## B.C.A.

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* Not considered for Grand Total and CGPA
SEMESTER - I: ALLIED–I

NUMERICAL METHODS AND STATISTICS

Course Code : 14UCA1A1 Max. Marks : 100
Hours/week : 6 Internal Marks : 40
Credit : 4 External Marks : 60

Objective:
To provide basic knowledge of numerical and statistical methods for Computer Applications.

UNIT-I


UNIT-II


UNIT-III


UNIT-IV


UNIT-V


# ....... # self-study portion .

Text Books:


UNIT I: Chapter3:Section 1to 5 UNIT II :Chapter 4: Section:1,2, 6&7
UNIT III : Chapter2: Section:2.1to 2.9, 2.12 to 2.1, 2.16 & 2.17
UNIT IV : Chapter 3: Section-3.1-3.5,3.8-3.13,4.2
UNIT V : Chapter 10: Section:10.1 – 10.4.2, 10.7,Chapter 11: 11.1 – 11.2.5

Books for Reference:

1. S.S. Sastry, Introductory Methods of numerical analysis, Prentice Hall of India Pvt. Ltd., 2004
SEMESTER - I: CORE - I
PROGRAMMING IN C

Course Code: 14UCA1C1
Max. Marks : 100
Hours/week : 6
Internal Marks : 40
Credit : 4
External Mark : 60

Objective:
To learn the syntax of all the statements and to provide programming skills in C.

UNIT-I
18 hours
Overview of C – Constants, Variables & Data Types – #Operators and Expressions#.

UNIT-II
18 hours

UNIT-III
18 hours
Arrays – Strings – #Structures and Unions#.

UNIT-IV
18 hours
Pointers – Pointer Expressions – Pointers and Arrays – #Pointers and Functions#.

UNIT-V
18 hours
Files Management in C– I/O Operations on Files – #Random Access Files#.

# ....... # self-study portion.

Text Book:
UNIT I : Chapters 1: Section 1.5, 2.6 Chapters 2: Section 2.6 Chapters 3:Section 3.2 – 3.7, 3.10,3.13,3.14,3.18,3.18
UNIT II : Chapters 4: Section 4.2, 4.4, 4.6, 4.7, 4.9, 4.11 Chapters 5: Section: 5.3-5.7,5.9,5.11,5.12,5.15,5.16
UNIT III : Chapters 6: Section6.2-6.8 Chapters 7: Section 7.1 – 7.3
UNIT IV : Chapters 8: Section8.1, 8.3, 8.5-8.7) Chapter 9: Section9.1 – 9.6
UNIT V : Chapters 11: Section11.1 – 11.5 Chapter 12: Section12.1 – 12.4 , 12. 7

Books for Reference:
Objective:

1. Simple programs:
   (a) To find the volume of a cylinder.
   (b) To swap the values of two numbers without using third variable.  

2. Programs using operators and loops:
   (a) To find the smallest of three numbers using logical operators.
   (b) To display all the roll numbers of your class (increasing and decreasing order)
   using for loop and while loop.  

3. Programs to perform the following:-
   (a) Sum of 1+2+3+….+n.
   (b) Addition, subtraction and multiplication of two numbers using switch statement.  

4. Program to display the following patterns:-
   (a) 1
   1 1
   1 1 1
   (b) *
   * *
   * * *
   ** **

5. Declare, define and call three functions getdata(), calculate() and putdata(). Receive the
   inputs such as student name, rollno, mark1, mark2 and mark3 using getdata(). Calculate
   the total and average using calculate(). Display the student name, rollno, mark1, mark2,
   mark3, total and average using putdata().

6. Program to perform matrix addition using two dimensional arrays.  

7. Programs using strings concept:
   (a) To display the following alphabetic patterns:-
   (i) A    (ii) A
       A A
       A AA
       A AAA
   (b) A B
       A B C
       A B C D

Objective:
To provide an overall idea about the various operations research techniques and their applications.

UNIT-I 15 hours

UNIT-II 15 hours
General LPP – Canonical and Standard Forms of LPP – The Computational Procedure – Simplex Method - #Two Phase Simplex Method#.

UNIT-III 15 hours

UNIT-IV 15 hours

UNIT-V 15 hours
Network Scheduling by PERT / CPM – Basic Concept – Construction of Networks – Critical Path Analysis –#Probability Considerations#- in PERT – Comparison of PERT and CPM.

# ........ # self-study portion.

Text Book:

Unit-I : Chapters 1 & 2, Chapter 3 (3.1 – 3.3)
Unit-II : Chapter 3 (3.4, 3.5), Chapter 4 (4.1, 4.3 Except Big-M Method)
Unit-III : Chapter 10 (10.1, 10.2, 10.8, 10.9), Chapter 11 (11.1 – 11.3)
Unit-IV : Chapter 12 (12.1 – 12.5), Chapter 18 (18.1, 18.2, 18.2.1, 18.2.2)
Unit-V : Chapters 25(25.1 – 25.8)

Books for Reference :
Objective:
To give the concepts of Object Oriented Programming, the syntax of statements in C++ language and to impart the programming skills in C++.

UNIT-I 18 hours

Object Oriented Programming concepts: Basic concepts of OOPS-Structure of C++ Program- Tokens-Keywords-Identifiers-constants-Basic data types-User defined data types-Derived data types-Declaration of variables-Reference variables-Manipulators- Operator in C++ - Scope Resolution Operator-Type cast Operator-Expression and its types-#control structures#.

UNIT-II 18 hours

Functions: Main Function-Call by reference-Inline function-Function overloading-Default arguments-Math Library functions-Classes and Objects:-Specifying the class –Defining Member Function –A C++ Program with class-Nesting of Member Function-Arrays within a class-Static data members and Static member functions-#Friend Function#-Returning Object.

UNIT-III 18 hours

Constructor and Destructor: Constructors-Parameterized constructor-Multiple constructor in a class-Dynamic initialization of the objects-Copy constructor-Dynamic constructor-Destructor.

Operator Overloading and Type conversion: Defining operator overloading-Overloading unary operator-#Type conversion#.

UNIT-IV 18 hours

Inheritance: Introduction-Single Inheritance-Multilevel inheritance-Multiple inheritance-hierarchical inheritance-Virtual base classes. Polymorphism: Pointers-Pointer to objects-this pointer-Pointer to derived classes-#Virtual Functions#.

UNIT-V 18 hours


# ....... # self-study portion.

TextBook:

UNIT I: 1.5, 2.6, 3.2 – 3.7, 3.10, 3.17, 3.13, 3.14, 3.18, 3.24
UNITII: 4.2, 4.4, 4.6, 4.7, 4.9, 4.11, 5.3 - 5.7, 5.9, 5.11, 5.12, 5.15 – 5.16
UNIT III: 6.2, 6.3 – 6.8, 7.1 – 7.3
UNITIV: 8.1, 8.3, 8.5 – 8.7, 9.1 – 9.6
UNITV: 11.1 – 11.5, 12.1 – 12.4, 12.7

Books for Reference:
Programs without class and objects
1. Write a C++ Program to convert centigrade to Fahrenheit [Formula $F=(1.8*C)+32$]
2. Write a C++ Program to convert decimal number to binary number
3. Write a C++ Program to perform factorial of the given number.
4. Write a C++ Program to print Triangle of numbers.
5. Write a C++ Program to find no of vowels and no of consonants in a given string using array. (20 Hours)

Programs using class and objects
6. Develop a C++ Program to print your personal details such as name, Roll no, Gender(M/F),
   Marks for five subjects, Total, Result (Pass/Reappear) by taking input from the user and display the same using two member functions.
   Write a main program to invoke the member functions. (5 Hours)
7. Develop a C++ Program to find volume of cube, cylinder and rectangular box using function overloading. (5 Hours)
8. Develop a C++ Program to find mean of n numbers using friend function. (5 Hours)
9. Develop a C++ Program to implement the concept of Single level inheritance. (5 Hours)
10. Develop a C++ Program to illustrate the concept of virtual function. (5 Hours)
Objective:
To impart knowledge about the fundamental concepts of information technology.

UNIT-I  6 hours

UNIT-II  6 hours
Database – Record – Table - DBMS – #Sorting# – Searching, Data warehouse – Data mining.

UNIT-III  6 hours

UNIT-IV  6 hours
Computer Networks – Types – Modem - #Internet# – Email – Ecommerce - Hypermedia.

UNIT-V  6 hours

# ....... # self-study portion.

Text Book:

UNIT I: 1,2,6,8-12
UNIT II: 15,28-30
UNIT III:24-26
UNIT IV: 18,22,28
UNIT V: 32 – 35

Books for Reference:
Objective:
To enable the students to understand the concepts of individual and group behavior in an organization.

UNIT – I
18 hours

UNIT – II
18 hours

UNIT – III
18 hours

UNIT – IV
18 hours

UNIT – V
18 hours

# ....... # self-study portion.

Text Book:
L.M. Prasad, *Organizational Behavior*, Sultan Chan and Sons, 1998

UNIT I: Chapter 1,3
UNIT II: Chapter 4 – 6
UNIT III: Chapter 7,9,21
UNIT IV: Chapter 13,16
UNIT V: Chapter 17,24,25

Books for Reference
Objective:
To understand the concepts of Visual Basic and to develop simple applications.

UNIT-I
15 hours

UNIT-II
15 hours

UNIT-III
15 hours

UNIT-IV
15 hours

UNIT-V
15 hours

# ........ # self-study portion.

Text Book:

UNIT I: Chapter 1 – 3
UNIT II: Chapter 4
UNIT III: Chapter 5 & 6
UNIT IV: Chapter 7 – 10
UNIT V: Chapter 11 – 13

Books for Reference:
1. Program to create addition, subtraction, multiplication and division using standard control.  
   4 hours

2. Program to find your age using date calculator.  
   4 hours

3. Program to scroll a text from left to right and right to left of the client area using timer control.  
   (3 Hours)

4. Program to design a calendar of a year.  
   (3 Hours)

5. Program to design and implement a scientific calculator.  
   (3 Hours)

6. Program to expand and shrink objects using timer control.  
   4 hours

7. Program to create and design the different shapes control.  
   4 hours

8. Program to create animation using timer control.  
   4 hours

9. Program to create and design a traffic signal using timer control.  
   4 hours

10. Program to populate the employee details using Data Control.  
    4 hours

11. Program to prepare a student’s mark list using Data Control.  
    4 hours

12. Program to prepare an invoice report using Data Control.  
    4 hours
Objective:

To understand the fundamental concepts of Internet and its Applications.

UNIT-I 6 hours

UNIT-II 6 hours

UNIT-III 6 hours

UNIT-IV 6 hours
Head and Body Sections: Header Section – Title – Prologue – Links – Colorful Webpage. Designing the Body Section: Heading Printing – Aligning the Headings.

UNIT-V 6 hours
Ordered and Unordered Lists: Lists – Unordered Lists – Ordered Lists Table Handling: Tables – Table Creation in HTML – #Width of the Table and Cells#.

# ....... # self-study portion.

Text Book

UNIT I: Chapter 1 Section (1.1 -1.6), Section 2(2.2 – 2.4)
UNIT II: Chapter 4 Section (4.1 – 4.6)
UNIT III: Chapter 5 Section (5.1 – 5.5)
UNIT IV: Chapter 6 Section (6.1 -6.10)
UNIT V: Chapter 7 Section (7.1 – 7.6)

Books for Reference
Objective:
To provide the basic knowledge of the financial accounting including double entry book keeping, preparation of journal, subsidiary book, ledger, trial balance and balance sheet.

UNIT - I
12 hours

UNIT - II
12 hours

UNIT - III
12 hours

UNIT - IV
12 hours
Preparation of Final Accounts – Trading Account, Profit and Loss Account, Balance Sheet – Adjusting and Closing Entries. Methods of Depreciation (Fixed Percentage on Original Cost Method and Diminishing Balance Method Only)

UNIT - V
12 hours

80% - Problems 20% - Theory

# ....... # self-study portion.

Text Book:
2. T.S. Grewal, Introduction to Accountancy, S.Chand& Company Pvt. Ltd.

UNIT I : Chapter 1 & 2
UNIT II: Chapter 3 & 7
UNIT III: Chapter 4
UNIT IV: Chapter 6
UNIT V: Chapter 8

Books for Reference
1. Architecture and customization of Tally
   
2. Configuration of Tally
   
3. Tally Screens and Menus
   
4. Creation of new company and groups.
   
5. Preparation of voucher entries.
   a. Payment voucher
   b. Receipt voucher
   c. Sales voucher
   d. Purchase voucher
   e. Contra voucher
   f. Journal voucher
   
6. Ledger Creation
   
7. Preparation of Trail balance
   
8. Preparation of Profit and loss statement.
   
   
10. Preparation of Bank Reconciliation Statement
Objective:
To understand the principles of digital logic circuits and their design.

UNIT-I
15 hours
Number Systems and Course Codes: Binary Number System – Binary to Decimal Conversion – Decimal to Binary Conversion – Octal Numbers – Hexadecimal Numbers. Arithmetic Circuits: Binary Addition – Binary Subtraction – Binary Multiplication and Division – Binary Course Codes – Decimal Course Codes - Error-Detection Course Codes – Alphanumeric Course Codes.

UNIT-II
15 hours

UNIT-III
15 hours

UNIT-IV
15 hours

UNIT-V
15 hours

# ......... # self-study portion.

Text Book:

UNIT I:Chapter 5 & 6
UNITII: Chapter 2 & 3
UNITIII: Chapter 4
UNIT IV: Chapter 8 & 9
UNIT V: Chapter 12


Books for Reference:
SEMESTER - IV : CORE-V

DATA STRUCTURES
Course Code : 14UC4A5C5      Max. Marks : 100
Hours/week : 5            Internal Marks : 40
Credit : 4            External Mark : 60

Objective:
To understand the concepts of data structures and algorithms.

UNIT–I 15 hours

UNIT–II 15 hours

UNIT–III 15 hours

UNIT–IV 15 hours

UNIT–V 15 hours

# ....... # self-study portion.

Text Books:


UNIT I: 1.1 – 1.10, 4.1 – 4.8          UNIT II: 5.1- 5.10
UNIT III: 6.1 – 6.12          UNIT IV: 7.1 – 7.9
UNIT V: 9 – 16

Books for Reference
UNIT-I

UNIT-II

UNIT-III

UNIT-IV

UNIT-V
Backtracking: The General Method – The 8-Queens Problem – Sum of Subsets – Graph Coloring – Hamiltonian Cycles – Knapsack Problem BranchAnd Bound: The Method - 0/1 Knapsack Problem.

# ....... # self-study portion.

Text Book
Unit I: Chapter 1, Chapter 2       Unit II: Chapter 3       Unit III: Chapter 4
Unit IV: Chapter 5 & 6          Unit V: Chapter 7

Books for Reference
Objective:

To understand the basic principles of microprocessor architecture & its pin configuration. To write simple assembly language programs. To understand the concepts of memory and I/O interfacing.

UNIT-I


UNIT-II


UNIT-III


UNIT-IV

Assembly Language Programs – Addition, Subtraction, Multiplication and Division of 8-bit numbers – Decimal Addition and Subtraction – Multibyte Addition and Subtraction – 1’s and 2’s Complements – Assembly and Disassembly of a Byte – Sum of a Series – Block Data Transfer – Finding the Smallest and the Biggest Number in an Array – Arranging a Series of Numbers in Descending and Ascending Order.

UNIT-V


# ........ # self-study portion.

Text Book


Unit I: Chapter 1  Unit II: Chapter 4  Unit III: Chapter 5  Unit IV: Chapter 7

Books for Reference

Objective:

To understand the basic concepts of object oriented programming with Java language.

UNIT-I 15 hours


UNIT-II 15 hours


UNIT-III 15 hours


UNIT-IV 15 hours


UNIT-V 15 hours


# ........ # self-study portion.


UNIT I : Part I (1,2,3,4,5,6) UNIT II : Part I (8,9)
UNIT III: Part I (10,11) & Part II (13) UNIT IV: Part II (17,18)
UNIT V : Part II (19, 20, 21, 22)

Objective:
To provide the concepts of database management systems and RDBMS including transaction management and concurrency control.

UNIT-I
12 hours

UNIT-II
12 hours
RDBMS: Terminology – Relational Data Structure – Data Normalization – Pitfalls in Relational Database Design – Decomposition – #Functional Dependencies# – Normalization – Keys – First Normal Form(INF), Second Normal Form(2NF), Third Normal Form(3NF), Boyce-Codd Normal Form(BCNF) and Fourth Normal Form(4NF). Relational Algebraic Operations –Relational Calculus: Tuple Relational Calculus, Domain Relational Calculus.

UNIT-III
12 hours

UNIT-IV
12 hours

UNIT-V
12 hours

# ........ # self-study portion.

Text Book:
UNIT I – Chapters: 1(1.3,1.8–1.9,1.11), Section 2( 2.3,2.5–2.8), Section3 (3.4–3.8), Section4 (4.3–4.5,4.8)
UNIT II – Chapters: 6(6.2–6.3),Section8(8.2–8.6, 8.8–8.12),Section9 (9.2), Section10(10.2–10.3)
UNIT III – Chapters: 12(12.2 – 12.5),Section13(13.1–13.2),Section14(14.1–14.2), 15,16
UNIT IV – Chapters: 20(20.2–20.4,20.9–20.10),Section21( 21.2–21.3),Section22(22.3,22.5,22.8,22.9,22.13)
UNIT V – Chapters: 23(23.2–23.3,23.5–23.15),Section24( 24.2–24.7, 24.8–24.13)

Objective:
To provide fundamental concepts of all managements in an operating system.

UNIT-I 12 hours

UNIT-II 12 hours

UNIT-III 12 hours

UNIT-IV 12 hours

UNIT-V 12 hours

# ......... # self-study portion.

Text Books:
   UNIT I: Chapter 1 (1.1, 1.2 , 1.4, 1.5, 1.8) Chapter 3(3.1, 3.2,3.4, 3.5)
   UNIT II: Chapter 3
   UNIT III: Chapter 4, Chapter 8 (8.2, 8.5, 8.7)
   UNIT IV: Chapter 5
   UNIT V: Chapter 11( 11.1 – 11.3), Chapter 12 12.2 , 12.4)

Books for Reference:
SEMESTER - V : CORE – IX
MULTIMEDIA TECHNOLOGY

Course Code: 14UCA5C9       Max. Marks : 100
Hours/week : 4                 Internal Marks : 40
Credit : 4                     External Mark : 60

Objective:
To provide a sound knowledge in various concepts of Multimedia and its applications.

UNIT-I

UNIT-II

UNIT-III

UNIT-IV

UNIT-V

# ....... # self-study portion.

Text Books:

Books for Reference:
1. Simple Programs using control statements:
   a. To reverse the number using while and do…while loop.
   b. To find the smallest and biggest number of given numbers using array.

2. Write a java program to ncr value of given numbers using recursive function.

3. Write a java program to find volume of rectangle and triangle using inheritance.

4. Write a java program to prepare EB-bill using packages.

5. Write a java program to demonstrate interface concept.

6. Write a java program to create multiple threads using Thread class.

7. Write a Java program to demonstrate various methods in the String handling methods.

8. Write a Java program to implement the concept of Exception Handling.

9. Write a java program to demonstrate File class.

10. Write java program using Stream classes.
    a. To display all sub directories and files of given path.
    b. To concatenation of two files.
    c. To copy the one file into another.

11. Write a java program to find the IP address of the machine.

12. Write a java program to send a message and reply the same path using Sockets.

13. Write a java program using Applet
    a. To display text on applet window.
    b. To display basic shapes and fill them and set background and foreground colors

14. Develop a java program for simple calculator using AWT controls.
Objective:

To acquire the knowledge in Electronic Commerce, Electronic Payment systems, Security systems, Online Advertising and Marketing.

UNIT-I          12 hours


UNIT-II          12 hours


UNIT-III          12 hours


UNIT-IV          12 hours


UNIT-V            12 hours


# self-study portion.

Text Book:


UNIT I: Chapter 1 (1.1 – 1.5) UNIT II: Chapter 2 (2.2, 2.3), 3 (3.3, 3.4), 4 (4.1 – 4.4)

UNIT III: Chapter 6 (6.1, 6.2, 6.4, 6.5), 7 (7.1, 7.2)

UNIT IV: Chapter 8 (8.1 – 8.6) UNIT V: Chapter 9 (9.1, 9.2), 13 (13.1 – 13.4), 14 (14.2, 14.4)

Books for Reference:

Write C programs to implement the following:

1. Bubble Sort.  
   4 hours
2. Selection Sort.  
   4 hours
3. Insertion Sort  
   4 hours
4. Quick Sort.  
   4 hours
5. Searching (Linear Search, Binary Search)  
   4 hours
6. Multidimensional Arrays (Matrix Operations, Addition and Multiplication)  
   6 hours
7. Fibonacci Series using Recursion.  
   4 hours
   4 hours
   4 hours
10. Singly Linked List Operations.  
    5 hours
SEMESTER - V : SKILL-BASED ELECTIVE – III

WEB DESIGN

Course Code   : 14UCA5S3                Max. Marks : 100
Hours/week   : 2                          Internal Marks : 40
Credit       : 2                          External Mark : 60

Objective

To understand the concepts of Web and various Scripting languages.

UNIT-I            6 hours

UNIT-II          6 hours

UNIT-III         6 hours

UNIT-IV          6 hours

UNIT-V           6 hours

Text Book

Unit I: Chapter 1: 1.1 – 1.6, Chapter 2: 2.2, 2.3, 2.4 (2.4.1- 2.4.5)
Unit II: Chapter 4: 4.1 - 4.6       Unit III: Chapter 5: 5.1-5.5
Unit IV: Chapter 6: 6.1 -6.10          Unit V: Chapter 7: 7.1 – 7.6

# ........ # self-study portion.

Books for Reference:
UNIT-I


UNIT-II


UNIT-III


UNIT-IV


UNIT-V

Supply Chain Management and the e-Marketplace: Supply Chain Management – e-Business and ERP – e-Supply Chain and ERP – Business Intelligence with ERP – Future Directions for ERP.

# # self-study portion.

Text Book:

Unit I: Chapter 1 & 2  Unit II: Chapter 3 & 4  Unit III: Chapter 5 & 6
Unit IV: Chapter 7 & 8  Unit V: Chapter 9

Books for Reference:
Objective:
To impart knowledge on the basics of Graphic Devices, 2-D, 3-D Transformations, Clipping and Windowing concepts.

UNIT-I  
15 hours

UNIT-II  
15 hours

UNIT-III  
15 hours

UNIT-IV  
15 hours
UNIT-V


# ....... # self-study portion.

Text Book:
UNIT I : Chapter 1 Section (1-3,1-4,1-5,1-8) and Chapter 2 Section(2-1,2-5,2-6,2-7)
UNIT II : Chapter 3 Section (3-1,3-2,3-5,3-12,3-14 ) and Chapter 4 Section(4-1,4-3,4-5,4-6,4-7)
UNIT III : Chapter 5 Section (5-1,5-2,5-3,5-4) and Chapter 6 Section(6-1,6-3,6-5,6-6,6-6)
UNIT IV : Chapter 8 Section(8-2, 8-5)
UNIT V : Chapter 9 Section ( 9-1, 9-2)

Books for Reference:

Objective:
* To learn the concepts of data communications and to be familiar with the transmission media.
* To understand the functions of OSI layers and the security aspects in networks.

UNIT-I  
15 hours

UNIT-II  
15 hours

UNIT-III  
15 hours

UNIT-IV  
15 hours

UNIT-V  
15 hours
# ....... # self-study portion.

Text Book:
UNIT I: Chapter 1, 2, 3
UNIT II: Chapter 4, 6, 7, 8
UNIT III: Chapter 9, 10, 12
UNIT IV: Chapter 14, 21, 24
UNIT V: Chapter 13, 25, 27

Books for Reference:
Objective:
To understand the concept of Linux Programming

UNIT-I

UNIT-II

UNIT-III
Shell Programming: Shell script – Shell variables – escape mechanisms – Shell meta characters – Control statements – iterative statements.

UNIT-IV
Some sample Shell scripts – System Administration: system administrator – booting and shutting down the system – adding and deleting a user.

UNIT-V

# ....... # self-study portion.

Text Book:
UNIT I: Chapter 1 and 2
UNIT II: Chapter 3 and 4
UNIT III: Chapter 5
UNIT IV: Chapter 6 and 7
UNIT V: Chapter 9 and 10

Book for Reference:
1. Write a Shell program to read a string using while and continue statements. If the given string has no value in it, then display “Null String” otherwise display the given string.  
   3 hours

2. Write a Shell program to read 2 words one after another. Display the first word, go to sleep mode for 30 seconds using ‘sleep’ command. After 30 seconds, display the second word.  
   3 hours

3. Write a Shell program for finding out the factorial of a given number using for loop.  
   3 hours

4. Write a Shell program to delete the files interactively using ‘rm’ command and ‘while’ statement.  
   3 hours

5. Write a Shell program using 3 arguments to take the pattern as well as input and output file names. If the pattern is found then display “Pattern Found” else display “Error Message”. Also check if right number of arguments is entered.  
   3 hours

6. Write a Shell script to check the user is eligible for vote or not [one must attain 18 years for voting. Ignore month differences].  
   3 hours

7. Write a Shell script to check whether a given string is palindrome or not.  
   3 hours

8. Enhance the cp command to copy files. Display the necessary error message if error occurs.  
   3 hours

9. Write a Shell script for a file contains records with each record containing name of the city, name of the state and name of the country. How would you sort this file with country as the primary sort key and state as the secondary sort key.  
   3 hours

10. Write a Shell program to prepare the electricity bill based on the following conditions:
    
    For first 100 units – Rs.0.75/unit  
    For next 100 units – Rs.1.50/unit  
    Above 200 units – Rs.300/unit  
   3 hours
Objective:
To provide the basic knowledge of designing, implementing and managing the infrastructure of an IT environment.

UNIT-I 12 hours

UNIT-II 12 hours
Availability – Performance and Tuning – #Product Acceptance#.

UNIT-III 12 hours
Change Management – #Problem Management# – Storage Management.

UNIT-IV 12 hours
Network Management – Configuration Management – Capacity Planning.

UNIT-V 12 hours
Strategic Security – Disaster Recovery – #Facilities Management#.

# ....... # self-study portion.

Text Book:

UNIT I: Chapter 1, 5-7
UNIT II: Chapter 8 -20
UNIT III: Chapter 11 – 13
UNIT IV: Chapter 14 – 16
UNIT V: Chapter 17 – 19.

Books for Reference:
Harris Kern, Mayra Muniz and Rich Schiesser ,Kindle eBook IT Production Services, 2006.
Prentice Hall of India Private Ltd., New Delhi.
Objective

To understand the concepts of PHP and MySQL.

UNIT-I 12 hours

UNIT-II 12 hours
Functions: Calling a function – Defining a function – Introduction to Strings – Comparing Strings – Manipulating and Searching strings – Arrays: Types of Arrays – Array functions – Storing data in Arrays.

UNIT-III 12 hours
Form Handling – Form Validation – $_GET variable – $_POST variable – $_REQUEST variable – Creating the Form – Creating the Upload script – Using your File system: File paths and permissions – Displaying directory contents – Working with fopen() and fclose().

UNIT-IV 12 hours

UNIT-V 12 hours
Installing and Configuring MySQL – Establishing a connection and poking around – Creating a database table – Inserting data into the table – Selecting and displaying data.

# ....... # self-study portion.

Text Book
UNIT I: Chapters - 3, 5
UNIT II: Chapter 6
UNIT III: Chapters – 9,10
UNIT IV: Chapters 16, 17
UNIT V: Chapters 1,11,12,13,14

Books for Reference
Kevin Tatroe, Peter MacIntyre and RasmusLerdorf, Programming PHP, O’REILLY media, 3rd edition, 2013.
1. Write a PHP program to find the factorial of a number.  
2 hours

2. Write a PHP program using Conditional Statements.  
2 hours

3. Write a PHP program to find the maximum value in a given multi dimensional array.  
2 hours

4. Write a PHP program to find the GCD of two numbers using user-defined functions.  
2 hours

5. Design a simple web page to generate multiplication table for a given number using PHP.  
3 hours

6. Design a web page that should compute one’s age on a given date using PHP.  
2 hours

7. Write a PHP program to download a file from the server.  
2 hours

8. Write a PHP program to store the current date and time in a COOKIE and display the ‘Last Visited’ date and time on the web page.  
2 hours

9. Write a PHP program to store page views count in SESSION, to increment the count on each refresh and to show the count on web page.  
3 hours

10. Write a PHP program to draw the human face.  
3 hours

11. Write a PHP program to design a simple calculator.  
4 hours

12. Design an authentication web page in PHP with MySQL to check username and password.  
3 hours
1. Write an XML program to display a string.

2. Write an XML program for the following:

<table>
<thead>
<tr>
<th>Primary information</th>
<th>Secondary information</th>
<th>Tertiary information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Nick name</td>
<td>Birthday</td>
</tr>
<tr>
<td>Title</td>
<td>Contact source</td>
<td>Spouse’s name</td>
</tr>
<tr>
<td>Company name</td>
<td>Purchases</td>
<td>Anniversary</td>
</tr>
<tr>
<td>Address</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phone number</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E-mail</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. Write an XML program to prepare a sonnet.

4. Write an XML program for party invitation with an image.

5. Write an XML program for sending greeting using colorful borders.

6. Write an XML program to display 10 different colors using Cascading Style Sheet.

7. Write an XML program for display baseball statistics.

8. Write an XML program for listing of job details of various employees using the following fields (job-title, job-id, country, company, salary, year of experience).

9. Write an XML program to create XSL for displaying various country names and their currency names.

10. Write an XML program to prepare a calendar for a month using XSL.
Objective:

To understand the concept of XML

UNIT-I  6 hours


UNIT-II  6 hours


UNIT-III 6 hours

Cascading Style Sheets level 1: What is CSS? – Attaching style sheets to documents – inheritance – comments in CSS – Font, Color, background, text and box properties.

UNIT-IV  6 hours

XSL transformations – Overview of XSL transformations – computing the value of a node with XSL:value of – processing multiple elements with XSL:for each – copying the current node with XSL:copy – #Merging multiple style sheets#.

UNIT-V  6 hours

Namespaces - XML applications: The importance of reading DTDs – Designing a new XML application: Organisation of the data.

# ....... # self-study portion.

Text Book:


UNIT I: Chapter 1-6  UNIT II: Chapter 6, 8-11
UNIT III: Chapter 12  UNIT IV: Chapter 14
UNIT V: Chapter 20 & 23

Books for Reference:

Objective:
To introduce the concepts of emerging technologies in mobile computing.

UNIT–I
Introduction – Mobility of Bits and Bytes – Mobile Computing – Dialogue Control – Networks – Middle and Gateways – #Application and Services# – Developing Mobile Computing Applications

UNIT–II

UNIT–III
Emerging Technologies: Bluetooth - WiMAX - #Java Card#.

UNIT–IV

UNIT–V
CDMA & 3G: Spread Spectrum Technology - CDMA versus GSM - Wireless data - Third generation network - Applications on 3G.

# ........ # self-study portion.

Text Book:
Asoke K Talukder, Toopa R Yavagal, Mobile Computing, TMH, 2005

UNIT I: Chapter 1(1,3-8)       UNIT II: Chapter 2(4-6)
UNIT III: Chapter 4 (2,4,7)    UNIT IV: Chapter 5 (1-3, 7,9)
UNIT V: Chapter 9 (1,2,4-7)

Books for Reference: