KONGUNADU ARTS AND SCIENCE COLLEGE [AUTONOMOUS]

COIMBATORE - 641 029.

BACHELOR OF COMPUTER APPLICATIONS [BCA]

CURRICULUM & SCHEME OF EXAMINATION UNDER CBCS

[APPLICABLE TO STUDENTS ADMITTED FROM THE ACADEMIC YEAR 2016-2017] onwards

Semester	Part	Subject code	Title of the Paper	Instruction Hours / Cycle	Exam. Marks			Duration of Exam.(hours)	Credits
					CIA	ESE	Total		
I	I	15TML1A1	Lan - Tamil I/Hindi I/French I/ Malayalam I/ Sanskrit I	6	25	75	100	3	3
	II	15ENG101	Lan - English I	6	25	75	100	3	3
	III	15UCA101	C.P.1: – C Programming	5	25	75	100	3	4
		15UCA1CL	C.Pr .1: – C Programming Lab	5	40	60	100	3	2
		15UCA1A1	Allied 1:–Business Accounting	6	25	75	100	3	5
	IV	15EVS101	Enviromental Studies **	2	-	50	50	3	2
II	I	16TML2A2	Lan - Tamil II/Hindi II/ FrenchII/MalayalamII/ Sanskrit II	6	25	75	100	3	3
	II	15ENG202	Lan - English II	6	25	75	100	3	3
	III	15UCA202	C.P. 2: Object Oriented Programming with C++	4	25	75	100	3	4
		15UCA203	C.P. 3: – Digital Fundamentals and Computer Organization	3	25	75	100	3	4
		15UCA2CM	C.Pr .2:– Object Oriented Programming with C++ - Lab	3	40	60	100	3	2
		15UCA2A2	Allied 2:– Computer Oriented Numerical and Statistical methods	6	25	75	100	3	5
	IV	16VED201	Value Education - Moral & Ethics**	2	-	50	50	3	2
III	III	15UCA304	C.P.4: – Operating Systems	5	25	75	100	3	4
		15UCA305	C.P. 5: – Data Structures and Algorithms	5	25	75	100	3	4
		15UCA306	C.P 6: – Relational Database Management Systems	5	25	75	100	3	4
		15UCA3CN	C.Pr .3:– Relational Database Management Systems -Lab	5	40	60	100	3	2

		15UCA3A3	Allied 3:– Operations Research.	6	25	75	100	3	5
	IV	15UCA3S1	Skill based Subject - I Linux Programming	2	25	75	100	3	3
		15TBT301/ 15TAT301/ 15UHR3N1	Basic Tamil*/ Adv.Tamil **/ Non major Elective I – Human Rights	2	-	75	75	3	2
IV	III	15UCA407	C.P 7:– Software Engineering	5	25	75	100	3	4
		15UCA408	C.P 8: – Computer Networks	5	25	75	100	3	4
		16UCA409	C.P 9: – Advanced JAVA	5	25	75	100	3	5
		15UCA4CO	C.Pr .4: – :– Advanced JAVA – Lab	5	40	60	100	3	2
		15UCA4A4	Allied 4: -Organizational Behavior and Marketing	6	25	75	100	3	5
	IV	16UCA4SL	Skill based Subject - II Linux Programming Lab	2	40	60	100	3	3
		15TBT402/ 15TAT402/ 15UWR4N2	Basic Tamil*/Adv.Tamil**/ Non major Elective II – Women's Rights	2	-	75	75	3	2
V	III	16UCA510	C.P 10:– Visual Basic and .NET	6	25	75	100	3	5
		16UCA511	C.P 11: – Cloud Computing	6	25	75	100	3	5
		15UCA512	C.P 12: – Data Mining	5	25	75	100	3	5
		16UCA5E1	Elective Paper I	6	25	75	100	3	5
		16UCA5CP	C.Pr .5 – Visual Basic and .NET Lab	5	40	60	100	3	2
	IV	15UCA5S3	Skill based Subject - III Python Programming	2	25	75	100	3	3
VI	III	16UCA6E2	Elective Paper II	6	25	75	100	3	5
		15UCA613	C.P. 13: - Web Designing	6	25	75	100	3	4
		15UCA614	C.P.14:- Information Security	6	25	75	100	3	5
		16UCA6CQ	C.Pr. 6: - Web designing Lab	6	40	60	100	3	2

		16UCA6Z1	Project Work & Viva-Voce	4	20	80 *	100	3	4
	IV	15UCA6S4	Skill based Subject - IV Python Programming lab	2	40	60	100	-	3
Part V		15NCC/NSS/YRC/PYE101	Extension activity (NSS,NCC,PE,YRC) *	-	50 (CIA only)	-	50	-	1

@Hindi - 15HIN101/202
@French - 15FRN101/202
@Malayalam - 15MLM101/202
@Sanskrit - 15SAN101/202

$$NCC – 15NCC101
NSS – 15NSS101
Sports – 15PYE101
YRC – 0YRC101
PYE- 15P4E101

***No end –of- Semester Examinations – Only CIA.**
**** No CIA – Only end- of –Semester Examinations.**

 # Project Record 80 Marks; Viva-Voce 20 Marks. Evaluated both Internal and External Examiners jointly.

Major Elective Papers:

1) **Software Project Management**
2) **Case Tools and Concepts**
3) **Software Testing**
4) **Compiler Design**

1. **Break Up Marks for CIA of Theory**

CIA Exam	**-**	**15**
Assignment	**-**	**05**
Attendance	**-**	**05**
Total		**25**

2. **Components of Practical**

Break Up Marks for CIA of Practical

CIA Practical Exam	**-**	**25**
Observation Notebook	**-**	**10**
Attendance	**-**	**05**
Total		**40**

Break Up Marks for ESE of Practical

Experiment	**-**	**50**
Record	**-**	**10**
Total		**60**

3. **Components for Project**

CIA/ESE	Particulars	Project Out of 100 Marks(UG)
CIA	Project Review	15
	Attendance	5
	Total Internal Marks	20
	Project Report Present	60
	Viva-Voce	20
	Total External Marks	80
Total Marks(CIA+ESE)		**100**

*** Project Report and viva -voce will be evaluated jointly by both the Project Supervisor (Faculty of the Department) and an External Examiner.**

Non-Major Elective papers:

1. **Human Rights**
2. **Women's Rights**

Part-wise Total Marks /Credits:

Part I	Lan – Tamil/Hindi/French/Malayalam/Sanskrit	200	200	6
Part II	Lan – English	200	200	6
Part III	Core /Lab/Project Allied Elective	2000 400 300	2700	72 20 15
Part IV	Basic Tamil/Adv.Tamil/Non-Elective Major	150	650	4
	Skill Based subject	400		12
	Environmental Studies	50		2
	Value Education	50		2
Part V	Extension Activities	50	50	1
Grand Total Marks / Credits		**3800**	**3800**	**140**

Note:

CBCS – Choice Based Credit System

CIA – Continuous Internal Assessment

ESE – End –of- Semester Examination

25% CIA is applicable to all subjects except JOC,COP and Diploma Courses, which are considered as extra credit courses.

- **Students can select any one paper from each Elective Group.**

Skill Based Subject :II -MULTIMEDIA LAB - PHOTOSHOP

PRACTICAL LIST

Credit:3 **Total Hours : 30**

1. Create Sun Flower using Photoshop.
2. Create Water Drops using Photoshop.
3. Animate Plane Flying the Clouds using Photoshop.
4. Create Plastic Surgery for Nose using Photoshop.
5. Create Mouse using Photoshop.
6. Create See thru text using Photoshop.
7. Create Military Clothe using Photoshop.
8. Create Stone Texture using Photoshop.
9. Create Rollover Buttons using Photoshop.
10. Create Realistic Stone Structure using Photoshop.
11. Create Web Page using Photoshop.
12. Convert Black and White to Color Photo using Photoshop.
13. Creation of an Realistic image using Photoshop tools.

Guidelines to the distribution of marks for practical Examinations:

Two questions will be given for each student (3 Hours / 60 Marks)

1. Record Work - 10 Marks
2. Algorithm, Program , Typing and Execution : 50 Marks.

Particulars	Program I (Marks)	Program II (Marks)
Algorithm	10	10
Program Writing	10	10
Typing and Execution	5	5

Internal Mark Split-ups for 40 Marks: Observation- 10 Marks, Attendance- 5 Marks, Two Model Practical-25 Marks.

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- **Students can select any one paper from each Elective Group.**

UCA 1

SEMESTER I **15UCA101**

C.P.1- C PROGRAMMING

Credits: 4 **Total Hours: 75**

UNIT-I

Overview of C: History of C – Importance of C- Sample programs – Basic Structure of C programs – Programming style. Constants, Variables and Data types: Character set – C Tokens – Keywords and Identifiers – Constants – Variables – Data types – Operators and Expressions: Introduction – Arithmetic operator – Relational operators – Logical operators-Assignment-Increment and Decrement-Conditional– Bitwise operators-Special Operators- – Type conversions in Expressions – Operator precedence and Associativity. Managing Input and Output operations: Reading and Writing Character-Formatted Input – Formatted Output.

Hours: 14

UNIT-II

Decision making and Branching: Decision making with if statement – Simple if statement – The if ….else statement-Nested If-Else-If Ladder – The Switch statement-The Ternary Operator. Looping: The while statement – The do statement – The for statement – **Jumps in loops***.

Hours: 15

UNIT-III

Arrays: Introduction – one dimensional Arrays – Declaration of one dimensional Arrays – Initialization of one dimensional Arrays – Two dimensional Arrays – Initializing Two dimensional Arrays – Multidimensional Arrays. Character Arrays and Strings: String handling functions.

User defined functions: Definition of Functions – Function Declaration – Category of Functions – No Arguments and No Return values – Arguments but No Return values – Arguments with Return values – No Arguments but Returns a value - Functions that Return Multiple Values- Recursion – The Scope, Visibility and Lifetime of Variables.

Hours: 16

UCA 2

UNIT-IV

Pointers : Understanding pointers –Accessing the Address of the Variables- Declaring pointer variables – Pointer and Arrays- Pointers and Character strings – Array of pointers –Pointers as Function Arguments- Functions returning pointers. The Preprocessor: Macro Substitution

Hours: 16

UNIT-V

Structures and Unions: Introduction – Defining a Structure – Declaring Structure variables – Structure Initialization –Array of Structures-Arrays with in Structures-Structures with in Structures– Unions. File Management in C: Defining and Opening a File – Closing a File – Input/Output Operations on Files – Command Line Arguments.

Hours: 14

*****Self Study and questions for examinations may be taken from the self study portions also.

TEXT BOOK:

1. Balagurusamy , “Programming in ANSI C ” , Fourth Edition , Tata McGraw Hill-2008.

REFERENCE BOOKS:

1. Ashok N Kamthane , “Programming with Ansi and Turbo C”, Pearson Education Publ,2002.
2. Henry Mullish & Herbert L Cooper, “The Sprit of C”,Jaico Publ House,1996.
3. P.J.Deitel and H.M.Deitel “C How to Program” ,5th Edition, Tata McGraw Hill-2008.
4. Yeswanth Kanethkar,”Let Us C”,Eigth Edition,2007,BTB Publications.

UCA 3

SEMESTER-I

C.Pr. 1 - C PROGRAMMING LAB

15UCA1CL

LIST OF PRACTICAL PROBLEMS

Credits:2 **Total Hours:75**

1. Write a program to find the median for a given set of numbers.

2. Write a program to find the Standard Deviation for a given set of numbers.

3. Write a program to find the number of palindrome strings in a given sentence.

4. Write a program to generate N Prime and Armstrong numbers

5. Write a program to perform Matrix addition & Multiplication using Arrays.

6. Write a program to calculate ${}_NC_R$ using the formula ${}_NC_R = N! / (R! * (N-R)!)$ using functions
7. Write a program to print Fibonacci Series using Recursive Function

8. Write a program to print the student's mark sheet assuming roll number, name, and marks in five subjects in a structure. Create an array of structures and print the mark sheet in the university pattern.

9. Write a program to perform string manipulation operations.

10. Write a program to perform all manipulations like insertion, deletion and modification in files for student mark list.

11. Write a program, which takes a file as command line argument and copy it to another file. At the end of the second file write
    i) Number of characters,
    ii) Number of words and
    iii) Numbers of lines are available in the first file.

Guidelines to the distribution of marks for practical Examinations:

Two questions will be given for each student (3 Hours / 60 Marks)

1. Record Work - 10 Marks
2. Algorithm, Program , Typing and Execution : 50 Marks.

Particulars	Program I (Marks)	Program II (Marks)
Algorithm	10	10
Program Writing	10	10

Typing and Execution	5	5

Internal Mark Splitup for 40 Marks: Observation- 10 Marks, Attendance- 5 Marks, Two Model Practical-25 Marks.

UCA 4

SEMESTER-II

15UCA202

C.P.2: - OBJECT ORIENTED PROGRAMMING WITH C++

Credits:4 **Total Hours: 60**

UNIT I

Procedure Oriented Programming – Basic Concepts of Object Oriented Programming – Benefits of Object Oriented Programming – **Applications of OOP *** –Beginning with C++.

Hours:13

UNIT II

Expression & Control Structure: Data Types – Reference Variables – Operators in C++ – Scope Resolution Operator – Type Cast Operator – Branching & Looping. Functions: Function Prototypes – Call by Reference – Return by Reference – Inline Functions – **Default & Const Argument *.**

Hours: 13

UNIT III

Function Overloading – Friend Functions – Classes & Objects – Constructors and Destructors: Constructors – Parameterized Constructors – Multiple Constructors in a Class – Constructors with Default arguments – Copy Constructors – Destructors.

Hours: 12

UNIT IV

Operator Overloading – Inheritance: Defining derived class – Types of inheritance – Virtual Base class. Pointers: This pointer – Pointers to Objects – Virtual functions & Polymorphism – Templates and Exception handling. **Hours: 11**

UNIT V

Managing Console Input/Output Operations: C++ Streams – C++ Stream Classes – Formatted & Unformatted I/O Operations – Managing Output with Manipulators – Working Files: Opening and closing a file – File pointers and their manipulations – Random Access file – Command Line Arguments.

Hours: 11

UCA 5

*** Self Study Topic and Questions for examinations may be taken from Self Study Portions also.**

Text Book:

1. E.Balagurusamy, **"Object Oriented Programming with C++**", Fourth Edition 2008, McGraw Hill Publications

Reference Books:

1. Ashok N Kamthane**, -** "**Object oriented Programming with ANSI and Turbo C++**", Pearson Education Publ, 2003, First Edition.
2. Yashavanth Kanetkar, "Let us C++", Fourth Edition 2008 , BPB Publications

UCA 6

SEMESTER-II

15UCA203

C.P. 3:-DIGITAL FUNDAMENTALS AND COMPUTER ORGANIZATION

Credits: 4 **Total Hours: 45**

UNIT I

Programming the Basic Computer: Introduction – Machine Language – Assembly Language. Central Processing Unit: Introduction – General Register Organization – Instruction Formats – Addressing Modes.

Hours:8

UNIT II

Binary Systems: Digital Computer and Digital Systems – Binary Numbers – Number Base Conversion – Octal and Hexadecimal Numbers – Complements – 9's, 10's, 1's And 2's Complements. Binary Code's: BCD, GRAY, Excess of 3 Codes, Error Detecting & Correcting Codes.

Hours: 10

UNIT III

Boolean algebra And Logic Gates: Basic Definitions – Boolean Functions – Canonical and Standard Forms – Sum of Product – Product of Sum – Minterms and Maxterms – Digital Logic Gates. Simplification of Boolean Functions: The Map Method – Two & Three Variable Maps – Four Variable Map – Don't Care Conditions. **Hours: 10**

UNIT IV

Combinational Logic: Introduction – Adders - Subtractors – Multiplexers – De-Multiplexers. Sequential Logic: Introduction – RS, D, JK Flip Flops.

Hours: 9

UCA 7

UNIT V

Input – Output Organization: **Peripheral Devices** * – Asynchronous Data Transfer – Direct Memory Access – IOP. Memory Organization: Main Memory – Cache Memory

Hours: 8

*** Self Study Topic and Questions for examinations may be taken from Self Study Portions also.**

Text Books:

1. Morris Mano - "**Digital Logic and Computer Design" –** Prentice Hall of India, New Delhi-2007 (Units II, II, IV), Zeroth Edition.
2. Morris Mano- "**Computer System Architecture" - Prentice Hall of India, New Delhi** - 1999 (Units I, V), Third Edition.

Reference Books:

1. Thomas C. Bartee- "**Computer Architecture and Logical Design**" McGraw Hill International Edition - 1998.
2. John P Hayes- "**Computer Architecture and Organization**"- McGraw Hill International 3rd Edition - 1998.

UCA 8

SEMESTER-II

15UCA2CM

C. Pr.2 - OBJECT ORIENTED PROGRAMMING WITH C++ LAB

LIST OF PRACTICAL PROBLEMS

Credits: 2 **Total Hours: 75**

1. [DISTANCE CONVERSION PROBLEM]

Create two classes DM & DB which store the value of distances. DM stores distances in meters & centimeters and DB stores distances in feet & inches. Write a program that can read values for the class objects and add one object DM with another object DB.

Use friend function to carry out the addition operation. The object that stores the results may be a DM object or DB object depending on the units in which the results are required.

The display should be in the format of feet and inches or meters and centimeters depending on the object on display

2. [OVERLOADING STRING]

Define a class string. Use overloaded = = operator to compare two strings ignore case sensitivity. Use overloaded + operator to concatenate the strings.

3. **[OVERLOADI NG MATRIX]**

Create a class MAT of size M x N. Define all possible matrix operations for MAT type objects.

4. [COMPLEX NUMBERS PROBLEM]

Apply OOP's concept to create, manipulate the complex number (+, -, *, /)

UCA 9

5. [AREA COMPUTATION USING DERIVED CLASS]

Create a base class called shape; use this class to store two double type values that could be used to compute the area of figures. Derive two specific classes called Triangle and Rectangle from the base Shape. Add to the base class, a member function get_data() to initialize base class data members and another member function display_area() as a virtual function and redefine this function in the derived classes to suit their requirements. Using these classes design a program that will accept dimensions of a triangle or rectangle interactively and display the area. Remember the two values given as input will be treated as lengths of two sides in the case of rectangle and as base and height in the case of triangles and used as follows

(i)Area of rectangle = X * Y (ii) Area of a triangle = ½ * X * Y

Extend the program to display the area of circles. This requires addition of new derived class Circle that computed the area of circle. Remember for a circle we need only the value its radius but the get_data() function in the base class requires two values to be passed. (Hint: The second argument of get_data() function as a default one with a zero value.

(iii) Area of a circle=3.14*(r*r)

6. [WORDS COMPUTING PROBLEM]

Write a program which reads a text from the keyboard and display the following information on the screen in two columns

1. Number of lines
2. Number of words
3. Number of characters

Strings should be left justified and number should be right justified in suitable field width.

UCA 10

7. [SWAP THE NUMBERS USING FUNCTION TEMPLATE]

Write a program to swap the numbers using the concept of function template.

8. [WHITE SPACE SUPRESSION IN A FILE]

Write a program that reads a text files and create another text file that is identical expect that every sequence of consecutive blank space is replaced by a single space

9. [COMMAND LINE ARGUMENT PASSING]

Write a program that emulates the DOS copy command i.e it should copy the contents of character file (such as any CPP file) to another file. Invoke the program with 2 command line arguments – the source file and the destination file – like this

C: > COPY SFILE.CPP DFILE.CPP

In the program check that the user has typed the correct number of command line arguments and that the file specified can be opened. Improve on the DOS TYPE command by having the program signal an error if the destination file already exists. This will prevent inadvertently writing over a valuable file. [USE THE NON-REPLACE flag]

10. [FILE SIZE OF A FILE]

Write a program that returns the size in bytes of a program encountered on the command line

Guidelines to the distribution of marks for practical Examinations:

Two questions will be given for each student (3 Hours / 60 Marks)

1. Record Work - 10 Marks
2. Algorithm, Program , Typing and Execution : 50 Marks.

Particulars	Program I (Marks)	Program II (Marks)
Algorithm	10	10
Program Writing	10	10
Typing and Execution	5	5

Internal Mark Splitup for 40 Marks: Observation- 10 Marks, Attendance- 5 Marks, Two Model Practical-25 Marks.

UCA 11

SEMESTER-III

15UCA304

C.P.4 -OPERATING SYSTEMS

Credits: 4 **Total Hours: 75**

UNIT I

History of the operating Systems - Zeroth, first, Second, Third, Fourth Generation - Computer Architecture: 4GL, 3GL, 2GL, 1GL, OGL. Program, Interrupts - Operating System functions.

Hours :14

UNIT II

Memory Management - Introduction - Single Contiguous Memory Management - Fixed partition Memory Management Variable, partition - Non-contiguous Allocation - General concepts - Paging - Segmentation - Combined system-Virtual Memory Managaement: Relocation and Address Translation ,Protection and Sharing.

Hours :15

UNIT III

Process Management - Evolution – Introduction – Evolution Of Multi Programming – Context Switching-Process States-Process State Transition-Process Control Block-Process Hierarchy-Create-Kill Process-Dispatch Process-Change the Priority of a Process – Block A Process – Dispatch a Process-Time Up a Process-Wake Up A Process- Suspend/Resume Operations- Multi Tasking-Deadlocks-Introduction-Deadlock prerequisites.

Hours :16

UNIT IV

Information Management And File Management - Introduction - The File System –Block& Block Numbering Scheme –File Support Level-Writing A Record-File Directory Entry-Open/Close Operations-Directory Structure -Device Driver-Basics-Path Management-Sub Modules Of DD – I/O Procedure-I/O Scheduler – Device Handler.

Hours :16

UCA 12

UNIT V

Case Studies - Unix - **History Of Unix *** – Overview Of Unix-Unix File System: Different types of files , Mounting/Unmounting file systems, Open, close, Read, write system calls, Create a file, Delete a file, Change directory- - **Process States And State Transition*** - Memory Management.

Hours: 14

***Self Study Topic and Questions for examinations may be taken from Self Study Portions also.**

Text Book:

1. Deitel, Choffnes, "**Operating Systems"**, 3rd Edition Pearson Education, 2007.

2. Achyut S. Godbole, "**Operating Systems"**, Tata McGraw Hill Publishing Company Limited – 1996, Second Edition.

Reference Books:

1. William Stallings, "**Operating Systems**", Prentice Hall of India Ltd. – 2001,

Second Edition.

2. H.M Deitel, "**Operating Systems"**, 2nd Edition Pearson Education, 2003.

UCA 13

SEMESTER III

15UCA305

C.P.5 - DATA STRUCTURES AND ALGORITHMS

Credits:4 **Total Hours :75**

UNIT I

Introduction - Overview - How To Create Programs Analyze Them *. Arrays - Structures - Ordered Lists- Representation of Arrays - Simple Applications

Hours :14

UNIT II

Stacks And Queues - Fundamentals – Structure-Operations - Multiple Stacks And Queues. Applications Evaluation Of Expressions.

Hours :15

UNIT III

Linked Lists - Single Linked Lists- Linked Stacks And Queues - The Storage Pool - Applications - Polynomial Addition, Sparse Matrices. Double Linked Lists- Dynamic Storage Management -Garbage Collection And Compaction.

Hours :16

UNIT IV

Searching And Sorting: Binary, Sequential, And Fibonacci - Internal Sorting Insertion, Quick, Merge, Heap, Radix Sorts - External Sorting - Sorting With Disks - K-Way Merging- Sorting With Tapes - Balanced Merge - Polyphase Merge. Symbol Tables - Static Tree - Dynamic Tree - Hash Tables.

Hours: 16

UNIT V

Files - queries and sequential organizations * - index techniques. File organizations sequential, random, linked organizations - inverted files - cellular partitions.

Hours :14

*** Self Study Topic and Questions for examinations may be taken from Self Study Portions also.**

Text Book:

1. Ellis Horowitz & Sartaj Sahani - " Fundamentals of data structure", Galgothia book source, 1999, First Edition.

Reference Book:

1. Ashok N Kamthane,-"Programming and Data Structures", Pearson Education,2004, First Edition.
2. AlfredV.Aho,JohnE.Hopcroft,Jeffrey D.Ullman – "DataStrctures and algorithms", Pearson Education,2006.

SEMESTER-III

15UCA306

C.P.6: - RELATIONAL DATABASE MANAGEMENT SYSTEMS

Credits: 4 **Total Hours: 75**

UNIT I

Introduction: Purpose of Database Systems-DBMS and RDBMS-Entity Relationship Diagram, Weak and Strong Entity sets – Codd's Rules. Normalization-Oracle Terminology – Data types - Basics of SQL :-DML-select command ,insert ,update, delete set operations, usage of Where Clause, **DDL ***,DCL-Operators Aggregate functions.

Hours :14

UNIT II

Data Constraints:-NULL value Concepts-Default value Concepts-Primary Key concepts-Unique Key Concepts-Foreign Key Concepts-Check Key Integrity Constraints-Renaming Columns with Expression List-Range Searching-Pattern Searching Manipulating Strings and Dates.

Hours :15

UNIT III

Sophisticated queries-Built in group functions- Joined Relations-Nested Sub queries – Views – Sequences and Synonyms-Table Indexes- Table Partition and Joining of two tables.

Hours :16

UNIT IV

Database Triggers:–Use of Database Triggers-How to apply Database Triggers-Types of Triggers-Combinations-Keywords and Parameters-Dropping Triggers-Basics of PL/SQL –Usage of Stored Functions and Procedures- -How do procedures reside-Parameters. Packages-Retrieving data with Cursors-Formatting table. Exception handling.

Hours: 15

UCA 16

UNIT V

New Applications: Decision Support Systems - Data Analysis - Data Mining - Data Warehousing - Spatial and Geographic Databases - Multimedia Databases - Mobility and Personal Databases - Information - Retrieval Systems - Distributed Information Systems - **The World Wide Web ***. Working with Reports-Default tabular report- PL/SQL with reports.

Hours: 15

*** Self Study Topic and Questions for examinations may be taken from Self Study Portions also.**

Text Book:

1.Abraham Silberschatz, Henry F. Korth, S. Sudharshan, "**Database System Concepts",** Tata McGraw Hill International Editions – 4th Edition –2002.

1. Ivan Bayross , "**Commercial Application Development using Oracle developer 2000**", BPB publications.

Reference Books:

1. David Loctman "**Developing Personal Oracle For Windows 95**" .
2. Elmasri Navathe, **", Fundamentals of Database Systems**", Pearson Education pub, 1st Edition 2001
3. Sharad Maheshwari & Ruchin Jain "**Database Management Systems" Complete Practical Approach**", 2nd Edition 2006
4. Nilesh Shah "**Database Systems using Oracle**" A Simplified Guide to SQL & PL/SQL 2nd Edition 2007, Prentice Hall of India Private Ltd,New Delhi
5. Ivan Bayross**,"Oracle 7 The Complete Reference**",BPB Publications-1995.

UCA 17

SEMESTER-III

15UCA3CN

C.Pr- 3 -RELATIONAL DATA BASE MANAGEMENT SYSTEMS LAB

LIST OF PRACTICAL PROBLEMS

Credits: 2 **Total Hours: 75**

1. Creating Tables and writing simple queries using
   a) Comparison Operators
   b) Logical Operators
   c) Set Operators
   d) Sorting and Grouping

2. Creation of Reports using Column format

3. Writing Queries using built in functions.

4. Updating and altering tables using SQL.

5. Creation of Students Information table and write PL/SQL Block find the Total, Average marks and Results.

6. Write a PL/SQL block to prepare the Electricity Bill.

7. Programming with Cursors: Write a PL/SQL Block to partition the students Information Table into two, one with the Passed and other with Failed.

8. Write a java program to implement the concepts of Joined relations.

9. Create a Database Trigger to check the data validity of Record.

10. Recursive Functions Write a Recursive function to find
    a). Factorial of N
    b). Fibonacci Series with N terms.

11. Use SQL queries to manage Views, Sequences and Synonyms.

UCA 18

12. Write a Database Trigger to implement the Master - Detail Relationship.
13. Write SQL queries to implement the concept of Stored Procedure with Parameters.
14. Implement the concept of Packages using Procedure and Function.
15. Write PL/SQL program to handle User defined exception.

Guidelines to the distribution of marks for practical Examinations:

Two questions will be given for each student (3 Hours / 60 Marks)

1. Record Work - 10 Marks
2. Algorithm, Program , Typing and Execution : 50 Marks.

Particulars	Program I (Marks)	Program II (Marks)
Algorithm	10	10
Program Writing	10	10
Typing and Execution	5	5

Internal Mark Splitup for 40 Marks: Observation- 10 Marks, Attendance- 5 Marks, Two Model Practical-25 Marks.

UCA 19

SEMESTER-IV

15UCA407

C.P.7: - SOFTWARE ENGINEERING

Credits: 4 **Total Hours : 75**

UNIT I

The evolving role of software – Software – *Software Crises and Myths-Software Engineering: Layered Technology –Process models – Water fall model, Incremental model, evolutionary process models - Component-based development- An agile view of process. **Software project planning:** Project planning objectives –Software scope-Resources –Software project estimation –Decomposition Techniques – Empirical estimation models.

Hours : 14

UNIT II

Building the Analysis model: Requirement Analysis—analysis modeling approaches. Data modeling concepts – Scenario-based modeling - Flow-oriented modeling- class-based modeling— creating a behavioral modeling. Software prototyping—Specification – *The Data Dictionary.

Hours : 15

UNIT III

Design Engineering: The design process and design quality — Design concepts — The design model- Pattern-based software design.

Architectural design: Software Architecture –Data design— Architectural style and patterns — Architectural design. **Hours : 16**

UNIT IV

Assessing alternative architectural designs-Mapping requirements into software Architecture – Transform mapping –Transaction mapping. Performing User interface design: The golden Rules—User interface analysis and design —Interface analysis – interface design steps- Design evaluation.

Hours: 16

UCA 20

UNIT V

Testing strategies: A strategic approach to software testing-strategic issues –Test strategies for conventional software-Validation testing—*System testing - The Art of Debugging.

Hours: 14

*** Self Study Topic and Questions for examinations may be taken from Self Study Portions also.**

TEXT BOOKS:

1. Roger S Pressman, "Software Engineering a Practioner's Approach", sixth Edition, McGraw-Hill Higher Education, 2006.
2. Roger S Pressman "Software Engineering a Practioner's Approach", Fifth Edition, McGraw-Hill Higher Education, 2001.

REFERENCE BOOKS

1. Richard Fairly," Software Engineering concepts ", Tata McGraw Hill, 1997.
2. Sommerville, "Software Engineering ", Addison Wesley Pub., Sixth Edition, 2000.

UCA 21

SEMESTER-IV

15UCA408

C.P.8:- COMPUTER NETWORKS

Credits : 4 **Total Hours : 75**

UNIT – I

Introduction: Uses of computer networks:Business Applications-Home Applications-Mobile Users-Social Issues.Network Hardware:LAN-MAN-WAN-Wireless Networks-Internetworks – Network Software:Protocol Hierarchies-Design Issues for the Layers-Connection Oriented and Connectionless Services-Service Premitives-The Relationship of Services to Protocol – Reference Models.

Hours :13

UNIT-II

The Physical layer: Guided transmission media –The Public Switched telephone network: Structure of the telephone system – The local loop : modems- Switching.

Hours: 15

UNIT – III

The Data link layer: Data link layer design Issues – Error Detection and Correction . The Medium access control sub layer: The channel allocation problem – Multiple access protocols: Carrier sense multiple access protocols, collision-free protocols, Limited-Contention protocols – Blue tooth: Blue tooth Architecture, **Blue tooth Applications ***. WAP: Overview of the WAP architecture . Data link layer switching: repeaters, hubs, bridges, switches, routers and gateways.

Hours: 16

UNIT – IV

The Network layer: Network layer design issues – Routing algorithms: The optimality principle, shortest path routing- Congestion Control Algorithm: Congestion Control in Virtual Circuit Subnet , Datagram Subnet.

UCA 22

The Transport layer: The Transport service: Services provided to the upper layers– Elements of Transport protocols.

Hours: 16

UNIT – V

The Application layer: DNS – The Domain Name System – **Electronic mail: Architecture and services ***, the user agent. Network Security: Cryptography – DES – Digital Signatures: Symmetric-Key Signatures, Public-Key signatures.

Hours: 15

*** Self Study Topic and Questions for examinations may be taken from Self Study Portions also.**

Text Book:

1. Andrew S. Tanenbaum, "Computer Networks", 4th Edition, Pearson Education Publ-2008.
2. Sandeep singhal Jari alvinen "Wireless Application Protocol", Pearson Education Publ-2005.(Unit III).

Reference Book:

1. Behrouz A. Forouzan, "Data Communications And Network", Tata MCGraw Hill - Second Edition.
2. William A Shay, "Understanding data communications and Networks", 2nd Edn,Vikas Publ,2001.

SEMESTER-IV

16UCA409

C.P.9 – ADVANCED JAVA

Credits: 5 **Total Hours : 75**

UNIT – I

Java Evolution: History – Features – How Java differs from C and C++. Overview of Java Language: Structure – Java Tokens * – Statements - Java virtual Machine. Data types – Operators and Expressions. Decision Making and Branching: If, If... else, Else if Ladder *, Switch, ?: Operator. Decision Making and Looping: While, Do and For

Hours :13

UNIT – II

Classes, Objects and Methods: Introduction – Defining a Class – Fields Declaration – Methods Declaration – Creating Objects – Accessing Class Members – Constructors – Methods Overloading – Overriding Methods.

Arrays, Strings and Vectors: Introduction – One-dimensional Arrays – Creating an Array - Two-dimensional Arrays – Strings – Vectors. Interfaces: Multiple Inheritance.

Hours :15

UNIT – III

Packages: Putting Classes Together – Multi Threaded Programming: Introduction – Extending the Thread Class – Life Cycle of a Thread – Thread Priority. Managing Errors and Exceptions.

Applet Programming: Introduction – How Applets Differ from Applications – Building Applet Code – Applet Life Cycle – More About Applet Tag. Graphics Programming: Introduction – The Graphics Class – Lines and Rectangles – Circles and Ellipses – Drawing Arcs – Drawing Polygons.

Hours :16

UNIT – IV

Files: Introduction – Concept of Streams – Stream classes – Reading/Writing Characters /Bytes – Random Access Files. Swings: Key Features – Components & Containers – Trees

Hours :16

UNIT –V

Networking with java: Chatting. Introducing Android: The Android Platform – Understanding the Android market – The layers of Android – The Intent of Android development – Four kinds of Android components – Understanding the AndroidManifest.xml file – Creating an Android application – Android 3.0 for tablets and smartphones.

Hours :15

*** Self Study Topic and Questions for examinations may be taken from Self Study Portions also.**

Text Book:

1. E.Balagurusamy "**Programming with Java – A Primer**", TMH Publ, Fourth Edition.
2. Herbert Schildt "**Java the Complete Reference**" Tata McGraw-Hill Edition 2011.
3. W.Frank Ableson, Robi Sen, Chris King and C.Enrique Ortiz "**Android in Action**", Third Edition,November 2011.

Reference Books:

1. Steven Holzner, "**Java 2 Programming – Black Book** " 2008, New Edition
2. C.Xavier '**Programming with Java 2**", Scitech Publ, 2000.

SEMESTER-IV

15UCA4CO

C.Pr.4: ADVANCED JAVA LAB

LIST OF PRACTICAL PROBLEMS

Credits: 2 **Total Hours: 75**

1. Write a program to print the following triangle of numbers.

```
1
1 2
1 2 3
1 2 3 4
```

2. Define a class with following attributes:

a) Name b) Date of Birth c) Date on which leg injection has to be given (60 days from DOB) d) Date on which polio drops is to be given (45 days from DOB).Write a constructor to construct baby object to find leg & polio drops from DOB. Define baby and display its details in main program.

3. Write a program to display a message and draw several shapes in Applet window.

4. Write a program to create an applet and draw grid lines.

5. Write a java program to create a frame with three text field for name, age and qualification and a text field of multiple lines for address to display Personal Details.

6.Write a java program to demonstrate the multiple selection list box.

7. Write a java program to create a menu bar and pull down menus.

8. Write a java program to create a window when we press M/m the window displays Good Morning, A/a the window displays Good Afternoon, E/e the window displays Good Evening, N/n the window displays Good Night.

UCA 26

9. Write a program to move different shapes (Circle, Ellipse, Square, Rectangle) according to the arrow key pressed.

10. Write a java program to handle the divide by zero exception.

11. Write a java program to explain the multithreading with the use of multiplication tables.

Three threads must be defined. Each one must create one multiplication table; they are 5

table, 7 table and 13 table.

12. Write a program to implement the concept of Concatenating and Buffering files in java.

13. Write a java program to display the System name and IP address of a particular website.

14. Write a java program to Add Items and Remove Items using Swing components**.**

15. Write a program to implement the concept of Trees in java.

Guidelines to the distribution of marks for practical Examinations:

Two questions will be given for each student (3 Hours / 60 Marks)

1. Record Work - 10 Marks
2. Algorithm, Program , Typing and Execution : 50 Marks.

Particulars	Program I (Marks)	Program II (Marks)
Algorithm	10	10
Program Writing	10	10
Typing and Execution	5	5

Internal Mark Split-ups for 40 Marks: Observation- 10 Marks, Attendance- 5 Marks, Two Model Practical-25 Marks.

UCA 27

SEMESTER-V

16UCA510

C.P.10: – VISUAL BASIC AND .NET

Credits: 5 **Total Hours: 75**

Unit I

Introduction to Visual Basic - Steps in VB Application - Integrated development environment (IDE)- Variables - Scope of variables- constants - Data types - Functions - Procedures - Control Structure - Arrays -Control Arrays- User defined Data types - operators - String, **Date and Time functions-** Creating and using Standard Controls - Text Box - Command Button - Check Box - Combo Box - List Box - Option Button - Timer Control - Frame, Label, Shape & Line controls - Picture Box - Image Controls - **Scroll Bars** ***** - Data Controls **Hours: 5**

Unit II

Menus - Menu Editor - Menu Creation - Modifying and Deleting Menu Items - Adding a menu Separator - Creating Submenus. - Data Access Objects (DAO). Data Report - Data Environment Designer - Connection Object - Command Object - Section of the Data Report Designer - Data Report Controls - Creating a Simple Data Report. **Hours: 5**

Unit III (VB.NET)

.Net Frame work and the CLR –IDE- Data types, Conversion between Datatypes. Arrays: Standard and Dynamic – Understanding Scope- Handling Exceptions: Unstructured and Structured.

Window Forms: Creating Menu, Sub Menu and Context Menu. Image List – Tree Views – List Views – Progress Bar. **Hours: 5**

Unit IV

Object Oriented Programming: Creating Classes, Objects ,Modules, Methods. Constructors , Overloading Methods- Using Finalize Method – Polymorphism: Interface Based and Inheritance Based Polymorphism.Drawing Figures with Pens. Graphics Handling.

UCA 28

Hours: 5

Unit V

Data Access with ADO.Net : Accessing data with Server Explorer – Using Data Grid.- Accessing data with Data Adapter and Data Set.

Hours: 4

*** Self Study Topic and Questions for examinations may be taken from Self Study Portions also.**

Text Book:

1. **"Visual Basic 6 Programming -"** By Content Development Group, Tmh Publishers-2004, First Edition.
2. *Steven Holzner*, **Visual Basic.NET Black Book**, Dream Tech, First Edition, 2002.

Reference Book:

1. Scott Warner -"**Teach Yourself Visual Basic 6**", **Tata** McGraw-Hill Edition-2000, First Edition.

UCA 29

SEMESTER V

15UCA511

C.P.11 – CLOUD COMPUTING

Credits: 5 **Total Hours: 75**

UNIT-I

Cloud Computing Basics: Cloud Computing Overview – Applications – Intranets and the Cloud. **Hardware and Infrastructure:** Clients– Security – Network - Services.

Hours: 14

UNIT-II

Cloud Computing Architecture: Introduction - Cloud Reference Model – Types of Clouds – Organizational aspects.

Hours: 15

UNIT – III

Accessing the Cloud : Platforms – Web Applications – Web Browsers. **Cloud Storage:** Overview – Cloud Storage Providers.

Hours: 16

UNIT – IV

Cloud Applications: Scientific Applications: Healthcare, Geosciences – Business and Consumer Applications: CRM and ERP, Media Applications, **Multiplayer Online Gaming*.**

Hours: 15

UNIT – V

Standards: Application – Client – Infrastructure – Service. **Software as a Service:** Overview – Driving Forces - Industries – Healthcare, Banking.

Hours: 15

TEXT BOOKS:

1.Anthony T.Velte ,Toby J.Velte, Robert Elsenpeter , "Cloud Computing – A Practical Approach" 2010 TMH.(UNIT I, UNIT III, UNIT V)

2. Rajkumar Buyya, Christian vecchiola , Thamarai selvi, "Mastering Cloud computing", Mc Gram Hill Edu, 2013. (UNIT II, UNIT IV)

UCA 30

REFERENCE BOOKS

1. Haley Beard, "Cloud Computing Best Practices for measuring processes for on demand computing, Applications and data centers in the cloud with SLA's " July 2008.
2. Judith Hurwitz, Robin Bloon," Cloud Computing for Dummies", 2009
3. Michael Miller , " Cloud computing – Web based application " , Pearson Edu Inc, First Impression 2009.

UCA 31

15UCA512

SEMESTER-V

C.P.12 DATAMINING

Credits:5

UNIT 1

Expanding Universe of Data- Production Factor-Data Mining-Data Mining versus Query Tools- *Data Mining In Marketing-Practical Applications. Learning – Self Learning Computer Systems- Machine Learning and Methodology of Science – Concept Learning.

Hours: 15

UNIT II

Data Warehouse-Need- Designing Decision Support System-Integration with Data Mining – Client Server and Data Ware Housing – Multi Processing Machines- Cost Justification- Knowledge Discovery Process – Data Selection – Cleaning – Enrichment- Coding.

Hours: 14

Unit III

Data Mining – Preliminary Analysis of the Data Set Using Rational Query Tools – Visualization Techniques – Likelihood and Distance – OLAP Tools – K –Nearest Neighbor – Decision Tree- Association Rule – Neural Networks – Reporting- Different Forms of Knowledge- Ten Golden Rules.

Hours: 16

Unit IV

Developing a data warehouse: Why and how to build a data warehouse? Data warehouse architectural strategies and organizational issues- Design considerations- Data content – *Metadata- Distribution of data- Tools for data warehousing- Performance considerations- crucial decisions in designing a data warehouse- Applications of data warehousing and data mining in government.

Hours: 15

UCA 32

Unit V

Customer Profiling – Predicting Bit Behavior Of Pilots – Learning As Compression Of Data Sets- Content Of Message – Noise And Redundancy – Significance Of Noise – Fussy Data Base- The Traditional

Theory Of Relational Data Base – From Relations To Tables – From Keys To Statistical Development Dependencies – Denormalization – Data Mining Primitives.

Hours: 15

*** Self Study Topic and Questions for examinations may be taken from Self Study Portions also.**

TEXT BOOKS

1. C.S.R. Prabhu, "**Data Warehousing-concepts, techniques, products and Applications",** 2nd Edition by prentice hall of India private limited, New delhi,2002.(Unit-IV)

2. Pieter Adriaans, Dolf Zantinge, **"Data Mining** ", Addison Wesley, 1998.(Unit I,II,III & V)

REFERENCE BOOK

1. Margaret H.Dunham, "**Data Mining – Introductory and Advanced Topics**", Pearson Education, 2003.

UCA 33

SEMESTER-V

16UCA5CP

C.Pr.5: VISUAL BASIC AND .NET LAB

LIST OF PRACTICAL PROBLEMS

Credits: 2 **Total Hours: 75**

1. Develop a program to perform Navigation of list of items between two list boxes.
2. Design an application using the Common Dialog Control to display the font family.
3. Develop a simple project to calculate Electricity Bill using DAO method and print it in a neat Report format.
4. Develop a simple project to search a record & update it newly using DAO method for student information(Calculating Attendance and Mark list).
5. Develop a Simple Project, showing the process (using payroll process)
   1) Move first 2) Move Last 3) Move Previous 4) Move Next.
6. Develop a Program to simulate a simple calculator using VB.Net.
7. Develop a Program to simulate a digital clock with reset option using VB.Net
8. Develop a Program to maintain Employee details using VB.Net.
9. Develop a Program to create open dialog box and save dialog box using vb.net.
10. Develop a Vb.net program to display shapes and images.
11. Create a vb.net program to implement concept of looping.
12. Implement the concept of Animation direction and style using vb.net.

UCA 34

Guidelines to the distribution of marks for practical Examinations:

Two questions will be given for each student (3 Hours / 60 Marks)

1. Record Work - 10 Marks
2. Algorithm, Program , Typing and Execution : 50 Marks.

Particulars	Program I (Marks)	Program II (Marks)
Algorithm	10	10
Program Writing	10	10
Typing and Execution	5	5

Internal Mark Split-ups for 40 Marks: Observation- 10 Marks, Attendance- 5 Marks, Two Model Practical-25 Marks.

UCA 35

SEMESTER-VI

15UCA613

C.P.13 - WEB DESIGNING

Credits: 4 **Total Hours :75**

UNIT I

HTML:-Introduction- Core Elements and Attribute – Basic Text Formatting-Presentational Elements-Phrase Elements- Lists- Editing Text- Using Character Entities for Special Characters-Comments-Font Elements- Basic Links-Creating Links with the <a> Element-Adding Images to Website- Using Images as Links- Tables-Forms-Frames.

Hours: 14

UNIT II

Cascading Style Sheets: Introducing CSS-CSS Rules, Properties, Types of CSS –Controlling Fonts-Text Formatting-Selectors: Type, Class, ID, Attribute Selectors. Lengths-Percentages, Introducing the Box Model. Links- Backgrounds-Positioning with CSS-Page Layout

Hours: 15

UNIT III

Java Script: Learning JavaScript-How to add a script to your pages-The Document Object Model-Starting to Program with Javascript- Variables-Operators-Conditional Statements-Loopings. Java Script Arrays: Passing Arrays to Functions-Multiple Subscripted Arrays.

Hours: 15

UNIT IV

Java Script Functions: Functions- Function Definition - Duration Of Identifiers – **Scope Rules*** – Recursion – Java Script Global Functions. Events-Built-In Objects-Writing JavaScript.Working with JavaScript: Form Validation-Form Enhancements-Image Rollovers

Hours: 15

UCA 36

UNIT V

Understanding PHP Basics: Introducing PHP-Using Variables and Operators:storing data and variables-Understanding PHP's Data types-Setting and checking variable Data types-Using Constants-Manipulating Vaiables with Operators-Controlling Program Flow-Working with Arrays: Storing Data in Arrays-Processing Arrays with Loops and Iterators-Working with Array Functions-Working with Dates and Times-Using Fucntions and Classes: Creating User-Defined Functions-Creating Classes.

Hours: 16

*** Self Study Topic and Questions for examinations may be taken from Self Study Portions also.**

TEXT BOOKS

1. Jon Duckett – **"Beginning Web Programming With HTML,XHTML AND CSS",** – Second Edition , Wiley India Pvt Ltd 2008.
2. Vikram Vaswani – "PHP: Beginner's Guide", Tata McGraw Hill Edition 2009.

REFERENCE BOOKS

1. Thomas A. Powell, "**The complete Reference HTML**", – Second Edition Tata McGraw Hill Publication.
2. Chris Bates-" Web Programming Buliding Internet Applications", Second Edition, John Wiley & Sons, Ltd.

UCA 37

15UCA614

C.P.14:-INFORMATION SECURITY

Credit:5 **Total Hours:75**

UNIT I

Is there Security Problem in Computing? : What does Security mean? –Attacks-The Meaning of Computer Security-Computer Criminals. P**rotection in general purpose operating systems** : Protected Objects and Methods of Protection-Memory and Address Protection-Control of Access to General Objects-File Protection Mechanisms-User Authentication.

Hours:14

UNIT II

Program Security: Secure Programs- Nonmalicious Program Errors – Viruses and other Malicious Code- Targeted Malicious Code-Controls against Program Threats.

Hours:16

UNIT III

Database and Data Mining Security: Intoduction to Databases- Security Requirements-Reliability and Integrity- Multilevel Databases – Proposals for Multilevel Security- Data Mining.

Hours:15

UNIT IV

Security in Networks: Network Concepts-Threats in Networks-Firewalls-Intrusion Detection Systems.

Hours:15

UNIT V

Legal and Ethical Issues in Computer Security: Protecting Programs and Data- Information and the Law-Computer Crime- Ethical Issues in Computer Security.

Hours:15

UCA 38

TEXT BOOK

1. Charles P.Pfleeger, Shari Lawrence Pfleeger, Deven N.Shan "Security in Computing" Fourth Edition.

REFERENCE BOOK

1.Ross J.Anderson and Ross Anderson, "security Engineering: A Guide to Building Dependable Distributed Systems", Wiley, 2001.

2.Debby Russell and Sr.G.T.Gangemi,"Computer Security Basics(paperback)", Second Edition, O'Reilley Media,2006.

3. Thomas R.Peltier.Juystin Peltier and John Blackley,"Information Security Fundamentals", Second Edition, Prentice Hall, 2010.

UCA 39

SEMESTER-VI

16UCA6CQ

C.Pr.6- WEB DESIGNING LAB

LIST OF PRACTICAL PROBLEMS

Credits :2 **Total Hours : 75**

1. Design a web page for your Department.
2. Design a new web page, which shows your Biodata using CSS.
3. Design a web page for a company using HTML Formatting Tags.
4. Design a web page for Computing Student Mark Llist using JavaScript.
5. Design a web page for an Advertising using StyleSheets.
6. Design a web page with the following components using JavaScript.
   a) Image b) Hyperlink c) Scroll Bar d) Animation.
7. Design a web page for Library system using HTML Tags.
8. Design a web page for Payroll Processing using Java Script.
9. Design a web page for Electricity Bill Preparation using JavaScript.
10. Create a program to validate username and password using PHP.

Guidelines to the distribution of marks for practical Examinations:

Two questions will be given for each student (3 Hours / 60 Marks)

3. Record Work - 10 Marks
4. Algorithm, Program , Typing and Execution : 50 Marks.

Particulars	Program I (Marks)	Program II (Marks)
Algorithm	10	10
Program Writing	10	10
Typing and Execution	5	5

Internal Mark Split-ups for 40 Marks: Observation- 10 Marks, Attendance- 5 Marks, Two Model Practical-25 Marks.

UCA 40

SEMESTER-VI

16UCA6Z1

PROJECT WORK AND VIVA-VOCE

Evaluated by both Internal and External Examiners jointly.

Credits :4 **Total Hours :90**

Guidelines to the distribution of marks for Project and Viva- Voce

1. Viva Voce : 20 Marks
2. Project Report : 80 Marks.

Split-up : 20 Marks		
Review 1	Review 2	Review 3
5(Marks)	10(Marks)	5(Marks)

SEMESTER IV

15UCA4A4

ALLIED: 4 ORGANIZATIONAL BEHAVIOR AND MARKETING

Credits: 5 **Total Hours: 90**

UNIT I

Management - Meaning and Definition – Features-Functions – Importance-Difference Between Administration And Management – Management Hierarchy.

Planning – Meaning – Nature-Objectives – Importance-Steps in Planning – Advantages and Limitations – Management by Objectives. **Hours: 18**

UNIT II

Organization - Meaning-Functions-Principles- Types Of Organization-Merits& Demerits-Delegation Of Authority-Decentralization- Advantages & Disadvantages **Departmentation - Meaning-Process-Basis Types Of Departmentation** *- Importance.

Hours: 18

UNIT III

Staffing – Definition-Processing Of Staffing-Recruitment-Sources Of Recruitment- Stages In Selection Procedure – Training And Development. Motivation- Meaning And Importance – Types – Theories Of Motivation – Maslow, McGregor, Hertzberg, Leadership – Need And Importance – Qualities Of Leadership – Leadership Styles.

Hours: 17

UNIT IV

Communication &Marketing:: Written Communication: Business Letters-drafting letters for sales and collection. Oral Communication: Interviews-telephone conversation. Conducting Meeting: notice, Agenda, Minutes. Marketing Concepts: Modern Marketing – Marketing And Selling – New Product Development –Product Life Cycle- Brands, Packaging And Other Product Features.

Hours: 19

UCA 42

UNIT V

Pricing Strategies and Policies- Channels Of Distribution – Sales Promotion Program And Techniques, Managing The Sales Force – Personal Selling – Marketing Research: Procedures & Methods.

Hours: 18

*** Self Study Topic and Questions for examinations may be taken from Self Study Portions also.**

Text Books:

1. L.M.Prasad , "**Principles & Practice of Management**", Sultan Chand & Sons (Unit I, II & III), 2004 Edition.

2. Philip Kotler, "**Markeing Management**", Prentice Hall of India (Unit IV & V), 2004 Edition

3. Rajendran Pal and Karalnath J.S. "Essentials of Business Communication", Sultan Chand & sons, New Delhi,1999

Reference Book:

1. Tripathy and Reddy, "**Principles of Management**", Tata McGraw Hill (Unit I, II & III)

UCA 43

ELECTIVES FOR FIFTH AND SIXTH SEMESTER

ELECTIVE PAPER- SOFTWARE PROJECT MANAGEMENT

Credits: 5 **Total Hours: 90**

UNIT I

Product Life Cycle: Introduction – Idea generation – Prototype development Phase –Alpha phase – Beta phase – Production phase – Maintenance and obsolescence Phase. **Project Life Cycle models:** What is Project Life Cycle Model?-A Framework for studying different life cycle models – The Waterfall model*–

The prototyping model – RAD model – The Spiral model and its variants. **Metrics:** Introduction – The Metrics roadmap – A Typical metrics strategy – What should you measure? – Set targets and track them.

Hours: 17

UNIT II

Software Quality Assurance: How do you define quality?-Why is quality important in software? – Quality Control and Quality Assurance – Cost and benefits of quality – Software quality analyst's functions– Some popular misconceptions about the SQA's role-Software quality assurance tools –Organizational structures – Profile of a successful SQA-.

Risk Management: Introduction-What is risk management and why is it important?– Risk management cycle- Risk identification: Common tools and techniques – Risk quantification –Risk monitoring-Risk mitigation- Risk and mitigation in the context of global project teams –Some practical techniques in risk management – Metrics in risk management.

Hours: 19

UNIT III

Software requirements gathering: Dimensions of requirements gathering –Steps to be followed during requirements gathering –Outputs and quality records from the requirements phase – Skills sets required during the requirements phase-Challenges during the requirements management phase- Metrics for the requirements phase.

UCA 44

Estimation: What is estimation? - When & why is estimation done? – The three phases of estimation-Estimation methodology – Formal models for size estimation - Common challenges during estimation – Metrics for the estimation processes.

Hours: 18

UNIT IV

Design and development phase: Salient features of design – Design for reusability – Technology choices /constrains – Design to standards – Design for portability – User interface issues – Design for Testability-Design for Diagnosability – Design for maintainability – Design for Installability - Challenges during design and development phases-Skill sets for design and development- Metrics for design and development phases.

Hours: 18

UNIT V

Project Management in the Maintenance Phase: Introduction – Activities during the maintenance phase- Management issues during the maintenance phase- Configuration management during the maintenance phase – Skill sets for people in the Maintenance phase -Metrics for the Maintenance phase.

Hours: 18

TEXT BOOK

1. Gobalswamy Ramesh, "Managing Global Software Projects", Tata McGraw Hill Publishing Company, 2007.

REFERENCE BOOKS

1.S.A. Kelkar, "Software Project Management – A Concise study", PHI, 2003.

2. Milk Cotterel, Bob Hughes, "Software project Management", Inclination/Thomas Computer press, 1955.

3. Derrel Ince, H. Sharp and M. Woodman, "Introduction to software project management and quality assurance", Tata McGraw Hill, 1995.

4. Stephen H. Kan, "Metrices and Models in Software Quality Engineering", Pearson Education Asia, 2nd edition.

UCA 45

ELECTIVE PAPER - CASE TOOLS CONCEPTS

Credits:5 **Total Hours :90**

UNIT-I :

Data Modeling: Business Growth-Organisational Model-Case Study of student MIS-What is the purpose of such Models-Understanding the business-Types of models-model development approach-the case for structural development-advantages of using a case tool. System analysis and design-what is DFD-General Rules for Drawing DFD-Difference Between Logical data flow diagram and Physical data flow diagramSoftware verses Information Engineering-How case tools store information.

Hours: 17

UNIT-II:

Approach used to solve the problem statement: How to deal with a problem statement-Data flow diagram for Payroll System-Presentation Diagram for Payroll System-sehematics of the model-Forms-Screens-Menu Screens-Dataentry Screens-Report Output Format-Utilities. Installation of Ubridge and Synthesis: How to use the tools in Ubridge Systhesis for case-Installation of Ubridge Synthesis-Computer Aided Software EngineeringGetting Ubridge to work-Setup-Assign-Housekeep-The Ubridge page.

Hours: 19

UNIT-III:

Introduction to Ubridge: Introduction - Main flow of the system prototyping your ReportIntroducing the Novice Model of the Operation. Introducing Synthesis - Synthesis basic – Synthesis - Menu Drawing the screen-Requirement Definition-Diagram-Data Dictionary-Document-Synthesis Main Administration - Synthesis reference - importing and exporting screen.

Hours: 18

UNIT-IV :

Diagram definition tool: Introduction-Starting DDT-Drawing your own Icon - Defining the connection rules-Rebuilding your icon. Object oriented methodologies: Rumaugh Et.Al‘s object modeling techniquesThe Booch methodology –The Jacobson Et.Al Methodologies-Pattern-Frame works-The Unified Approach.

Hours: 18

UCA 46

UNIT-V :

Introduction to UML-UML Diagram-Class Diagram-Use Case Diagram-Interaction DiagramSequence Diagram-Collobration Diagram-State Chart Diagram-Activity DiagramComponent Diagram-Deployment Diagram.

Hours :18

Text books:

1) Case Tools Concepts and Applications.-Ivan N Bayross,BPB Publications

2) Object Oriented System Development using the unified modeling language-Mc GraHill International editions.

Reference book:

1. Software engineering a practioner‘s approach-roger s pressman- Mc GraHill International Editions.

*** Self Study Topic and Questions for examinations may be taken from Self Study Portions also.**

UCA 47

ELECTIVE PAPER - SOFTWARE TESTING

Credits: 5 **Total Hours: 90**

UNIT I

Software Development Life Cycle Models: Phases of Software Project – Quality, Quality Assurance and Quality Control - Testing, Verification and Validation – Process Model to Represent Different Phases-Life Cycle Models .White Box Testing: What is White Box Testing- Static Testing – **Structural Testing *.**

Hours: 19

UNIT II Black Box Testing: What is Black-Box Testing?-Why Black-Box Testing?-How to do Black Box Testing?. Integration Testing: What is Integration Testing–Integration Testing as a Type of Testing – Integration Testing as a Phase of Testing – Scenario Testing – Defect Bash. \

Hours: 18

UNIT III

System and Acceptance Testing: System Testing Overview –Why System Testing is done ?- Functional Versus Non-Functional Testing – **Functional System Testing*–**Non-Functional Testing – Acceptance Testing-Summary of Testing Phases.

Hours: 18

UNIT IV Performance Testing: Factors governing Performance Testing- Methodology for Performance Testing–Tools for Performance Testing–Process for Performance Testing-Challenges. Regression Testing: What is Regression Testing? – Types of Regression Testing– When to do Regression Testing? – How to do Regression Testing? – Best Practices in Regression Testing.

Hours: 18

UCA 48

UNIT V

Ad hoc Testing: Overview of Ad hoc Testing–Buddy Testing–Pair Testing. Test Planning, Management, Execution and Reporting: Test Planning – Test Management – Test Process–Test Reporting–Best Practices.

Hours: 17

***Self Study Topic and Questions for examinations may be taken from Self Study Portions also.**

TEXT BOOK

1. **SOFTWARE TESTING - Priciples And Practices** - Srinivasan Desikan & Gopalaswamy Ramesh, 2006, Pearson Education.

REFERENCE BOOKS

1. **SOFTWARE TESTING – Techniques And Applications**-Arunkumar Khannur, Pearson Education, India.

2. **SOFTWARE TESTING – Effective Methods, Tools And Techniques** –Renu Rajani, Pradeep Oak,2007,TMH

UCA 49

ELECTIVE PAPER – PRINCIPLES OF COMPILER DESIGN

Credits:5 **Total Hours: 90**

UNIT I:

Introduction to Compliers: Compliers and Translator – Need of Translator – The structure of a Complier – Lexical analysis – Syntax analysis – Intermediate code generation – optimization – code generation – Complier – writing tools. Finite automata and lexical Analysis: The role of the lexical analysis – A simple approach to the design of lexical analyzers- Regular expressions to finite automata – Minimizing the number of states of a DFA.

Hours: 19

UNIT – II:

The Syntactic specification of programming languages: context free grammars – derivations and parse trees – capabilities of context free grammars. Basic parsing techniques: Parsers – shift – reduce parsing – operator – precedence parsing – top down parsing – predictive parsers.

Hours: 18

UNIT – III:

Syntax – directed translation: syntax – directed translation schemes – implementation of syntax – directed translators – intermediate code – postfix notation – parse trees and syntax trees – 3 address code – quadruples and triples – translation of assignment statements – Boolean expressions – statements that alter the flow of control. Symbol tables: the contents of a symbol table – data structures for symbol table – representing scope information.

Hours: 18

UNIT – IV :

Run time storage administration: Implementation of a simple stack allocation scheme – implementation of block-structured languages – storage allocation in block structured languages. Error deduction and recovery: errors – lexical phase errors – syntactic phase errors – semantic errors. 52

Hours: 18

UNIT – V :

Introduction of code optimization: The principle sources of optimization – loop optimization – the DAG representation of basic blocks – value numbers and algebraic laws – Global data flow analysis. Code generation: Object programs – problems in code generation – a machine model – a simple code generator – register allocation and assignment – code generation from DAG‘s – peepholes optimization.

Hours: 17

TEXT BOOK

1) Principles of Complier Design by Alfred V.Aho, Jeffrey D.Ullman , Narosa Pub House. ELLECTIVE - PHP & SCRIPTING LANGUAGE.

REFERENCE BOOKS

1.Compiler Construction: Principles and Practice, Kenneth C. Louden.

2. Modern Compiler Design by Dick Grune, H.E. Bal, C. Jacobs, K.G. Langendoen.

Part IV – I Semester

ENVIRONMENTAL STUDIES

(2012-13 onwards)

Total Credits : 2 **Total Hours : 30**

Objectives:

- To inculcate knowledge and create awareness about ecological and environmental concepts, issues and solutions to environmental problems.
- To shape students into good "ecocitizens", thereby catering to global environmental needs.

UNIT I MULTIDISCIPLINARY NATURE OF ENVIRONMENT (6 hours)

1.1 Definition : scope and importance

1.2 **Need for public awareness***

1.3 Natural resources

1.3.1 Types of resources

Forest Resources – Water Resources – Mineral Resources – Food Resources – Energy Resources – Land Resources.

UNIT II ECOSYSTEMS (6 hours)

2.1 Concept of an ecosystem

2.2 Structure and functions of an ecosystem

2.3 Producers, consumers and decomposers

2.4 Energy flow in the ecosystem

2.5 Ecological succession

2.6 Food chains, food web and ecological pyramids

2.7 Structure and function of the following ecosystem*

Forest Ecosystem – Grassland Ecosystem – Desert Ecosystem – Aquatic Ecosystem.

UNIT III BIODIVERSITY AND ITS CONSERVATION (6 hours)

3.1 Introduction – Definition – Genetic – Species and ecosystem diversity

3.2 Biogeographical classification of India

3.3 Value of biodiversity*

3.4 Biodiversity at global, national and local levels

3.5 India as a mega – diversity Nation

3.6 Hot spot of biodiversity

3.7 Threats to biodiversity

3.8 Endangered and endemic species of India

3.9 Conservation of Biodiversity

insitu Conservation of Biodiversity – *exsitu* Conservation of Biodiversity

UNIT IV ENVIRONMENTAL POLLUTION (6 hours)

4.1 Definition

4.2 Causes, effects and control measures of: Air Pollution – Water Pollution – Soil Pollution – Marine Pollution – Noise Pollution – Thermal Pollution – Nuclear Pollution.

4.3 Solid Waste Managements: causes, effects, control measures of urban and industrial wastes.

4.4 Role of individual in prevention of pollution*.

4.5 Pollution case studies – domestic waste water, effluent from paper mill and dyeing, cement pollution.

4.6 Disaster Management – Flood, Drought, Earthquake, Tsunami, Cyclone and Landslide.

UNIT V SOCIAL ISSUES AND THE ENVIRONMENT (6 hours)

5.1 Sustainable Development

5.2 Urban problems related to energy

5.3 Water Conservation : Rain Water Harvesting and Watershed Management

5.4 Resettlement and rehabilitation of people, its problems and concerns, case studies – Narmatha Valley Project.

5.5 Environmental ethics, issues and possible solutions.

5.6 Climatic change, global warming, ozone layer depletion, acid rain, nuclear accidents and holocaust, case studies – Hiroshima and Nagasaki, Chernobyl.

5.7 Consumerism and waste products

5.8 Environmental Protection Act

5.9 Air Pollution Act (Prevention and Control)

5.10 Water Pollution Act (Prevention and Control)

5.11 Wild Life Protection Act

5.12 Forest Conservation Act

5.13 Issues involved in enforcement of environmental legislation

5.14 Public awareness*

5.15 Human population and the environment

5.15.1 Population Growth and Distribution

5.15.2 Population Explosion – Family Welfare Programme*

5.15.3 Environment and Human Health

5.15.4 Human Rights*

5.15.5 Value Education*

5.15.6 HIV / AIDS*

5.15.7 Women and Child Welfare

5.15.8 Role of Information Technology in Environment and Human Health*.

*** Self Study (Questions may be asked from these topics also)**

TEXT BOOK

1. P.Arul, A Text Book of Environmental Studies, Environmental Agency, No 27, Nattar street, Velacherry main road, Velacheery, Chennai – 42, First Edition, Nov. 2004.

REFERENCES

1. Purohit Shammi Agarwal, A text Book of Environmental Sciences, Publisher Mrs. Saraswati Prohit, Student Edition, Behind Naswan Cinema Chopansi Road, Jodhpur.

2. Dr.Suresh and K.Dhameja, Environmental Sciences and Engineering, Publisher S.K.Kataria & Sons, 424/6, Guru Nanak Street, Vaisarak, Delhi – 110 006.

3. J.Glynn Henry and Gary W Heinke, Environmental Science and Engineering, Prentice Hall of India Private Ltd., New Delhi – 110 00

Question Paper Pattern
(External only)

Duration: 3 hours **Total Marks : 50**

Answer all Questions (5 x 10 = 50 Marks)

Essay type, either or type questions from each unit.

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UCA 54

15UWR4N2

Part IV – IV Semester

Non- Major Elective - II "Women's Rights"

(2 Hours per Week)

Total credits: 2 **Total Hours: 30**

Objectives:

- **To impart specific and up-to-date information about national and international laws related to the welfare of women.**
- **To create awareness about crimes against women, legal rights of women in the country and access to justice.**

UNIT I (6 hours)

Laws, Legal Systems and Change

Definition - Constitutional law, CEDAW and International Human Rights – Laws and Norms – Laws and Social Context – Constitutional and Legal Framework.

UNIT II (6 hours)

Politics of land and gender in India

Introduction – Faces of Poverty – Land as Productive Resources – Locating Identities – Women's Claims to Land – Right to Property - Case Studies.

UNIT III (6 hours)

Women's Rights: Access to Justice

Introduction – Criminal Law – Crime Against Women – Domestic Violence – **Dowry Related Harassment* and Dowry Deaths*** – Molestation – Sexual Abuse and Rape – Loopholes in Practice – Law Enforcement Agency.

UNIT IV (6 hours)

Women's Rights

Violence Against Women – Domestic Violence - The Protection of Women from Domestic Violence Act, 2005 - The Marriage Validation Act, 1982 - The Hindu Widow Re-marriage Act, 1856 - The Dowry Prohibition Act, 1961

UCA 55

UNIT V (6 hours)

Special Women Welfare Laws

Sexual Harassment at Work Places – Rape and Indecent Representation – The Indecent Representation (Prohibition) Act, 1986 - Immoral Trafficking – The Immoral Traffic (Prevention) Act, 1956 - Acts Enacted for Women Development and Empowerment - Role of Rape Crisis Centers.

*** Self-study(Questions may be asked from these topics also)**

PRESCRIBED BOOK

Women's Rights Compiled by Kongunadu Arts and Science College, Coimbatore-29.

REFERENCES

1. Nitya Rao "Good Women do not Inherit Land" Social Science Press and Orient Blackswan 2008

2. International Solidarity Network “Knowing Our Rights” An imprint of Kali for Women 2006
3. P.D. Kaushik “Women Rights” Bookwell Publication 2007
4. Aruna Goal “Violence Protective Measures for Women Development and Empowerment” Deep and Deep Publications Pvt. 2004
5. Monica Chawla “Gender Justice” Deep and Deep Publications Pvt. Ltd.2006
6. Preeti Mishra “Domestic Violence Against Women” Deep and Deep Publications Pvt. 2007
7. Clair M. Renzetti, Jeffrey L. Edleson, Raquel Kennedy Bergen, Source Book on “Violence Against Women” Sage Publications 2001.

UCA 56

15UCA3S1

Skill Based Subject: I-MULTIMEDIA

Credits: 3 **Total Hours: 30**

UNIT I

Introduction: Multimedia Presentation and Production – Characteristics of Multimedia Presentation – Hardware & Software Requirements – Uses of Multimedia. **Text**: Introduction – Types of Text – Font – Insertion of Text – File Formats

Hours: 5

UNIT II

Image: Image Types – Color Models – Basic Steps for Image Processing – Image Processing software – File Formats. **Audio:** Introduction – Acoustics – Audio Processing Software. **Video:** Analog Video Camera – Video Editing Software.

Hours: 7

UNIT III

Introduction to Photoshop CS3: Introduction – Exploring the new interface – Title bar – Menu bar – Options bar – Document window – The Toolbox – Screen modes – Creating a new document – Saving Files – Reverting Files – Closing Files.

Hours: 6

UNIT IV

Drawing, Painting and Retouching Tools: The Drawing Tools – The Painting Tools*. **Layers:** Working with Layers – Masking Layers.

Hours: 7

UNIT V

Animation: Introduction – Computer Assisted Animation – Creating Movement – Principles of Animation – Some Techniques of Animation – Special Effects.

Hours: 5

*** Self Study and questions for examinations may be taken from the self study portions also.**

UCA 57

TEXT BOOKS

1. PRINCIPLES OF MULTIMEDIA – Ranjan Parekh, 2007, TMH.(**Unit I,II,V**)
2. PHOTOSHOP CS3 IN SIMPLE STEPS – Authored by Kogent Solutions INC, Published by Dreamtech Press, Edition 2008.(**UNIT III,IV**)

REFERENCE BOOKS

1. Tay Vaughan - "MULTIMEDIA MAKING IT WORK ", Fifth Edition, Tata McGraw Hill, pub company Ltd., 2004.

UCA 58

16UCA4SL

Skill Based Subject :II -MULTIMEDIA LAB - PHOTOSHOP

PRACTICAL LIST

Credits:3 **Total Hours : 30**

1. Create Sun Flower using Photoshop.
2. Create Water Drops using Photoshop.
3. Animate Plane Flying the Clouds using Photoshop.
4. Create Plastic Surgery for Nose using Photoshop.
5. Create Mouse using Photoshop.
6. Create See thru text using Photoshop.
7. Create Military Clothe using Photoshop.
8. Create Stone Texture using Photoshop.
9. Create Rollover Buttons using Photoshop.
10. Create Realistic Stone Structure using Photoshop.
11. Create Web Page using Photoshop.
12. Convert Black and White to Color Photo using Photoshop.
13. Create an Realistic image using Photoshop tools.

Guidelines to the distribution of marks for practical Examinations:

Two questions will be given for each student (3 Hours / 60 Marks)

1. Record Work - 10 Marks
2. Algorithm, Program , Typing and Execution : 50 Marks.

Particulars	Program I (Marks)	Program II (Marks)

Algorithm	10	10
Program Writing	10	10
Typing and Execution	5	5

Internal Mark Split-ups for 40 Marks: Observation- 10 Marks, Attendance- 5 Marks, Two Model Practical-25 Marks.

UCA 59

SEMESTER-V

15UCA5S3

Skill Based Subject: III- ANIMATION TECHNIQUES

Credits: 3 **Total Hours: 30**

UNIT I

What is mean by Animation-Why we need Animation-Types of Animation -Difference between Graphics and Animation. Introducing Flash: Evolution-How Flash Works-Uses for Flash-Flash Environment-Timeline-The Stage-Tools and Toolbars-The Menu Bar-Properties Inspector-Panels-Viewing Options.

Hours:6

UNIT II

Creating Objects-Editing Objects: Selecting with the Arrow Tool-Selecting with the Lasso Tool-Grouping Objects-Free Transform Tool-Reshaping Objects-Aligning Objects- Color and Text.

Hours:6

UNIT III

Symbols and Instances: Symbols and Instances defined-The Library-Converting Objects to Symbols-Creating a new Symbol-Using Bitmaps-Importing Bitmaps-Bitmap Properties-Using Sound-Importing Sounds-Adding Video-Manipulating Video.

Hours:7

UNIT IV

Frames and Layers: Working with Frames-Adding Frames-Deleting and Copying Frames-Frame Properties-Layers-Working with Layers-Inserting, Deleting and Copying Layers-Layer Modes, Layer Properties and Layer Folders - Mask Layers.

Hours:6

UNIT V

Animation Basics in Flash-Elements of Animation-Scenes-Frame-by-Frame Animation-Motion Tweening-Motion Guides-Shape Tweening-Animation Text-Interactivity: Frame Actions-Adding Stop and Play Actions-Adding GoTo Actions-Button Symbols-Adding Actions to Buttons – Adding Movie Clips and Sounds-Creating Disjoint Rollovers -Action Script. Testing and Publishing: Testing Options-Preparing to publish-Publishing a Movie-Publishing on the Web.

Hours:5

UCA 60

TEXT BOOKS

1. Nick Vandome ,"Flash MX in Easy Steps" , DreamTech Pulications,2009
2. Robert Reinhardt and Snow Dowd ,"Adobe Flash CS3 Professional",Wiley DreamTech India Pvt Ltd,2007

REFERENCE BOOKS

1. Robert Reinhardt and Snow Dowd ,"Macromedia Flash 8 Bible", Wiley DreamTech India Pvt Ltd,2006
2. Phillip Kerman,"Macromedia Flash 8" ,Pearson Education,2006
3. Robert Reinhardt and Snow Dowd,"Macromedia Flash MX 2004 Bible", Wiley DreamTech India Pvt Ltd,2004

UCA 61

15UCA6S4

Skill Based Subject-IV-ANIMATION LAB – FLASH

PRACTICAL LIST

Credits:3 **Total Hours:30**

1. Create Shapes and Drawings in Flash.
2. Change a Shape to Another Shape. (Shape Animation)
3. Create a Man to walk with the help of Key Frame Animation.
4. Draw a Bird with Flash tools and make it fly with key Frame Animation.
5. Change the Colors of an object with the help of Animation.
6. Animate a Ball with the help of Guide line Animation.(Path Animation)
7. Create a Shining Stores with the help of Movie Clip.
8. Create Buttons & Link with other Frames.
9. Create an Album with the help of Buttons.
10. Create a 3D Rotation of a Box with the Help of Shape Animation.
11. Create Morphing between two images in Flash.
12. Create a Simple game with the help of Action Script.

Guidelines to the distribution of marks for practical Examinations:

Two questions will be given for each student (3 Hours / 60 Marks)

1. Record Work - 10 Marks
2. Algorithm, Program , Typing and Execution : 50 Marks.

Particulars	Program I (Marks)	Program II (Marks)
Algorithm	10	10
Program Writing	10	10
Typing and Execution	5	5

Internal Mark Split-ups for 40 Marks: Observation- 10 Marks, Attendance- 5 Marks, Two Model Practical-25 Marks.

UCA 62

KONGUNADU ARTS AND SCIENCE COLLEGE [AUTONOMOUS]

COIMBATORE - 641 029

End Semester Examination Question Paper Pattern

[For the candidates admitted from the academic year 2014 Onwards]

BACHELOR OF COMPUTER APPLICATIONS [BCA]

Time: 3 Hours Maximum Marks: 75 Marks.

Answer all of the following questions

Section – A

10 x 1 = 10

[10 Questions]

(Two questions from each unit. Questions shall be in the form of multiple choices)

Section – B

5 x 5 = 25

Five questions either or type

(One question from each unit)

Section – C

5 x 8 = 40

Five questions either or type

(One question from each unit)
