MANONMANIAM SUNDARANAR UNIVERSITY
TIRUNELVELI

UG COURSES – AFFILIATED COLLEGES
B.Sc Computer Scienc

(Choice Based Credit System)
(with effect from the academic year 2017-2018 onwards

Sem	Part I/ II/ III/ IV/V	Sub No	Subject Status	Subject Title	Contact Hrs / week	L Hrs/ week	T Hrs/ week	P Hrs/ week	C Cre-dits
III	III	15	Core	Java Programming	4	4	0	0	4
	III	16	Core	Computer Architecture	5	4	1	0	4
	III	17	Core	Data Structures	4	4	0	0	4
	III	18	Major Practical - III	Java Programming	4	0	0	4	2
	III	19	Allied -III	Web Technology	3	3	0	0	3
	III	20	Allied Practical - III	Web Design using HTML	4	0	0	4	2
	III	21	Skill Based I Core	Programming with PHP & MySQL	4	4	0	0	4
	IV	22	Non-Major Elective		2	2	0	0	2
	IV		Common - Yoga		2	2	0	0	2
				Subtotal (Excluding Yoga)	**30**	**21**	**1**	**8**	**25**

Sem	Part I/ II/ III/ IV/V	Sub No	Subject Status	Subject Title	Contact Hrs / week	L Hrs/ week	T Hrs/ week	P Hrs/ week	C Cre-dits
IV	III	23	Core	Visual Basic	4	4	0	0	4
	III	24	Core	Information Security	4	4	0	0	4
	III	25	Core	Relational Database Management System	5	4	1	0	4
	III	26	Major Practical - IV	Visual Basic	4	0	0	4	2
	III	27	Allied -IV	E-Commerce	3	3	0	0	3
	III	28	Allied Practical - IV	PYTHON	4	0	0	4	2
	III	29	Skill Based II Core	Android Programming	4	4	0	0	4
	IV	30	Non-Major Elective	1. HTML 2. Programming in C	2	2	0	0	2
	IV		Skill Based Common	Computers for Digital Era	2	2	0	*	2
	V		Extension Activity	NCC, NSS, YRC, YWF	0	0	0	0	1
				Subtotal(Excluding Computers for Digital Era)	**30**	**21**	**1**	**8**	**26**

- * 10 hours of practical
- **L**-Lecture   **T**-Tutorial   **P-**Practicals

Distribution of marks between External and Internal Assessment is

For Theory 75 : 25

For Practical 50 : 50

Internal Marks for Practical shall be allotted in the following manner

Continuous Assessment – 25 marks "N" number of practicals be conducted based on the practicals prescribed in the syllabus and the marks should be distributed equally for each practical.

Test   - 25 marks Two tests should be conducted and average of tests be taken.

Calculation of marks: Sum of marks awarded to number of practicals + the average marks of two tests

Total   **- 50 marks**

JAVA PROGRAMMING

L T P C

4 0 0 4

Objective: To understand the basic programming constructs of Java Language and to explore the features of Java by applying to solve problems

UNIT I

Data Types, Variables and Arrays: Primary types – Integers – Floating point types – Characters – Booleans – A Closer Look at Literals – Variables – Type Conversion and Casting – Automatic type Promotion in Expressions - One Dimensional Arrays– Multi Dimensional Arrays. **Introducing Classes:** Class Fundamentals – Declaring objects- Assigning object Reference variables- Introducing Methods- Constructors-Garbage collection – Finalize() Method. (12L)

UNIT II

A Closer Look at Methods and classes: Overloading Methods-Using objects as parameters-Argument passing –Returning objects- Recursion-Introducing Access control – understanding static – Introducing final – Nested and Inner classes- String class- Using command line arguments. **Inheritance:** Inheritance Basics –Using super- creating Multilevel Hierarchy -Method overriding.

(12L)

UNIT III

Packages and interfaces: Packages –Access Protection – Importing packages-Interfaces. **Exception Handling**: Introduction- Exception Types – Uncaught Exceptions- Using try and catch – Multiple catch clauses –Nested try statements- throw – throws-finally. **Multithreaded programming** : Java Thread Model –Main Thread –Creating a Thread –Creating Multiple Threads

(12L)

UNIT IV

The Applet class: Applet Basics – Applet Architecture –Applet Skeleton- Applet Display method –Requesting Repainting – HTML APPLET tag- Passing Parameters to Applet. **Event Handling**: Event Handling Mechanisms –Delegation Event Model –Event classes(The Action Event ,Item Event , Key Event, Mouse Event) – Sources of Events - Event Listener Interfaces(Action Listener, Item Listener, Key Listener, Mouse Listener).   (12L)

UNIT V

      Introducing the AWT: AWT Classes – Window fundamentals – working with Frame Windows –working with Graphics– Working with color – Working with Fonts. **Using AWT Controls**: Controls Fundamentals – Labels – Using Buttons –Applying check Boxes – Check Box group – Choice Controls – Using a Text field – Using a Text Area – Understanding Layout Managers [Flow Layout Only] – Menu Bars and Menus.   (12L)

Text Book:

      Java, The Complete Reference 8/e , Herbert Schildt, TMH

Reference Book:

1. Programming with Java –C.Muthu
2. Java Programming A Practical Approach, C.Xavier, TMH
3. Programming in Java, Sachin Malhotra, Saurabh Choudhary, OXFORD University Press
4. Programming with Java a primer 3/E E.BALAGURUSWAMY
5. Core Java, Mahesh P. Matha, PHI Learning Private Limited

COMPUTER ARCHITECTURE

L T P C
4 1 0 4

Objective: To gain knowledge about the architecture of computer and to understand the concepts of CPU, ALU Design, I/O Instruction format and different processors.

UNIT I

Basic Computer Organisation And Design : Instruction codes - Computer Registers - Computer Instructions - Timing and Control - Instruction Cycle - Control Memory-Address Sequencing

(12L)

UNIT II

Central Processing Unit : General Register Organization – Stack Organization – Instruction Formats – Addressing Modes – Data transfer and manipulation – Program Control.

(12L)

UNIT III

Computer Arithmetic : Hardware Implementation and Algorithm for Addition, Subtraction, Multiplication, Division-Booth Multiplication Algorithm-Floating Point Arithmetic.

UNIT IV

Input Output Organization : Input – Output Interface – Asynchronous data transfer – Modes of transfer – Priority Interrupt – Direct Memory Access (DMA).

(12L)

Unit V

Memory Organisation: Memory Hierarchy - Main memory - Auxillary memory - Associative memory - Cache memory - Virtual memory.

(12L

Text Book:
Computer system Architecture - by Morris Mano, Third Edition. P.H.I Private Limited.

Reference Books:
1. Computer System Architecture P.V.S. Rao PHI
2. Nirmala Sharma, "Computer Architecture", First Edition,2009,University Science Press
3. Nicholos Carter, "Computer Architecture" ,2006, TMH Publication.

DATA STRUCTURES

L T P C
4 0 0 4

Objective:

- To understand the concepts of basic data structures such as stack, Queues and Linked list.
- To have general understanding of the network structures through trees and graph.
- To make the students to understand the basic algorithms for sorting.

Unit I

   Basic Concepts:- Algorithm specification – Data Abstraction – Performance Analysis.
Arrays and Structures:- Arrays: Abstract data type – Polynomials – Sparse Matrices – Representation of Multidimensional Arrays.

(12L)

Unit II

   Stacks and Queues:- Stacks – Queues – Evaluation of Expressions. **Linked Lists**:- Singly Linked Lists and Chains – Linked Stacks and Queues – Polynomials: Polynomial Representation – Adding Polynomials. Sparse Matrices: Sparse Matrix Representation. – Doubly Linked Lists.

(12L)

Unit III

   Trees:- Introduction – Binary Trees – Binary Tree Traversals: Inorder Traversal – Preorder Traversal – Postorder Traversal. Heaps – Binary Search Trees Forests: Transforming a Forest into a Binary Tree.

(12L)

Unit IV

   Graphs: - The Graph Abstract Data Type-Elementary Graph Operations – Minimum Cost Spanning Trees: Kruskal's Algorithm – Prim's Algorithm. – Shortest Paths and Transitive Closure: Single Source/ All Destination: Nonnegative Edge Costs - All Pairs Shortest Paths.

(12L)

Unit V

   Sorting:- Motivation – Insertion Sort – Quick Sort – Merge Sort: Recursive Merge Sort. – Heap Sort – External Sorting: Introduction – k-way Merging..**Hashing**:- Static Hashing: Hash Tables.

(12L)

Text Book:

   Fundamentals of Data Structures in C by Ellis Horowitz, Sartaj Sahni, Susan Anderson-Freed – Second Edition – Universities Press (India) Private Limited.

Reference Books:

1. Data Structures Using C, Second Edition by Reema Thareja – Oxford University Press
2. Data Structures by Dr N Jeya Prakash – Anuradha Publications

JAVA PRACTICAL LIST

L T P C
0 0 4 2

Objective: To develop skills in implementing algorithms through the programming Language JAVA and to explore the features of JAVA by applying sample problems.

Each exercise should be completed within two hours.

It is compulsory to complete all the exercises given in the list in the stipulated time.

1. Define a class called Student with the attributes name, reg_number and marks obtained in four subjects(m1,m2,m3,m4).Write a suitable constructor and methods to find the total mark obtained by the student and display the details of the student.
2. Write a Java program to find the area of a square, rectangle and triangle by
   (i) Overloading Constructor
   (ii) Overloading Method.
3. Write a java program to add two complex numbers.
   [Use passing object as argument and return object].
4. Define a class called Student_super with data members name, roll number and age. Write a suitable constructor and a method output () to display the details. Derive another class Student from Student_super with data members height and weight. Write a constructor and a method output () to display the details which overrides the super class method output().[Apply method Overriding concept].
5. Write a java program to create an interface called Demo, which contains a double type constant, and a method called area () with one double type argument. Implement the interface to find the area of a circle.
6. Write a java program to create a thread using Thread class.
7. Write a java program to Design a calculator to perform only addition and division. It must contains three Buttons with labels +, / and =, and a TextField to get input and display the result.
8. Create an applet with four Checkboxes with labels MARUTI-800, ZEN, ALTO and ESTEEM and a Text area object. The program must display the details of the car while clicking a particular Checkbox.
9. Write a Java program, which creates a window with a check box group with boxes for the colors, Violet, Indigo, Yellow, Orange, Red, Blue, and Green. When the button is selected the background color must change accordingly.
10. Write a Java program to throw the following exception,
    1) Negative Array Size
    2) Array Index out of Bounds

Allied - Web Technology

                                                                              L T P C
                                                                              3 0 0 3
Objective: To impart knowledge about the web technologies and their applications and to
                 understand the basics of web designing.

Unit I

Introduction: Internet Services and Accessibility-Uses of the Internet-Protocols-Web concepts-The client/server model at the web-Retrieving data from the web. **Internet Protocols**: Introduction – Internet protocols-transmission control protocols-User Datagram protocols - Host Names. (9L)

Unit II

HTML: Introduction-SGML-DTD-DTD Elements- attributes-outline of an HTML document-Head section-Body section: Headers – Paragraphs – Text formatting – Linking – Internal linking – Embedding images – Lists – Tables – Frames – Other Special tags - HTML forms. (9L)

Unit III

JavaScript: Introduction- need of a scripting language - language elements : Identifiers – Expressions – JavaScript keywords – Operators – Statements – functions. (9L)

Unit IV

Objects of JavaScript: Window object – Document object – Forms object – Text boxes and text areas – Buttons , Radio buttons and Check boxes – Select object - other objects: Date object – Math Object – String Object – Arrays – worked examples. (9L)

Unit V

Dynamic HTML: Introduction- cascading style sheets: Coding CSS – Properties of tags – Property values – Other style properties – Inline Style Sheets –Embedded Style Sheets – External Style sheets – Grouping – Inheritance – Class as Selector – ID as Selector – Contextual Selectors – Pseudo Classes and Pseudo-elements – Positioning – Backgrounds – Element Dimensions. (9L)

Text Book:

Web Technology A Developer's Perspective, N.P.Gopalan, J. Akilandeswari ,PHI

Reference Books:
1. Web Technology and Design, C.Xavier, New Age International Publishers
2. Web Technologies TCP/IP Architecture and Java Programming Second Edition, Achyut S. Godbole & Atul Kahate, Tata McGraw Hill
3. Web Technology, S. Padma Priya, SCITECH Publications (India)Pvt. Ltd

Allied

Practical List – Web Design using HTML

L T P C

0 0 4 2

Objective: To highlight the basic concepts of HTML and help the student to equip with the programming skills in implementing and developing web based applications

Each exercise should be completed within two hours.

It is compulsory to complete all the exercises given in the list in the stipulated time.

1. Create a website using internal links and images.
2. Design a calendar using table tag.
3. Create a HTML document to display a list of five flowers and link each one to another document displaying brief description of the flower, Add pictures wherever possible.
4. Write an HTML code to display a list of 5 cars in a frame, Link each one to a brief description in second frame. The left frame should display the list and the right frame should display the paragraph about the frame.
5. Create a simple HTML Form covering major form elements.
6. Embed Audio and Video in an HTML page.
7. Rotate an element using CSS.
8. Build a simple quiz.

Skill Based 1 Core

Programming with PHP & MySQL

L T P C
4 0 0 4

OBJECTIVES:
• To understand the concepts of open sources.
• To learn and use open source database management system MySQL
• To create dynamic web pages and websites.
• To connect web pages with database.

UNIT-I
Introduction: Introduction- Open source PHP – PHP history- features-variables- statements operators conditional statements-if-switch-nesting conditions-merging forms with conditional statements-loops-while-do-for – loop iteration with break and continue.   (12L)

UNIT – II

Arrays and Functions: Arrays: Creating an array- modifying array-processing array-grouping form with arrays- using array functions- creating user defined functions- using files- sessions-cookies- executing external programs- Creating sample applications using PHP.

(12L)

UNIT –III
File Handling Opening files using fopen - looping over a files content with feof- reading text from a file using fgets - closing a file- reading character with fgetc- reading whole file with file_get contents reading a fle into into an array with file-checking if a file exists-fscanf-parse_ini_file- Getting file information with stat-fseek- copying files with copy- deleting files-writing to a file-reading and writing binary files –locking files

(12L)

UNIT-IV

MySQL: Effectiveness of MySQL -MySQL Tools-Prerequisites for MySQL connection-Databases and tables- MySQL data types-Creating and manipulating tables-Insertion-updation and deletion of rows in tables -Retrieving data- Sorting and filtering retrieved data -Advanced data filteringData manipulation functions-Aggregate functions -Grouping data- Sub queries- Joining Tables- Set operators-Full text searching.

(12L)

UNIT-V

PHP with MySQL: Working MySQL with PHP-database connectivity- usage of MYSQLcommands in PHPprocessing result sets of queries- handling errors-debugging and diagnostic functionsvalidating user input through Database layer and Application layer- formatting query output with Character- Numeric- Date and time –sample database applications.

(12L)

Text Books:

1. VIKRAM VASWANI- "PHP and MySQL"- Tata McGraw-Hill- 2005

2. BEN FORTA - "MySQL Crash course " SAMS- 2006. 3

. Steven Holzner , The Complete reference PHP, Tata McGraw Hill,2008

Books for Reference:

• Tim Converse- Joyce Park and Clark Morgan- "PHP 5 and MySQL" -Wiley India reprint - 2008.

• Robert Sheldon- Geoff Moes- "Beginning MySQL"-Wrox- 2005

Non Major Elective
(OPTIONAL PAPER)

1. ELECTRONIC TROUBLESHOOTING

OBJECTIVES:

LTPC 2
0 0 2

Preamble: To equip the students with basic knowledge in troubleshooting various electronic devices used in measurement and industry and to understand the principles of testing these devices, its care and Maintenance. Prerequisite needed is background of the basic science and knowledge of measuring devices. Students on completion of this course will have good knowledge about the maintenance of electronic measurement devices, its operation, testing and troubleshooting in detail.

UNIT I

RELIABILITY OF ELECTRONIC EQUIPMENT

Failures-Causes of Failures-Maintenance-Advantages of proper Maintenance, Maintenance policy-Preventive Maintenance, Corrective Maintenance-Basic Procedure of Service and Maintenance

(6L)

UNIT II

PREPARATIONS AND PRECAUTIONS BEFORE TROUBLE SHOOTING

Troubleshooting Procedure-Fault Location-Fault Repair-Repair Verification-Perform Root cause Analysis-Fault Finding Aids-Service Manual-Test and Measurement Equipment- Multimeters-C.R.O, Function Generators.

(6L)

UNIT III

TROUBLESHOOTING TECHNIQUES

Functional Area Approach-Split Half Technique-Input to Output Technique-Output to input Technique-Divergent Paths Technique-Convergent paths Technique-Feedback Paths Technique-Switching Paths Technique, Measurement Techniques

(6L)

UNIT IV

TESTING OF PASSIVE COMPONENTS

Resistors, Preset, L.D.R, Capacitors, Inductors, Transformers, Passive component testing using C.R.O-Testing Semiconductor Devices-Diode, Zener diode, L.E.D, Transistor, Mosfet, Thyristors, Testing of Active components using C.R.O.

(6L)

UNIT V

      TROUBLE SHOOTING DIGITAL SYSTEMS

Summary of Gates, Digital Logic Families-I.C packages, Digital Test Instruments-Logic Probe-Logic Pulser-Logic Clip-DigitalI.C Tester, Faults in Digital circuits, Precautions during Digital Troubleshooting-Troubleshooting-Power supply, SMPS, Oscilloscope.

(6L)

(Total: 30L)

TEXT BOOK

Maintenance of Electronic Equipments-K.Sudeep Singh - Kataria and Sons

VISUAL BASIC

L T P C
4 0 0 4

Objective: Visual Basic Programming introduces event-driven Windows programming, data types, operators, objects and properties, menus, procedures, control structures, and database file processing

Unit I

Getting started with Visual Basic 6.0: Introduction to Visual Basic - Visual Basic 6.0 Programming Environment – Working with Forms – Developing an Application – Variables, Data types and Modules – Procedures and Control Structures – Arrays in Visual Basic – Additional Examples. **Working with Controls**: Introduction – Creating and using Controls – Working with Control Arrays.

(12L)

Unit II

Menus, Mouse Events and Dialog Boxes: Introduction – Mouse Events – Dialog Boxes - additional Examples. **Graphics, MDI, and Flex Grid**: Introduction – Graphics for Applications – Multiple Document Interface(MDI) – Using the Flex Grid Control. (12L)

Unit III

ODBC using Data Access Objects and Remote Data Objects: Open Database Connectivity (ODBC) – Remote Data Objects. (12L)

Unit IV

Object Linking and Embedding: Introduction - OLE Fundamentals – Using OLE Container Controls – Using OLE Automation Objects - OLE Drag and Drop - Additional Examples. **Objects and Classes**: Introduction to Objects – Working with Objects – Classes and Class Modules.

(12L)

Unit V
Working with ActiveX Data Objects: An Overview of ADO and OLE DB – ADO Object Model - Additional Examples. **Files and File System Controls**: Introduction – File System Controls – Accessing Files.

(12L)

Text Book:
Visual Basic 6.0 Programming – Content Development Group – Tata McGraw-Hill Publishing Company Limited, New Delhi.

Reference Books:

1. VISUAL BASIC 6 in Record Time by Steve Brown, BPB Publications.

2. VISUAL BASIC 6 from the Ground UP – GARY CORNELL – Tata McGraw Hill.

INFORMATION SECURITY

L T P C
4 0 0 4

Objective: Information security focuses on the overview of information security, the tools and techniques used to secure information and the procedures and practices that must be followed by organizations ti ensure information security.

Unit I

Basics of information security: Introduction – Information – Need for information security – What is an information security breach – What needs to be secured?- Who needs to be concerned on information security. Aspects of information security – Goals of information security – Establishing a Security Equation.

Information Security Threats: Introduction – What is a threat – Threats and Vulnerabilities – Threats, vulnerabilities and counter measures.- Types of threats   (12L)

Unit II

Viruses: Introduction – Who creates a virus and why?- How does a virus spread. Types of viruses – Boot sector virus – file virus. Prevention from virus attacks – Impact of a virus attack – Security measures to prevent virus attacks. Antivirus Software – Types of Antivirus software – Deploying Antivirus software. Virus detection and recovery – Virus detection – Recovery from virus attack.

Backups: Introduction – Need for making backups – Types of backups – Backup media – Qualities of a good backup. Backup Strategy – What should be backed up – How frequently and what types of backups should be made – which backup medium should be used – For how long should backups be maintained – who is responsible for making a backup. Backup solutions - Backup solutions used in Linux - Backup solutions used in Windows 2000.   (12L)

Unit III

Countermeasures for Information Security Breach: Cryptography – What is cryptography – Need for cryptography – Types of cryptography – Algorithms used in Cryptography – Authentication models used in cryptography – Implementation of cryptography. Biometrics – Biometrics Authentication process – Biometrics Authentication methods – Areas where Biometrics is used.

Risk Management: Introduction –What is Risk management – Need for risk management - Benefits of risk management – Important roles in risk management – The risk management process. Risk Assessment –Identifying the assets at risk – Assessing the value of assets – identifying the threats to the assets – identifying the vulnerabilities in an organization. Risk Analysis – Analyze the probability of threat occurrence – Analyze the impact of threat occurrence – Determine the levels of risk of each asset – Prepare for a Risk analysis report. Risk Mitigation – Devise an implementation plan and prioritize Assets – Identify security controls – Conduct cost benefit analysis – challenges in Risk management.
                                    (12L)

Unit IV

Security Policies: Introduction – What is security policy – need for security policy – people who are affected by security policies – Role of management in implementing security Policies- Components of a security policy – security policies and Trust. Security Policy Life Cycle –Prerequisites for creating a Security policy – Design and Creation – Implementation – Compliance – Monitor and Review. Key Security Policies- Acceptable use policy –P:assword policy – Remote Access policy – Virus prevention and Protection policy.

Intrusion Detection: Introduction – What is intrusion – How intrusion happens – who can intrude –types of intrusions. Intrusion Detection Systems – Models on which IDS are based – types of IDS. Honeypots – types of honeypots – uses of honey pots. Firewalls-types of firewalls.

(12L)

Unit V

Security Audit: Introduction – Objectives of security audit – when is a security audit required. Auditor – Qualification of an auditor – role of an auditor – responsibilities of an auditor. Conducting Security Audits – Auditing strategies – Phases of a security audit – types of security audits. **Sample Security Policy**: Introduction – Security policy – Roles and responsibilities – policy documentation – security policy compliance – Standards and guidelines for the use of Company Resources and Network facilities V 1.0 - Standards and guidelines for email usage V 1.0 - Standards and guidelines for internet usage V 1.0. Sample Risk Analysis   (12L)

Text Book:

Information security, An overview. PHI, 2004.

Reference Books:

1. Information Security: Principles and Practice 2nd Edition, Mark Stamp , Wiley Publications.

2. Information Security: The Complete Reference 2nd Edition, Mark Rhodes & Ousley, Mcgraw Hill.

Relational Database Management System

L T P C

4 0 0 4

OBJECTIVES:

- To learn the fundamental data models and conceptualize and depict a database system using ER diagram
- To make a study of SQL and relational database design using Oracle

UNIT I

Introduction: Database - system applications-Purpose of Database Systems - View of Data- Database languages -Relational Databases - Database Design - Data Storage and Querying - Transaction Management - Database Architecture - Data Mining and Information Retrieval- Specialty Databases - Database Users and Administrators.   (12L)

UNIT II

Introduction to the Relational Model and Introduction to SQL: Structure of Relational Databases -Database Schema-Keys-Schema Diagrams- Relational Query Languages- Relational Operations- Overview of the SQL Query Language -SQL Data Definition-Basic Structure of SQL Queries   (12L)

UNIT III

SQL operations and Intermediate SQL : Additional Basic Operations-Set Operations-Null values-Aggregate functions- Nested Sub queries- Views - Integrity Constraints - SQL Data Types and Schemas   (12L)

UNIT IV

Entity-relationship(E-R) Modeling – Enhanced Entity-Relationship(EER) Model – Data Normalization   (12L)

UNIT V

Implementation using Oracle: Creating Table-Modifying Table-Creating SEQUENCE-PL/SQL- Stored procedures and Functions   (12L)

Text Book:

1. Database System Concepts – Abraham Silberschatz, Henry F.Horth and S.Sudarashan, McGraw-Hill International Sixth Edition.

2. Essentials of Database Management Systems – Alexis Leon, Mathews Leon (Chapter 4,5,8 – IV unit)
3. Oracle8i Jose A.Ramalho BPB Publications

Reference Books:

1. Database Management Systems, R.Panneerselvam, PHI Learning Private Limited
2. Database Management Systems, Ramakrishnan and Gehrke, Mc Graw Hill Publications
3. Relational Database Management Systems,P. Simon Navis, Ave Maria Publications
4. RDBMS Concepts and Database Designing, Dr. R.C. Goyal –Ebook url http://www.vssut.ac.in/lecture_notes/lecture1423726199.pdf
5. Fundamentals of Database Systems, Ramez Elmasri, Fourth Edition, Pearson Addison Wesley- EBook URL: http://www.uoitc.edu.iq/images/documents/informatics-institute/Competitive_exam/Database_Systems.pdf
6. An Introduction Relational Database Theory, Hugh Darwen, EBook URL: http://www.zums.ac.ir/files/research/site/ebooks/it-programming/an-introduction-to-relational-database-theory.pdf

VISUAL BASIC Lab

Objective: To highlight the basic concepts of HTML and help the student to equip with the programming skills in implementing and developing web based applications

Each exercise should be completed within three hours.
It is compulsory to complete all the exercises given in the list in the stipulated time.

1. Design an Analog Clock.

2. Design a Desktop Calculator.

3. Design Mixing of Colors using basic Colors.

4. Create an application to format the text inside the text box.

5. Create an application using File controls and use two option buttons to show and hide a picture in the Picture box.

6. Create an Editor with File and Edit Menus using Menu Editor Tool.

7. Create a MDI Application with tile and cascade child forms.

8. Create a mailing address database in access `and view the records using Data Control.

Allied
E-Commerce

Objective: To impart knowledge about the web technologies and their applications and to understand the basics of web designing.

Unit I

    History of E-Commerce : Electronic Commerce - Emergence of the Internet – Emergence of the World Wide Web –Advantages of E– commerce – Disadvantages of E-Commerce - Qnline Extension of a BAM Model – Transition to E-Commerce in India - The Internet and India.
(8L)

Unit II

    Business Models for E-Commerce : Social Networking and Facebook – Business Model – E-business Models Based on the Relationship of Transaction Parties – E-business Models Based on the Relationship of Transaction Types. (9L)

Unit III

    e-Marketing - Google – Traditional Marketing – The Browsing Behaviour Model – Online Marketing – E-advertising – Internet Marketing Trends –E-branding – Marketing strategies.

(9L)

Unit IV

    e-Security : Information System Security – Security on the Internet – E-business Risk Management Issues – Information Security Environments in India. (9L)

Unit V

    e-Payment Systems : E-banking at ICICI Bank – Main Concerns in Internet Banking - Digital Payment Requirements –Classification of New Payment Systems - Digital Signature – Online Financial Services in India. (10L)

TEXT BOOK:

1. P.T.Joseph , S . J, E-Commerce – An Indian Perspective, PHI Learning Pvt Ltd.,2013

Reference Books:

1 . CSV Murthy, E-Commerce – Concepts Models Strategies, Himalaya Publishing House.

2. Bharat Bhasker, Electronic Commerce Framework, Technologies and application,

Tata Mcgraw Hill.

Allied

Practical List – PYTHON

L T P C

0 0 4 2

Objective: Learn to program in Python and understand programming paradigms brought in by Python Expressions.

Each exercise should be completed within two hours.

It is compulsory to complete all the exercises given in the list in the stipulated time.

1. Write a menu driven program to convert the given temperature from Fahrenheit to Celsius and vice versa depending upon user"s choice.

2. Write a menu-driven program, using user-defined functions to find the area of rectangle, square, circle and triangle by accepting suitable input parameters from user.
3. WAP to display the first n terms of Fibonacci series.
4. WAP to find factorial of the given number.
5. WAP to find sum of the following series for n terms: 1 – 2/2! + 3/3! --------- n/n!
6. WAP to calculate the sum of two compatible matrices.
7. WAP to calculate the product of two compatible matrices.
8. Explore String functions.
9. Creating a CSV File based on user input.
10. Reading a CSV File already created and display the contents

Reference Books:

1. T. Budd, Exploring Python, TMH, 1st Ed, 2011
2. Python Tutorial/Documentation www.python.or 2010
3. Allen Downey, Jeffrey Elkner, Chris Meyers , How to think like a computer scientist : learning with Python , Freely available online.2012
4. http://docs.python.org/3/tutorial/index.html
5. http://interactivepython.org/courselib/static/pythonds
6. http://www.ibiblio.org/g2swap/byteofpython/read/

Skill Based II Core
Android Programming

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L T P C
4 0 0 4

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OBJECTIVES:

To learn the fundamentals of Android Programming using the Android SDK.

UNIT I
Getting Started with Android Programming: What is Android – Android versions – Features of Android –Android Architecture –Android devices in the market –The Android Market. Obtaining the required tools – Android Studio – Android SDK – Creating Android Virtual Devices – The Android Developer Community – Launching the first Android Application. **Using Android Studio for Android Development** - Exploring the IDE – Using Code completion – Debugging your application – Publishing your application.   (12L)

UNIT II
Activities, Fragments and Intents : Understanding Activities - Applying Styles and Themes to an activity – Hiding the Activity title – Displaying a Dialog Window – Displaying a Progress Dialog. Linking Activities using Intents – Returning results from an intent – Passing data using an Intent Object. Fragments – Adding Fragments dynamically - Life cycle of a fragment – Interactions between fragments – Understanding the Intent object – Using intent filters. Displaying notifications.   (12L)

UNIT III
Getting to know the Android User Interface : Understanding the components of a screen – View and viewgroups – Frame Layout – Linear Layout (Horizontal and Vertical) – Table layout – Relative layout – Frame layout – Scroll view. Adapting to Display Orientation – Anchoring views – Managing changes to screen orientation – Persisting State information during changes in configuration – Detecting orientation changes – Controllong the orientation of the Activity. Utilizing the Action Bar – Adding Action items to the Action Bar – Creating the user interface Programmatically – Listening for user Notifications.   (12L)

UNIT IV
Designing your User Interface with Views: Using Basic views –Textview view – Button, ImageButton, EditText, CheckBox, ToggleButton, RadioButton, and RadioGroup Views –ProgressBar View, AutoCompleteTextView View. Using Picker Views – TimePicker view – DatePicker View. Using List views to display long lists – ListView View – Using the Spinner view. Understanding Specified fragments – Using a list fragment – Using a Dialog fragment – Using a preference fragment.   (12L)

UNIT V

Displaying Pictures and Menus with views: Using ImageViews to Display pictures – ImageView view – ImageSwitcher – GridView. Using Menus with Views – Creating the Helper Methods – Options Menu – Context Menu – Using WebView. **Data Persistence:** Saving and Loading User Preferences – Accessing preferences using an activity – Programmatically Retrieving and Modifying the Preferences Values. Persisting Data to Files – Saving ti Internal Storage – Saving to External Storage – Choosing the best storage option. Creating and using Databases – Creating the DBAdapter Helper Class – Using the database programmatically. (12L)

Text Book:

Beginning Android Programming with Android Studio, J.F. DiMarzio, Wrox Publications

Reference Books:

1. Beginning Android Programming with Android Studio, Roger Deutsch
2. Android Programming: Mastering Course for Beginners - Quick Start to Develop Your Own App (Android studio, Android Development, App Development. Updated to Android 6 Platform, Mitchell Schuler

Non Major Elective

(OPTIONAL PAPER)

RADIO AND TELEVISION

LTPC 2
0 0 2

Preamble: To equip the students with basic knowledge in Radio andTelevision Technology which has now become a vital tool to the information revolution that is sweeping across the countries of the world. The syllabus aims at a comprehensive coverage of basics of waves and wave propogation, working of Radio andTelevision Systems Prerequisite is knowledge in fields and electronics science.Upon completion of the course student will be well versed with radio and television transmission and reception and abot propogation of radio waves.

UNIT I
RADIO COMMUNICATIONS
Radio waves – Frequency & Wavelength – Modulation – Propagation of radio waves – Ground, Sky and Space waves – Fading – Radio Broadcast – Transmission and Reception.

(6L)

UNIT II
RADIO TRANSMISSION
Classification of radio waves – Amplitude modulation – Frequency modulation – Radio transmitter – AM transmitter – Antennas (transmitting antenna), Basic ideas.

(6L)

UNIT III
RADIO RECEPTION
Reception and detection of amplitude modulated waves – Function of a radio receiver – Characteristics of a receiver – Super heterodyne receiver – FM Broadcast receiver.

(6L)

Unit IV
TV TRANSMISSION
TV broadcasting system – scanning – Synchronization – Blanking – Video Signal – Television band and channels – Camera tubes – Image orthicon Vision.

(6L)

UNIT V
TV RECEPTION
TV receiver – Tuner – Picture section – Receiver sweep section – Sound section power supply section – Color Mixing principles in color TV.

(6L)
(Total: 30L)

TEXT BOOKS

1. Basic Television and Video Systems, B.Grob, McGraw Hill

2. Electronics and Radio Engineering, F.E. Terman, McGraw Hill

REFERENCE BOOK

1. Monochrome and Color Television, R.R. Gulari, Wiley Eastern Ltd.,