪ String Function: Strcpy, strncpy, strcat, strncat, strchr, strrchr, strcmp, strncmp, strstr, strspn, strcspn, strlen, strpbrk, strstr, strtok ▪ Mathematical Functions: Acos, asin, atan, ceil, cos,

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		<p>div, exp, fabs, floor, fmod, log, modf, pow, sin, sqrt</p> <ul style="list-style-type: none"> ▪ Date & Time Functions: clock, difftime, mktime, time, asctime, ctime, gmtime, localtime, strftime ▪ I/O Formatting Functions: printf, scanf, getc, getchar, gets, putc, putchar, puts, ungetc ▪ Miscellaneous Functions: delay, clrscr, clearer, errno, isalnum, isalpha, iscntrl, isdigit, isgraph, islower, isprint, isspace, isupper, isxdigit, toupper, tolower ▪ Standard Library functions: abs , atof , atol , exit , free, labs , qsort , rand , strtoul , srand ▪ Memory Allocation Functions: malloc , realloc , calloc <ul style="list-style-type: none"> • Types of user defined functions • Pointers • Function call by value • Function call by reference • Recursion • Storage classes • Passing and returning values
4	Array	<ul style="list-style-type: none"> • Types of arrays <ul style="list-style-type: none"> ▪ Single dimensional array ▪ Two dimensional array ▪ Multi-dimensional array ▪ String arrays • Use of Arrays in Programming • Arrays and Matrices
	Structures	<ul style="list-style-type: none"> • What is structure • Initializations and declarations • Memory allocation functions • Pointers with structures • Array with structures • Udf with structures • Nested structures • Introduction to union • Difference between Structure & Union
5	Pointers	<ul style="list-style-type: none"> • Introduction of Pointers • Use of pointers in Dynamic Programming • Pointer to Variables • Pointer to Array • Pointer within Array • Pointer To Structure • Pointers within structure • Pointer to Pointer
	File Handling	<ul style="list-style-type: none"> • Concept of data files • File handling

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		<ul style="list-style-type: none">• Use of file handling functions fopen, fclose, fprintf, fscanf, getw, putw, fseek, ftell, rewind, freopen, remove, rename, feof, ferror, fflush, fgetpos, sprintf, snprintf, vsprintf, vsnprintf, fscanf, vfscanf, setbuf, setvbuf• I/O operations• Command line arguments
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Seminar - 5 Lectures
Expert Talk - 5 Lectures
Test - 5 Lectures

Total Lectures 60 + 15 = 75

Reference Books:

1. Programming in ANSI C Author : E. Balaguruswami.
2. Let Us C Author : Yashwant Kanetkar.
3. Working with C Author: Yashwant Kanetkar.
4. Programming in C Schaum Series publication.

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CS-03: COMPUTER FUNDAMENTALS AND EMERGING TECHNOLOGY		
Objective: To aware basics of computer and emerging technology		
Unit No.	Topics	Details
1	Introduction to Computers	<ul style="list-style-type: none"> • Basics of Computers <ul style="list-style-type: none"> ○ What is Computer? ○ Characteristics of Computer ○ Data Processing Cycle (Data → Process → information) • Classification of Computer by Data Processed <ul style="list-style-type: none"> ○ Analog, Digital and Hybrid Computers • History and Generations of Computers <ul style="list-style-type: none"> ○ First to Fifth Generation Computers • Classification of Computer by Processing Capabilities <ul style="list-style-type: none"> ○ Micro, Mini, Mainframe and Super Computers • History and Generations of Computers . <ul style="list-style-type: none"> ○ First to Fifth Generation Computers • Simple Model of Computer <ul style="list-style-type: none"> ○ Input Devices ○ CPU (Central Processing Unit) ○ Arithmetic & Logic Unit ○ Control Unit ○ Internal Memory • Output Devices • Secondary Storage Devices
	Internal/External parts used with Computer Cabinet	<ul style="list-style-type: none"> • Introduction to Mother board • Types of Processors . <ul style="list-style-type: none"> ○ Dual Core, Core 2 Duo, i2, i3, etc • Memory structure and Types of Memory <ul style="list-style-type: none"> ○ RAM (SRAM, DRAM, SO, DDR, etc.) ○ ROM (ROM, PROM, EPROM, EEPROM, etc.) • Slots <ul style="list-style-type: none"> ○ ISA Slots / PCI Slots / Memory Slots • Sockets • Cables <ul style="list-style-type: none"> ○ Serial Cable / Parallel Cable / USB Cable • Ports <ul style="list-style-type: none"> ○ USB / Serial / Parellel / PS2 • Power Devices :UPS • Graphic Cards

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		<ul style="list-style-type: none"> • Network card, Sound Card
2	Input Devices	<ul style="list-style-type: none"> • Introduction • Types of Input Devices <ul style="list-style-type: none"> ○ Keyboard / Mouse / Trackball / Glide - Pad / Game Devices Joystick, etc.) / Light Pen / Touch Screen / Digitizers and Graphic Tablet / Mic (Sound Input) / Camera (Photo and Video Input) / POS (Point of Sale) Terminal (Scanners, etc) ○ MIDI(Musical Instrument Digital Interface) Keyboard, ○ Wireless Devices (Keyboard, Mouse, etc) • Types of Scanners <ul style="list-style-type: none"> ○ OCR, OMR, MICR, OBR
	Data Storage	<ul style="list-style-type: none"> • Introduction • Types of Magnetic Storage Devices <ul style="list-style-type: none"> ○ Floppy Disk / Hard Disk / Magnetic Tape / Magnetic Disks • Storage Mechanism of Magnetic Storage Devices <ul style="list-style-type: none"> ○ Tracks / Sectors / Clusters / Cylinders • Reading / Writing Data to and from Storage Devices • Seek Time / Rotational Delay - Latency / Access • Time /Response Time • Other Storage Devices <ul style="list-style-type: none"> ○ USB - Pen Drive / CD / DVD / Blu-Ray Disk etc. ○ Flash Memory, Cloud Storage(Like Google Drive, OneDrive etc.)
3	Output Devices	<ul style="list-style-type: none"> • Types of Output Devices • CRT Display Units • Monitor • Non CRT display Units • LCD / LED / Plasma Displays • Types of Printers Impact and Non Impact Printers • Plotters • Other Devices <ul style="list-style-type: none"> ○ Fascimile(FAX) ○ OLED (Organic LED) ○ Headphone ○ SGD (Speech Generating Device) ○ COM (Computer Output Microfilm) ○ Google Glass

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4	Numbering System and Codes	<ul style="list-style-type: none"> • Introduction to Binary Codes / <ul style="list-style-type: none"> ○ Nibble / Bit / Byte / Carry Bit / Parity Bit / Sign Bit ○ KB / MB / GB / TB / HB (etc) • Types of Numbering System <ul style="list-style-type: none"> ○ Binary / Octal/Decimal / Hex-Decimal • Conversion <ul style="list-style-type: none"> ○ Binary to Octal, Decimal and Hexa-Decimal ○ Decimal to Binary, Octal and Hexa-Decimal ○ Octal to Binary, Decimal and Hexa-Decimal ○ Hexa-Decimal to Binary, Octal and Decimal • Binary Arithmetic <ul style="list-style-type: none"> ○ Addition ○ Subtraction (1's Compliment and 2's Compliment) ○ Division . ○ Multiplication • Types of Codes <ul style="list-style-type: none"> ○ ASCII/BCD / EBCDIC / UniCode • Parity Check <ul style="list-style-type: none"> ○ Event Parity System / Odd Parity System
	Languages, Operating Systems and Software Packages	<ul style="list-style-type: none"> • Introduction • Translator (Assembler / Compiler / Interpreter) • Types of Languages <ul style="list-style-type: none"> ○ Machine Level Language ○ Assembly Level Language ○ High Level Language (3GL, 4GL, 5GL, etc.) • Types of Operating Systems <ul style="list-style-type: none"> ○ Batch Operating System ○ Multi Processing Operating System ○ Time Sharing Operating System ○ Online and Real Time Operating System • Uses and applications of Software Packages <ul style="list-style-type: none"> ○ Word Processing Packages ○ Spread Sheet Packages ○ Graphical Packages ○ Database Packages I ○ Presentation Packages ○ Animation / Video / Sound Packages
5	Emerging Technologies and Virus	<ul style="list-style-type: none"> • Different Communication methods <ul style="list-style-type: none"> ○ GIS / GPS / COMA / GSM • Communication Devices I <ul style="list-style-type: none"> ○ Cell Phones / Modem / Infrared / Bluetooth / WiFi/LiFi/SLM(Spatial Light Modulator) • Virus

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		<ul style="list-style-type: none"> ○ Introduction to Virus and related terms ○ Origin and History ○ Types of Virus ○ Problems and Protection from Virus ● Cloud Computing <ul style="list-style-type: none"> ○ What is Cloud Computing? ○ Characteristic & Service Models(Iaas, Paas, Saas) ○ Architecture ○ Security & Privacy
	Important Terms and Acronyms	<ul style="list-style-type: none"> ● ATM ● Backup / Restore ● Hard Copy / Soft Copy ● Bus / Data Bus ● Buffer and types / Spooling ● Cursor / Pointer / Icon ● E-Mail I Attachment ● CLil GUI ● Compiler and its types ● Drive I Directory (Folder) / File / Path ● Menu / Popup Menu / Toolbar ● Shutdown / Reboot / Restart ● Syntax / Wild Card Characters ● Optical Fiber (Fiber Optic) . ● Net meeting ● UPS ● Printing Speed (CPS, CPM, LPM, DPI, PPM) ● Peripherals

Seminar - 5 Lectures
Expert Talk - 5 Lectures
Test - 5 Lectures

Total Lectures 60 + 15 = 75

Reference Books:

2. Computer Fundamentals – By P.K.Sinha.
3. Fundamental of IT for BCA – By S.Jaiswal.
4. Engineering Physics – By V.K.Gaur.
5. Teach Yourself Assembler – By Goodwin.

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CS-04: NETWORKING & INTERNET ENVIRONMENT		
Objective: To understand basic terms of computer networks and Internet , to give knowledge of Scripting languages like HTML, CSS and Java Script		
Unit No.	Topic	Detail
1	Introduction to Computer Network	<ul style="list-style-type: none"> • Computer Network • Type of Computer Network • Network Topology • OSI Reference Model (Introduction) • TCP/IP • Internet Terminology • ISP (Internet Service Provider) • Intranet • VSAT (very small aperture terminal) URL • Portal • Domain Name Server
2	Application of Internet	<ul style="list-style-type: none"> • World Wide Web (WWW) • Search Engine • Remote Login • Telnet • Electronic Mail (Email) • E-Commerce and E- Business • E-Governance • Mobile Commerce • Website Basics (WebPages; Hyper Text Transfer Protocol, File Transfer Protocol, Domain Names; URL; Protocol Address; Website[Static, Dynamic, Responsive etc], Web browser, Web Servers; Web Hosting. • Network Security Concepts: Cyber Law, Firewall, Cookies, Hackers and Crackers; • Types of Payment System (Digital Cash, Electronic Cheque, Smart Card, Debit/Credit Card etc)
3	Basic of HTML & Advance HTML 5	<ul style="list-style-type: none"> • Fundamental of HTML • Basic Tag and Attribute • The Formatting Tags • The List Tags • Link Tag • inserting special characters, • adding images and Sound,

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		<ul style="list-style-type: none"> • lists types of lists • Table in HTML • Frame in HTML • Forms • HTML 5 & Syntax <ul style="list-style-type: none"> - HTML5 Document Structure (section, article, aside, header, footer, nav, dialog, figure) - Attributes of HTML 5 - Web Form (datetime, date, month, week, time, number, range, email, url) - Audio / Video - Canvas
4	Cascading Style Sheet & CSS 3	<ul style="list-style-type: none"> • Introduction to CSS • Types of Style Sheets • Class & ID Selector • CSS Font Properties • CSS Text Properties • CSS Background Properties • CSS List Properties • CSS Margin Properties • CSS Comments • CSS 3 <ul style="list-style-type: none"> - Border Property - Background & Gradient Property - Drop Shadow Property - 2D & 3D Transform Property - Transition Property - Box Sizing Property - Position Property • Media Query
5	Java Script	<ul style="list-style-type: none"> • Introduction to JavaScript • Variables • JavaScript Operators • Conditional Statements • JavaScript Loops • JavaScript Break and Continue Statements • Dialog Boxes

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		<ul style="list-style-type: none">• JavaScript Arrays• JavaScript User Define Function• Built in Function (string, Maths, Array, Date)• Events (onclick, ondblclick, onmouseover, onmouseout, onkeypress, onkeyup, onfocus, onblur, onload, onchange, onsubmit, onreset)• DOM & History Object• Form Validation & E-mail Validation
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Seminar – 5 Lectures
Expert Talk – 5 Lectures
Test – 5 Lectures

Total Lectures: 60 + 15 = 75

Reference Books:

1. HTML in 10 steps or less - Laurie Ann Ulrich, Robert G. Fuller
2. Internet: The Complete Reference –Young.
3. World Wide Web Design with Html -C Xavier.
4. Internet for Every One –Leon.
5. Practical Html 4.0 -Lee Philips.
6. MCSE Networking Essential Training Guides.
7. Mastering In FrontPage – BPB.

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CS-05 : PRACTICALS-1 (based On CS – 04 & PC Software)	
Topics	Marks
HTML-5, CSS-3, MS – Word, MS – Excel, MS – Power Point, MS-Access and Macromedia Dream weaver	100

CS-06 : PRACTICALS-2 (based On CS – 02)	
Topics	Marks
Programming in C Language	100

Note :

- Each session is of 3 hours for the purpose of practical Examination.
- Practical examination may be arranged before or after theory exam

Additional Topics (Not to be asked in examination) :

Student should be aware of followings

- To Format Hard Disk
- Installation of OS, multi-OS and other packages
- Use of DOS commands
- Operating of Accounting Software