B.C.A.

SYLLABUS: 2011

CHOICE BASED CREDIT SYSTEM (CBCS)

DEPARTMENT OF INFORMATION TECHNOLOGY

St. JOSEPH'S COLLEGE (Autonomous)

Re-accredited with A⁺ Grade by NAAC

College with Potential for Excellence by UGC

TIRUCHIRAPPALLI - 620 002, TN

BACHELOR OF COMPUTER APPLICATIONS (BCA)

COURSE DETAIL - 2011

Sem.	Part	Code	Subject Title	Hrs	Credit
I	I	11UGT110001	General Tamil-I / Hindi-I / French-I	4	3
	II	11UGE120101	General English-I	5	3
	III	11UBC130201	C Programming	5	4
		11UBC130202	Digital Computer Fundamentals	5	4
		11UBC130203	Software Lab – I (C Programming)	3	2
		11UBC130401	Allied : Mathematics – I	6	5
	IV	11UCE140801	Communicative English	-	5
		11UFC141001	Value Education- I: Essentials of Ethics, Yoga and Stress Management	2	2
Total for Semester I				**30**	**28**
II	I	11UGT210002	General Tamil-II / Hindi-II / French-II	4	3
	II	11UGE220102	General English-II	5	3
	III	11UBC230204	C++ and Data Structures	6	4
		11UBC230205	Software Lab–II (C++ and Data Structures)	4	2
		11UBC230402	Allied : Mathematics – II	6	5
	IV	11UCE240802C	Web User Interface	2	2
		11UFC241002	Value Education – II : Fundamentals of Human Rights	2	1
			Library	1	-
Total for Semester II				**30**	**20**
III	I	11UGT310003	General Tamil-III / Hindi-III / French-III	4	3
	II	11UGE320103	General English-III	5	3
	III	11UBC330206	VB.Net	6	4
		11UBC330207	Software Lab – III (VB.Net)	3	2
		11UBC330403A	Allied : Applied Physics – I	4	4
		@	Allied : Applied Physics Practical – I / (OR)	2	-
		11UBC330403B	Allied: Accounts – I	(6)	(5)
	IV	11UCE340901	Environmental Studies	4	2
		11UFC341003A	Professional Ethics-I : Social Ethics (OR)	2	2
		11UFC341003B	Professional Ethics-I : Religious Doctrine	(2)	(2)
Total for Semester III				**30**	**20/21**

IV	I	11UGT410004	General Tamil-IV / Hindi-IV / French-IV	4	3
	II	11UGE420104	General English-IV	5	3
	III	11UBC430208	Relational Database Management System	6	4
		11UBC430209	Software Lab – IV (RDBMS)	3	2
		11UBC430404A	Allied : Applied Physics – II	4	4
		11UBC430405	Allied : Applied Physics Practical – II / (OR)	2	2
		11UCO430404B	Allied : Accounts – II	(6)	(5)
		11UBC430301A	Elective-I – Managerial Soft Skills (OR)	4	4
		11UBC430301B	Elective – I – Numerical Aptitude	(4)	(4)
	IV	11UFC441004A	Professional Ethics - II: Social Ethics (OR)	2	2
		11UFC441004B	Religious Doctrine – II : Religious Doctrine	(2)	(2)
Total for Semester IV				**30**	**24/23**
V	III	11UBC530210	Java Programming	5	4
		11UBC530211	Software Engineering	5	4
		11UBC530212	Operating Systems	4	3
		11UBC530213	Multimedia	4	3
		11UBC530214	Software Lab – V (Java Programming)	3	2
		11UBC530215	Software Lab – VI(Multimedia)	3	2
		11UBC530302A	Elective – 2 – Software Testing (OR)	4	4
		11UBC530302B	Elective-2 – Unified Modeling Language	(4)	(4)
	IV	11UBC540601A	Skill Based Elective – 1 : Fundamentals of IT (OR)	2	2
		11UBC540601B	Skill Based Elective – 1: Internet Concepts	(2)	(2)
Total for Semester V				**30**	**24**
VI	III	11UBC630216	Computer Networks	5	4
		11UBC630217	Management Information System	5	4
		11UBC630218	Fundamentals of PHP	5	4
		11UBC630219	Software Lab – VII (PHP)	3	2
		11UBC630303A	Elective – 3 – Software Project Management (OR)	4	4
		11UBC630303B	Elective – 3 - Web Services	(4)	(4)
		11UBC630304	Project	5	3
	IV	11UBC640602A	Skill Based Elective – 2 – Visual Programming (OR)	2	2
		11UBC640602B	Skill Based Elective – 2 – Flash	(2)	(2)
			Library	1	
Total for Semester VI				**30**	**23**
I-V	V	11UCE551101	Extension Service: SHEPHERD & Gender Studies		6
Total Credits for All Semesters					**145**

@ Exam at the end of the year.

பருவம்-1 **மணி நேரம் - 4**
11UGT110001 **புள்ளிகள் - 3**

பொதுத்தமிழ் - I

நோக்கங்கள்

1. சமூக மாற்றச் சிந்தனைகளை உள்ளடக்கிய தற்கால இலக்கியங்களை அறிமுகம் செய்தல்.
2. புதுக்கவிதை, சிறுகதை, உரைநடை ஆகிய இலக்கியங்களின் நயம் பாராட்டுதல்.
3. சந்திப்பிழையின்றி எழுத மாணவர்களைப் பயிற்றுவித்தல்.

பயன்கள்

1. மாணவர்கள் சமூக மாற்றச்சிந்தனைகளை அறிந்துகொள்வர்.
2. சந்திப்பிழைகளை நீக்கி எழுதும் திறன் பெறுவர்.
3. புத்திலக்கியங்களைப் படைக்கும் திறனையும், திறனாய்வு செய்யும் திறனையும் பெறுவர்.

அலகு-1 *(10 மணி நேரம்)*

மகாகவி பாரதியார் கவிதைகள்
பாரதிதாசன் கவிதைகள்
உரைநடை–முதல் மூன்று கட்டுரைகள்
(கட்டுரைக்களஞ்சியம்)

அலகு-2 *(12மணி நேரம்)*

கவிமணி தேசிகவிநாயகம் கவிதைகள்
நாமக்கல்கவிஞர் வெ.இராமலிங்கம் கவிதைகள்
இலக்கணம் -வலிமிகும் இடங்கள்

அலகு-3 *(10 மணி நேரம்)*

கவிஞர் கண்ணதாசன் கவிதைகள்
இலக்கியவரலாறு- மூன்றாம் பாகம்
சிறுகதை- முதல் ஆறு சிறுகதைகள்

அலகு-4 *(14 மணி நேரம்)*

பாவலரேறு பெருஞ்சித்திரனார் பாடல்கள்
அப்துல் ரகுமான் கவிதைகள்
இலக்கிய வரலாறு – நான்காம் பாகம்
இலக்கணம் - வலி மிகா இடங்கள்

அலகு-5 *(14 மணி நேரம்)*

கவிஞர் மேத்தா கவிதைகள்
மொழிபெயர்ப்புக்கவிதைகள்
சிறுகதை- 7 முதல் 12 முடிய உள்ள சிறுகதைகள்
உரைநடை- 4முதல் 6 முடிய உள்ள கட்டுரைகள்
(கட்டுரைக்களஞ்சியம்)

பாடநூல்

1. பொதுத்தமிழ் - செய்யுள் திரட்டு- தமிழ்த்துறை வெளியீடு- 2011-2014
2. சமூகவியல் நோக்கில் தமிழ் இலக்கிய வரலாறு, தமிழ்த்துறை வெளியீடு, தூய வளனார் கல்லூரி, திருச்சிராப்பள்ளி-2
3. உரைநடை நூல் - தமிழ்த்துறை வெளியீடு, 2011-2014
4. சிறுகதைத்தொகுப்பு
   (கட்டுரைக்களஞ்சியம்)

மதிப்பெண் பகிர்வு

பிரிவு	*பாகம் -1*	*பாகம் -2*	*பாகம்-3*
செய்யுள்	12 (12 வினாக்கள்)	8 (2 வினாக்கள்)	30 (2 வினாக்கள்)
இலக்கியவரலாறு	6 (6 வினாக்கள்)	8 (2 வினாக்கள்)	15 (1 வினா)
உரைநடை	----------	----------	15 (1வினா)
இலக்கணம்	2 (2 வினாக்கள்)	4 (1 வினா)	----------
சிறுகதை	----------	-------	15 (1 வினா)

Semester: I **Hours :5**
Code:11UGE120101 **Credits: 3**

GENERAL ENGLISH – I

Objectives:

1. *To enable the students to develop their effective communicative skills in English.*
2. *To empower the students with fluency and accuracy in the use of English Language.*
3. *To transform them into globally employable persons with placement skills.*

UNIT-I **12 Hrs**

Prose Education.
Employment.
Unemployment.
Poem William Shakespeare— "All the World's a Stage."
Letter Writing Formal and Informal.
Short Story O Henry – Robe of Peace. (Extensive Reading).
Essential English Grammar – 1-6 units

UNIT-II **12 Hrs**

Prose Application.
Planning.
Curriculum Vitae.
Poem Ben Jonson—"On Shakespeare"
Reading Comprehension
Short Story Rudyard Kipling—The Miracle of Puran Bhagat (Extensive Reading).
Essential English Grammar – 7-12 units.

UNIT-III **11 Hrs**

Prose Interview.
Reporting.
General Knowledge.
Poem Robert Herrick—"Gather Ye Rosebuds."
Note Making
Short Story H.G.Wells—The Truth About Pyecraft (Extensive Reading).
Essential English Grammar – 13-18 units

UNIT-IV **20 Hrs**

Prose Review.(Super Toys)
Stress.
No Time.
Poem Oliver Goldsmith—" The Village Schoolmaster"
Developing story from hints
Short Story John Galsworthy—"Quality" (Extensive Reading).
Essential English Grammar – 19-24 units

UNIT-V **15 Hrs**

Prose Killers.
Galloping Growth.
A Short Story.
Poem William Blake—" From Auguries of Innocence"
Précis Writing
Short Story William Somerset Maugham— Mabel (Extensive Reading).
Essential English Grammar – 25-30 units

Text Books

1. Krishnaswamy. N, Sriraman T. Current English for Colleges. Hyderabad: Macmillan Indian Ltd,2006.
2. Dahiya SPS Ed. Vision in Verse, An Anthology of Poems. New Delhi: Oxford University Press,2002.
3. Murphy, Raymond. Essential English Grammar. New Delhi: Cambridge University Press,2009.
4. Seshadri, K G Ed. Stories for Colleges.Chennai: Macmillan India Ltd,2003.

Semester I **Hours/Week : 5**
11UBC130201 **Credits : 4**

C PROGRAMMING

OBJECTIVE

To develop programming skills using C language and to understand the concepts of C programming.

UNIT I : **13 HRS**

C FUNDAMENTALS: Computer Programming Concepts: Algorithms and Flow charts - Introduction to C Language – How to Run C Programs - Identifiers, Keywords, Constants, Variables and Data Types, Access Modifiers, Data Type Conversions- Operators- Conditional Controls - Loop Controls

UNIT II: **13 HRS**

ARRAYS: One Dimensional Arrays - Two Dimensional Array - Character Arrays and Strings. **FUNCTION:** Introduction - Elements of User Defined Function - Definition of Functions - Return Values and their Types - Function Calls- Function Declaration - Category of Function – Nesting of Function - Recursion - Passing Arrays to Function - Passing Strings to Function - The Scope, Visibility and Lifetime of Variables - Library functions.

UNIT III **13 HRS**

STRUCTURES, UNIONS AND POINTERS: Defining Structure - Declaring Structure Variable - Accessing Structure Members - Structure Initialization - Array of Structure - Arrays within Structures - Structures within Structures - Structures and Function – Union.

UNIT IV **13 HRS**

POINTERS: Pointers - Declaration of Pointers- Accessing Variables through Pointers - Chain of Pointers - Pointer Expressions - Pointer Increments - Pointers with Arrays, Strings - Array of Pointers - Pointers with Functions - Pointers with Structures.

UNIT V **13 HRS**

FILE MANAGEMENT IN C: 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 - Dynamic Memory Allocation.

TEXT BOOK(S)

1. E. Balagurusamy, “Programming in C”, 4th Ed., Tata McGraw Hill, New Delhi, 2007.
2. B.W. Kernighan and D.M. Ritchie, The C Programming Language, PHI, 2002 .

BOOK(S) FOR REFERENCE

1. Byron S. Gottfried, “Programming with C”, 2nd Ed., Tata McGraw Hill, New Delhi, 1998.
2. Yashvant Kanetkar, “Working with C”, BPB Publication, New Delhi, 2001.

Semester I **Hours/Week : 5**
11UBC130202 **Credits : 4**

DIGITAL COMPUTER FUNDAMENTALS

OBJECTIVE

To give fundamental principles of digital electronics, semi-conductors, memories, A/D and D/A converters.

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UNIT I **13 HRS**

DIGITAL LOGIC & COMBINATIONAL LOGIC CIRCUITS: Binary Number System- The Basic Gates-Boolean Algebra - NOR Gates - NAND Gates - Boolean Laws and Theorem-Sum of Product Method- Karnaugh Simplification-Product of Sum Method-Product of Sums Simplifications.

UNIT II **13 HRS**

DATA PROCESSING & ARITHMETIC: Multiplexers-Demultiplexers-Decoders: 1 of 16 Decoders-BCD to decimal decoders-Seven segment decoders-Encoders. Ex-OR gates. Binary Addition- Subtraction. Unsigned Binary Numbers-2's complement representation. The Adder- Subtracter. Binary Multiplication and Division.

UNIT III **13 HRS**

FLIP-FLOPS, REGISTERS & COUNTERS: Flip-Flops: RS Flip-Flops-Gated Flip-Flops-Edge Triggered RS Flip-Flop-Edge Triggered D Flip-Flop-Edge Triggered JK flip-flop- JK Master/Slave-Registers-Counters: Asynchronous Counters-Synchronous Counters.

UNIT IV **13 HRS**

D/A AND A/D CONVERSIONS: D/A Converters-D/A Accuracy and Resolution-A/D Converter Simultaneous Conversion-Counter Method Continuous Conversion-A/D Techniques-Dual Slope Conversions-A/D Accuracy and Resolution.

UNIT V **13 HRS**

MICROPROCESSORS, MICROCOMPUTERS AND ASSEMBLY LANGUAGE:

Microprocessors-Microprocessor Instruction Set and Computer Languages. **INTRODUCTION TO 8085 ASSEMBLY LANGUAGE PROGRAMMING:** The 8085 Programming Model-Instruction Classification-Instruction, Data Format and Storage. **MICROPROCESSOR ARCHITECTURE AND MICROCOMPUTER SYSTEMS:** Microprocessor architecture and its operation-Memory-Input and Output Devices.

TEXT BOOK(S)

1. Donald P.Leach and Albert Paul Malvino, "Digital Principles and Applications", 5th Ed., Tata McGraw Hill, New Delhi, 2003.
   UNIT I, II, III & IV
2. Ramesh Gaonkar, "Microprocessor Architecture, Programming and Applications with 8085, 5th Ed., Penram International Publishing (India) Private Limited, 2007.
   UNIT V

BOOK FOR REFERENCE

Thomas C. Bartee, "Digital Computer Fundamentals", McGraw Hill, New Delhi, 1985.

Semester I **Hours/weeks : 3**
11UBC130203 **Credits : 2**

SOFTWARE LAB – I (C PROGRAMMING)

01. Simple Programs
02. Control Structure
03. Arrays
04. Function
05. String Handling
06. Structures
07. Pointers
08. Sequential File Access
09. Random File Access
10. Command Line Arguments

SEMESTER – I **Hours/Week : 6**
Code 11UBC130401 **Credits : 5**

ALLIED MATHEMATICS I

UNIT – I

Partial Fractions - Binomial Series - Summation of series - Finding terms - Coefficient of x^n (simple problems only).

Book 1: Chap 1 - sec 1.1 - 1.2, pp: 1-27.

UNIT – II

Exponential Series - Summation - Logarithmic Series - Summation.

Book 1: Chap 1 - sec 1.3, pp: 28-48.

UNIT – III

Matrices – Rank of a matrix - Solving simultaneous linear equation in three unknowns using Elementary operations method - Eigen values and Eigen vectors - Verification of Cayley Hamilton theorem.

Book 1: Chap 3 - sec 3.2 - 3.4, pp: 137 - 160.

UNIT – IV

Higher Derivatives - Formation of equations involving derivatives - Applications of Leibnitz's theorem.

Book 1: Chap 6 - sec 6.1, pp: 266-281.

UNIT – V

Expansions of cos nq and sin nq - Powers of sines and cosines off in terms of functions of multiples of q.

Book 1: Chap 5 - sec 5.1 - 5.4, pp: 220-242.

Text Book:

Ancillary Mathematics, Vol-I, 2009 Edition, S. Narayanan, R. Hanumantha Rao T.K. Manicavachagom Pillay, Kandaswamy.

பருவம் -2 **மணி நேரம் - 4**
11UGT210002 **புள்ளிகள் - 3**

பொதுத்தமிழ் - II

நோக்கங்கள்

1. சமய நல்லிணக்க உணர்வை வளர்த்தல்.
2. தமிழ்க் காப்பியங்களில் அழகும், அறிவுணர்வும் ஊட்டும் பகுதிகளைப் படித்துப் புரிந்து கொள்ளுதல்.
3. உரைநடைக் கட்டுரை எழுதும் திறன் பெறுதல்.

பயன்கள்

1. தமிழைத் திருத்தமாகப் படிக்கவும், பேசவும், பிழையின்றி எழுதவும் கூடிய திறன் பெறுவர்.
2. இலக்கியங்களில் படித்தவற்றை முறையாக வாழ்க்கையில் கடைப்பிடிப்பர்.

அலகு : 1 *(12 மணி நேரம்)*

சிலப்பதிகாரம் –அடைக்கலக் காதை - மதுரைக் காண்டம்
இலக்கிய வரலாறு –சைவம் வளர்த்த தமிழ் முதல் புராணங்கள் முடிய.

அலகு : 2 *(12 மணி நேரம்)*

மணிமேகலை – சிறைக்கோட்டம் அறக்கோட்டம் ஆக்கிய காதை
பெரியபுராணம் – திருநாளைப்போவார் நாயனார் புராணம்
உரைநடை – 7 முதல் 9 முடிய உள்ள கட்டுரைகள் (கட்டுரைக்களஞ்சியம்)

அலகு : 3 *(12 மணி நேரம்)*

கம்பராமாயணம் – வாலி வதைப்படலம்
செம்மொழியான தமிழ்மொழியே:1 – 20 பக்கங்கள்
இலக்கணம் – எழுத்திலக்கணம்

அலகு : 4 *(12 மணி நேரம்)*

தேம்பாவணி – மகன் நேர்ந்த படலம்
சீறாப்புராணம் – அபீறாகு வதைப்படலம்
உரைநடை – 10 முதல் 12 வரையிலான கட்டுரைகள்
செம்மொழியான தமிழ்மொழியே – 21- 37 பக்கங்கள

அலகு : 5 (12 மணி நேரம்)

இராவண காவியம் – ஆரியப் படலம்
இலக்கிய வரலாறு – தமிழ் இலக்கண நூல்கள் முதல் சிற்றிலக்கியங்கள் முடிய.
இலக்கணம் – சொல்லிலக்கணம்

பாடநூல்கள்

1. செய்யுள் திரட்டு – தமிழாய்வுத்துறை வெளியீடு, 2011 – 2014.
2. இலக்கிய வரலாறு, தமிழாய்வுத்துறை வெளியீடு, 2010.
3. உரைநடைநூல், தமிழாய்வுத்துறை வெளியீடு, 2011-2014
4. செம்மொழியான தமிழ்மொழியே, சங்கம் வெளியீடு, மதுரை.2010

மதிப்பெண் பகிர்வு

பிரிவு	பாகம் -1	பாகம் -2	பாகம்-3
செய்யுள்	12 (12 வினாக்கள்)	8 (2 வினாக்கள்)	30 (2 வினாக்கள்)
இலக்கியவரலாறு	4 (4 வினாக்கள்)	4 (1 வினா)	15 (1 வினா)
உரைநடை	----------	----------	15 (1வினா)
இலக்கணம்	2 (2 வினாக்கள்)	4 (1 வினா)	----------
செம்மொழி	2 (2 வினாக்கள்)	4 (1 வினா)	15 (1 வினா)

Sem: II **Hours :5**
Code: 11UGE220102 **Credits: 3**

GENERAL ENGLISH –II

Objectives:

1. *To enable the students to develop their effective communicative skills in English.*
2. *To empower the students with fluency and accuracy in the use of English Language.*
3. *To transform them into globally employable persons with placement skills.*

UNIT-I **12 Hrs**

Prose Environment.
A Dead Planet.
Riddles.
Poem William Wordsworth—Nutting.
Shelley- Ozymandias.
Filling Money Order Chalan and Bank Chalan
Short Story G.K.Chesterton – The Hammer of God (Extensive Reading)
Essential English Grammar: -31-36 Units

UNIT-II **12 Hrs**

Prose Qahwah
A Dilemma
Computeracy
Poetry John Keats—La Belle Dame Sans Merci
Robert Browning- The Last Ride Together
Short Story Katherine Mansfield—A Cup of Tea (Extensive Reading)
Dialogue Writing
Essential English Grammar:37-42Units

UNIT-III **11 Hrs**

Prose Review (Use Your English)
Entertainment
You and Your English
Poetry Walt Whitman- I Celebrate Myself.
Mathew Arnold—Dover Beach.

Short Story Thomas Wolfe—The Far and the Near (Extensive Reading)
Conversations
Essential English Grammar:43-48Units

UNIT-IV **20 Hrs**

Prose War Minus Shooting .
Usage and Abusage.
Poetry Sarojini Naidu—The Gift of India..
Robert Frost—Design .
Short Story R.K. Narayan—Half a Rupee Worth (Extensive Reading)
Manohar Malgonkar—Bacha Lieutenant
Story Telling
Essential English Grammar:49-54Units

UNIT-V **15 Hrs**

Prose Who's Who.
Poetry Nissim Ezekiel. The Night of The Scorpion
Short Story Anita Desai—A Devoted Son (Extensive Reading)
Ruskin Bond—The Boy Who Broke the Bank(Extensive Reading)
Report Writing
Letter to the Editor
Essential English Grammar: 55-60Units

Text Books

1. Krishnaswamy. N, Sriraman T. Current English for Colleges. Hyderabad: Macmillan Indian Ltd,2006.
2. Dahiya SPS Ed. Vision in Verse, An Anthology of Poems. New Delhi: Oxford University Press,2002.
3. Murphy, Raymond. Essential English Grammar. New Delhi: Cambridge University Press,2009.
4. Seshadri, K G Ed. Stories for Colleges.Chennai: Macmillan India Ltd, 2003.

Semester II **Hours/Week : 6**
11UBC230204 **Credits : 4**

C++ AND DATA STRUCTURES

OBJECTIVE

To acquire the knowledge of data structures and understand the concepts of C++.

UNIT I **13 HRS**

PRINCIPLES OF OOPS: Basic concepts of OOP – Benefits of OOP – Object Oriented Languages – Applications of OOP - C++ Programming Basics **–** Control Structures **– FUNCTIONS :** Call by reference – Inline Function – Default Arguments – Function Overloading.

UNIT II **13 HRS**

CLASSES AND OBJECTS: Specifying a Class – Defining a Member Function – Private Member Functions – Arrays within a Class – Memory Allocation for Objects – Array of Objects – Objects as Function Arguments – Returning Object - Constructors - Destructors. **OPERATOR OVERLOADING:** Defining Operator Overloading – Overloading Unary and Binary Operators.

UNIT III **13 HRS**

INHERITANCE- Types of Inheritance - Friend Function. **VIRTUAL FUNCTIONS:** Virtual Functions – Pure Virtual Functions. **WORKING WITH FILES:** Classes for File Stream Operations – Opening and Closing and Processing Files – End of File Detection - Error Handling in Files – Exception Handling

UNIT IV **13 HRS**

STACKS AND QUEUES: Operations on Stacks and Queues- Representations as an Array – Representations as a Linked List - Applications on Stacks and Queues.

UNIT V **13 HRS**

TREES: Binary Trees –Binary Tree Traversal – Representations of a Binary Tree. **SORTING AND SEARCHING:** Insertion Sort - Quick Sort - Heap Sort - Linear Search - Binary search.

TEXT BOOK(S)

1. E. Balagurusamy, “Object Oriented Programming with C++ “, 3rd Ed, New Delhi, 2006.

   UNITS I, II & III

2. Yashavant P. Kanetkar ”Data Structures Through C++”, BPB Publications 2003.

   UNITS IV & V

BOOK(S) FOR REFERENCE

1. Robert Laffore, “OOPs in Microsoft C++”, Galgotia, New Delhi, 2003.
2. Jean-Paul Trembley and Paul G. Sorenson”, An Introduction to Data Structures with applications”, 2nd Ed, Tata McGraw Hill, New Delhi, 2005.

Semester II **Hours/Week : 4**
11UBC230205 **Credits : 2**

SOFTWARE LAB – II (C++ AND DATA STRUCTURES)

01. Simple Programs
    - Inline Functions
    - Default Arguments
    - Call by Reference and Value
02. Function Overloading
03. Constructors & Destructors
04. Operator Overloading
05. Inheritance
06. Exception Handling
07. I/O Streams
08. Stack operations
09. Queue operations
10. Insertion Sort
11. Quick sort
12. Binary Search

SEMESTER – II **Hours/Week : 6**
11UBC230402 **Credits : 5**

ALLIED MATHEMATICS II

UNIT - I

Integration - Integrals of functions containing linear functions of x - Integrals of functions involving $a^2 + x^2$ - integrals of Rational algebraic functions - Integration of irrational functions.

Book 1: Chap. I sec 6.1, 6.2, 7 (Omit 7.4), 8 case (i) to (iv) only
Page no: 7-13, 23-31, 39-47.

UNIT – II

Properties of definite integrals - Simple applications - Integration by parts - Bernoulli's formula.

Book 1: Chap. I Sec. 11, 12, 15
Page no: 61-72, 93, 94.

UNIT – III

Differential equations of first order - Variable separable - Homogeneous equations - Nonhomogeneous equations - Linear equation - Bernoulli's equation.

Book 1: Chap 4: Sec 1-5
Page no: 205-218.

UNIT – IV

Second order Linear equations with constant co-efficients - Particular integrals for $e^{(kx)}$, sin kx, cos kx, x^n and $e^{(kx)}$ X.

Book 2: Chap 3: Sec 1-4, Page no: 42-60.

UNIT – V

Laplace transform - Definition - Some general theorems - Inverse Transform.

Book 1: Chap 7: 7.1, 7.2, 7.3, 7.4, 7.5
Page no: 289-308.

Text Book:

1. Ancillary Mathematics, Vol-II (2009), S. Narayanan, R. Hanumantha Rao, T.K. Manicavachagom Pillay, Kandaswamy.
2. Ancillary Mathematics Book II: Narayanan, Manicavachagom PIllay.

Semester II **Hours/Week : 2**
11UCE240802 **Credits : 2**

COMPUTER LITERACY: WEB USER INTERFACE

OBJECTIVE

To impart the basic knowledge of Internet and give an introduction to HTML.

UNIT I **5 HRS**

BASIC INTERNET CONCEPTS: What is Internet – History – Host Machines and Host Names-Client / Server Model – Domain Names – Protocols- IP Address.

UNIT II **5 HRS**

ADVANCED INTERNET CONCEPTS: Anatomy of an Email Message – Viewing - Sending – Replying - Search Engines – Meta Search Engine.

UNIT III **5 HRS**

HTML INTRODUCTION: History of HTML – HTML Document – Anchor Tags – Hyper Links-Sample HTML Documents

UNIT IV **5 HRS**

HEAD AND BODY SECTIONS: Header Section – Title – Prologue – Links – Comment – Heading – Horizontal Rule – Paragraph – Images and Pictures - Ordered and Unordered List

UNIT V **5 HRS**

TABLES: Table Creation – ColSpan, RowSpan – Cell Spacing, Cell Padding – Nested Tables. **FRAMES:** Frameset Definition – Frame Definition – Nested Frames. **FORMS:** Action Attribute – Method Attribute – Drop Down List – Sample Forms.

TEXT BOOK(S)

1. Wendy G. Lehnert, “Internet 101 - A Beginners Guide to Internet and the World Wide Web”, Addison Wesley.

UNITS I & II

2. C. Xavier,”World Wide Web design with HTML”, Tata McGraw Hill Publishing Limited, New Delhi.

UNITS III, IV & V

பருவம் - 3 **மணி நேரம் - 4**
11UGT310003 **புள்ளிகள் - 3**

பொதுத் தமிழ் - III

நோக்கங்கள்

1. செம்மொழித் தமிழ்ச்செய்யுள்களான பதிணென்மேல் கணக்கு, பதிணென்கீழ்க் கணக்குப் பாடல்களைப் படித்துப் பொருள் புரிந்து கொள்ளும் திறன் பெறுதல்
2. பண்டைய இலக்கியங்களில் அமைந்துள்ள சமூகக் கருத்துக்களை உணர்தல்.
3. மரபுக் கவிதை வடிவங்களை அறிதல்.
4. கவிதைகளில் அணிகள் அமைந்துள்ள பாங்கைப்புரிதல்.
5. புதினம் வழித் தற்காலச் சமுதாயச் சிக்கல்களையும், அதற்கான தீர்வுகளையும் ஆராய்ந்தறிதல்.

பயன்கள்

1. செம்மொழியாம் தமிழ் மொழியின் சிறப்பை அறிந்துகொள்வர்.
2. பண்டைய இலக்கியங்கள் உணர்த்தும் அறக்கருத்துக்களை அறிந்து, மாணவர் ஒழுக்க நெறியில் வாழ்ந்து சமூகத்தை மேம்படுத்துவர்.
3. மாணவர் புதினத்தைக் கற்பதன் மூலம் சமுதாயச் சிக்கல்களை உணர்ந்து அவற்றிற்குத் தீர்வு காண்பர்.

அலகு : 1 *(16 மணி நேரம்)*

பத்துப்பாட்டு - குறிஞ்சிப்பாட்டு (முழுமையும்)

அலகு : 2 *(10 மணி நேரம்)*

நற்றிணை, குறுந்தொகை, யாப்பிலக்கணம் (வெண்பா, ஆசிரியப்பா)

அலகு : 3 *(10 மணி நேரம்)*

இலக்கிய வரலாறு – 'தமிழ்மொழியின் தொன்மையும் சிறப்பும்' *முதல்* 'சங்கத் தொகை நூல்கள்' முடிய.

புதினம் – முழுமையும்.

அலகு : 4 *(12 மணி நேரம்)*

கலித்தொகை, பதிற்றுப்பத்து, புறநானூறு, அணியிலக்கணம்.

அலகு : 5 *(12 மணி நேரம்)*

திருக்குறள்

இலக்கிய வரலாறு – சங்க இலக்கியங்களின் தனித்தன்மைகள் முதல் இரட்டைக் காப்பியங்கள் முடிய.

பாடநூல்கள்

1. செய்யுள் திரட்டு, தமிழாய்வுத்துறை வெளியீடு (2011 - 2014)
2. சமூகவியல் நோக்கில் தமிழிலக்கிய வரலாறு, தமிழாய்வுத்துறை வெளியீடு,2010
3. புதினம் (ஒவ்வொரு கல்வியாண்டும் ஒவ்வொரு புதினம்).

மதிப்பெண் பகிர்வு

பிரிவு	*பாகம் -1*	*பாகம் -2*	*பாகம்-3*
செய்யுள்	12 (12 வினாக்கள்)	8 (2 வினாக்கள்)	30 (2 வினாக்கள்)
இலக்கியவரலாறு	6 (6 வினாக்கள்)	8 (2 வினாக்கள்)	30 (2 வினாக்கள்)
புதினம்	----------	----------	15 (1வினா)
இலக்கணம்	2 (2 வினாக்கள்)	4 (1 வினா)	----------

Sem: III **Hours :5**
Code: 11UGE320103 **Credits: 3**

GENERAL ENGLISH -III

Objectives:

1. *To enable the students to complete the pre-reading task to comprehend the local and global issues in the lessons..*
2. *To enable the students to complete the post-reading task centering on Grammar and Skill Development*
3. *To empower the students with globally employable skills.*

UNIT-I **12 Hrs**

Larry Collins & Dominque Lapierre
Freedom at Midnight (Extract)
Alfred Uhry
Driving Miss Daisy
Extensive Reading—Robinson Crusoe (Chapters 1-3)
Essential English Grammar—61-66.

UNIT-II **12 Hrs**

Alfred Lord Tennyson
Ulysses
Nathanial Branden
Our Urgent Need for Self-esteem
Extensive Reading—Robinson Crusoe (Chapters 4-6)
Essential English Grammar—67-72.
Reader's Mail :The Hindu

UNIT-III **11 Hrs**

Daniel Goleman
Emotional Intelligence
Marcel Junod
The First Atom Bomb.
Extensive Reading—Robinson Crusoe (Chapters 7-9)
Essential English Grammar—73-78.
Job Application.

UNIT-IV **20 Hrs**

E.K.Federov
Climate Change and Human Strategy.
Paolo Mauro
Corruption: Cases, Consequences and Agenda for further Research.
Extensive Reading—Robinson Crusoe (Chapters 10-12)
Essential English Grammar—79-84.
Minutes Writing.

UNIT-V **15 Hrs**

Anne Frank
The Diary of Young Girl
A.P.J.Abdul Kalam
Wings of Fire
Extensive Reading—Robinson Crusoe (Chapters 13-15)
Essential English Grammar— 85-90.
Resume Writing.

Text Books

1. Elango K. *Insights*. Hyderabad: Orient Blackswan Pvt Ltd,2009.
2. Murphy, Raymond. *Essential English Grammar*. New Delhi. Cambridge University Press India Ltd,2009.
3. Defoe, Daniel. *Robinson Crusoe*. Chennai: MacMillan India Ltd,2009.
4. Stevenson R L. *Treasure Island*. Chennai: MacMillan India Ltd,2009.
5. Ram N Ed. *The Hindu*. Tiruchirappalli.

Semester : III **Hours/Week : 6**
11UBC330206 **Credits : 4**

VB.NET

OBJECTIVE

To highlight the features of VB.Net and apply it to develop various applications.

UNIT I **13 HRS**

.NET FRAMEWORK AND VB.NET: Evolution of the .NET Framework – Overview of the .Net Framework – VB.NET – Simple VB.Net Program. **VARIABLES, CONSTANTS AND EXPRESSIONS:** Value Types and Reference Types – Variable Declarations and Initializations – Value Data Types – Reference Data Types – Boxing and Unboxing – Arithmetic Operators – Textbox Control – Label Control – Button Control.

UNIT II **13 HRS**

CONTROL STATEMENTS: If Statements – Radio Button Control – Check Box Control – Group Box Control – Listbox Control – Checked List Box Control – Combo box Control – Select Case Statement – While Statement – Do Statement – For Statement. **METHODS AND ARRAYS:** Types of Methods – One Dimensional Array – Multi Dimensional Arrays – Jagged Arrays. **CLASSES:** Definition And Usage of a Class – Constructor Overloading – Copy Constructor – Instance and Shared Class Members – Shared Constructors.

UNIT III **13 HRS**

INHERITANCE AND POLYMORPHISM: Virtual Methods – Abstract Class and Abstract Methods – Sealed Classes. **INTERFACES, NAMESPACES AND COMPONENTS:** Definition of Interfaces – Multiple Implementations of Interfaces – Interface Inheritance – Namespaces – Components – Access Modifiers. **DELEGATES, EVENTS AND ATTRIBUTES:** Delegates – Events – Attributes – Reflection.

UNIT IV **13 HRS**

EXCEPTION HANDLING: Default Exception Handling Mechanism – User Defined Exception Handling Mechanism – Throw Statement – Custom Exception. **MULTITHREADING:** Usage Of Threads – Thread Class – Start(), Abort(), Join(), and Sleep() Methods – Suspend() And Resume() Methods – Thread Priority – Synchronization. **I/O STREAMS:** Binary Data Files – Text Files - Data Files – FileInfo and DirectoryInfo Classes.

UNIT V **13 HRS**

ADDITIONAL CONTROLS: Timer – ProgressBar – LinkLabel – Panel – TreeView – Splitter – Menu – SDI & MDI – Dialog Boxes – Toolbar – StatusBar. **DATABASE CONNECTIVITY:** Advantages Of ADO.NET – Managed Data Providers – Developing a Simple ADO.NET Based Application – Creation of Data Table – Retrieving Data From Tables – Table Updating – Disconnected Data Access Through Dataset Objects.

TEXT BOOK

C. Muthu, "Visual Basic.NET", 2nd Ed., Vijay Nicole Imprints Pvt.Ltd., 2008.

BOOK FOR REFERENCE

Peter Aitken's, "Visual Basic .NET Programming" 1st Ed., Dream Tech Press., 2002.

Semester III **Hours/Week : 3**
11UBC330207 **Credits : 2**

SOFTWARE LAB – III (VB.NET PROGRAMMING)

01. Develop an Image Viewer Application
02. Simulate a Scientific Calculator
03. Simulate a Paint Brush Application
04. Develop a Notepad Editor using Dialog Control
05. To Move an object using Timer Control
06. Develop a Simple Student Information System Using Files
07. Develop a College Admission Form Using MDI
08. Validate a Bio – Data Application Form
09. Develop an Inventory Control System Using ADO.NET
10. Develop a CIA SYSTEM Using Grid Control.

SEMESTER – III **Hours/Week : 4**
11UBC330403A **Credits : 4**

ALLIED: APPLIED PHYSICS- I

Objectives:

- To acquire knowledge of current electricity and Potentiometer.
- To understand the basic principle of electromagnetism and magnetic materials and circuits
- To study the basic principles of Laser and optical fibers and their applications .
- To learn about alternating current generation and distribution and a principle of a Transformer.

UNIT – I : Electricity and Capacitor

Electric current and its units – Definition of important parameters- Ohm's law and its verification- -Effect of temperature on resistance- Electric power and electric energy and their units- Principle of capacitor- capacity of parallel plate capacitor- Energy of charged capacitor – Potentiometer- Principle- calibration of ammeter and voltmeter.

UNIT – II : Electromagnetism

Magnetic lines of force – Magnetic field and magnetic induction- Magnetic flux – Magnetic field around a current carrying conductor- Direction of magnetic field –Biot –Savart's Law – Magnetic field inside the solenoid- Fleming's Left Hand rule- Galvanometer – shunt – Conversion of a galvanometer into an ammeter and voltmeter.

UNIT – III : Magnetic Properties of Materials And Magnetic Circuit

Force between magnetic poles – Permeability – Susceptibility, Magnetic field intensity and intensity of magnetization- Para, Dia,Ferro magnetic substances – Magnetic circuits – Magneto Motive force – Reluctance – Permeance – Ohm's law of magnetic circuits-Reluctance in series and parallel –comparison between magnetic and electric circuits – Magnetic bubble memories.

UNIT – IV : Laser and Optical Fibre

Spontaneous and stimulated emission – population inversion – pumping process and active medium- The Ruby Laser-CO_2 Laser – He-Ne Laser – Semiconductor Laser-uses of Lasers. Optical fibre – total internal reflection – Numerical aperture and acceptance cone – types of optical fibre- fibre optics communication system- applications

UNIT – V : Alternating Current and Transformer

Alternating currents – Basic Definitions – Effective value , R.M.S. value and Average value of AC- Generating of Alternating current – Distribution of AC currents- Transformer- Principle – working of transformer- step-up and step down transformers.

BOOK FOR STUDY:

1. A.S.Vasudeva, Modern Engineering Physics, S.Chand and CompanyLtd., 1988.
2. R.K.Gaur and S.L Gupta – Engineering Physics, Dhanapat Raj.

UNIT	BOOK	SECTIONS
I	1	2.2,2.3,5.4,6.10-6.13,9.10-9.13,9.17,15.7,15.8
II	1	2.2-2.5,3.1,3.2,3.7,3.8
III	1	3.2-3.4,3.15,3.16,1.2-1.4,1.7-1.10.
IV	1	8.2,8.3,8.8-8.15, 8.17, 8.20, 8.22, 8.24, 8.28, 8.34, 8.35
V	2	2.4,2.9,4.25-4.27,5.21,5.27,5.28,6.10

BOOKS FOR REFERENCE:

1. Electricity & Magnetism - Sehgal, Chopra, Sehgal, S. Chand & Sons, New Delhi, 2002.
2. Electronics & Magnetism - R. Murugesan, S. Chand & Company Ltd., New Delhi, 7th Revised Edition, 2008.
3. Applied Physics for Engineers - V. Rajendran, A. Marikani, Second Edition, Tata McGraw - Hill Publishing Company Ltd., New Delhi, 1996.

SEMESTER – III **Hours/Week : 6**
11UBC330403B **Credits : 5**

ALLIED : ACCOUNTS - I

OBJECTIVES

* To enable the students to have a thorough knowledge of the fundamental concept basic principles of accountancy.
* To provide knowledge on the importance of maintaining various book of accounts.

UNIT – I (18 Hours)

Accounting principle concepts- subsidiary books – ledger

UNIT – II (18 Hours)

Trail balance – bank reconciliation statement- rectification of errors

UNIT – III (18 Hours)

Trading, Profit and Loss Accounts – Balance Sheet of a sole trader (Simple Adjustments)

UNIT – IV (18 Hours)

Non-trading organization – Preparation of income and expenditure account form receipts and payment accounts (simple adjustments)

UNIT – V (18 Hours)

Single entry or Accounts from incomplete records.

TEXT BOOK

Shukla MC, Grewal TS and Gupta SC, (2006), Advanced Accounts Volume I, S.Chand and Company Ltd, New Delhi.

REFERENCES

1. Reddy TS and Murthy A, (2006), Financial Accounting, Margham Publications, Chennai.
2. Gupta RL and Gupta VK, (2006), Financial Accounting, Sultan Chand and Sons, New Delhi.
3. Gupta RL and Radhaswamy, (2006), Advanced Accountancy, Volume I, Sultan Chand and Sons, New Delhi.
4. Jain SP, Narang KL,(2004), Advanced Accountancy Volume I, Kalyani Publishers.
5. Maheshwari SN and Maheshwari SK, (2005), Introduction to Accountancy, Vikas Publishing House PVT. Ltd. New Delhi.

பருவம் - 4 **மணி நேரம் - 4**
11UGT410004 **புள்ளிகள் - 3**

பொதுத் தமிழ் - 4

நோக்கங்கள்

1. நாடகத்தின் நோக்கம், அதன் போக்கு, உத்திகள், பாத்திரப் பாங்கு, உரையாடல் முறை, கற்பனைத் திறம் போன்றவற்றை வெளிப்படுத்துதல்.
2. புதிய நாடகங்களைப் படைக்கும் திறனை மாணவர்களிடையே உருவாக்குதல்.

பயன்கள்

1. நாடகவழி அழகியல் உணர்வுகளை வளர்த்துக் கொள்வர்.
2. நாடகங்களைச் சமூகப் பயன்பாட்டிற்கு ஏற்ப உருவாக்கும் திறன் பெறுவர்.

அலகு : 1 *(12 மணி நேரம்)*

மனோன்மணீயம், பாயிரம், அங்கம் - 1, களம் 1 - 5 வரை.

அலகு : 2 *(12 மணி நேரம்)*

மனோன்மணீயம், அங்கம் - 2, களம் 1 - 3 வரை.

உரைநடை நாடகம் - ஈரோடு தமிழன்பன் - ஈர நெருப்பு
(முதல் மூன்று நாடகங்கள்)

அலகு : 3 *(12 மணி நேரம்)*

மனோன்மணீயம், அங்கம் - 3, களம் 1 - 4 வரை.

அலகு : 4 *(12 மணி நேரம்)*

மனோன்மணீயம், அங்கம் - 4, களம் 1 - 5 வரை.

அலகு : 5 *(12 மணி நேரம்)*

மனோன்மணீயம், அங்கம் - 5, களம் 1 - 3 வரை.

உரைநடை நாடகம் - ஈரோடு தமிழன்பன் - ஈர நெருப்பு,
(4, 5, 6 ஆம் நாடகங்கள்)

பாடநூல்கள்

1. சுந்தரனார், பெ. மனோன்மணீயம், தமிழாய்வுத்துறை (பதிப்பு), தூய வளனார் கல்லூரி, திருச்சிராப்பள்ளி-2. ***(அங்கம் - 3 இல் களம் - 4 நீங்கலாக)***
2. உரைநடை நாடகம் - ஈரோடு தமிழன்பன் - ஈர நெருப்பு, அய்யா நிலையம், நாஞ்சிக் கோட்டை சாலை, தஞ்சாவூர் - 613 006.

மதிப்பெண் பகிர்வு

பிரிவு	*பாகம் -1*	*பாகம் -2*	*பாகம்-3*
மனோன்மணீயம்	20 (20 வினாக்கள்)	20 (5 வினாக்கள்)	60 (4 வினாக்கள்)
உரைநடை நாடகம்	----------	----------	15 (1 வினா)

Sem: IV **Hours :5**
Code: 11UGE420104 **Credits: 3**

GENERAL ENGLISH -IV

Objectives:

1. *To enable the students to complete the pre-reading task to comprehend the local and global issues in the lessons..*
2. *To enable the students to complete the post-reading task centering on Skill Development and Grammar..*
3. *To empower the students with globally employable soft skills.*

UNIT-I **12 Hrs**

Life Stories F.G.Herod
Mother Teresa
R.K.Narayan
Swami and Friends
Extensive Reading Treasure Island (1-4)
Essential English Grammar 91—95.
Film Review (The Hindu).

UNIT –II **12 Hrs**

Imogen Grosberg
See Off the Shine
George Orwell
The Porting Spirit
Extensive Reading Treasure Island (5-8)
Essential English Grammar 96-100.
Article Writing on Current Issues.

UNIT-III **11 Hrs**

Philip Agre
Building an Internet Culture
Satyajit Ray
Odds Against Us
Extensive Reading Treasure Island (9-12)
Essential English Grammar 101-105.
Mock Interviews

UNIT-IV **20Hrs**

Jerzy Kosinski
TV as Babysitter.
E.F.Scumacher
Technology With Human Face.
Extensive Reading Treasure Island (13-17)
Essential English Grammar 106-110.
Mock Group Dynamics

UNIT-V **15 Hrs**

Aluizio Borem, Fabrico
R.Santos & David E.Bower
Advent of Biology
Mark Ratner & Daniel Ratner
Nanotechnology
Extensive Reading Treasure Island (18-22)
Essential English Grammar 111-114.
Presentation Skills

Text Books

1. Elango K. *Insights*. Hyderabad: Orient Blackswan Pvt Ltd,2009.
2. Murphy, Raymond. *Essential English Grammar*. New Delhi. Cambridge University Press India Ltd,2009.
3. Defoe, Daniel. *Robinson Crusoe*. Chennai: MacMillan India Ltd,2009.
4. Stevenson R L. *Treasure Island*. Chennai: MacMillan India Ltd,2009.
5. Ram N Ed. *The Hindu*. Tiruchirappalli.

Semester IV **Hours/Week : 6**
11UBC430208 **Credits : 4**

RELATIONAL DATABASE MANAGEMENT SYSTEM

OBJECTIVE

To study the basic concepts of database and relational database management system, the rudiments of PL/SQL.

UNIT I **13 HRS**

BASIC CONCEPTS: Data Modeling for a Database – Records and Files – Abstraction and Data Integration – Three Level Architecture for DBMS – Components of a DBMS – Advantages and Disadvantages of DBMS. **DATA MODEL:** Data Associations – Data Models Classification – Entity Relationship Model.

UNIT II **13 HRS**

FILE ORGANIZATION: The Constituents of a File – Formal Specification of Storage of File – Logical Access – Primary Key Retrieval – Sequential Files – Index Sequential Files –Direct File – Secondary Key Retrieval – Index using Tree Structures.

UNIT III **13 HRS**

RELATIONAL MODEL: Relational Database – Attributes and Domains – Tuples – Relation and Their Schemes – Relational Representation – Keys - Relationship – Relational Operations – Integrity rules – Relational Algebra – Basic Operations.

UNIT IV **13 HRS**

RELATIONAL DATABASE MANIPULATION: SQL – Data Manipulation in SQL – Views. **RELATIONAL DATABASE DESIGN:** Relation Schemes and Relational design – Universal Relation - Functional Dependencies and keys - Normal forms: Anomalies and Data Redundancy – Lossless Join and Dependency – Decomposition into Third Normal Form – Boyce Code Normal Form.

UNIT V **13 HRS**

INTRODUCTION OF PL/SQL: Advantages of PL/SQL – The Generic PL/SQL Block – **PL/SQL :** Data types – Variables – Constants – Control Structures – Cursors – Exception Handling –Procedures and Functions - Packages – Triggers – Types of triggers.

TEXT BOOK(S)

1. Bipin C. Desai, “An Introduction to Database System“, Galgotia, New Delhi, 2005.

   UNITS I,II,III & IV.

2. Ivan Bayross, “The Programming Languages of Oracle”, 3rd Edition, BPB Publications New Delhi, 2008.
   UNIT V

BOOK(S) FOR REFERENCE

1. C.J. Date “An Introduction to Database System “, Pearson Education, New Delhi, 2005.

2. P.S. Deshpande “SQL & PL/SQL for Oracle 10g”,DreamTech Press, New Delhi, 2007.

Semester IV **Hours/Week : 3**
11UBC430209 **Credits : 2**

SOFTWARE LAB – IV (RDBMS)

01. Table creation and simple queries.
02. Queries using Aggregate function and Set Operations
03. Table creation with various Joins
04. Nested sub queries and correlated sub queries
05. View creation and manipulation
06. PL/SQL Program using Cursors
07. PL/SQL Program using Procedure and Function
08. PL/SQL Program using Packages
09. PL/SQL Program using Triggers
10. D2K: Form Creation, Storing and Retrieving

Semester – IV **Hours/Week : 4**
11UBC430404 A **Credits : 4**

ALLIED: APPLIED PHYSICS - II

Objectives:

- To understand the different switches and display devices supporting devices of a computer.
- To acquire knowledge of semiconductor diodes and transistors, op-amp and its applications.
- To understand the knowledge of different types of communication.

UNIT – I : Switches and Devices

Microphones – Digital displays – Loud speakers- , Head phones and ear pieces – Cathode Ray Oscilloscope (CRO) – Pick-ups – Heat and Light Sensors – Relays and switches

UNIT- II : Semiconductor Diodes and Transistors

Semiconductors – P-type and N-type semiconductors – Junction diode – Junction Diode characteristic – Semiconducting diode as a rectifier-Other diodes – Transistor characteristics- Transistor as a switch- Transistor as a current amplifier.

UNIT – III : Power Supplies , Safety and Instruments

Electricity at home – Dangers of electricity, safety precautions – Generating Electricity – Sources of EMF – Rectifier Circuits – Smoothing Circuits – Stabilizing Circuits.

UNIT – IV : Analog and Digital Electronics

Amplifiers and Feed back-Tuned LC oscillator – Operational Amplifier – OP-Amp voltage amplifier – OP-Amp summing amplifier -OP-Amp comparator – OP-Amp Integrators – OP-Amp oscillators – Logic Gates – Types of Logic Gates.

UNIT – V : Communication Systems

Audio systems – Sound recording – Complete Hi-fi system – Radio and Television- Radio waves , Radio system – Colour Television – Cable and Satellite TV – Telephone system , Simple Telephone circuits – Telephone exchange

BOOK FOR STUDY:

1. Tom Duncan , Electronics – For Today and Tomorrow, BPB Publications 3rd Edition.

UNIT	BOOK	CHAPTER	SECTIONS
I	**1**	**1**	**17-25**
II	1	2	26-35
III	1	3	36-42
IV	1	4	49-53,56
V	1	5	82,83,84-89,90-92.9496

BOOK FOR REFERENCE:

1. A.S. Vasudeva - Modern Engineering Physics, S. Chand and Company Ltd., 1988.
2. A Text Book of Applied Electronics - R.S. Sedhu, S. Chand & Company, New Delhi, 2006.
3. Electronic devices and circuits - Salevahavan, Tata McGraw - Hill Publishing Company Ltd., New Delhi, 2008.

SEMESTER – III & IV **Hours/Week : 2**
11UBC430405 **Credits : 2**

ALLIED: APPLIED PHYSICS PRACTICAL

Any 16 Experiments

1. Resistance of a Thermistor- Multimeter
2. EMF of a Thermocouple – Multimeter
3. Temperature Co-efficient of Thermistor
4. Potentiometer – Calibration of Ammeter
5. Potentiometer – Calibration of Voltmeter
6. Field along the axis of a coil
7. Junction Diode – V-I characteristics
8. Zener Diode –V-I Characteristics
9. Bridge Rectifier - π filter circuit
10. Regulated Power supply Using Zener Diode
11. Transistor Characteristics – CE Mode
12. FET Characteristics –CG Mode
13. Ballistic Galvanometer – Figure of Merit
14. Single Stage R-C coupled amplifier – Frequency Response
15. Operational- Amplifier – adder, subtractor, comparator,
16. Basic Logic Gates – Using IC's
17. Logic gates using IC's to solve Boolean expressions.
18. Logic Gates Using IC's -The study of universal gates& Demorgan's Theorem
19. Encoders using Diodes
20. Encoders using OR gates.
21. Shift register using IC7495.
22. R-S, J-K , D,T Flip-flops using Logic gates IC's

Semester – IV **Hours/Week : 6**
11UBC430404B **Credits : 5**

ALLIED : ACCOUNTS - II

OBJECTIVE

* To impart basic knowledge of partnership and company accounts
* To help students to know the treatment of account in different situations.

UNIT – 1 (20 Hours)

Partnership accounts I – admission – meaning of goodwill valuation of goodwill – treatment of goodwill – revaluation of assets and liabilities – new profit sharing ratio - capital accounts – balance sheet of after admission.

UNIT – 2 (20 Hours)

Retirement and death of partners – revaluation of assets and liabilities – treatment of goodwill – closing of retiring partner's capital a/c – joint life policy – balance sheet after retirement and death.

UNIT – 3 (20 Hours)

Partnership accounts II – Dissolution – realization account – dissolution of firm – insolvency of partners Garner Vs Murray – Piece meal distribution.

UNIT – 4 (15 Hours)

Company accounts – Principles of company accounts – application – allotment – forfeiture – reissue of share.

UNIT – 5 (15 Hours)

Company Final Account (Simple Adjustments)

TEXT BOOK

Reddy TS and murthy A, (2006), Financial Accounting, Margham Publications, Chennai.

REFERENCES

1. Shukla MC, Grewal TS, (2006), Advanced Accounts Volume I & II, S.Chand and company Ltd, New Delhi.
2. Gupta RL, Gupta V.K, (2006), Finanacial Accounting, Sultan Chand and Sons, New Delhi.
3. Gupta RL, and Radhaswamy M, (2006), Advanced Accountancy, Volume I and II, Sultan Chand and sons New Delhi.
4. Maheshwari SN, Maheshwari SK, (2005), Introduction to Accouncy, Vikas Publishing House Pvt.Ltd, New Delhi.

Semester IV **Hours/Week : 4**
11UBC430301A **Credits : 4**

ELECTIVE - I : MANAGERIAL SOFT SKILLS

OBJECTIVE

To impart managerial soft skills which deals with personal, communication and management skills to compete with the professional world.

UNIT I **10 HRS**

INTRODUCTION: Soft Skills-Self Discovery-Knowing Thyself-Developing Positive Attitude-Forming Values-Improving Perception.

UNIT II **10 HRS**

INTERPERSONAL SKILLS: How to Improve Interpersonal Skills-How to Resolve Conflicts-Dealing with Different People-Negotiation Skills-Cross Cultural Communication.

UNIT III **10 HRS**

COMMUNICATION SKILLS: Listening Skills- Reading Skills- Speaking Skills- Interview Skills- Group Discussion- Résumé Writing - Career Planning**.**

UNIT IV **10 HRS**

MANAGEMENT SKILLS: Time Management - Stress Management, Etiquette and Manners**.**

UNIT V **10 HRS**

TEAM BUILDING AND LEADERSHIP: Team Work-Team Building and Development - Leadership-Leaders and Managers-Leadership Theories-Leadership Strategies.

TEXT BOOK(S)

1. Dr.K.Alex, “Soft Skills Know Yourself and Know the World “, 1st Ed., S.Chand and Company Ltd., New Delhi, 2009.

   UNITS I, III & IV

2. G. Ravindran, S.P.B. Elango, Dr. L. Arockiam, “Success Through Soft Skills”, Institute for Communication and Technology, Trichy-2007.

   UNIT II

3. Dr.B.Rathan Reddy, “Team Development and Leadership”, Jaico Publishing House, Mumbai-2005.
   UNIT V

BOOK(S) FOR REFERENCE

1. E.H. McGrath S.J., “Basic Managerial Skills for All”, 6th Ed., prentice Hall of India, New Delhi, 2004.

2. Francis Thamburaj S.J., “Communication Soft Skills For Professional Excellence”,1st Ed., Grace Publishers, 2009.

Semester IV **Hours/Week : 4**
11UBC430301B **Credits : 4**

ELECTIVE I : NUMERICAL APTITUDE

OBJECTIVE

To revise and master the basic techniques of arithmetic operations & logical reasoning.

UNIT I **10 HRS**

Numbers, HCF, LCM, Decimal fractions ,Simplification, Square roots, cube roots, averages, problems in numbers and ages, Surds,Indices.

UNIT II **10 HRS**

Percentages, profit and loss, ratio and proportion, partnership, chain rule, Time and work, Pipes and Distances, Time and Distance, problems on trains, Boats and streams.

UNIT III **10 HRS**

Alligation, Simple Interest, Compound Interest, Logarithms, Area, Volume and surface area, Races and games of skill, Calendar, clocks, Stocks and shares.

UNIT IV **10 HRS**

Permutation and combination, probability, True discount, banker's discount, height and distances, Odd man out series, Tabulation, Bar graphs, pie charts, Line graphs.

UNIT V **10 HRS**

LOGICAL REASONING: Illustrative examples, classification, series completion, coding-decoding, blood relations, puzzle test, direction sense test, logical venn diagrams, data sufficiency, assertion and reason analogy.

TEXT BOOK(S)

1. R.S. Aggarwal, "Quantitative aptitude for competitive Examinations", Seventh Revised Edition,S.Chand and Co.Ltd, New Delhi, 2005.

   UNITS I, II, III & IV

2. R.S. Aggarwal, "A modern approach to verbal and non verbal reasoning", New Delhi, Milestone Publication, 2005.
   UNIT V

Semester V **Hours/Week : 5**
11UBC530210 **Credits : 4**

JAVA PROGRAMMING

OBJECTIVE

To understand the fundamental concepts of the object oriented technology and the power of Java language.

UNIT I **12 HRS**

INTRODUCTION TO JAVA: Primaries – Control Statements. **CLASSES AND OBJECTS**: General form of a class – Creation of Objects –Usage of Constructors – 'this' keyword- Constructor overloading-Copy constructors-Static Data Members – Static Methods- 'finalize()' Method.

UNIT II **12 HRS**

INHERITANCE AND POLYMORPHISM: Inheriting Variables in a Class – Inheriting Methods in a Class – Inheritance and Constructors – Abstract Classes – Final Classes. **INTERFACES AND PACKAGES:** Interfaces-Structure of an Interface – Implementation of an Interface – Interface Inheritance. Packages – Placing the Classes in a Package – Package Hierarchy – Access Control Modifiers.

UNIT III **12 HRS**

APPLETS: The Life Cycle of an Applet – The Applet Class – Development and Execution of a Simple Applet – Syntax of Applet Tag – Methods in the Graphics Class. **ABSTRACT WINDOWING TOOLKIT:** Events – Listeners – Event Handling Methods – Inheritance Hierarchy of Control Classes - Windows and Frames – Menus – Dialogs – Mouse Events and their Listeners.

UNIT IV **12 HRS**

EXCEPTION HANDLING: Default Exception Handling – Exception and Error Classes – Catch Block Searching Pattern – 'Throw' Statement – 'Throws' Statement – Custom Exceptions. **THREADS:** Life Cycle of a Thread – Creating and Running Threads – Methods in the Thread Class – Setting the

priority of a thread – Synchronization – Dead Lock – Inter Thread Communication – Applets Involving Threads.

UNIT V **12 HRS**

I/O STREAMS: Input Stream and Output Stream classes – Reader and Writer classes – Data Output Stream and Data Input Stream Classes. **NETWORKING:** TCP Server Socket Class – TCP Socket Class - UDP Datagram Socket and Datagram Packet Classes. **DATABASE CONNECTIVITY**: JDBC-ODBC Connection.

TEXT BOOK

C. MUTHU, "Programming with JAVA", Vijay Nicole Imprints, Chennai, 2004.

BOOK FOR REFERENCE

Herbert Scheldt, "The Complete Reference Java 2.0", Tata McGraw Hill, New Delhi, 2002.

Semester V **Hours/Week : 5**
11UBC530211 **Credits : 4**

SOFTWARE ENGINEERING

OBJECTIVE

To introduce the basic concepts of software engineering and the various phases in software development.

UNIT I **12 HRS**

SOFTWARE PROCESS: Software Engineering- A Layered Technology – Process Framework – The Capability Maturity Model Integration – Process Patterns - Personal and Team Process Models. **PROCESS MODELS:** Waterfall Model – Incremental Process Models – Evolutionary Process Models – Specialized Process Models. **SYSTEM ENGINEERING:** System Engineering Hierarchy – System Modeling.

UNIT II **12 HRS**

REQUIREMENTS ENGINEERING: Requirements Engineering Tasks – Initiating Requirement Engineering Process – Eliciting Requirements – Developing Use Cases. **ANALYSIS MODELING:** Data Modeling Concepts – Scenario Based Modeling – Flow Oriented Modeling – Class-Based Modeling.

UNIT III **12 HRS**

DESIGN ENGINEERING: Design Process and Design Quality – Design Concepts. **ARCHITECTURAL DESIGN:** Software Architecture – Data Design - Architectural Styles and Patterns – Mapping Data Flow into Software Architecture. **USER INTERFACE DESIGN:** The Golden Rules – Interface Analysis – Interface Design Steps.

UNIT IV **12 HRS**

TESTING TACTICS: Software Testing Fundamentals – White Box Testing – Basis Path Testing – Control Structure Testing – Black Box Testing.

TESTING STRATEGIES: Strategic Approach to Software Testing – Test Strategies for Conventional Software – Validation Testing – System Testing – The Art of Debugging.

UNIT V **12 HRS**

WEB ENGINEERING: Attributes of Web-Based Systems and Applications – WebApp Engineering Layers – Web Engineering Process. **QUALITY MANAGEMENT**: Quality Concepts – Software Quality Assurance - Formal Technical Review – Software Reliability. **CHANGE MANAGEMENT**: Software Configuration Management-SCM Repository-SCM Process.

TEXT BOOK

Roger S. Pressman, "Software Engineering – A Practitioner's Approach", 6th Ed., McGraw Hill International, 2005.

BOOK(S) FOR REFERENCE

1. Ian Sommerville, "Software Engineering", Addition Wesely, Singapore, 2002
2. K.K. Agarwal & Yogesh Singh, "Software Engineering", New Age International Publishers, Revised Second Edition, 2005.

Semester V **Hours/Week : 4**
11UBC530212 **Credits : 3**

OPERATING SYSTEMS

OBJECTIVE

To present the fundamental aspects of various managements in an operating system and also the basic concepts of the LINUX operating system.

UNIT I **10 HRS**

INTRODUCTION: Meaning – Early Systems - Multiprogrammed Batch Systems – Real-Time Systems. **COMPUTER SYSTEM STRUCTURES**: Computer-System Operation - Storage Hierarchy - General System Architecture. **OPERATING SYSTEM STRUCTURES**: System Components - System Calls - Virtual Machines - System Generation.

UNIT II **10 HRS**

PROCESS MANAGEMENT: Processes - Process Concept - Operation on Processes - Inter-Process Communication. **CPU SCHEDULING**: Basic Concepts - Scheduling Algorithms - Real Time Scheduling. **PROCESS SYNCHRONIZATION**: Background - Critical-Selection Problem – Semaphores. **DEADLOCKS**: System Model - Methods for Handling Deadlocks - Deadlock Avoidance - Recovery from Deadlock.

UNIT III **10 HRS**

MEMORY MANAGEMENT: Background - Swapping - Paging - Segmentation with Paging. **VIRTUAL MEMORY:** Demand Paging - Page Replacement - Allocation of Frames – Thrashing.

UNIT IV **10 HRS**

FILE - SYSTEM INTERFACE: File Concept - Access Methods - Directory Structures . File-System Implementation: File-system Structure - Allocation Methods - Directory Implementation - Efficiency and Performance - Recovery. **MASS STORAGE STRUCTURE**: Disk Structure - Disk Scheduling - Swap-Space Management - Stable-Storage Implementation.

UNIT V **10 HRS**

PROTECTION: Goals of Protection - Access Matrix - Capability Based Systems - Language-based Protection. **SECURITY**: The Security Problem - Authentication - Security Systems and Facilities - Encryption. **LINUX SYSTEM:** Design Principles – User Interface - Process Management - Memory Management - I/O System - InterProcess Communication.

TEXT BOOK

Abraham Silberschatz, Peter Baer Galvin “Operating System Concepts”, 6th Ed, John Wiley & Sons Inc., New Delhi, 2003.

BOOK(S) FOR REFERENCE

1. Harvey M. Deitel, “An Introduction to Operating System”, Addison Wesley, New York, 1999.
2. Andrew S. Tanenbaum, “Modern Operating Systems”, Prentice Hall, New Delhi, 1997.

Semester V **Hours/Week : 4**
11UBC530213 **Credits : 3**

MULTIMEDIA

OBJECTIVE

To understand the fundamental concept of Multimedia and their components.

UNIT I **12 HRS**

MULTIMEDIA: What Is Multimedia**:** Interactive Multimedia – Advantages Of Interactive Multimedia – Where To Use Multimedia – Text – Graphics – Audio – Film – Video. **UNDERSTANDING TEXT:** Typeface or Fonts – Types of Fonts. **COMPUTER GRAPHICS:** 2D Computer Graphics – 3D Computer Graphics API. **UNDERSTANDING SOUND:** Basic Sound Concept – Audio Formats and Quality Levels – AIF Format – AU Format – EA Format – MIDI Format – Mp3 Format. **UNDERSTANDING VIDEO:** Digital Vs Analog Video.

UNIT II **12 HRS**

PHOTOSHOP: Fundamentals – Opening and Importing Images – Resolution – Models and Colour Spaces – Layers. **PAINTING PIXELS:** The Painting Tools – Erasing – Fills – Type. **SELECTION AND ALLIED OPERATIONS:** Marquee selection and cropping – Lasso Selection – Paths – Combining and Transforming Selections.

UNIT III **12 HRS**

ADJUSTMENTS AND RETOUCHING: Tonal Adjustment – Colour Adjustments – Retouching By Hand. **EFFECTS AND FILTERS:** Blurring and Sharpening – Special Effects and Distortion – Layer Effects and Layer Styles.

UNIT IV **12 HRS**

FLASH: Animation with Interacting – Basic Concepts – Drawing – Lines and Shapes – Strokes and Fill – Shapes and Brushes – Selection – Transformation and Reshaping – Importing Artwork and Manipulating Images. **ANIMATION:** Animating One Frame at a Time – Motion Tweening – Symbols and Instances – Shape Tweening – Sound.

UNIT V **12 HRS**

ACTIONS: Buttons – Button action – Frame Action – Action and Movie Clip Symbols – Actions – Browsers and Networks – Beyond the Basic Actions. **FLASH MX275:** Interface Elements – Panels – Tools – Layer Folders – Accessibility – Video – Components – User Interface Components – Changing the Appearance of Components.

TEXT BOOK(S)

1. Vishnu Priya Singh, “A Text Book of Multimedia”, 1st Ed., Computech Pub. Ltd, New Delhi, 2006.

   UNIT I

2. Nigel Chapman and Jenny Chapman, “Practical Multimedia”, 2nd Ed., Wiley – Dream Tech Pvt. Ltd.
   UNITS II, III, IV & V

BOOK(S) FOR REFERENCE

1. Thiagharajan and Anbumani, “Flash MX 2004”, Tata McGraw Hill, New Delhi.

2. Laurie Ulrich Fuller and Robert C. Fuller, “Photoshop CS3 Bible”, Willey India Pvt. Ltd.

Semester V **Hours/Week : 3**
11UBC530214 **Credits : 2**

SOFTWARE LAB – V (JAVA PROGRAMMING)

01. Classes and Objects.
02. Constructors.
03. Inheritance.
04. Packages and Interfaces.
05. Exception Handling.
06. Threads.
07. Applet and AWT controls.
08. Menus.
09. Client / Server chatting
10. JDBC Connection.

Semester V **Hours/Week : 3**
11UBC530215 **Credits : 2**

SOFTWARE LAB – VI (MULTIMEDIA)

Photoshop

1. Create an image using different properties.
2. Picture manipulation using filter.
3. Design pictures using layers.
4. Design our college ID Card.
5. Design Marriage Invitation.

Flash

6. Design a car.
7. Move a Ball.
8. Human Movement using animation.
9. Create an Advertisement.
10. Develop a webpage using Photoshop and flash.

Semester V **Hours/Week : 4**
11UBC5303024 **Credits : 4**

ELECTIVE II: SOFTWARE TESTING

Objective:

To give overall information view of the software testing.

UNIT I **10 HRS**

PRINCIPLES OF TESTING: Introduction - Phases of software - Quality assurance and Quality control - Testing verification and validation - **TECHNIQUES:** White box - static testing - structural testing - challenges in white box testing - Black box testing.

UNIT II **10 HRS**

TYPES OF TESTING: Integration testing - Top-Down Integration - Bottom-up integration-Bi-Directional Integration - System - Integration - **SYSTEM ACCEPTANCE TESTING:** Functional versus Non Functional Testing - Functional System Testing - Non Functional Testing Acceptance Testing.

UNIT III **10 HRS**

PERFORMANCE TESTING: Introduction - Factors of governing - performance testing - Methodology for performance testing - Tools for performance testing - Process for performance Testing - REGRESSION TESTING : Introduction - Types regression testing - Best pratice in regression testing.

UNIT IV **10 HRS**

TEST PLANNING: Introduction - Test Plan - Test Management - Test Process - Test Reporting - Test Metrics: Types of metrics - Project metrics - Progress metrics - Productivity metrics - Test Defect Metrics - Development metrics - Test cases development - Closed defect - Execution and reporting.

UNIT V **10 HRS**

SOFTWARE TEST AUTOMATION: Introduction - Scope of automation - Terms used in automation - Design and Architecture for automation - Process

Model for automation - Selecting testing tool - Generic requirement for test tool / framework - Challenges in automation.

TEXT BOOK

Srinivasan Desikan and Gopalasamy Ramesh, "Software Testing for Principles and Practices", Person Education, 2006.

BOOK(S) FOR REFERENCE

1. William E. Perry, “Effective Methods of Software Testing”, 3rd Ed, Wiley India.
2. Renu Rajani, Pradeep Oak, “Software Testing”, TMH, 2007.

Semester V **Hours/Week : 4**
11UBC530302B **Credits : 4**

ELECTIVE II: UNIFIED MODELING LANGUAGE

OBJECTIVE

To specify, visualize, and construct the software system.

UNIT I **10 HRS**

INTRODUCTION TO UML: Importance of Modeling - Principles of Modeling - Object Oriented Modeling - Conceptual Model of the UML- Architecture - Software Development Life Cycle.

UNIT II **10 HRS**

STRUCTURAL MODELING: Classes – Relationships - Common Mechanisms – Diagrams.

UNIT III **10 HRS**

CLASS & OBJECT DIAGRAMS: Terms – Concepts - Modeling Techniques for Class and Object Diagrams.

UNIT IV **10 HRS**

BEHAVIORAL MODELING: Interactions - Interaction Diagrams – Use cases – Use case Diagrams – Activity Diagrams.

UNIT V **10 HRS**

ARCHITECTURAL MODELING: Component – Deployment - Component Diagrams and Deployment Diagrams.

TEXT BOOK

Grady Booch, James Rumbaugh and Ivar Jacobson. “The Unified Modeling Language User Guide”. Addison Wesley Longman Pvt. Ltd., Singapore, 2004

BOOK FOR REFERENCE

Grady Booch, James Rumbaugh and Ivar Jacobson. “The Unified Modeling language Reference manual”. Addison Wesley Longman Pvt. Ltd., Singapore, 2000.

Semester V **Hours/Week :2**
11UBC540601A **Credits : 2**

SKILL BASED ELECTIVE I: FUNDAMENTALS OF IT

OBJECTIVE

To give a overall view of the information technology systems.

UNIT I **5 HRS**

INTRODUCTION TO COMPUTER SYSTEMS: Introduction to Computers, Evolution and Specifications of Computers, I/O Ports, Memory.

UNIT II **5 HRS**

DATA REPRESENTATION (NUMBER SYSTEM): Representation of Characters - Integer and fractions - binary and hexadecimal representation, Binary arithmetic: Addition - Subtraction - Multiplication - Division - one’s and two’s complement.

'UNIT III **5 HRS**

COMPUTER SOFTWARE DEVELOPMENT: Introduction to Computer Software, Operating Systems - Machine - Assembly and high level languages, Compilers and Interpreters, Introduction to Programming using C.

UNIT IV **5 HRS**

DATA COMMUNICATION AND NETWORKS: Computer Networks, Internet and Intranet - WWW and HTML - Introduction to Multimedia and e-commerce.

UNIT V **5 HRS**

APPLICATIONS OF INFORMATION TECHNOLOGY: Computers in business & Industry - Computers in Home - Computers in Education & Training, Computers in Entertainment - Science, Medicine and Engineering.

TEXT BOOK(S)

1. Alexis Leon and Mathews Leon, “Fundamentals of Information Technology”, Vikas Publishing House Pvt. Ltd.
2. Suresh K. Basandra, “Computers Today” Galgotia Publications Pvt. Ltd.

Semester V **Hours/Week : 2**
11UBC540601B **Credits : 2**

SKILL BASED ELECTIVE I: INTERNET CONCEPTS

OBJECTIVE

To impart the basic knowledge of Internet and give an introduction to HTML.

UNIT I **5 HRS**

BASIC INTERNET CONCEPTS: What is Internet – History – Host Machines and Host Names-Client / Server Model – Domain Names – Protocols- IP Address.

UNIT II **5 HRS**

ADVANCED INTERNET CONCEPTS: Anatomy of an Email Message – Viewing - Sending – Replying - Search Engines – Meta Search Engine.

UNIT III **5 HRS**

HTML INTRODUCTION: History of HTML – HTML Document – Anchor Tags – Hyper Links-Sample HTML Documents

UNIT IV **5 HRS**

HEAD AND BODY SECTIONS: Header Section – Title – Prologue – Links – Comment – Heading – Horizontal Rule – Paragraph – Images and Pictures - Ordered and Unordered List

UNIT V **5 HRS**

TABLES: Table Creation – ColSpan, RowSpan – Cell Spacing, Cell Padding – Nested Tables. **FRAMES:** Frameset Definition – Frame Definition – Nested Frames. **FORMS:** Action Attribute – Method Attribute – Drop Down List – Sample Forms.

TEXT BOOK(S)

1. Wendy G.Lehnert , Internet 101, “A beginners guide to the Internet and the World Wide Web”, Addition Wesley

   Unit I & II

2. C.Xavier,”World Wide Web design with HTML”, Tata McGraw Hill Publishing Limited, New Delhi
   Unit III, IV & V

Semester VI **Hours/Week : 5**
11UBC630216 **Credits : 4**

COMPUTER NETWORKS

Objective

To offer the basic concepts of data communication and the uses of network

UNIT I **13 HRS**

Overview: Data Communication - Networks - The Internet. **NETWORK MODEL**: Internet Model - OSI Model. **SIGNALS:** Analog and Digital Signals - Data Rate Limits - Transmission Impairment. **DIGITAL TRANSMISSION**: Line Coding - Block Coding - Sampling - Transmission Mode. **ANALOG TRANSMISSION**: Modulation of Digital data - Telephone Modem - Modulation of Analog Digital. MULTIPLEXING: FDM - WDM - TDM - Transmission Media - Circuit Switching - Telephone Network - DSL Technology - Cable Modem - Sonet.

UNIT II **13 HRS**

DATA LINK LAYER: Error Detection and Correction - Flow and Error Control - Stop and Wait ARQ - GO BACK - n ARQ - Selective Repetive ARQ - HDLC. **POINT TO POINT ACCESS**: Multiple Access - Traditional Ethernet - Fast Ethernet - Gigabyte Ethernet - Wireless LAN - Connecting LAN'S Backbone Networks. **VIRTUAL LAN'S**: Cellular Telephone and Satellite Networking - Virtual Circuit Switching - Frame Relay - ATM.

UNIT III **13 HRS**

NETWORK LAYER: Internetworks - Addressing - Routing - ARP - IP - ICMP - IPV6 - Unicast Routing - Unicast Routing Protocol - Multicast Routing - Multicast Routing Protocol. **TRANSPORT LAYER**: Process to Process Delivery - UDP - TCP - Data Traffic - Congestion Control - Quality Service - Integrated Service.

UNIT IV **13 HRS**

APPLICATION LAYER: Client Server Model - Socket Interface - Domain Name Systems - DNS Message- DDNS - E mail - File Transfer - HTTP - WWW - Multimedia.

UNIT V **13 HRS**

SECURITY: Cryptography - Message Security - User Authentication - Key Management - Security Protocols in the Internet - Numbering Systems and Transformation.

TEXT BOOK

Bhrouz A. Forouzan, "Data Communication and Networks", TATA Mcgraw Hill, 3rd Edition, 2004

BOOK FOR REFERENCE

Andrew S. Tanenbaum, "COMPUTER NETWORKS", Prentice Hall, New Delhi, 2006.

Semester VI **Hours/Week : 5**
11UBC630217 **Credits : 4**

MANAGEMENT INFORMATION SYSTEM AND ERP

OBJECTIVE

To give an understanding of the importance of information systems, how it relates to managerial end-users and to impart the knowledge on evolution implementation and advantage of the ERP system.

UNIT I **12 HRS**

FOUNDATION OF IS IN BUSINESS: Components of IS – Competing with IT - Fundamentals of Strategic Advantage – Using IT for Strategic Advantage.

UNIT II **12 HRS**

BUSINESS APPLICATIONS: Enterprise, Functional Business Systems. Customer Relationship Management: The Business Focus – Supply Chain Management: The Business Network.

UNIT III **12 HRS**

E-COMMERCE SYSTEMS – E-Commerce Fundamentals – E-commerce Applications and Issues – Decision Support Systems- Decision Support in Business.

UNIT IV **12 HRS**

ENTERPRISE RESOURCE PLANNING (ERP): an overview – benefits of ERP - ERP and related technologies – Business process reengineering – Data warehousing – Data mining – online analytical processing.

UNIT V **12 HRS**

ERP IMPLEMENTATION - ERP implementation life cycle – ERP Present and Future: ERP and E- Commerce – ERP and Internet.

TEXT BOOK(S)

1. James O Brien, George M Marakas, “Management Information Systems”, 7th Ed, Tata MC Graw Hill Publishing Company Ltd, New Delhi, 2007.

   UNITS I, II & III

2. Alexis Leon, “ERP Demystified”, 2nd Ed, Tata Mc Graw Hill publishing Company Ltd, New Delhi, 2008.

   Units IV & V

BOOK FOR REFERENCE

WS Jawadekar, “Management Information System”, Tata McGraw Hill Publishing Company Ltd., New Delhi, 1998.

Semester VI **Hours/Week : 5**
11UBC630218 **Credits : 4**

FUNDAMENTALS OF PHP

OBJECTIVE

To impart basic knowledge of PHP and MySQL.

UNIT I **12 HRS**

ESSENTIAL PHP: Creating your Development Environment – Mixing HTML and PHP – Command - Line PHP – Working with Variables – Creating Constants – Understanding PHP's Internal Data types – Operators and Flow Control

UNIT II **12 HRS**

STRINGS AND ARRAYS: String Functions- Converting to and from Strings - Formatting Text String -Modifying Data in an Array-Deleting Array Elements-Arrays with Loops - PHP Array Functions-Sorting Arrays -Splitting and Merging Arrays. **CREATING FUNCTIONS:** Passing Functions-Passing Arrays to Functions- Passing by Reference-Using Default Arguments-Passing Variable Numbers of Arguments-Returning Data from Functions-Nesting Functions.

UNIT III **12 HRS**

READING DATA IN WEB PAGES: Setting up web pages to communication with PHP- Handling Text Fields-Checkbox-Radio buttons-Password Controls-List boxes- Buttons – Hidden Control – File Upload. **PHP BROWSER HANDLING POWER:** PHPs Server Variables – HTTP Header – Getting the User's Browser Type – Redirecting Browsers with HTTP Headers – Performing Data Validation – Client –side Data Validation.

UNIT IV **12 HRS**

WORKING WITH DATABASES: Creating a MYSOL Database-Creating a New Table-Putting Data into the New Database-Accessing the Databases in PHP-Updating Databases-Inserting New Data Items into a Database-

Deleting Records-Creating New Tables-Creating a New Database-Sorting your Data – Setting a Cookie – Reading a Cookie – Deleting Cookies – Working with FTP- Uploading, Downloading and Deleting Files with FTP.

UNIT V **12 HRS**

AJAX: Writing AJAX – Creating XMLHTTP Request Object – Opening XMLHTTP Request Object – Handling Downloaded Data – AJAX with some PHP – Passing Data to the Server with GET - Passing Data to the Server with POST – Handling XML – Handling XML with PHP- Handling Concurrent AJAX Requests – Handling Concurrent AJAX Requests with an XMLHTTP Request Array - Handling Concurrent AJAX Requests with JavaScript Inner Functions- Downloading Images using AJAX- Downloading JavaScript with AJAX- Getting Data with Head Request and AJAX

TEXT BOOK

Steven Holzner, "The Complete Reference PHP", Tata McGraw Hill Pvt. Ltd., 2008.

BOOK FOR REFERENCE

Leon Atkinson, "Core PHP programming", Pearson Education, 2004.

Semester VI **Hours/Week : 3**
11UBC630219 **Credits : 2**

SOFTWARE LAB – VII (PHP)

01. Simple Programs
02. String Functions
03. Arrays
04. Functions
05. Create a Home Page using PHP
06. Form Validation
07. Database Operations
08. Cookies Manipulation
09. AJAX – Using GET, POST
10. AJAX using XML

Semester VI **Hours/Week : 4**
11UBC630303A **Credits : 4**

ELECTIVE III: SOFTWARE PROJECT MANAGEMENT

OBJECTIVE

To enable the student to be familiar with software project management concepts.

UNIT I **12 HRS**

SOFTWARE PROJECT MANAGEMENT: Why Project Management Important–Software Project Versus Other Type of Project– Contract Management and Technical Management–Plans, Methods and Methodologies– Some Ways of Categorizing Software Projects–Stakeholders–Setting Objectives–The Business Case– Management Control.

UNIT II **12 HRS**

OVERVIEW OF PROJECT PLANNING: Stepwise Project Planning. **SOFTWARE EFFORT ESTIMATION:** Introduction–Where are Estimates Done? –Problems With Over and Under Estimate–The Basis for Software Estimation–Software Effort Estimation Techniques–Expert Judgment–Estimating by Analogy–COSMIC Full Function Points–COCOMO: A Parametric Productivity Model.

UNIT III **12 HRS**

ACTIVITY PLANNING: The Objectives of Activity Planning–When to Plan–Project Schedules–Project and Activities–Sequencing and Scheduling Activities–Network Planning Models–Formulating a Network Model–Adding the Time Dimensions–The Forward Pass– The Backward Pass–Identifying the Critical Path–Shortening the Project Duration–Activity on Arrow Networks. **RISK MANAGEMENT:** Categories of Risk–A Framework for Dealing With Risk–Risk Identification, Assessment, Planning and Management–Applying the PERT Technique.

UNIT IV **12 HRS**

RESOURCE ALLOCATION: The Nature of Resource–Identifying Resource Requirements–Scheduling the Resource–Creating Critical Paths–Counting the Cost. **MONITORING AND CONTROL:** Creating the Framework–Collecting the Data–Visualizing Progress–Cost Monitoring–Getting the Project Back to Target–Change Control–**MANAGING CONTRACTS:** Types of Contracts–Stages in Control Placement–Typical Terms of a Contract–Contract Management–Acceptance.

UNIT V **12 HRS**

MANAGING PEOPLE IN SOFTWARE ENVIRONMENTS: Understanding behavior–Organization Behavior: A Background–Selecting the Right Person for the Job– Instruction in the Best Methods–Motivation–The Oldham-Hackman Job Characteristics Model. **WORKING IN TEAMS**: Becoming a Team–Decision Making–Organizational Structures–Dispersed and Virtual Team–Leadership. **SOFTWARE QUALITY:** The Place of Software Quality in Project Planning–The Importance of Software Quality–ISO 9126–Product versus Process Quality Management–Technique to Help Enhance Software Quality–Quality Plans.

TEXT BOOK

Bob Hughes and Mike Cotterell, ”Software Project Management”, 5th Ed, Tata McGraw-Hill, New Delhi, 2010.

BOOK FOR REFERENCE

Walker Royce,” Software Project Management”, Pearson Education, 2004.

Semester VI **Hours/Week : 4**
11UBC630303B **Credits : 4**

ELECTIVE III: WEB SERVICES

OBJECTIVE

To provide the basic concepts of web services and introduce the various technologies XML, SOAP, UDDI, WSDL, WSCL.

UNIT I **10 HRS**

INTRODUCTION: What are web services? SOAP WSDL UDDI-Why Web Services are important? – The evolution of web applications Not just another distributed computing platform – Web services and enterprises.

UNIT II **10 HRS**

XML FUNDAMENTALS: The Lingua Franca of web services- XML Documents-XML namespaces Explicit and Default namespaces, Inheriting namespaces, And not inheriting namespaces, Attributes and namespaces - XML Schema XML schema and namespaces, A first schema, Implementing XML schema types, The any Element, Inheritance, Substitution groups, Global and local type declarations, Managing Schemas, Schemas and instance documents, XML schema best practices.

UNIT III **10 HRS**

SOAP – SOAP Model – SOAP Messages – SOAP encoding – SOAP RPC – Using alternative SOAP encodings – Document, RPC, Literal, Encoded. - SOAP, Web Services and the REST architecture.

UNIT IV **10 HRS**

UDDI - UDDI at a glance- The UDDI Business registry- UDDI under the covers – Accessing UDDI- How UDDI is playing out.

UNIT V **10 HRS**

WSDL: WSDL structure – the stock quote WSDL Interface – Definitions – Types Elements – Bindings – Services – Managing WSDL Descriptions –

using SOAP and WSDL –Conversations **-** WSCL Interface components – The Bar scenario conversations – Relationship between WSCL and WSDL

TEXT BOOK

Sandeep Chatterjee, James Webber, “Developing Enterprise Web Services”, Pearson Education, 2004.

BOOK(S) FOR REFERENCE

1. B V Kumar, S V Subrahmanya “ Web Services An Introduction”, McGraw-Hill, 2006.
2. Ramesh Nagappan, Robert Skoczylas and Rima Patel Sriganesh, "Developing Java Web Services", Wiley Publishing Inc., 2004.

Semester VI **Hours/Week : 2**
11UBC640602A **Credits : 2**

SKILL BASED ELECTIVE II: VISUAL PROGRAMMING

OBJECTIVE

To impart the basic knowledge of Visual Programming.

UNIT I **5 HRS**

INTRODUCTION TO VISUAL BASIC: Integrated Development Environment (IDE) Features – VB Editor –Anatomy of a Form - Working with Form Properties – Setting Form's
Properties – Introducing Form Events and Form Methods.

UNIT II **5 HRS**

VARIABLES IN VISUAL BASIC: Declaring variables – Data Types - Scope of a Variable – Module Level Variables – Constants **WRITING CODE IN VISUAL BASIC**: The Anatomy of a Procedure – Subroutine and Functions – Language Constructs – For…..Next, While loop, Select case…..End select, Exit statement.

UNIT III **5 HRS**

SELECTING AND USING CONTROLS – Introduction to Standard Controls – Command Buttons – Text Boxes – Labels – Option Buttons – Check Boxes – Frame Controls – List boxes – Combo boxes – Image objects – Picture boxes – Timer – Scroll Bars.

UNIT IV **5 HRS**

INTRODUCTION TO BUILT-IN ACTIVEX CONTROL: Tool bar – Treeview Control – Listview Control – Imagelist Control – Common Dialog Control – Status bar Control – Rich Textbox Control – Menu editor.

UNIT V **5 HRS**

DATABASE ACCESS: Data Control – Field Control – Data Grid - Recordset Using SQL to Manipulate Data – Open Data Base Connectivity.

TEXT BOOK

1. Mohammed Azam, "Programming with Visual Basic 6.0", Vikas Publishing House Pvt. Ltd., 2002.

Semester VI **Hours/Week : 2**
11UBC640602B **Credits : 2**

SKILL BASED ELECTIVE II: FLASH

OBJECTIVE

To get an overview on the basic concepts of Flash and its Tools.

UNIT I **5 Hrs**

INTRODUCTION: Flash MX Environment – Toolbar – Toolbox – Timeline - Panels-Property Inspector.

UNIT II **5 Hrs**

GRAPHICS TOOLS IN FLASH: Drawing Tools – Object Selection Tools - Color Selection Tools – Viewing Tools.

UNIT III **5 Hrs**

PANELS: Design Panel – Development Panel. **EDITING TECHNIQUES:** Reshaping the Object – Optimizing the Curves –– Softening the Edges.

UNIT IV **5 Hrs**

TRANSFORMATIONS: Arranging the Elements – Aligning Objects. **ADVNCED CONCEPTS:** Frames – Layers- Scenes

UNIT V **5 Hrs**

ANIMATION: Frame –By-Frame Animation – Motion Tweening – Shape Tweening – Text Animation – 3D Animation.

TEXT BOOK

K K Thyagharajan , B Anbumani, "FLASH MX 2004", Tata McGraw-Hill Publishing Limited, New Delhi, 2004.

SKILL BASED ELECTIVES

BOTANY

11UBO540601	Mushroom Culture
11UBO640602	Herbal Technology

BUSINESS ADMINISTRATION

11UBU540601	Personality Development
11UBU640602	Managerial Skills

CHEMISTRY

11UCH540601	Food and Nutrition
11UCH640602	Everyday Chemistry

COMMERCE

11UCO540601A	Accounting for Executives
11UCO540601B	Soft Skills for Managers
11UCO640602A	Total Quality Management
11UCO640602B	Fundamentals of Accounting Packages

COMMERCE (CA)

11UCC540601	Soft Skills
11UCC640602	Basics of Accounting

COMPUTER APPLICATIONS (Dept of IT)

11UBC540601A	Fundamentals of IT
11UBC540601B	Internet Concepts
11UBC640602A	Visual Programming
11UBC640602B	Flash

COMPUTER SCIENCE

11UCS540601A	Office Automation
11UCS540601B	Internet Concepts
11UCS640602A	Fundamentals of Computer Networks
11UCS640602B	E-Commerce

ECONOMICS

11UEC540601	Security Analysis
11UEC640602	Economics of Insurance

ELECTRONICS

11UEL540601	DVD Troubleshooting and Assembling
11UEL640602	PC Assembling

ENGLISH LITERATURE

11UEN540601	Business English Writing
11UEN640602	Media Skills

HISTORY

11UHS540601	Indian History for Competitive Exams
11UHS640602	Tourism and Travel Management

MATHEMATICS

11UMA540601	Mathematics for Competitive Exams
11UMA640602	MATLAB

PHYSICS

11UPH540601	Cell Phone Servicing
11UPH640602A	Electrical Wiring
11UPH640602B	Videography

STATISTICS

11UST540601	Data Analysis for Competitive Exams
11UST640602	Statistics for Management

TAMIL

11UTA540601	தமிழ் இலக்கியத்தில் மனித உரிமைகள்
11UTA640602	மைய அரசுப் பணித் தேர்வுத்தமிழ்