



**THE STANDARD FIREWORKS RAJARATNAM COLLEGE FOR WOMEN (AUTONOMOUS),
Sivakasi**

(Affiliated to Madurai Kamaraj University, Reaccredited with "A" Grade by NAAC,
College with Potential for Excellence by UGC & Mentor Institution under UGC PARAMARSH)

NAAC SSR Cycle IV (2015-2020)

**1.1. CURRICULUM DESIGN AND
DEVELOPMENT**

**1.1.1. CURRICULUM DEVELOPMENT AND
IMPLEMENTATION**

SYLLABUS

THE STANDARD FIREWORKS RAJARATNAM

COLLEGE FOR WOMEN (AUTONOMOUS)

(Reaccredited with 'A' Grade by NAAC and
College with Potential for Excellence by UGC)

SIVAKASI - 626 123

Affiliated to Madurai Kamaraj University, Madurai



Programme Scheme, Scheme of Examination and Syllabi
(With effect from June 2014)

DEPARTMENT OF COMPUTER SCIENCE

UG PROGRAMME

Curriculum Design & Development Cell

A. Keena Banti
CHAIRMAN OF
THE BOARD

Gayalakshmi
A. Keena Banti
CDDC

E. Ponnalan
T. Palani
ACADEMIC
AFFAIRS

R. P. Radha
COE

**THE STANDARD FIREWORKS RAJARATNAM COLLEGE FOR WOMEN,
SIVAKASI – 626 123**

(An Autonomous Institution Affiliated to Madurai Kamaraj University, Re-Accredited with “A” Grade by
NAAC and College with Potential for Excellence by UGC)

**DEPARTMENT OF COMPUTER SCIENCE
B.Sc DEGREE PROGRAMME IN COMPUTER SCIENCE**

**RULES AND REGULATIONS, PROGRAMME SCHEME AND SCHEME OF EXAMINATION
GOVERNING THE B.Sc DEGREE PROGRAMME IN COMPUTER SCIENCE**

(For those admitted in June 2014 and later).

I. Programme Objectives:

The objectives of the Programme are

1. To take up higher studies in Computer Science / applications and teacher training streams.
2. To prepare the students to manage the hardware and software components in the computer centre independently.
3. To take up the job as Programmer, Computer Operator, or School teachers.

II. Eligibility condition for admission:

Candidate should have passed the Higher Secondary Examination, Govt. of Tamil Nadu or any other Examination accepted by the syndicate as equivalent thereto with Mathematics as one of the subjects.

(a) Computer group

Computer Science (200) + Maths (200) + Physics (200) + Chemistry (200).

(b) Non-Computer group

- i) Maths (200) + Physics (200) + Chemistry (200) + Biology (200)
- ii) Maths / Business statistics (200) + Other Part III Subjects 200 each

III. Duration of the Programme:

The duration of the Programme is three Academic years. Each academic year consists of two semesters. The duration of a semester is 90 working days.

IV. Attendance:

The Rules regarding the attendance for regular classes for the candidates to appear for the end semester examination are framed as given below

- a) Each student must put in a minimum attendance of 68 days (75% of 90 days per semester) so as to become eligible to appear for the end semester examination.

Shortage of attendance:

- b) Those students with attendance 67 days and less but 59 days and above (65%) can be permitted to appear for the end semester examination provided they submit the Condonation Certificate to the Principal

stating the proper reasons for their absence on payment of Rs.125/- to the College Office within 5 days after the last working day.

- c) In case of attendance with 58 days and less but 45 days and above (50%), the students cannot appear for the final examinations of that semester but can appear for those courses in the next semester examinations by obtaining special permission from the Principal providing necessary documents supporting the reasons for absence on payment of Rs.250/-.
- d) Students with attendance 44 days and less should repeat the whole semester.

Attendance for Part V

A Student of the first or second year undergraduate class should put in a minimum attendance of 75% for each semester (Total No.of hours as fixed by the concerned N.S.S or N.C.C, etc Officers) in any one of the Co-Curricular activities namely N.C.C / N.S.S / Physical Education / Youth Red Cross / SSL / RRC / Consumer Club to become eligible to get the degree.

In case of shortage of attendance the student has to complete the required attendance before the completion of the U.G Programme, the failure of which the students can appear for the end semester examination but become ineligible to get the degree.

V. Evaluation Procedure:

Evaluation of each theory course is based on 25% Continuous Internal Assessment (CIA) and 75% end semester examination. Evaluation of each practical course will be 40% Continuous Internal Assessment (CIA) and 60% end semester. Project will be evaluated for 100% in the end semester examination.

VI. Passing Minimum:

For a pass in each course, a student should secure a minimum of 35% marks in the end semester examination and a minimum of 40% marks in aggregate (i.e., CIA and end semester marks put together).

VII. Eligibility condition for getting the Degree:

A candidate undergoing the B.Sc. degree Programme in Computer Science will be eligible for the award of B.Sc. degree in Computer Science if she completes entire Programme and passes all the examination prescribed for the Programme.

VIII. Classification of Successful Candidates:

The Successful Candidates will be classified as per the details given in the Table below:

CGPA	GRADE	Classification of Final Result
9.500 – 10.000	O+	First Class
9.000 – 9.499	O	
8.500 – 8.999	D++	
8.000 – 8.499	D+	
7.500 – 7.999	D	
7.000 – 7.499	A++	
6.500 – 6.999	A+	
6.000 – 6.499	A	Second Class
5.500 – 5.999	B+	
5.000 – 5.499	B	Third Class
4.500 – 4.999	C	
4.000 – 4.999		
0.000 – 3.999	U	Re-appear

IX. Awards of Ranks :

Candidates who qualify themselves for the respective degree Programme passing all the examinations in the first attempt and secured first class are eligible for ranking.

For Each Major:-

$$\text{CGPA} = \frac{\text{Sum of the multiplication of grade points by the respective credits of the course cleared in the entire programme}}{\text{Sum of the credits of all the courses cleared in the programme}}$$

$$\text{CGPA(Cumulative Grade Point Average)} = \frac{\sum_i C_i * G_i}{\sum_i C_i}$$

C_i = Credits earned for Course i in any semester.

G_i = Grade Point obtained for Course i in any semester.

\sum_i = Summation of all courses cleared in a semester in the case of GPA and all courses cleared in all semesters in the case of CGPA.

X. Other Provisions:

1. Those who are absent for the exam should be marked AA in the Mark sheet.
2. If there is a charge of malpractice on a student she should be sent out from the Exam Hall and given chance only during the following Semester.
3. The course she has already appeared during that Semester will not be considered.
4. A student can appear for any number of arrear courses, provided the Head of the Department permits her to do so.
5. Repeat examinations will be conducted for the final semester courses within a month after the publication of the final semester results.
6. Revaluation is permitted.

XI. Transitory Provisions:

Students from other institutions shall be considered if they have already written and passed all the courses covered till the previous semester and if any of the courses have not been cleared, they have to appear for those subjects along with the current semester subjects also. Equivalence of completed courses and course to be completed should be decided by the chairman of the Board of Studies.

Those students who have discontinued in the middle of the Programme may be admitted in the respective semester if they want to rejoin and complete Programme provided they had not got their transfer certificate.

THE STANDARD FIREWORKS RAJARATNAM COLLEGE FOR WOMEN, SIVAKASI
B.Sc., Computer Science – Allotment of Hours and Credits
(for those who joined in 2014 and later)

Courses			Semester						Total No.of Credits
			I	II	III	IV	V	VI	
Language Courses									
Part I - Tamil			6(3)	6(3)	6(3)	6(3)	-	-	24
Part II - English Language Course			6(3)	6(3)	6(3)	6(3)	-	-	
Part III – Major and Allied Courses									
b) Major	Theory	Course I	5(5)	4(4)	4(4)	-	5(5)	5(5)	
		Course II	-	-	3(3)	4(4)	5(5)	4(4)	
		Course III	-	-	-	-	5(5)	5(5)	
	Practical	Lab I	6(4)	5(3)	3(2)	4(2)	5(4)	5(4)	
		Lab II	-	-	-	-	5(3)	-	
		Project	-	-	-	-	-	6(4)	
Allied	Theory		5(5)	5(5)	3(3)	3(3)	-	-	
	Practical		-	-	3(2)	3(2)	-	-	
Total			14	12	14	11	22	22	95
Part IV – Non Major Courses/Value Added Courses									
Peace Education			2(2)	-	-	-	-	-	
Environment Studies			-	2(2)		-	-	-	
i) NME - I			-	-	2(2)	-	-	-	
ii) NME – II			-	-	-	2(2)	-	-	
1) Computer Literacy			-	2(2)	-	-	-	-	
2) Soft Skill enhancement			-	-	-	2(2)	-	-	
3) Career Guidance and Subject Viva			-	-	-	-	2(2)	-	
4) Women Studies			-	-	-	-	2(2)	-	
5) Skill Based Courses : Self Employment / Job Oriented Courses – Theory			-	-	-	-	-	2(2)	
6) Skill Based Courses : Self Employment / Job Oriented Courses – Practical / Field work / Project			-	-	-	-	-	2(2)	
Library and Information Science			-	-	-	-	1(*)	1(*)	
Total			2	4	2	4	4	4	20
Part V: Extension Activities–Physical Education & Social Awareness Programme									
NSS/NCC/Physical Education/Extension Activities/Youth Red Cross/Social Service League			1(*)	1(1)	-	-	-	-	1
Total Credits									140

THE STANDARD FIREWORKS RAJARATNAM COLLEGE FOR WOMEN, SIVAKASI
B.SC Computer Science (for those who joined in 2014/June 2015 and later)

Sem.	Course Code	Course Title	Teaching Hours per Week	Credits	Duration of Exam (Hrs.)	Marks Allotted		
						Internal	External	Total
Major And Allied Courses								
I	14UCS11	PROGRAMMING IN C	5	5	3	25	75	100
	14UCS1A	DIGITAL PRINCIPLES AND APPLICATIONS	5	5	3	25	75	100
	14UCS1L	C AND PC SOFTWARE LAB	6	4	3	40	60	100
II	14UCS21	ADVANCED C PROGRAMMING	4	4	3	25	75	100
	14UCS2A	COMPUTER ORGANIZATION	5	5	3	25	75	100
	14UCS2L	ADVANCED C PROGRAMMING LAB	5	3	3	40	60	100
III	14UCS31	OBJECT ORIENTED PROGRAMMING IN C++	4	4	3	25	75	100
	14UCS32	DATA STRUCTURES	3	3	3	25	75	100
	14UCS3A	RDBMS AND ORACLE	3	3	3	25	75	100
	14UCS3L	PROGRAMMING IN C++ LAB	3	2	3	40	60	100
	14UCS3AL	RDBMS LAB	3	2	3	40	60	100
IV	14UCS41	VISUAL PROGRAMMING	4	4	3	25	75	100
	14UCS4A	DYNAMIC HTML	3	3	3	25	75	100
	14UCS4L	VISUAL PROGRAMMING LAB	4	2	3	40	60	100
	14UCS4AL	HTML LAB	3	2	3	40	60	100
V	14UCS51	ASP.NET	5	5	3	25	75	100
	14UCS5EA	Elective I	5	5	3	25	75	100
	14UCS5EB	Elective II	5	5	3	25	75	100
	14UCS5L1	PROGRAMMING IN JAVA LAB	5	4	3	40	60	100
	14UCS5L2	ASP. NET LAB	5	3	3	40	60	100
VI	14UCS61	COMPUTER GRAPHICS	5	5	3	25	75	100
	14UCS62	SOFTWARE ENGINEERING	4	4	3	25	75	100
	14UCS6EC	Elective III	5	5	3	25	75	100
	14UCS6L	COMPUTER GRAPHICS LAB	5	4	3	40	60	100
	14UCS6P	PROJECT WORK	6	4	3	-	-	100
NME								
III	14UCS3N/ 15UCS3N	COMPUTERS TODAY	2	2	2	25	75	100
IV	14UCS4N/ 15UCS4N	FLASH	2	2	2	25	75	100

Sem.	Course Code	Course Title	Teaching Hours per Week	Credits	Duration of Exam (Hrs.)	Marks Allotted		
						Internal	External	Total
Electives								
V	14UCS5E1	PROGRAMMING IN JAVA	5	5	3	25	75	100
	14UCS5E2	OPERATING SYSTEMS	5	5	3	25	75	100
	14UCS5E3	WIRELESS TECHNOLOGY	5	5	3	25	75	100
	14UCS5E4	DATA MINING	5	5	3	25	75	100
VI	14UCS6E1	COMPUTER NETWORKS	5	5	3	25	75	100
	14UCS6E2	SYSTEM SOFTWARE	5	5	3	25	75	100
Job Oriented Course								
VI	14USE69 / 15USE69	MOBILE PHONE SERVICING	2	2	3	25	75	100
	14USE69L/ 15USE69L	MOBILE PHONE SERVICING LAB	2	2	3	40	60	100
	14UJO63/ 15UJO63	TALLY	2	2	3	25	75	100
	14UJO63L/ 15UJO63L	TALLY LAB	2	2	3	40	60	100

THE STANDARD FIREWORKS RAJARATNAM COLLEGE FOR WOMEN, SIVAKASI
DEPARTMENT OF COMPUTER SCIENCE
B.Sc. COMPUTER SCIENCE
SEMESTER I
PART III – CORE COURSE - MAJOR
14UCS11 - PROGRAMMING IN C
(For those admitted in June 2014 and later)

Contact hours per week : 05

Total number of hours per semester: 75

Number of Credits : 5

Objectives:

To enable the students to

1. understand the fundamental concepts of computers
2. be familiar with the C language.
3. know the salient features of C language.
4. have a good knowledge about the structured programming language.

Unit – I

Fundamentals of Computers: Introduction – Generations of Computers – Classification of Computers – Basic Anatomy of a Computer System.

Overview of C: Importance of C – Basic Structure of C Programs – Programming Style – Executing a 'C' Program.

Constants, Variables, and Data Types: Introduction – Character Set – C Tokens – Keywords and Identifiers – Constants – Variables – Data Types – Declaration of Variables – Declaration of Storage Class – Assigning Values to Variables – Defining Symbolic Constants – Declaring a Variable as Constant – Declaring a Variable as Volatile – Overflow and Underflow of data

Unit - II

Managing Input and Output Operations: Introduction – Reading a Character – Writing a Character – Formatted Input: Inputting Integer Numbers, Inputting Real Numbers, Inputting Character Strings, Reading Mixed Data types, Detection of Errors in Input – Formatted Output: Output of Integer Numbers, Output of Real Numbers, Printing of a Single Character, Enhancing the Readability of Output.

Unit – III

Operators and Expressions: Introduction – Arithmetic Operators – Relational Operators – Logical Operators – Assignment Operators – Increment Decrement Operators – Conditional Operator – Bitwise Operators – Special Operators – Arithmetic Expressions – Evaluation of Expressions – Precedence of Arithmetic Operators – Some Computational Problems – Type Conversions in Expressions – Operator Precedence and Associativity – Mathematical Functions

Unit – IV

Decision Making and Branching: Introduction – Decision Making with IF Statement – Simple IF Statement – The IF...ELSE Statement – Nesting of IF...ELSE Statement – The ELSE IF Ladder – The Switch Statement – The ? : Operator – The GOTO Statement.

Decision Making and Looping: Introduction – The While Statement – The Do Statement – The For Statement – Jumps in Loops.

Unit – V

Arrays: Introduction – One-Dimensional Arrays – Declaration of One-Dimensional Arrays – Initialization of One-Dimensional Arrays – Two-Dimensional Arrays – Initializing Two-Dimensional Arrays – Multi-Dimensional Arrays – Dynamic Arrays – More about Arrays

Text Book:

E. Balagurusamy (2011), “Computing Fundamentals & C Programming”, Tata McGraw Hill Publishing Company, New Delhi, Seventh Edition.

Chapters 1, 3 – 9 **EXCEPTION – Programs, Supplementary information and notes included in boxes, case study, and note.**

Unit I – Chapter 1 (1.1, 1.3, 1.4, 1.5), 3 (3.2, 3.8, 3.9, 3.10), 4

Pages: 1, 5-10, 95, 103-105, 113-134

Unit II – Chapter 5. Pages:140-160

Unit III – Chapter 6. Pages: 169-190

Unit IV – Chapter 7, 8. Pages:199-222, 236-257

Unit V – Chapter 9 Pages : 272-296

Reference Book:

1. T.Prabhu(2010), “C Programming Made Easy”, Kanthimathi Publications, Chennai.
2. Anita Goel(2013),“Computer Fundamentals and Programming In C”, Pearson Education.

THE STANDARD FIREWORKS RAJARATNAM COLLEGE FOR WOMEN, SIVAKASI
DEPARTMENT OF COMPUTER SCIENCE
B.Sc. COMPUTER SCIENCE
SEMESTER I
PART III – ALLIED COURSE
14UCS1A - DIGITAL PRINCIPLES AND APPLICATIONS

(For those admitted in June 2014 and later)

Contact hours per week : 05

Total number of hours per semester : 75

Number of Credits : 5

Objectives:

To enable the students to

1. give a strong foundation on the basic principles of digital circuit elements.
2. know about the representation of numbers in digital computer.
3. simplify logic equations using laws and theorems of Boolean algebra and K Map.
4. understand the working principles of various digital circuits used in digital computer.

Unit - I

Digital Logic: Basic Gates (NOT, OR, AND) - Universal logic gates (NOR, NAND)- AND-OR-Invert Gates - Positive and Negative logic. Number Systems and codes : Binary Number System - Binary to decimal conversion - Decimal to Binary conversion - Octal Numbers- Hexadecimal numbers- The ASCII Code – The Excess-3 code – The Gray code.

Unit – II

Combinational logic circuits : Boolean Laws and Theorems(Basic Laws, OR Operations, AND Operations, Double Inversion and De Morgan's Theorems, Duality Theorem) - Sum of Products method - Truth Table to Karnaugh map - Pairs, Quads and Octets - Karnaugh Simplifications (Overlapping groups, Rolling the Map, Eliminating Redundant Groups) - Don't care conditions - Product of sums Method - Product of sums simplification - Simplification by Quine McClusky method.

Unit - III

Data Processing Circuits : Multiplexers (16 to 1 Multiplexer, The 74150, Multiplexer Logic, Bubbles on signal lines, Universal logic circuit, Nibble multiplexers)- Demultiplexers(1to16 demultiplexer, The 74154) - 1 of 16 Decoder - BCD to decimal Decoders (BCD to decimal decoder, The 7445) – Seven segment Decoders - Encoders (Decimal to BCD Encoder, The 74147). **Arithmetic circuits :** Arithmetic Building blocks (Half Adder, Full Adder, Controlled inverter) - The Adder-subtractor (Addition, Subtraction) - Fast Adder.

Unit – IV

Flip-Flops : RS flip flops (Basic idea, NOR-Gate Latch, NAND-Gate Latch), Gated flip flops(Clocked RS flip-flops, Clocked D flip-flops), Edge triggered RS flip flops(Positive-Edge- Triggered RS flip-flops, Negative-Edge- Triggered RS flip-flops) , Edge-Triggered-D flip-flops, Edge-Triggered JK flip-flops(Positive-Edge- Triggered JK

flip-flops) - JK Master-slave flip-flops. **Registers** : Types of registers - Serial In Serial Out - Serial In Parallel Out - Parallel In Serial Out.

Unit - V

Counters : Asynchronous Counters(Ripple Counters , The 54/7493A) - Decade Counters(A Mod-5 Counter, A Mod-10 Counter, The 7490A). **D/A and A/D conversion**: Variable, resistor networks(Binary Equivalent Weight, Resistive Divider) - Binary ladders - D/A converters (Multiple Signals, D/A Converter Testing, Available D/A Converters) –D/A Accuracy and Resolution - **A/D Converter**: Simultaneous conversion – Counter method.

Text Book:

Donald P Leach, Albert Paul Malvino & Goutam Saha (2012), “Digital Principles And Applications”, Tata McGraw Hill Education Private Limited, New Delhi, Seventh Edition, Fourth reprint.

Unit – I : Chapters: 2(2.1 to 2.4), 5 (5.1 to 5.8) Pages: 40 – 61, 171 – 194.

Unit – II : Chapters: 3(3.1 to 3.9) Pages: 74 – 104.

Unit – III : Chapters: 4(4.1 to 4.6), 6(6.7,6.8,6.9) Pages:118 – 141, 226 –234.

Unit – IV : Chapters: 8(8.1 to 8.5, 8.8), 9 (9.1 to 9.4) Pages:270-285, 288-289, 308-320.

Unit - V : Chapters: 10 (10.1, 10.5), 12 (12.1 to 12.6) Pages:341-346, 363-368, 438-461.

Reference Books:

1. Thomas C.Bartee (1992), “Digital Computer Fundamentals”, BPB Publications, New Delhi.
2. S. Salivahanan, S. Arivazhagan (2003), “Digital Circuits And Design”, Vikas Publishing House Private Ltd, Noida.

THE STANDARD FIREWORKS RAJARATNAM COLLEGE FOR WOMEN, SIVAKASI
DEPARTMENT OF COMPUTER SCIENCE
B.Sc. COMPUTER SCIENCE
SEMESTER I
PART III – CORE COURSE –MAJOR
14UCS1L – C AND PC SOFTWARE LAB
(For those admitted in June 2014 and later)

Contact hours per week : 06

Total number of hours per semester: 90

Number of Credits : 4

Objectives :

To enable the students to

1. understand the Structured Programming Languages.
2. implement programs involving Looping statements
3. develop programs involving arrays
4. understand the concept of MS Office.

C Programs(12 programs):

1. Simple Interest and Compound Interest
2. Temperature Conversion
3. Evaluation of the series
4. Factorial of the given number
5. Sum of digits
6. Find the largest number among three numbers
7. Quadratic Equation
8. Pascal Triangle
9. Fibonacci series
10. Prime Number or Not, Prime Number Generation
11. Palindrome Number Checking
12. Perfect Number or Not
13. Linear Search
14. Arranging numbers in ascending & descending order
15. Count the Even Numbers, Odd Numbers and zeros in a given set of numbers
16. Count the Positive Numbers, Negative Numbers and zeros in a given set of numbers

PC Software Programs (any 10 exercises):

MS – WORD

1. Bio – Data
2. Time Table
3. Flow Chart
4. Letter Pad
5. Mail Merge

MS – EXCEL

6. Sorting of Personal Information – Ascending and Descending order
7. Program using Formula – Student Mark list
8. Program using Function
9. Program using Statistical functions
10. Program using various charts

MS – POWERPOINT

11. Presentation using slide transitions and custom animation.
12. Presentation include tables and charts

THE STANDARD FIREWORKS RAJARATNAM COLLEGE FOR WOMEN, SIVAKASI
DEPARTMENT OF COMPUTER SCIENCE
B.Sc. COMPUTER SCIENCE
SEMESTER II
PART III – CORE COURSE - MAJOR
14UCS21 – ADVANCED C PROGRAMMING
(For those admitted in June 2014 and later)

Contact hours per week : 04
Total number of hours per semester : 60
Number of Credits : 4

Objectives:

To enable the students to

1. be familiar with characters and strings.
2. know the salient features of functions.
3. know the salient features of structures and unions.
4. have a good knowledge about the structured programming language.

Unit – I

Character Arrays and Strings: Introduction – Declaring and Initializing String Variables – Reading Strings from Terminal – Writing Strings to Screen – Arithmetic Operations on Characters – Putting Strings Together – Comparison of Two Strings – String-handling Functions – Table of Strings – Other Features of Strings

User-defined Functions: Introduction – Need for User-defined Functions – A Multi-Function program – Elements of User-defined Functions – Definition of Functions – Return Values and their types – Function Calls – Function Declaration.

Unit – II

Category of Functions – No Arguments and no Return Values – Arguments but no Return Values – Arguments with Return Values – No Arguments but Return a Value – Functions that Return Multiple Values – Nesting of Functions – Recursion – Passing Arrays to Functions – Passing Strings to Functions – The Scope, Visibility and Lifetime of Variables – Multifile Programs

Unit – III

Structures and Unions: Introduction – Defining a Structure – Declaring Structure Variables – Assessing Structure Members – Structure Initialization – Copying and Comparing Structure Variables – Operations on Individual Members – Arrays of Structures – Arrays within Structures – Structures within Structures – Structures and Functions – Unions – Size of Structures – Bit Fields

Unit – IV

Pointers: Introduction – Understanding Pointers – Accessing the Address of a Variable Declaring Pointer Variables – Initialization of Pointer Variables – Accessing a Variable through its Pointer – Chain of Pointers – Pointer Expressions – Pointer Increments and Scale Factor – Pointers and Arrays – Pointers and Character Strings – Array of Pointers Pointers as Function Arguments – Functions Returning Pointers – Pointers to Functions – Pointers and Structures.

Unit – V

File Management in C: Introduction – Defining and Opening a File – Closing A File – Input / Output Operations on Files – Error Handling During I/O Operations – Random Access to Files – Command Line Arguments

The Preprocessor: Introduction – Macro Substitution – File Inclusion – Compiler Control Directives – ANSI Additions

Text Book:

1. E. Balagurusamy (2011), “Computing Fundamentals & C Programming”, Tata McGraw Hill Publishing Company, New Delhi, Fourth Edition
2. E. Balagurusamy (2013), “Programming in ANSI C”, Tata McGraw Hill Publishing Company, New Delhi, Fourth Edition.

Text Book 1:

Unit I – Chapter 10, 11(11.1 to 11.8)

Pages: 315-336, 346-357

Unit II– Chapter 11(11.9 to 11.20)

Pages: 357-389

Unit III – Chapter 12

Pages: 399-421

Unit IV –Chapter 13

Pages: 431-457

Unit V –Chapter 14

Pages : 467-484

Text Book 2:

Unit V – Chapter 14

Pages : 444-455

EXCEPTION – Programs, Supplementary information and notes included in boxes, case study, and note

Reference Book:

1. T.Prabhu(2010), “C Programming Made Easy”, Kanthimathi Publications, Chennai.
2. Anita Goel(2013),“Computer Fundamentals and Programming In C”, Pearson Education.

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B.Sc. COMPUTER SCIENCE
SEMESTER II
PART III – ALLIED COURSE
14UCS2A- COMPUTER ORGANIZATION
(For those admitted in June 2014 and later)

Contact hours per week : 05

Total number of hours per semester : 75

Number of Credits : 5

Objectives:

To enable the students to

1. familiarize with the structure & behavior of central processing unit of a computer.
2. master the concepts of hardware implementation of arithmetic operations.
3. learn about the computer peripherals concerned with I/O and memory organization.
4. acquire knowledge of the interconnections between multiprocessors.

Unit - I

Digital logic Circuits: Digital Computers. **Data Representation:** Complements – Fixed-Point Representation – Floating-point Representation. **Register transfer & Microoperations:** Register Transfer Language – Register Transfer – Bus and Memory Transfers– Arithmetic Microoperations – Logic Microoperations - Shift Microoperations.

Unit – II

Central Processing Unit: Introduction – General Register Organization - Stack Organization (Register Stack, Memory Stack, Reverse Polish Notation, Evaluation of Arithmetic Expressions) – Instruction Formats (Three-Address Instructions, Two-Address Instructions, One-Address Instructions, zero-Address Instructions, RISC Instructions) – Addressing Modes (Numerical Example) – Data Transfer and Manipulation (Data Transfer Instructions, Data Manipulation Instructions, Arithmetic Instructions, Logical and Bit Manipulation Instructions, Shift Instructions).

Unit – III

Computer Arithmetic: Introduction – Addition and Subtraction(Addition and Subtraction with Signed-Magnitude Data, Hardware Implementation, Hardware Algorithm, Addition and subtraction with Signed 2's complement Data) – Multiplication Algorithms(Hardware Implementation for Signed-Magnitude Data, Hardware Algorithm, Booth Multiplication Algorithm, Array Multiplier) – Division Algorithms(Hardware Implementation for Signed Magnitude Data, Divide overflow, Hardware Algorithm, Other Algorithms).

Unit – IV

Input – Output Organization: Peripheral Devices (ASCII Alphanumerical Characters)– Input-Output Interface (I/O Bus and Interface Modules, I/O versus Memory Bus, Isolated versus Memory Mapped I/O, Example of I/O Interface). **Pipeline Processing:** Parallel Processing – Pipelining (General Considerations) – Arithmetic Pipeline – Instruction Pipeline (Example: Four Segment Instruction Pipeline, Data Dependency, Handling of Branch Instructions).

Unit – V

Memory Organization: Memory Hierarchy – Main Memory (RAM and ROM chips, Memory Address Map, Memory connection to CPU) – Associative Memory (Hardware Organization, Match Logic, Read Operation, Write operation) – Cache Memory (Associative Mapping, Direct Mapping, Set Associative Mapping, Writing into Cache, Cache Initialization). **Multiprocessors:** Characteristics of Multiprocessors – Interconnection Structures (Time Shared Common Bus, Multiport Memory, Crossbar Switch, Multistage Switching Network, Hypercube Interconnection).

Text Book:

M.Morris Mano (2013), “Computer System Architecture”, Pearson Education, Third Edition, Twelfth Impression.

Unit I : Chapters: 1(1.1), 3(3.2 to 3.4), 4(4.1 to 4.6) Pages : 1-4, 74 – 84, 93 - 116

Unit II : Chapter : 8(8.1 to 8.6) Pages : 243 – 274

Unit III : Chapter : 10(10.1 to 10.4) Pages : 335 - 356

Unit IV : Chapters : 11(11.1, 11.2), 9(9.1 to 9.4) Pages : 383 – 393, 301 - 317

Unit V : Chapters : 12(12.1, 12.2, 12.4, 12.5), 13 (13.1,13.2) Pages : 447 – 454, 458 – 471, 491 – 502

Reference:

Carl Hamacher(2002), “Computer Organization”, Mc Graw Hill International, Fifth Edition.

THE STANDARD FIREWORKS RAJARATNAM COLLEGE FOR WOMEN, SIVAKASI
DEPARTMENT OF COMPUTER SCIENCE
B.Sc. COMPUTER SCIENCE
SEMESTER II
PART III – CORE COURSE –MAJOR
14UCS2L – ADVANCED C PROGRAMMING LAB
(For those admitted in June 2014 and later)

Contact hours per week : 05

Total number of hours per semester : 75

Number of Credits : 3

Objectives :

To enable the students to,

1. develop programs involving arrays and structures
2. be familiar with functions.
3. construct programs using pointers
4. know about simple file handling programs.

C Programs (12 programs):

- Program using two dimensional arrays
- Program using Strings and String Functions
- Program using Functions
- Program using Structures and Union
- Program using Pointers
- Program using Files
- Program using Preprocessor

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DEPARTMENT OF COMPUTER SCIENCE
B.Sc. COMPUTER SCIENCE
SEMESTER III
PART III – CORE COURSE - MAJOR
14UCS31 - OBJECT ORIENTED PROGRAMMING IN C++

(For those admitted in June 2014 and later)

Contact hours per week : 04

Total number of hours per semester: 60

Number of Credits : 4

Objectives:

To enable the students to

1. know the concepts of OOPS
2. learn the advanced concepts of C++
3. be familiar with stream classes.
4. be familiar with working with files.

Unit – I

Principles of Object Oriented Programming(OOP): Software Evolution – A Look at Procedure Oriented Programming - OOP Paradigm – Basic concepts of OOP – Benefits of OOP - Object Oriented Languages -Applications of OOP.

Tokens, Expressions and control Structures: Introduction - Tokens- keywords - Identifiers and Constants - Basic Data Types – User defined Data Types - Derived Data Types – Type Compatibility - Declaration of Variables- Dynamic initialization of variables- Reference variables - Operators in C++ - Scope Resolution Operator - Memory Management Operators – Manipulators – Type Cast Operator -Expressions and their types - Control Structures.

Unit – II

Functions in C++: The main function - Function Prototyping - Call by reference - Return by reference – Inline Functions, Default arguments, Function overloading - Friend and virtual functions.

Classes and Objects: C Structures Revisited - Specifying a Class - Defining Member Functions - Nesting of Member Function - Static Data Members - Static Member Functions - Arrays of Objects – Objects as Function Arguments - Friendly Functions – Returning Objects - Local Classes.

Unit – III

Constructors and Destructors: Introduction - Constructors- Parameterized Constructors - Multiple Constructors in a class – Copy Constructor, Dynamic Constructors – Destructors.

Operator Overloading and Type Conversions: Defining Operator Overloading - Overloading Unary Operators, Overloading Binary Operators - Overloading Binary Operators Using Friends – Manipulation of Strings Using Operators - Rules for Overloading Operators - Type Conversions.

Unit – IV

Inheritance- Extending classes: Introduction – Defining Derived Classes - Single Inheritance - Multilevel Inheritance - Multiple Inheritance (Ambiguity resolution

in inheritance) - Hierarchical Inheritance - Hybrid Inheritance, Constructors in Derived Classes. **Pointers, Virtual Functions and Polymorphism:** Pointers to Objects - thisPointer - Pointers to Derived Classes - Virtual functions - Pure Virtual Functions.

Unit – V

Managing Console I/O operations: C++ Streams - C++ Stream Classes - Unformatted I/O Operations (Overloaded operators >> and <<, put() and get() functions, getline() and write() functions) - Managing Output with Manipulators.

Working with files: Classes for file stream operations - opening and closing a file (Opening files using constructor, Opening files using open())– Detecting end of file.

Text Book:

E.Balagurusamy (2013), “Object Oriented Programming with C++, 6e”,
Tata McGrawHill Publishing Company Limited, New Delhi, Sixth edition

Unit – I: Chapters: 1(1.2 to 1.8), 3(3.1 to 3.6, 3.8, 3.10 to 3.15, 3.17 to 3.20, 3.25)

Pages: 3-13, 29-36, 37-38, 39-45, 46-55, 58-62.

Unit – II: Chapters: 4(4.2 to 4.7, 4.10, 4.11), 5(5.2- 5.4, 5.7, 5.11-5.16, 5.19)

Pages: 70-77, 79-82, 88-95, 97-99,104-120,122.

Unit – III: Chapters: 6(6.1 to 6.4, 6.7, 6.8, 6.11), 7(7.2 to 7.6, 7.8, 7.9)

Pages: 129-136,139-142,144-147,153-164,166-174.

Unit – IV: Chapters: 8(8.1 to 8.3, 8.5 to 8.8, 8.11), 9 (9.3 to 9.7)

Pages: 179-187,190-202,207-213,234-249.

Unit – V: Chapters: 10(10.2 to 10.4, 10.6), 11(11.2 to 11.4)

Pages: 257 to 266, 277-281,287-296

Reference Book :

D.Ravichandran (2002), “Programming With C++”, Tata McGrawHill Publishing Company Limited, New Delhi.

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DEPARTMENT OF COMPUTER SCIENCE
B.Sc. COMPUTER SCIENCE
SEMESTER III
PART III- CORE COURSE - MAJOR
14UCS32 - DATA STRUCTURES
(For those admitted in June 2014 and later)

Contact hours per week	: 03
Total number of hours per semester	: 45
Number of credits	: 03

Objectives:

To enable the students to

1. understand the basic concepts of Data Structure
2. be aware of various algorithms used for solving problems.
3. train the students to apply the various algorithms to new situation.
4. understand the concepts of Trees and Graphs.

Unit – I

Introduction to Data Structure And Algorithms: Data Structure – Classification of Data Structure – Data Structure Operations – Data Structure Descriptions –What is an Algorithms? –Characteristics/Properties of Algorithm–Pseudo code–Algorithm Design Strategies–Time and Space Complexity–Asymptotic Analysis – Analysis of Algorithms.

Recurrences: What is Recursion? –Types of Recursion–Advantages of Recursion–Disadvantages of Recursion

Unit – II

Arrays and Strings: Introduction to Array–Initialize One-dimensional Array–Representation of One-dimensional Array–Memory Allocation in C–Traversing One-dimensional Array–Insertion in One-dimensional Array–Deletion from One-dimensional Array.

Searching and Sorting: Introduction to Searching–Linear Search–Binary Search–Hashing– Introduction to Sorting – Merge sort – Quick sort –Bubble sort – Selection sort –Heap sort.

Unit – III

Linked List: What is a Linked List? –Representation of Linked List in Memory–Operations on Singly Linked List – Operations on Circular Singly Linked List – Operations on Doubly Linked List.

Stack and Queues: Stack – Representation of Stack–Applications of Stack – Evaluation of Postfix Expression – Conversion of Infix into Postfix Expression – Conversion of Infix into Prefix Expression.

Unit – IV

Stack and Queues: Queue–Representation of Queue–Circular Queue – Deque(Doubly Ended Queue) – Priority Queue.

Trees: Tree – Binary Tree –Binary Search Tree – AVL(Adelson-velskii and Landis) Tree –B-Tree or M-Way Tree or Multi-way Tree.

Unit – V

Graphs: Graph –Representation of Graph–Traversing in Graph–Topological Sorting–Connected Components–Strongly Connected Components–Minimum Spanning Tree–Shortest Paths(Single source shortest path, Bellman Ford Algorithm, Dijkstra Algorithm)

Text Book:

AshishTayal(2010), “Data Structures Using ‘C’ Programming “, Global Vision Publishing House, New Delhi.

Unit – I: Chapters: 1(1.0 to 1.10), 2(2.0 to 2.3)

Pages: 1-24, 35-37, 41-43.

Unit – II: Chapters: 3(3.0-3.6), 4(4.0-4.9)

Pages: 57-73,118-124, 126-138, 141-147, 150-152, 154-155, 157-166.

Unit – III: Chapters: 5(5.0-5.4), 6(6.0-6.5)

Pages: 187-193, 196-237, 248-252, 314-317, 323-335.

Unit – IV: Chapters: 6(6.6-6.10), 7(7.0-7.4)

Pages: 335-347, 351-352, 357-359,390-412, 419-427, 433-447.

Unit – V: Chapters: 8(8.0-8.7.2)

Pages: 482-486, 498-503, 509-524, 529-534.

Reference :

Tenenbaum(Aaron.M), Langsam(Yedidyah) (2011), “Data Structures And Using C”, Pearson Education.

THE STANDARD FIREWORKS RAJARATNAM COLLEGE FOR WOMEN, SIVAKASI
DEPARTMENT OF COMPUTER SCIENCE
B.Sc. COMPUTER SCIENCE
SEMESTER III
PART III – ALLIED COURSE
14UCS3A– RDBMS AND ORACLE
(For those admitted in June 2014 and later)

Contact hours per week : 03
Total number of hours per semester: 45
Number of Credits : 3

Objectives:

To enable the students to

1. inculcate the basics of database systems.
2. practice the fundamentals operations of a database system.
3. develop a Database with enhanced models and Techniques
4. gain knowledge about the DML, DDL operations and
5. master the different query constructs and utilize the features of Oracle.

Unit I:

Introduction to Databases: Introduction – Database Approach: The Database, the Database Management System, Database Application Programs, Roles in the Database Environment.

Database Environment: Three-Level, ANSI-SPARC Architecture – Database Languages: The Data Definition Language, the Data Manipulation Language – Data Models and Conceptual Modeling – Functions of the DBMS.

Unit II:

The Relational Model: Brief History of the relational model – Terminology: Relational Data Structure - Relational Keys.

Relational Algebra and Relational Calculus: The Relational Algebra: Unary Operations, Set Operations, Join Operations, Division Operations, Aggregation and Grouping Operations.

Entity-Relationship Modeling: Entity Types – Relationship Types: Degree of Relationship types, Attributes – Structural Constraints: One-to-One Relationships, One-to-many Relationships, Many-to-many Relationships.

Unit III:

Normalization: The purpose of Normalization – Functional Dependencies: Characteristics of Functional Dependencies, Identifying Functional Dependencies, Identifying the primary key for a relation using Functional Dependencies – The process of Normalization – First Normal Form – Second Normal Form – Third Normal Form.

Advanced Normalization: Boyce-Codd Normal Form – Fourth Normal Form: Multivalued Dependency, Definition of Fourth Normal Form – Fifth Normal Form: Lossless-Join Dependency, Definition of Fifth Normal Form.

Unit IV:

Oracle Tables: Data Definition Language: Creating an Oracle Table – Storage Class in Create Table – Displaying Table Information: Viewing users table names – viewing a table structure – Altering an Existing Table – Truncating a Table.

Working with Tables Data Management and Retrieval: Adding a new Row/Record – Updating an existing Row/Record – Retrieving Data from Table – Arithmetic Operations – Restricting data with the WHERE Clause.

Working with Tables Functions and Grouping: Built-in Functions – Grouping Data.

Unit V:

PL/SQL: A Programming Language: Fundamentals of PL/SQL – PL/SQL Block Structure – Data types

More on PL/SQL Control Structures and Embedded SQL: Control Structures

PL/SQL Cursors and Exception: Cursors – Explicit Cursor Attributes.

PL/SQL Named Blocks: Procedures – Packages – Triggers.

Text Book :

1. Thomas Connolly, Carolyn Begg (2013), “Database Systems A Practical Approach to Design, Implementation and Mangement”, Fourth Edition, Pearson Education Limited.
2. Nilesh Shah (2013), “Database Systems Using Oracle A simplified guide to SQL and PL/SQL”, Second Edition, Prentice Hall

Unit I :Chapters: 1(1.1,1.3 (1.3.1 to 1.3.3), 1.4), 2(2.1, 2.2(2.2.1, 2.2.2), 2.3, 2.4)
Pages: 3-7, 4-18, 21-24, 33-42, 43-52

Unit II : Chapters: 3(3.1,3.2(3.2.1,3.2.5), 4.1(4.1.1 to 4.1.5), 11(11.1,11.2(11.2.1), 11.3,11.6(11.6.1 to 11.6.3))
Pages: 69-74, 78-79, 88-101, 342-349,350-354, 356-361.

Unit III : Chapters: 13(13.1, 13.4 to 13.8), 14(14.2, 14.4, 14.5)
Pages: 387-388, 392-411, 419-422, 428-434

Unit IV : Chapters: 4 (Pg.No. 76-80, 82-90), 5(Pg.No. 97-114, 97-120),
6(Pg.No. 132-141, 149-155, 132-141, 141-155)

Unit V : Chapters: 10 (Pg.No. 227-233), 11(Pg.No. 245-259), 12 (Pg.No. 267-274),
14(312-337)

EXCEPTION – Examples

Reference Book:

1. Alexis Leon, Mathews Leon (2002) “Data Base Management Systems”, Leon Vikas Publishing, Chennai
2. Pankaj Agarwal(2009), “Relational Database Management Systems”, First Edition, VAYU Education of India, New Delhi.
3. Deshpande(P.S.)(2007), “SQL And PL/SQL FOR ORACLE 10G”, Dreamtech Press.

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DEPARTMENT OF COMPUTER SCIENCE
B.Sc. COMPUTER SCIENCE
SEMESTER III
PART III – CORE COURSE - MAJOR
14UCS3L - PROGRAMMING IN C++ LAB
(For those admitted in June 2014 and later)

Contact hours per week : 03

Total number of hours per semester : 45

Number of Credits : 2

Objectives:

To enable the students to

1. improve the skill of writing programs in C++
2. utilize various features in C++ for various situations
3. know the fundamental concepts of OOPs
4. learn the advanced concepts of C++.

Practical List:-

1. Swap two values using call by value & call by reference method.
2. Find the largest of 3 numbers using INLINE function.
3. Find m power n values using default arguments.
4. Program to implement (i) function overloading (ii) friend function
5. Program using member function to create an array, add two arrays, multiply the arrays by a scalar and display the result.
6. Program using static member functions.
7. Program using constructors and destructors.
8. Program to implement operator overloading.
9. Programs to implement
 - (i) single inheritance (ii) multilevel inheritance (iii) multiple inheritance
 - (iv) hierarchical inheritance
10. Program using Polymorphism and Virtual functions.
11. Program using pointers.
12. Program to read a text file from the keyboard and display the following information on the screen : Number of lines, Number of words, Number of characters.

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DEPARTMENT OF COMPUTER SCIENCE
B.Sc. COMPUTER SCIENCE
SEMESTER III
PART III – ALLIEDCOURSE
14UCS3AL - RDBMS LAB

(For those admitted in June 2014 and later)

Contact hours per week : 03

Total number of hours per semester : 45

Number of Credits : 2

Objectives:

To enable the students to,

1. master the different query constructs and utilize the features of Oracle
2. acquire skills in SQL statements with various constructs
3. acquire skills in PL/SQL Programming
4. practice with stored Objects

List of Exercises (Any 10)

1. Creating, modifying and dropping Tables.
2. Inserting, modifying and deleting rows.
3. Retrieving rows with Character functions.
4. Retrieving rows with Number and Date functions.
5. Retrieving rows with Group functions and HAVING.
6. Retrieving rows with Sub Queries.
7. PL/SQL programs with control structures.
8. PL/SQL programs with Cursors.
9. PL/SQL programs with Exception Handling.
10. Creating and Calling Procedures.
11. Creating and Calling Functions.
12. Creating and Calling Packages.

THE STANDARD FIREWORKS RAJARATNAM COLLEGE FOR WOMEN, SIVAKASI
DEPARTMENT OF COMPUTER SCIENCE
B.Sc. COMPUTER SCIENCE
SEMESTER IV
PART III – CORE COURSE - MAJOR
14UCS41– VISUAL PROGRAMMING
(For those admitted in June 2014 and later)

Contact hours per week : 04
Total number of hours per semester : 60
No of Credits : 4

Objectives:

To enable the students to

1. get familiar with GUI programming
2. create applications using VB
3. utilize various features in VB to various situations
4. understand database programming

Unit – I

Getting Started with Visual Basic: The Integrated Development Environment – The Menu Bar – The Toolbars – Creating a new Tool Bar – The project explorer –The Toolbox– The properties Window – The Form Designer – The Form Layout – The Immediate Window – Renaming and saving the Project – The Elements of the User Interface – Designing the User Interface – Aligning the Controls – Running the Application – Programming an Application.

Unit – II

Visual Basic: The Language: Variables - Declaring Variables, Types of Variables- Converting Variable Types-User-Defined Data Types-Special Values-Examining Variable Types- Variable Declarations – Variable Scope – Constants. Arrays – Declaring array- Specifying Limits – Multi dimensional Arrays. Control Flow Statements- Loop Statements- Nested Control Structures- Exit Statement

Unit – III

Working with Forms: The appearance of forms – The Start-up Form- Loading, Showing, and Hiding Forms. Designing Menus- The Menu Editor- Programming Menu Commands – Using Access and Shortcut Keys – Manipulating Menus at Runtime.

Basic ActiveX Controls: The TextBox Control – Basic Properties – Manipulating the Controls Text – Text Selection. The ListBox and ComboBox Controls - Basic Properties- The ListBox Controls Methods – The ComboBox Control. The File Controls.

Unit – IV

Advance ActiveX Controls: The Common Dialog Control – Using the Common Dialog Control – The Common Properties – The Color Common Dialog Box - The Font Common Dialog Box.

More Advance ActiveX Controls: The Rich TextBox Control – Text Manipulation Properties – The RichTextBox Controls Methods – Text Formatting Properties.

Unit – V

Database Programming with Visual Basic: Understanding Database and Database Management Systems- RecordSets – The DataControl – The Data Control’s Properties – The Data Control’s Methods. Using the Visual Data Manager. Entering Data. Accessing Fields in Recordset.

Text Books:

1. Evangelus Petroustos(Reprint 2013) , “Mastering Visual Basic 6 “, Wiley Publications, New Delhi.

Unit I : Chapters: **1** (Pg: 3– 33)

Unit II : Chapters: **3** (Pg: 99-134, 163-175)

Unit III : Chapters: **4** (Pg: 177-183, 194-206)

Chapter **5** (Pg: 227-234, 244-235, 262-263, 277-281)

Unit IV : Chapters: **8** (Pg: 383-394) Chapter: 9 (Pg: 464 – 465, 470-472, 476-480)

Unit V : Chapters: **17** (Pg: 896- 908, 913-917, 921-.923, 927-930)

Reference Books:

1. Gary Cornell (2012), “Visual Basic 6 From The Ground Up”, Tata McGraw Hill Publishing Company, New Delhi.

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DEPARTMENT OF COMPUTER SCIENCE
B.Sc. COMPUTER SCIENCE
SEMESTER IV
PART - III – ALLIED COURSE
14UCS4A - DYNAMIC HTML

(For those admitted in June 2014 and later)

Contact hours per week : 03

Total number of hours per semester : 45

Number of Credits : 3

Objectives:

To enable the students to

1. learn about the basics of HTML language.
2. understand the elements of VBScript
3. study about functions and objects in JavaScript
4. get introduced with the concepts of Forms

Unit – I

Internet Basics: Basic Concepts – Communicating on the Internet – Internet Domains – Internet Server Identities - Establishing Connectivity on the Internet – Client IP Address – How IP Addressing Came into Existence? – A Brief Overview of TCP/IP and its Services – Transmission Control Protocol.

Introduction to HTML: Information Files Creation – Web Server – Web Client/Browser – HTML – Commonly used HTML Commands.

Unit – II

Lists: Types of Lists – **Adding graphics to HTML Documents:** Using the border Attribute – Using the width and Height Attribute – Using the Align Attribute – Using the ALT Attribute – **Tables:** Introduction – Using the width and Border attribute - Using the Cellpadding Attribute – Using the Cellspacing Attribute – Using the Background color Property – Using the Colspan and Rowspan Attributes.

Unit - III

Linking Documents: Links: External Document References – Internal Document References – Hyperlinking to a HTML File – Linking to a Particular Location in a Separate Document – Images as Hyperlinks.

Frames: Introduction to Frames: The Frameset tags – The Frame tag.

Introduction to JavaScript: JavaScript in Webpages: Database Connectivity – Client-side JavaScript – Capturing User Input – JavaScript: The Advantages of JavaScript – Writing JavaScript into HTML – Basic Programming Techniques: Datatypes and Literal – Type Casting – Creating variables – Incorporating Variables in a Script – The JavaScript Array – Dense Arrays – The Elements of an Array – The JavaScript Array and its Length Property.

Unit – IV

Introduction to JavaScript: Operators and Expressions in JavaScript – JavaScript Programming Constructs – Conditional Checking – Super Controlled Endless Loops – Functions in JavaScript – User Defined Functions: Declaring Functions, Place of Declaration, Passing Parameters, Variable Scope, Return Values, Recursive Functions –

Placing text in a Browser – Dialog Boxes: The Alert Dialog Box – The Prompt Dialog Box – The Confirm Dialog Box.

Unit – V

Working with Forms: Introducing HTML Form Tags and Elements – The Main FORM Tag – Form Elements: Text Box, Text Area, Password, Radio Button, Check Box, The Combo Box or Drop Down List Box, Hidden Field, Image, SUBMIT and RESET Buttons – Adding Elements to a Form: Adding a Text Box, Adding a Text Area, Adding a Password Field, Adding a Radio Buttons, Adding a Select Box, Adding a Check Boxes, Adding a SUBMIT and CANCEL Buttons, Adding a Hidden Field, Converting clientMaster.html to clientMaster.php, Running clientMaster.php at the Web server, Preventing forms being automatically Selecting the Contents of Text Boxes – Uploading Files to the Web Server Using PHP.

Text Book:

Ivan BayRoss (2011), “Web Enabled Commercial Application Development Using HTML, JavaScript, DHTML and PHP”, BPB Publications. IVth Revised Edition.

Unit I	- Chapter 1,2	Pages: 1-11,12-32
Unit II	- Chapter 3,4,5	Pages:33-37,38-46,47-57.
Unit III	- Chapter 6,7,8	Pages: 58-73, 74-85, 124-133.
Unit IV	- Chapter 8,12	Pages: 133-149,213-227..
Unit V	- Chapter 19	Pages : 410-449.

Reference Book:

1. Holzner (Steven) (P.D.) (2009), “HTML Black Book”, Dreamtech Press.

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DEPARTMENT OF COMPUTER SCIENCE
B.Sc. COMPUTER SCIENCE
SEMESTER IV
PART III – CORE COURSE - MAJOR
14UCS4L - VISUAL PROGRAMMING LAB
(For those admitted in June 2014 and later)

Contact hours per week : 04

Total number of hours per semester: 60

Number of Credits : 2

Objectives:

To enable the students to

1. get familiar with GUI
2. create applications using VB
3. utilize various features in VB to various situations
4. create database applications

List of experiments: (Any 12)

1. Simple Arithmetic Operations Using Text, Command Boxes
2. Number Checking using Option Button
3. Manipulation Of Numbers using Option Button
4. Manipulation Of String
5. Building A Color Panel For Red, Green, Blue Using Scroll Bars
6. Linear Search In List/Combo Box
7. Animation Of Picture Using Timer Control
8. Design A Black Board
9. Clip Board Application
10. Design an Font Dialogue box
11. Design A Text Editor
12. Loading a File Using File, Directory And Drive List Boxes
13. Design A Screen Saver
14. Functions Of Common Dialog Boxes
15. Picture Puzzle
16. Design an VB application Using Data Control
17. Design an VB application Using DAO

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DEPARTMENT OF COMPUTER SCIENCE
B.Sc. COMPUTER SCIENCE
SEMESTER IV
PART III – ALLIED COURSE
14UCS4AL - HTML LAB

(For those admitted in June 2014 and later)

Contact hours per week : 3

Total number of hours per semester : 45

Number of Credits : 2

Objectives:

To enable the students to

1. be familiar with Basics of HTML
2. be familiar with Frames, Animations and Tables in HTML
3. acquire knowledge in the JavaScript language
4. be familiar with the forms of HTML

Lab Exercises:

Design HTML Web pages using

1. Text formatting Tags.
2. Lists and paragraph Tags.
3. Table Tags.
4. Form Tags.
5. Image, audio & video
6. Frames
7. Hyper linking.
8. Changing Background color(using JavaScript)
9. Rollover (using JavaScript)
10. Password Checking(using JavaScript)

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DEPARTMENT OF COMPUTER SCIENCE
B.Sc. COMPUTER SCIENCE
SEMESTER V
PART III – CORE COURSE - MAJOR
14UCS51–ASP.NET

(For those admitted in June 2014 and later)

Contact hours per week : 05

Total number of hours per semester : 75

Number of Credits : 5

Objectives:

To enable the students to

1. identify the major features of the .NET platform
2. learn and use key features of WebForm Control
3. learn and use the ADO.NET Object Model
4. learn and use key features of Database Controls

Unit – I

Getting started with .NET Framework 4.5: Evolution of .NET – Architecture of .NET framework - Components of .NET framework 3.5 - **Introducing Visual studio 2012:** Exploring New features of Visual studio 2008 – Exploring the Visual studio 2012 Ultimate IDE. **ASP.NET 4.5 Essentials:** Describing the ASP.NET Life Cycle – Creating a sample ASP.NET 4.5 Web Application – Creating a Sample ASP.NET 4.5 Web Site.

Unit –II

Developing a Web Application: Exploring ASP.NET 4.5 Web Pages – Code Render Blocks – ASP.NET 4.5 Coding Models – Understanding ASP.NET 4.5 Page Directives

(Page, Control & Imports) -Working with Server Controls-Implementing Code Sharing.

Application Structure and State: Structure of an application – The Global.asax Application File – Using States – HTTP handlers – Generic Handlers - Post back and Cross-Page Posting

Unit-III

Web Forms: Standard Controls:The WebControl class-Label, Button, TextBox Controls, FileUpload Control, Image Controls, ListBox, DropDownList, BulletedList Controls -Hyperlink, LinkButton Controls, CheckBox, RadioButton Controls, Table and Wizard controls.

Unit-IV

Validation Controls :The BaseValidator class – The RequiredValidator Control – The RangeValidator Control – The RegularExpressionValidator Control – The CompareValidator Control.

Data Access with ADO.NET: Understanding Database - Understanding SQL – Understanding ADO.NET – Creating Connection Strings – Creating a connection to a database – Creating a Command Object – Working with DataAdapters - Using DataReader to work with databases.

Unit-V

Working with Database Controls: The SqlDataSourceControl – The AccessDataSource Control-The GridView Control – The DataList Control – The FormView Control – The ListView Control – The Repeater Control – The DataPager Control.

TextBook:

Kogent Learning Solutions Inc(2013), “.NET 4.5 Programming Black Book”, Dreamtech Press, New Delhi, Edition 2013

Unit – I: Chap 1(pg. 2-9, 11-12), **Chap 2** (pg. 28, 54-72), **Chap 18** (pg. 730-743)

Unit – II : Chap 19(pg. 754-760,762-764,765-766), **Chap 20**(pg.772-788)

Unit – III : Chap 21(pg. 794-807, 813 -817, 822-851)

Unit – IV: Chap 23 (pg. 891- 901), **chap 12**(498-502, 508-540)

Unit – V : Chap 25(pg. 946-960, 982-1017)

Reference Books:

1. Kogent Solutions Inc(2009), “ASP.NET 3.5 in simple steps”, Dreamtech Press, New Delhi.
2. Kogent Learning Solutions Inc(2010), “.NET 3.5 Programming Black Book”, Dreamtech Press, New Delhi.

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B.Sc. COMPUTER SCIENCE
SEMESTER V
PART III – CORE COURSE - MAJOR
14UCS5L1 - PROGRAMMING IN JAVA LAB
(For those admitted in June 2014 and later)

Contact hours per week : 05

Total number of hours per semester : 75

Number of Credits : 4

Objectives:

To enable the students to

1. write programs for scientific and general applications
2. integrate object oriented programming features in their programs
3. develop programs using multithreading
4. create Applets for animations and displays

Programs using (any 10)

1. Flow control Statements
2. Arrays
3. Recursive methods
4. Strings
5. Classes
6. Method overloading
7. Constructors
8. Inheritance
9. Interfaces
10. Multithreading
11. Errors and Exceptions
12. Graphics
13. Applets

THE STANDARD FIREWORKS RAJARATNAM COLLEGE FOR WOMEN, SIVAKASI
DEPARTMENT OF COMPUTER SCIENCE
B.Sc. COMPUTER SCIENCE
SEMESTER V
PART III – CORE COURSE - MAJOR
14UCS5L2 – ASP.NET LAB
(For those admitted in June 2014 and later)

Contact hours per week : 05

Total number of hours per semester : 75

Number of Credits : 4

Objectives:

To enable the students to

1. learn and use key features of Web Forms
2. learn and use the ADO.NET object model
3. learn and use key features of ASP.NET

Lab Exercises

Design ASP.NET applications using

- Web Forms Controls
- Image and PictureBox Controls
- File Upload Control
- Hyperlink and LinkButton Controls
- Table and Wizard Controls
- TreeView Control
- Menu Control

Develop applications to use ADO.NET Frame Work for Databases

Design ASP.NET applications using

- Validation Controls

Develop web applications to display records using Data Grid view.

Develop web applications to add, edit and modify records using Data Grid view

THE STANDARD FIREWORKS RAJARATNAM COLLEGE FOR WOMEN, SIVAKASI
DEPARTMENT OF COMPUTER SCIENCE
B.Sc. COMPUTER SCIENCE
SEMESTER VI
PART III – CORE COURSE - MAJOR
14UCS61 - COMPUTER GRAPHICS
(For those admitted in June 2014 and later)

Contact hours per week : 05

Total number of hours per semester : 75

Number of Credits : 5

Objectives:

To enable the students to

1. explain the basic concepts of two dimensional Computer Graphics
2. formulate the algorithms for two dimensional primitives
3. apply geometric transformations to two dimensional shapes
4. demonstrate the various clipping algorithms in graphics

Unit - I

A survey of Computer Graphics: - Computer Aided Design-Presentation Graphics-Computer Art-Entertainment-Education and training-visualization-Image processing-Graphical user interfaces.

Overview of Graphics Systems : - Video Display Devices- Refresh CRT - Raster -scan Displays - Random -scan Displays - Color CRT Monitors - DVST - Flat-Panel Displays - Three Dimensional Viewing Devices - Raster-scan and Random-scan Systems - Graphics monitors and workstations-Input devices-Hard copy devices-Graphics software

Unit - II

Output primitives: - Points and Lines-Line drawing algorithms-Loading the frame buffer-Line function-Circle Generating Algorithms-Ellipse generating algorithms-Pixel Addressing-Inside-outside tests-Boundary fill algorithm-Flood-fill algorithm--Fill-Area functions-Cell Array - Character generation .

Unit - III

Attributes Of Output primitives : - **Line attributes-Curve attributes - Color and Gray scale levels-Area-fill attributes:** Fill styles - Pattern fill -Character attributes-Bundled attributes-Inquiry functions-Antialiasing methods: Super sampling – Area Sampling – Pixel Phasing

Unit - IV

Two Dimensional Geometric transformations: - Basic transformations- Translation –Rotation-Scaling-Matrix representations and Homogeneous coordinates- Composite transformations: General Pivot point rotation – General fixed point scaling - Other Transformations: Reflection and shear

Unit - V

Two Dimensional Viewing: - The Viewing Pipeline-Viewing Coordinate Reference Frame-Window-to-view port Coordinate transformation- Two Dimensional Viewing functions –Clipping operations-Point clipping-Line Clipping:Cohen-Sutherland line clipping -Polygon Clipping-Curve clipping-Text clipping-Exterior clipping.

Text Book:

Donald Hearn And M.Pauline Baker (2011), “Computer Graphics C Version “, Pearson Education, Second Edition.

UNIT I : CHAPTERS: 1(1.1-1.8) (Pg. 22-54), 2(2.1-2.7) (Pg.55-99)

UNIT II : CHAPTER: 3(3.1-3.6,3.10-3.14)(Pg. 104-130,134-137,145-154)

UNIT III : CHAPTER: 4(4.1-4.8)(Pg. 164-196)

UNIT IV : CHAPTER: 5(5.1-5.4)(Pg. 204-224)

UNIT V : CHAPTER: 6(6.1-6.6, 6.7(Cohen-Sutherhand algorithm only), 6.8-6.11)
(Pg.237-250,257-265)

Reference Book:

William M.Newman and Robert F.Sproull (2013), “Principles of Interactive Computer Graphics ”, Tata Mc Graw - Hill International Edition, Second Edition.

THE STANDARD FIREWORKS RAJARATNAM COLLEGE FOR WOMEN, SIVAKASI
DEPARTMENT OF COMPUTER SCIENCE
B.Sc. COMPUTER SCIENCE
SEMESTER VI
PART III – CORE COURSE - MAJOR
14UCS62 - SOFTWARE ENGINEERING
(For those admitted in June 2014 and later)

Contact hours per week : 04

Total number of hours per semester : 60

Number of Credits : 4

Objectives:

To enable the students to

1. acquaint students with the basic concepts and major issues of Software Engineering.
2. describe the cost estimation techniques.
3. know about specification techniques.
4. practice various design techniques and design notations.
5. know various validation techniques and maintenance activities

Unit - I

Introduction to Software Engineering:

Introduction-Some definition - Some size factor –Total Effort Devoted to Software- Distribution of Effort- Project Size Categories: Trivial projects- Small projects- Medium size projects- Large projects-Very large projects-Extremely large Projects- Quality to productivity Factors.

Planning a Software Project: Defining the Problem - Developing a Solution Strategy, Planning the development process:The Phase Life Cycle Model- The Cost Model– The Prototype Life Cycle Model –Successive Versions.

Unit - II

Planning an Organization Structure: Project Structure – Programming Team Structure- Management By Objectives.

Software Cost Estimation:

Software Cost factors - Software Cost Estimation Techniques: Expert Judgment – Delphi cost Estimation - Work Breakdown Structures- Algorithmic Cost Models – Staffing level estimation - Estimating software maintenance costs.

Unit - III

Software Requirements Definition:

Introduction - The Software Requirements Specification –Desirable properties-Formal Specification Techniques:- Relational Notations-Recurrence relations-Algebraic axioms- State-Oriented Notations: Decision tables-Event tables-Transition tables-Finite state mechanisms.

Unit - IV

Software Design:

Fundamental Design Concepts - **Modules and modularizing Criteria:**Coupling and Cohesion - Design Notations - **Design Techniques:** Stepwise Refinement-Integrated Top Down Development – Jackson Structured Programming.

Unit - V

Verification and validation Techniques:

Quality Assurance - Walk through, Inspection - Static Analysis - Unit testing and debugging - System testing

Software maintenance:

Enhancing maintainability during development - Managerial Aspects of Software Maintenance.

Text Book:

Richard E. Fairley (Reprint 2013), “Software Engineering Concepts”,
Tata McGraw - Hill Publishing Company Ltd.,New Delhi.

Unit I : Chapters: **1** (1.1 to 1.3), (**Pg:** 1– 22), **2** (2.1,2.2,2.3(2.3.1,2.3.3 to 2.3.5)),
(**Pg:** 30-41, 47-53)

Unit II : Chapters: **2**(2.4) (**Pg:**53-60) , **3**(3.1 to 3.4), (**Pg:** 64-84)

Unit III : Chapters: **4**(4.1 to 4.2), (**Pg:**88-101, 103-108)

Unit IV :Chapters:**5**(5.1,5.2(5.2.1),5.3,5.4(5.4.1,5.4.4,5.4.5)), (**Pg:** 137 – 151, 152-166,
172- 179)

Unit V : Chapters: **8**(8.1 to 8.3,8.5,8.6), (**Pg:** 269-279 , 283-290,293-297) ,
9(9.1,9.2).(P**g:** 313-320).

Reference:

Roger S. Pressman (2010),”Software Engineering-A Practitioner’s Approach”,
McGraw-Hill International Book Company, Seventh Edition

THE STANDARD FIREWORKS RAJARATNAM COLLEGE FOR WOMEN, SIVAKASI
DEPARTMENT OF COMPUTER SCIENCE
B.Sc. COMPUTER SCIENCE
SEMESTER VI
PART III – CORE COURSE - MAJOR
14UCS6L -COMPUTER GRAPHICS LAB
(For those admitted in June 2014 and later)

Contact hours per week : 05

Total number of hours per semester : 75

Number of Credits : 3

Objectives:

To enable the students to

1. use the graphics commands in C/C++
2. implement the Computer Graphics algorithms
3. develop programs with Graphical output
4. create animations and dynamic simulations

Lab exercises:

Programs to implement

- Line algorithms
- Circle generation algorithms
- Ellipse generation algorithms
- Transformation routines

Programs using

- line ,circle, ellipse, drawpoly, rectangle
- fill primitives
- text primitives

Programs to create

- charts
- animation

THE STANDARD FIREWORKS RAJARATNAM COLLEGE FOR WOMEN, SIVAKASI
DEPARTMENT OF COMPUTER SCIENCE
B.Sc. COMPUTER SCIENCE
SEMESTER VI
PART III – CORE COURSE – MAJOR
14UCS6P - PROJECT WORK
(For those admitted in June 2014 and later)

Contact hours per week : 6
Total number of hours per semester :90
Number of Credits : 4

Rules governing Project Report

1. During the sixth semester, the students have to undertake a group project by selecting a problem of their choice pertaining to the course. Each group shall contain a maximum of 2 students.
2. The four copies of the project report should be submitted on or before the last working day of the students.
3. The Project report shall carry a total of 100 marks.
4. The project report shall be evaluated separately by the guide and the external examiner. The Viva-voce examination shall be conducted jointly by the guide and external examiner.
5. For a pass in the project, each student should secure a minimum of 40% of marks.
6. If a student fails to get a minimum pass mark, he may be permitted to resubmit his project report once again within the period of six months after the publication of results.
7. If a student fails to submit the project report within the stipulated time the candidate can submit the same on the date announced by the Controller of Examinations on payment of fine prescribed by the Principal.

THE STANDARD FIREWORKS RAJARATNAM COLLEGE FOR WOMEN, SIVAKASI
DEPARTMENT OF COMPUTER SCIENCE
SEMESTER III
PART III – NON MAJOR ELECTIVE COURSE – I (OPEN OPTION)
14UCS3N/15UCS3N– COMPUTERS TODAY
Not Eligible for B.Sc(C.Sc.), B.Sc(IT), BCA
(For those admitted in June 2014/June 2015 and later)

Contact hours per week : 02
Total Number of Hours per semester : 30
Number of Credits : 02

Objectives:

To enable the students to

1. understand the basic concepts of Computer
2. know about Internet
3. know about E-Mail
4. gain knowledge about WINDOWS 7

Unit – I

Introduction to Computers – Block Diagram - Parts of Computers (Keyboard, Mouse, Monitor, Screen, System Unit, Speaker, Microphones) , Application of Computer – The Five Generation of Computers - Inside the System unit – Input Devices – Output Devices – Storage Devices.

Unit - II

Network: Need for Networking- Types of Networks (LAN, MAN, WAN) – Network hardware (Computer, NIC, Connector, Cables, Resources) – Peer-to-peer network – Client/Server networks – Network Structure (Ring Network, Star Network, Bus and Hybrid Network).

Unit - III

Internet: History of internet – Internet Addresses – Advantages of the internet – Equipment needed for internet – World Wide Web (Webpage, Websites, Web Browser) – Security on the web (Secure webpage, visit webpage) – Shopping on the web.

Unit – IV

Electronic Mail – Advantages of E-Mail – E-Mail Addresses (Part of E-mail, Address) – Creating Messages (Writing style, abbreviating shouting signature) – Sending a Messages (Compose offline, use the address book, bounced message, attach a message) – E-Mail Virus – E-Mail Features, Multimedia.

Unit – V

Window 7 :Window 7 Desktop Icon – Moving Desktop Icon – Windows Taskbar -Start Button – Start Menu –Maximize and Minimize window – Closing a window – Shutdown windows - Changing desktop background and Screensaver- Date and Time-Opening a Gadgets – Customize a Gadgets- Close a Gadgets - Creating a folder – Searching for files & folder –Deleting a folder - Printing a file.

Text Books:

Materials will be provided

Reference Books:

1. David Pogue (2010), “Windows 7 the Missing Manual”, O’Reilly, Media Inc, 1st Edition.
2. Basandra, “Computers Today”, updated edition 2010.

THE STANDARD FIREWORKS RAJARATNAM COLLEGE FOR WOMEN, SIVAKASI
DEPARTMENT OF COMPUTER SCIENCE
SEMESTER IV

PART III – NON MAJOR ELECTIVE COURSES – II (OPEN OPTION)

14UCS4N/15UCS4N – FLASH

Not Eligible for B.Sc(C.Sc.), B.Sc(IT), BCA

(For those admitted in June 2014/June 2015 and later)

Contact hours per week : 02

Total number of hours per semester : 30

Number of Credits : 2

Objectives:

To enable the students to

1. familiarize the students with the importance of flash
2. know about the concepts of frames
3. know about the symbols and text
4. study about animation technique
5. know about masking effects

Unit - I

Introduction To Flash : What is Flash? – Flash Files and Flash Player – Introducing The Flash Work Space – The Stage – Zoom – Timeline – The Tool bar – The Panels.

Flash Concepts : Creating a new Flash document – Layers – Inserting a Layer – Deleting a Layer – Modifying Layer Properties.

Unit – II

Concepts of Frames : Concepts of Frames – Frames and Key frames – Inserting Frames – Key Frames or Blank Frames – Deleting Frames – Deleting Key Frames – Saving a Flash Document – Testing the Flash Movie.

Working With Graphics: Understanding Vector and Bitmap Graphics – Basic Drawing Tools.

Unit – III

Working with Text: Static Text – Input Text – Dynamic Text – Selecting Text.

Symbols and Library: Introduction – Creating Symbols – Creating new Symbols - Creating Button.

Unit – IV

Animation

Using Frame by Frame Animation Techniques: Creating an animation using frame-by-frame technique – Creating an frame-by-frame animation using image. **Using Motion Tweening to Create Animation:** Moving Objects Using Motion Tweening – Moving an object along a defined path using Motion Guide

Unit - V

Using Shape Tweening to Create Animation:Creating a shape tween animation –
Creating an animation with Text Using Shape Tweening

Creating Masking Effects

Masking a text Using Motion Tweening - Masking a image using Shape Tweening

Movie Clip: Creating a Movie Clip

Text Book:-

Materials will be provided

Reference Books:-

1. Bonnie Blake, Doug Sahlin(Reprint 2005),“Macromedia Flash MX 2004 A Beginner’s Guide”, Dreamtech Press, New Delhi.
2. Shalini Gupta, Adity Gupta(2008), “Flash 8 in Simple Steps”, Dreamtech Press, New Delhi.

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DEPARTMENT OF COMPUTER SCIENCE
B.Sc. COMPUTER SCIENCE
SEMESTER V
PART III – CORE COURSE - ELECTIVE
14UCS5E1 - PROGRAMMING IN JAVA
(For those admitted in June 2014 and later)

Contact hours per week : 05
Total number of hours per semester : 75
Number of Credits : 5

Objectives:

To enable the students to

1. describe the associativity of java and internet
2. use decision making and looping constructs for application programs
3. develop their own application packages , interfaces and applets
4. explain the concept of Multithreading and create applets

Unit I

Java Evolution: Java history, Java features, How Java differs from C and C++ - Java and internet-Java and WWW –Web browsers-Java environment

Overview of Java Language : Simple Java Program –Java Program Structure – Java Tokens –Java Statements- Java Virtual Machine - Command line arguments.

Constants, Variables and Data types: Constants- Variables - Data types - Declaration of variables - Giving values to variables-scope of variables –Symbolic constants- type casting - getting values of variables-standard default values

Unit II

Operators and Expressions : Arithmetic Operators – Relational Operators – Logical Operators – Assignment Operators - Increment and Decrement Operators – conditional Operators – Bitwise Operators - special operators – Arithmetic expressions - Evaluation of expressions – Precedence of Arithmetic operators – Type Conversions in Expressions – Operator Precedence and Associativity – Mathematical functions.

Decision Making and Branching : Decision Making with if statement-Simple if – if –else statement – Nested if ...else – Else if ladder – Switch statement – The ? : Operator.

Decision Making and Looping : While statement – Do statement – for statement – Jumps in loops – Labelled Loops.

Unit III

Classes, Objects and Methods : Defining a class – Fields Declaration – Methods Declaration - Creating Objects – Accessing class members – Constructors - Methods Overloading – Static Members – Nesting of methods – Inheritance – Overriding methods – Final variables and methods – Final classes – Finalizer methods – Abstract methods and classes

Arrays, Strings and vectors: One Dimensional arrays - Creating an array - Two Dimensional Arrays – Strings – Vectors – Wrapper Classes.

Interfaces: Multiple Inheritance: Defining Interfaces – Extending Interfaces – Implementing Interfaces – Accessing Interface variables.

Unit IV

Packages: Putting Classes Together : Java API packages – Using system packages – Naming conventions – creating packages – Accessing a package – Using a package – Adding a class to a package – Hiding classes.

Multithreaded Programming: Introduction – Creating threads – Extending thread class – stopping and blocking a thread – Life cycle of a thread – Using thread methods – Thread Exceptions - Thread priority

Managing Errors And Exceptions: Types of errors – Exceptions – Syntax of Exception handling code – multiple Catch statements – Using finally statement – Throwing our own Exceptions

Unit V

Applet Programming : Introduction-How applets differ from applications – Preparing to Write Applets - Building Applet code – Applet life cycle - Applet tag - Adding Applet to HTML file – Running the Applet- More about applet tag-passing parameters to applets.

Graphics Programming: Graphics class – Lines and rectangles – circles and ellipses – Drawing arcs – Drawing polygons – Line graphs – Using control loops in Applets .

Text Book:

1. E. Balagurusamy(2011), “Programming with Java A Primer“,
Tata McGraw – Hill Publishing Company Ltd., New Delhi, Fourth Edition.

Unit I - Chapters: 2(2.1 to 2.6,2.9)(Pg:10-18,20-21), 3(3.2, 3.5 to 3.7,3.10, 3.11)
(Pg:24-26, 28- 34, 40-42), 4 (4.1 to 4.11) (Pg:45-57).

Unit II - Chapters: 5(Pg: 60-76), 6(Pg: 80-96), 7(Pg:103-119).

Unit III - Chapters:8(8.2 to 8.16), (Pg:123-140) ,9(9.2 to 9.7)(Pg:148-163),10(Pg:174-180)

Unit IV - Chapters: 11(11.2 to 11.9)(Pg:185-193),12(12.1 to 12.8)(Pg:198-210),
13(Pg: 220-230)

Unit V - Chapters: 14(14.1 to14.5, 14.8 to14.12)(Pg:234-239,242-247),
15(15.2 to15.8) (Pg: 260-272)

Exception –programs from Chapter 4 – 15

Reference Book:

1. Herbert Schildt(2012), “JAVA The Complete Reference “,
Tata McGraw – Hill Publishing Company Ltd., New Delhi, Fifth Edition

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DEPARTMENT OF COMPUTER SCIENCE
B.Sc. COMPUTER SCIENCE
SEMESTER V

PART III – CORE COURSE - ELECTIVE

14UCS5E2 - OPERATING SYSTEMS

(For those admitted in June 2014 and later)

Contact hours per week : 05

Total number of hours per semester : 75

Number of Credits : 5

Objectives:

To enable the students to

1. understand the basic concepts of Operating Systems.
2. know the functions of memory management.
3. know the functions of process management.
4. know the functions of device & information management modules of Operating Systems.

Unit – I

Introduction : What Operating Systems Do (User View, System View, Defining Operating Systems) - Computer System Organization(Computer System Operation, Storage Structure, I/O Structure) - Computer System Architecture(Single Processor Systems, Multiprocessor Systems, Clustered Systems) - Operating System Structure - Operating System Operations(Dual Mode Operation, Time) - Process Management - Memory Management - Storage Management(File System Management, Mass Storage Management, Caching, I/O Systems) - Protection and Security.

Unit - II

Process concept: Process Concept - Process Scheduling: Scheduling Queues, Schedulers, Context Switch – Inter process Communication: Shared Memory Systems, Message-Passing Systems (Naming, Synchronization, Buffering).

Process Scheduling: Basic concepts – Scheduling Criteria – Scheduling Algorithms: First-Come-First Served Scheduling, Shortest Job First Scheduling, Priority Scheduling, Round Robin, Multilevel Queue Scheduling, Multilevel Feedback Queue Scheduling.Algorithm Evaluation.

Unit – III

Synchronization:Background– The Critical-Section Problem – Peterson's Solution - Synchronization Hardware – Semaphores (Usage, Implementation, Deadlocks and Starvation, Priority Inversion) – Classic Problems of Synchronization (The Bounded Buffer Problem, The Readers Writers Problem, The Dining Philosophers Problem).

Deadlock : Deadlock Characterization – Methods for handling Deadlocks – Deadlock Prevention– Deadlock Avoidance – Deadlock Detection – Recovery from Deadlock.

Unit - IV

Memory Management Strategies:

Swapping – Contiguous Memory Allocation (Memory mapping and protection, memory allocation, fragmentation) – Paging (Basic Method, Hardware Support, Protection, Shared Pages) – Segmentation (Basic method, Hardware).

Virtual Memory Management:

Background– Demand Paging : Basic concepts, Performance of Demand Paging – Page Replacement: Basic Page Replacement, FIFO Page Replacement, Optimal Page Replacement, LRU Page Replacement, LRU Approximation Page Replacement (Additional Reference Bits Algorithm, Second Chance Algorithm, Enhanced Second Chance Algorithm, Counting Based Page Replacement, Page Buffering Algorithms, Applications and Page Replacement) – Thrashing: Cause of thrashing, Working Set model, Page fault frequency.

Unit – V

File System

Access Methods: Sequential Access, Direct Access, Other Access Methods– Directory Structure: Storage Structure, Directory Overview, Single level Directory, Two level Directory, Tree structured directories, Acyclic graph directories, General graph directory – Protection: Types of access, Access control, other protection approaches. **Implementing File Systems:** Allocation Methods: Contiguous allocation, Linked allocation, Indexed allocation, Performance.

Disk Scheduling and Disk Management

Disk Scheduling: FCFS Scheduling, SSTF Scheduling, SCAN Scheduling, CSCAN scheduling, LOOK Scheduling, Selection of a Disk scheduling algorithm- Disk Management: Disk Formatting, Boot Block, Bad Blocks.

Text Book:

Abraham Silberschatz, Peter Baer Galvin & Greg Gagne (2010), “Operating System Concepts”, John Wiley & Sons(Asia) & Sons Private Ltd, Singapore, Eighth Edition Reprint 2012.

Unit I : Chapters : 1(1.1 to 1.9) Pages 3-30.

Unit II : Chapters: 3 (3.1, 3.2, 3.4), 5(5.1, 5.2, 5.3) Pages:101-110, 116-123,183-199

Unit III: Chapters: 6(6.1 to 6.6), 7(7.2 to 7.7) Pages: 225-244, 240-259,285-306

Unit IV: Chapters: 8 (8.2, 8.3, 8.4, 8.6), 9(9.1, 9.2, 9.4, 9.6) Pages: 322-337,342-345,357-367,369-381,386-390.

Unit V: Chapters:10(10.2, 10.3, 10.6), 11(11.4),12(12.4,12.5) Pages:430-444,451-456,471-479,510-520.

Reference Books:

1. Milan Milenkovic (1997), “Operating Systems Concepts And Design”, Tata McGraw-Hill Publishing Company Ltd, New Delhi, Second Edition.
2. H.M.Deital (2001), “Operating Systems”, Pearson Education Asia- Low Price Edition, Delhi.

THE STANDARD FIREWORKS RAJARATNAM COLLEGE FOR WOMEN, SIVAKASI
DEPARTMENT OF COMPUTER SCIENCE
B.Sc. COMPUTER SCIENCE
SEMESTER V
PART III – CORE COURSE - ELECTIVE
14UCS5E3- WIRELESS TECHNOLOGY
(For those admitted in June 2014 and later)

Contact hours per week : 05

Total number of hours per semester : 75

Number of Credits : 5

Objectives:

To enable the students to

1. understand about Bluetooth techniques.
2. know in detail about Bluetooth working.
3. understand Bluetooth specification.
4. know about Bluetooth in future.

Unit – I

Introducing Bluetooth: Visions of a wireless world – How Bluetooth technology works – What Bluetooth will do for you – Why high-tech companies are excited about Bluetooth, What to expect in the future.

How Bluetooth came to Be: Recognizing the need – creating a standard – developing the specifications – building interest – dealing with reality.

Unit – II

Bluetooth Today: Consumer Products (Cards and Adapters, Computer related products, Phone related products, Car related products, other consumer products) – Business products and Services (Access points and servers, Public Access and Control, M-Commerce and E-Payments, Hotel Guest Services, Industry Specific Products) – Industrial and Technical Products and services (Chips and Circuits , Testing Devices and Software).

Unit – III

A quick guide to the Bluetooth Technology: Bluetooth basics – Difficulties in connecting - Communicating via Radio waves – Transmitting Voice and Data – Establishing the connection – Building the Bluetooth Radio – It's Global... More or Less – More Details in the Spec.

Unit – IV

Inside the Bluetooth specification: Bluetooth architecture (The Bluetooth Device, The Ghost Controller, The Bluetooth Radio) – Making and controlling the connection (The Link Manager and the Link Controller, Higher Level Control) – Defining protocols (Understanding Communications Protocols, The Bluetooth Protocol Stack, Core Protocols, Cable Replacement Protocols, Telephony Control Protocols, Adopted Protocols) – Security and authentication(Basic Bluetooth Security, Security Concerns).

Unit – V

Challenges to success: Performance – cost – Regional conflicts – competitive technologies – Slow adoption – Hype – Will Bluetooth Succeed?

Bluetooth in the future:Beyond the 1.0 specification: Bluetooth 2.0 (Radio 2.0, New Usage Models) – Bluetooth and Cellular telephony (A Generational Issue, Developing the Third Generation, Bluetooth and 3G wireless).

Textbook:

Michael Miller (2008), “Discovering Bluetooth”, BPB Publications, New Delhi.

Unit I-	Chapters 1, 2	Pages: 1 - 25
Unit II-	Chapter 5	Pages : 80 – 112
Unit III -	Chapter 6	Pages : 116 – 135
Unit IV -	Chapter 7	Pages: 137 – 157
Unit V -	Chapters 10 & 11	Pages: 212 - 239

Reference books:

1. Jennifer Gray & Charles Sturman (2002), “Bluetooth 1.1-Connect Without Cables”, Pearson Education, New Delhi,Second edition.
2. Kaveh Pahlavan, Prashant Krishnamurthy (2007),“Principles Of Wireless Networks”, Prentice Hall of India, New Delhi.

THE STANDARD FIREWORKS RAJARATNAM COLLEGE FOR WOMEN, SIVAKASI
DEPARTMENT OF COMPUTER SCIENCE
B.Sc. COMPUTER SCIENCE
SEMESTER V
PART III – CORE COURSE - ELECTIVE
14UCS5E4 – DATA MINING

(For those admitted in June 2014 and later)

Contact hours per week : 05

Total number of hours per semester : 75

Number of Credits : 5

Objectives:

To enable the students to

1. familiarize the students with the importance and uses of data mining and Data Warehouse
2. understand the concept of classification
3. know about the clustering methods
4. study various types of Association rule algorithm
5. know the characteristics of Text mining and various types of web mining

Unit - I

Introduction to Data Mining: What is Data Mining? – The Data Mining Process – Data Mining Tasks – Classifications – Summarization - Sequence Discovery – Data Mining Techniques – Machine Learning – Meta Learning – The CRISP-DM Process Model – The SEMMA Process Model – The Six-Sigma Process Model – Applications of Data Mining – Various Data Mining Issues

Data Warehouse: Introduction to Data Warehouse- Data Warehouse Dependents – Data Marts – Meta Data – Data Warehouse Architecture - OLAP and its Types – Relating Data Warehousing and Data Mining – Data Warehouse to Data Mining – On Line Analytical Mining.

Unit - II

Classification: Introduction to Classification- The Distance Based Algorithms- The K Nearest Neighbors – The Decision Tree Based Algorithm – Propagation in Neural Network- Rule Based Algorithms- Generating rules from a Decision Tree - Generating rules from a

Unit - III

Clustering: Introduction to Cluster Analysis – Types of Data – Interval-Scaled Variables – Partitioning Methods – Partitioning in Large Database – Hierarchical Method – BIRCH – CURE – Chameleon Method – DBSCAN – OPTICS – DENCLUE – STING – CLIQUE – Model Base Method – Neural Network Approach.

Unit - IV

Association Rules: Basic Terminology – Apriori Algorithm – Sampling Algorithm – Partitioning Algorithm – Parallel and Distributed Algorithms – Data Distribution Algorithm – Comparing the Algorithms – Association Rules – Using Multiple Minimum Supports – The Correlation Rules.

Unit - V

Advanced Concepts in Data Mining

Text Mining : Overview – Usage of Text Mining – Text Mining Task – Text Mining Process - Text Mining Applications – Text Mining Methods

Web Mining : Overview – Web Mining Tasks and Characteristics – Web Mining Softwares – Using Teleport Pro – Using Click Tracks – Web Mining Taxonomy – Web Usage Mining – Web Structure Mining.

Text Book:

BPB Editorial Board (Reprinted - 2005),“Data Mining”, BPB Publications, First Edition.

Unit I :Chap 1 (pg. 1 -18), Chap 2 (pg. 19-39)

Unit II :Chap 3 (pg. 41-59),

Unit III : Chap 4 (pg. 61-88),

Unit IV : Chap 5 (pg. 90-106),

Unit V : Chap 6 (pg. 107-119), Chap 7 (pg. 121-136)

Reference:

Arun K Pujari(2009), “Data Mining Techniques”, Universities Press(India) Private Ltd., Hyderabad.

THE STANDARD FIREWORKS RAJARATNAM COLLEGE FOR WOMEN, SIVAKASI
DEPARTMENT OF COMPUTER SCIENCE
B.Sc. COMPUTER SCIENCE
SEMESTER VI
PART III – CORE COURSE - ELECTIVE
14UCS6E1 - COMPUTER NETWORKS
(For those admitted in June 2014 and later)

Contact hours per week : 05

Total number of hours per semester : 75

Number of Credits : 5

Objectives:

1. To enable the students to
2. familiarize the student with the importance and uses of networking
3. familiarize the student about different transmission media
4. know the operations and issues of various layers
5. know about the various protocols and the services available to the user

Unit - I

Introduction: Data Communications- Networks- **Network Models:** Layered tasks- The OSI model – Layered Architecture: Peer-to-Peer processing – Layers in the OSI model – **Bandwidth Utilization: Multiplexing and spreading:** Multiplexing: Frequency Division Multiplexing – Wavelength Division Multiplexing.

Unit – II

Transmission media: Guided media (Twisted :Pair Cable, Coaxial Cable – Fiber : Optic Cable)- Unguided media (Radio Waves, MicroWaves, Infrared)-**Switching:** Circuit Switched Networks- Datagram Networks- **Error detection and correction:** Block coding- Cyclic codes: Cyclic redundancy check-Hardware implementation- Checksum.

Unit - III

Data Link Control: Framing- Flow and Error control –**Multiple Access :** Random Access (ALOHA: Pure ALOHA, Slotted ALOHA, CSMA, CSMA/CD, CSMA/CA) – Channelization – **Wired LANs: Ethernet: IEEE Standards - Standard Ethernet. Connecting LANs, Backbone networks and Virtual LANs :** Connecting devices

Unit – IV

Network Layer: Delivery – Forwarding: Forwarding Techniques – Forwarding Process – Unicast Routing Protocols: Optimization – Intra-Inter Domain Routing – Distance vector routing. **Transport Layer:** Process to Process Delivery – User Datagram Protocol (UDP) – TCP.

Unit – V

Application Layer: Domain Name System: Name Space- Domain Name Space- Distribution of Name Space- DNS Messages- **Remote Logging, Electronic Mail, and File Transfer:** Remote Logging (TELNET) – Electronic mail (Architecture, User Agent, MIME, SMTP, POP and IMAP – Web-Based mail) - File Transfer (FTP).

Text Book:

Behrouz A.Forouzan(Reprint 2011), “Data Communication And Networking”,
Tata McGrawHill Publishing Company, New Delhi, Fourth Edition.

Unit I : Chapters:1 (Pg: 3 – 16) , 2(Pg: 27-42), 6(Pg:161-168)

Unit II: Chapters:7(Pg:192-208),8(Pg:214-221),10(Pg:271-277,284-291,298-301)

Unit III: Chapters:11 (Pg: 307 – 311) , 12(pg: 363 – 379, 383-390), 13(Pg: 395-405),
15(Pg.445-455)

Unit IV:Chapters: 22(647-665), 23(pg:703-735)

Unit V : Chapters:25 (Pg: 798-803 , 809-811) , 26(Pg: 817-843)

Examples under all Chapters are excluded from the syllabus.

Reference:

Andrew S. Tanenbaum (2011), “Computer Networks”, Prentice-Hall of India
Private Ltd., New Delhi, Fourth Edition

THE STANDARD FIREWORKS RAJARATNAM COLLEGE FOR WOMEN, SIVAKASI
DEPARTMENT OF COMPUTER SCIENCE
B.SC. COMPUTER SCIENCE
SEMESTER V
PART III – CORE COURSE - ELECTIVE
14UCS6E2- SYSTEM SOFTWARE

(For those admitted in June 2014 and later)

Contact hours per week : 05

Total number of hours per semester : 75

Number of Credits : 5

Objectives:

To enable the students to,

1. acquire enough knowledge in System Software concept.
2. understand the concept of Assemblers, Loaders, Linkers and Compilers.
3. know the features of Operating Systems .
4. know concepts of Macro Processors.

Unit – I

Background: Introduction - System Software and Machine Architecture – The Simplified Instructional Computer (SIC) – Traditional (CSIC) Machines – RISC Machines –

Assemblers : Basic Assembler Functions – Machine Dependent Assembler Features – Machine Independent Assembler Features – Assembler Design Options – Implementation Example - MASM Assembler .

Unit - II

Loaders and Linkers : Basic Loader Functions- Machine Dependent loader Features –Machine Independent loader Features - Loader Design Options – Implementation Example - MS-Dos Linker.

Unit – III

Macro Processors: Basic Macro Processors Functions – Machine Independent Macro Processor Features – Macro Processor Design Options – Implementation Example - MASM Macro Processor.

Unit - IV

Compilers: Basic Compiler Functions – Machine Dependent Compiler Features - Machine Independent Compiler Features – Compiler Design Options – Implementation Example - Sun OS Compiler.

Unit –V

Other System Software : Database Management Systems – Text Editors – Interactive Debugging Systems

Software Engineering Issues : Introduction to Software Engineering Concepts – System Specifications – Procedural System Design – Object-Oriented System Design – System Testing Strategies.

Text Book :

Leland L Beck(2011),” System Software”, Pearson Education ,3rd Edition.

Unit I : Chapters:1 (Pg: 1 – 37) , 2(2.1,2.2,2.3,2.4,2.5.1), (Pg: 43-105)

Unit II: Chapters:3 (3.1, 3.2, 3.3, 3.4, 3.5.1) (Pg: 123 – 162)

Unit III: Chapters:4 (4.1, 4.2, 4.3, 4.4, 4.4.1)(Pg: 176 – 209)

Unit IV:Chapters:5 (5.1, 5.2, 5.3, 5.4, 5.5.1) (Pg: 225 – 308)

Unit V : Chapters:7(Pg: 419 – 446), 8 (Pg: 447- 490)

Reference Book:

Dhamdhere(2000), Systems Programming and Operating systems”, Tata Mcgraw Hill Publishing Company.

THE STANDARD FIREWORKS RAJARATNAM COLLEGE FOR WOMEN, SIVAKASI
DEPARTMENT OF COMPUTER SCIENCE
B.Sc. COMPUTER SCIENCE
SELF EMPLOYMENT COURSE
SEMESTER VI
14USE69/15USE69 – MOBILE PHONE SERVICING
(For those admitted in June 2014/June 2015 and later)

Contact hours per week : 02

Total number of hours per semester : 30

Number of credits : 02

Objectives:

To enable the students to

1. provide basic knowledge on cell phone functioning.
2. familiarize with cell phone faults and rectification.
3. insist on self employment.
4. understand the concept of blue tooth technology.

Unit – I (Electricity)

Electric terms & units – current – resistor – capacitor – conductor – inductor – resistance series and parallel connection – magnetism and electro magnetism – ac circuit – transformer – types of probable faults.

Unit – II (Electronics)

Active and passive components – semi conductor – transistor – rectifier – filters – LED – oscillator – gates – IC – power.

NOKIA – 3310, 3315 (fault list, board, diagram, rectifying)

Unit – III

Modulation and demodulation – history of mobile phones – generation of mobile phones – cellular communication systems – TX, RX sections – lock codes.

NOKIA – 1100, 1110, 2300 (fault list, board diagram, rectifying)

Types of instruments according to technology – CDMA/GSM and according to generation – 2G/3G.

Unit – IV

Component checking – multimeter usage – speaker – mic – buzzer – LED display – keyboard – IC's checking.

NOKIA – 2600, 3100, 1110, 11101, 1112, 1600 (fault list, board diagram, rectifying)

Unit – V

Practical: Circuit tracking NOKIA – 3310, 1100, 2600, 6600 – Fault rectification – IC soldering & desoldering – IC Balling and reballing.

Software: UFS installation – application software – Bluetooth – data cable – downloading (songs, ring tones and pictures)

Text Book :

Materials will be provided

References:

1. Touch & Touch Cell Phone servicing
2. CSC Cell Phone Servicing
3. Waves Cell Phone Servicing Technology

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DEPARTMENT OF COMPUTER SCIENCE
B.Sc. COMPUTER SCIENCE
SELF EMPLOYMENT COURSE
SEMESTER VI
14USE69L/15USE69L – MOBILE PHONE SERVICING LAB
(For those admitted in June 2014/June 2015 and later)

Contact hours per week	: 02
Total number of hours per semester	: 30
Number of credits	: 02

Objectives:

To enable the students to,

1. provide basic knowledge on cell phone functioning.
2. familiarize with cell phone faults and rectification.
3. insist on self employment.
4. understand the concept of blue tooth technology.

List of Exercises:

1. Circuit Tracing Nokia – 3310, 1100, 2600, 6600
2. Fault Rectification
3. IC Soldering – IC Balling & Reballing
4. UFs Installation
5. Application Software
6. Blue Tooth
7. Data Cable
8. Downloading (Songs, Ringtones, Pictures)

THE STANDARD FIREWORKS RAJARATNAM COLLEGE FOR WOMEN, SIVAKASI
DEPARTMENT OF COMPUTER SCIENCE
B.Sc. COMPUTER SCIENCE
JOB ORIENTED COURSE
SEMESTER – VI
14UJO63/15UJO63 – TALLY

(For those admitted in June 2014/June 2015 and later)

Contact hours per week	: 02
Total numbers of hours per semester	: 30
Number of credits	: 2

Objectives

To enable the students to

1. know the concepts, rules and conventions of Accounting.
2. know accounting terminology, Journal, Trial Balance and Final Accounts.
3. familiarize with Computerization of accounts.
4. equip the students the intricate array of accounting procedures and automatic calculations.

Unit – I

Introduction to Tally : Opening screen of Tally – Creating a Company – Loading/Selecting a Company – Shutting a Company – Altering/Modifying Existing Company – Buttons on the Button Panel – Configuring Company.

Unit – II

Accounting Information : Pre – Defined Groups – Ledgers(Working with Ledgers, Single Ledger Creation) – Advanced Usage of Ledgers (Displaying Ledgers, Altering Ledgers, Deleting a Ledger) – Vouchers in Tally(New Buttons on the Panel) – Configuring Vouchers – Creating/Customizing Vouchers – Pre-defined Voucher(Contra Voucher, Purchases, Sales, Payment Voucher, Receipt Voucher, Journals, Memo Voucher, Optional Voucher, Reversing Voucher, Post – Dated Journals) – Modifying Vouchers – Vouchers Configuration.

Unit – III

Inventory Information : Stock Groups – Stock Categories – Stock Item – Godowns – Units Of Measure – **Pure Inventory Voucher:**Types Of Inventory Vouchers:Receipt Note Voucher, Rejection In Voucher, Delivery Note Voucher, Rejection Out Voucher, Stock Journal Voucher, Additional Cost Details,Physical Stock Voucher.

Unit – IV

VAT Module: Justification of VAT – VAT Terminology – Rate of VAT – Trader Identification Number – Computing VAT – How is Input Tax Credit Claimed – Supply Chain Management – Enabling VAT in Tally – Ledgers Pertaining VAT – Ledger Creation.

Reports: Trial Balance – Balance Sheet – Profit and Loss Account – Stock Summary – Ration Analysis – Display Menu – Day Book(Account Book, Cash/Bank Book(s), Statements of Accounts, Inventory Books, Statements of Inventory, Cash/Funds Flow) – VAT Reports(VAT Computation, VAT Forms).

Unit –V

Payroll Module: Enabling Payroll Module – Payroll Menu – Managing Payhead – Managing Employee Groups – Managing Employee – Salary Details – Managing Units (Works)– Managing Voucher types – Payroll Reports – Attendance Sheet – Statutory Deductions– Payroll Special Features.

Text Book:

Namrata Agarwal and Sanjay Kumar (2011),“Comdex Tally 9 Course Kit”,
Dream Tech Press, New Delhi.

Unit I : Chapters: 2 (Pg: 57-78)

Unit II: Chapters:3 (Pg: 79-85, 94 – 98), 4 (Pg: 111-116, 117 – 146)

Unit III: Chapters:5, 6(Pg: 147 – 185)

Unit IV:Chapters: 12 (Pg: 291 - 302),8 (Pg: 199 – 233), 12 (Pg: 311-312)

Unit V : Chapters: 15 (Pg: 374 – 379)

Reference Book:

LP Editorial Board (2008),“Guide To Tally 9”, Lawpoint Publications.

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JOB ORIENTED COURSE
SEMESTER – VI
14UJO63L/15UJO63L – TALLY LAB
(For those admitted in June 2014/June 2015 and later)

Contact hours per week : 02

Total numbers of hours per semester : 30

Number of credits : 2

Objectives

To enable the students to

1. know the concepts, rules and conventions of Accounting.
2. know accounting terminology, Journal, Trial Balance and Final Accounts.
3. familiarize with Computerization of accounts.
4. equip the students the intricate array of accounting procedures and automatic calculations.

List of Exercises

1. Prepare the Trial Balance for the given entries.
2. Prepare Balance sheet for the following entries.
3. Show the company's Profit & Loss A/c statement.
4. Display all the ledgers Created with its group for the below entries.
5. Display the ledger
6. Prepare the Stock summary for the given items.
7. Prepare the Day Book for the given date.
8. Display the Closing Stock for the given Item.
9. Display the Bank Reconciliation Statement.
10. Compute the VAT Payable for the following transactions.
11. Display the VAT Forms
12. Display the VAT Computations Form.