UNIVERSITY OF MYSORE

REGULATIONS AND SYLLABUS FOR

ADVANCED DIPLOMA IN INFORMATION TECHNOLOGY (ADIT)

EFFECTIVE FROM THE ACADEMIC YEAR 2021-2022

UNIVERSITY OF MYSORE

GUIDELINES AND REGULATIONS LEADING TO ADVANCED DIPLOMA IN INFORMATION TECHNOLOGY (ADIT)

(Effective from academic year 2021 -2022)

The program shall be called **Advanced Diploma in Information Technology (ADIT)** It is a one-year program consisting of two semesters coming under the Faculty of Science and Technology. The course shall be governed by the following regulations:

1. ELIGIBILITY FOR ADMISSION

1.1. A candidate who has passed any PUC II is eligible for admission to the first semester of the program.

1.2. There shall be two streams; Stream-1: From 10 a.m. to 5 p.m Regular students are admitted to Stream-1 and candidates who are employed are admitted under. In case there are vacant seats in Stream-2, such seats shall be filled by regular students. In case of high demand, depending on the availability of faculty and infrastructure, more than one section can be formed

2. INTAKE

2.1. There shall be a minimum of 15(fifteen) intake.

2.2. The merit of the candidate is the aggregate percentage of marks of second year PUC examination.

2.3.The selection of eligible candidates for admission to course shall be based on merit–cum-reservation policy of the government of Karnataka from time to time.

3. COURSE OF STUDY

3.1. The course of study for the Advanced Diploma in Information Technology (ADIT) shall extend over a period of one year consisting of two semesters.

3.2 Each semester shall be of sixteen weeks duration. The academic calendar shall be as notified by the university from time to time. However, a candidate can take a maximum of two years for completion as per double the duration norms of University of Mysore.

3.3 The medium of instruction shall be English

3.4 There shall be five papers of theory with practical's in the first and the second semester. The hours of instruction shall be two hours/week for each theory paper and two hours of two practical's for each paper (four hours for each practical).

4. ATTENDANCE, PROGRESS AND CONDUCT

4.1. Each semester shall be taken as a unit for the purpose of calculating attendance.

4.2. The students shall attend practical's and theory classes as prescribed by the University during each semester.

4.3. A student shall be considered to have completed a semester if the student has attended not less than 75% of number of working periods of the course during the said semester.

4.4. The student who fails to complete the course in the manner stated in 4.3 above shall not be permitted to appear for the University examinations. Such a candidate shall enroll himself/herself in the coming two years. However the admission is subject to the availability of the seats.

4.5. If the conduct/behavior of the student is not found to be satisfactory, action will be initiated as per the University regulations.

5. SCHEME OF EXAMINATION

5.1 There shall be a University examination at the end of each semester. The duration of theory and practical examination shall be of Two hours duration.

5.2 The duration and maximum marks and minimum marks for pass in each of the Theory and practical shall be as given below:

5.3 In the Practical examination each student should execute one question out of the 10/12 practical questions approved in the syllabus.

5.4 Change of program during lab examinations is not permitted because all the Programs are given from the predefined list from the syllabus only

***In case of practical examination, the following scheme shall be followed: Writing procedure – 05 marks, Execution -12 marks, Viva-voce – 8 record-05 marks**

5.5 The internal assessment marks in each theory paper shall be awarded by the concerned course teacher based on (i) two class tests, each of one hour duration, conducted by him/ her during the semester, (ii) Assignment and (iii)

one seminar. Average of the two tests to be considered as the final internal assessment marks.

Internal assessment:	**20 marks**
Test1:	**15 marks**
Test2:	**15 marks**
Assignment:	**5 marks**
Seminar:	**5 marks**

6. DECLARATION OF RESULTS AND CLASSIFICATION OF SUCESSFUL CANDIDATES

6.1 The candidate who obtains a minimum of 35% of marks in each of the theory and practical examination and a minimum of 40% of marks of theory/practical/Project examination and Internal Assessment marks put together shall be declared to have passed in the respective paper. The candidate is declared to have passed the semester if he/she passes in all the papers. The candidate who fails to get such a minimum marks in any paper(s) shall repeat the theory / practical examination of that paper. The Internal Assessment marks once awarded is final and there is no provision for improvement. Minimum Credits for getting the Diploma: 20 credits from 2 semesters.

6.2 The Grades shall be declared on the basis of aggregate marks obtained by the candidate, who has successfully completed both the semesters of the course.

6.3 The classification of credits of successful candidates shall be as under:

Sl. No	Marks secured in each course	Grade
1.	Marks secured in the paper is 90% and above	A
2.	Marks secured in the paper is 80% and above but less than 90%	B
3.	Marks secured in the is 70% and above but less than 80%	C
4.	Marks secured in the paper is 60% and above but less than 70%	D
5.	Marks secured in the paper is 50% and above but less than 60%	E
6.	Marks secured in the paper is 40% and above but less than 50%	F
7.	Marks secured in the paper is less than 40%	Dropped

PROGRAMME STRUCTURE

FIRST SEMESTER

SL. NO	PAPERS	TITLE OF THE PAPER	CREDIT PATTERN			CREDITS
			L	T	P	
1	ADIT -1.1	Computer Fundamentals and Digital Electronics	2	0	2	4
2	ADIT -1.2	IT Tools and Business Systems	2	0	2	4
3	ADIT -1.3	Programming In C	2	0	2	4
4	ADIT -1.4	Basics of PC Maintenance	2	0	2	4
5	ADIT -1.5	E-Commerce	2	0	2	4

SECOND SEMESTER

SL. NO	PAPERS	TITLE OF THE PAPER	CREDIT PATTERN			CREDITS
			L	T	P	
1	ADIT-2.1	Introduction to Multimedia	2	0	2	4
2	ADIT-2.2	Business Data Processing	2	0	2	4
3	ADIT-2.3	Web Programming Concepts	2	0	2	4
4	ADIT-2.4	Object Oriented Programming with JAVA	2	0	2	4
5	ADIT-2.5	Cyber Security	2	0	2	4

DETAILED SYLLABUS OF THE PROGRAMME

ADVANCED DIPLOMA IN INFORMATION TECHNOLOGY (ADIT)

FIRST SEMESTER

ADIT-1.1: COMPUTER FUNDAMENTALS AND DIGITAL ELECTRONICS

COURSE OUTCOME: After Completion of the subject student should able to

- ✓ Identify the logic gates and their functionality
- ✓ Perform Number Conversions from one System to another System
- ✓ Design basic electronic Circuits(combinational circuits)
- ✓ Understand the Construction of Memory

COURSE CONTENT:

UNIT-1

Computer, History of Computer, General Architecture of a Computer, Generations, I/O devices, Memory devices, Instructions, System software, Application software, Program translators-Assembler, Compiler and Interpreter. Programming languages- Machine level language, Assembly level language, and High level language.

Program development life cycle: Problem definition, analysis, Design, Coding, Testing and debugging, Documentation and maintenance. Algorithm – Features, simple examples. Flowcharts – Symbols used in a flowchart, suitable examples.

UNIT-2

Number Systems– Introduction – Decimal, Binary, Octal and Hexadecimal. Inter- conversation, Addition, Subtraction, Multiplication and Division in Binary Number System.1's and 2's complement method in Binary Number System. Subtraction using 1's and 2's complement Weighted Number System, Binary Coded Decimal (BCD) and Addition of BCD numbers.

UNIT-3

Boolean algebra: Basic laws, DE Morgan's theorem, Duality theorem, Sum of Product method and Products of sum method. Karnaugh map (Upto 4 Variables, Don't Care Condition). Fundamentals of Gates: Basic gates, Derived gates and Universal gates(Design).

UNIT-4

Combinational and Sequential logic circuits – Half adder, Full adder, Half–subtractor and Full–substractor, Flip-Flops – SR,D,JK,JK Master Slave, T Flip-flops, Introduction to encoders, decoders and multiplexer, Introduction to counters and Registers.

REFERENCE BOOKS

1. Digital Fundamentals-Thomas.D.Floyd.Malvino Leach, Digital Principles and Application(4^{th} edition)
2. Computer System Architecture (3^{rd} edition) Morris Mano PHI.
3. Computer Organization – by V.Carl Hamacher, Z.G.Vranesic, and S.G.Zaky, 3^{rd} Edition.
4. Computer Organization & Design, (3^{rd} Edition) by- D.A.Patterson & J.L.Hennessy- Morgan Kaufmann Publishers (Elseviers)
5. Morris Mano, Computer System Architecture (3^{rd} edition) PHI
6. Digital Logic- Thomas C Bartee.

ADIT-1.2: IT TOOLS AND BUSINESS SYSTEMS

COURSE OUTCOME:

- ✓ Understand the organization of basic computer, its design and the design of control unit.
- ✓ Demonstrate the working of central processing unit.
- ✓ Describe the operations and language f the register transfer, micro operations and input- output organization.
- ✓ Understand the organization of memory and memory management hardware.
- ✓ Elaborate advanced concepts of computer architecture, Parallel Processing, inter processor communication and synchronization.

COURSE CONTENT:

UNIT-1

Introduction to Computers: History of development of Computers ,Computer system concepts, Characteristics , Capabilities and limitations ,Generations of Computers, Von Neumann architecture ,Classification of Computers , Instruction Execution Cycle, Basic Components of a computer system – Control Unit, ALU, I/ O Devices, Memory – RAM, ROM, EPROM, ROM, Flash Memory and other types of memory. Types of Software – System software, Application software, Utility Software, Demoware, Shareware, Freeware, Firmware, Free Software.

UNIT-2

Operating Systems – Functions, Types – Batch Processing, Single User, Multi User, Multiprogramming, Multi-Tasking. Programming languages – Machine, Assembly, and High Level. Data representation in computers. Computer Viruses. Disk Operating System (DOS) Introduction, History & Versions of DOS. DOS basics, Physical structure of disk, drive name, FAT, file & directory structure and naming rules, booting process, DOS system files. Basic DOS Commands. Number System of computers – Binary, Octal, Hexa Decimal – Representation & their conversion, Coding System – ASCII, BCD, and EBCDIC.

UNIT-3

Microsoft Windows- An overview of different versions of Windows, Basic Windows elements, File management through Windows. Using essential accessories: System tools – Disk cleanup, Disk defragmenter, Entertainment, Games, Calculator, Imaging –Fax. Notepad, Paint, WordPad, Word processor, Spread sheets, DBMS. Introduction to Linux and Unix.

UNIT-4

Introduction to Internet, WWW and Web Browsers: Basic of Computer networks; LAN, WAN; Concept of Internet; Applications of Internet; connecting to internet; Communications and collaboration: Basics of electronic mail; Getting an email account; Sending and receiving emails; Accessing sent emails; Using Emails.

REFERENCE BOOKS:

1. Computer Concepts Basics, Dolores J Wells, Publisher: Course Technology, Edition Number: 4 , ISBN: 1423904621,EAN: 9781423904625, Publish Date: 2008-12-31
2. Computer Concepts: Illustrated Brief, Dan Oja, ISBN: 0538749547, Edition: 8 , Publisher: Course Technology
3. "Microsoft Windows Operating System Essentials" by Tom Carpenter.
4. Computer Concepts and C Programming, Dr S Ravishankar , Publisher: Himalaya , Edition Number: 2 ,EAN:CHIMPUB110247
5. A.M. Lister, Fundamentals of Operating Systems. Macmillan (1979).
6. P.K.SinhaandP.Sinha,"FoundationsofComputing",BPBPublication,2008.
7. SagmanS,"MSOfficeforWindowsXP",PearsonEducation,2007.
8. ITLEducationalSociety,"IntroductiontoIT",PearsonEducation,2009.
9. MillerM,"AbsoluteBeginnersGuidetoComputerBasics",PearsonEducation,2009.

ADIT-1.3: PROGRAMMING IN C

COURSE OUTCOME:

- ✓ Understand the basic concepts of data structures and their importance in solving a problem.
- ✓ Understand the classification of data structures, their merits, limitations and applicability in problem solving.
- ✓ Acquire the knowledge and skills of implementing various data structures to solve few specific problems.

COURSE CONTENT:

UNIT-1

C Language Preliminaries Introduction, History and features of C, Characteristics of C, Applications of C. Constants and Variables, Fundamentals of C, Variables, Constants, Data Types, int, float, char, double. Input-Output statements, formatted input, formatted output statements, Unformatted input statements, unformatted output statements.

UNIT-2

C operators, unary operator, binary operator, arithmetic operator, increment operator, Decrement operator, relational operator, logical operator, bit wise operator, ternary Operator, comma operator, sizeof ()-operator, mathematical functions, header files, Preprocessor directives. Control Statements, Conditional control statements, if-statements, if- else statements, nested if- statements, Switch-statements, go to statement. Loop Control Structures, while statement, do-while statement, for statement, nested for statement, break Statement, continued statement.

UNIT-3

Arrays, Definition, classification of arrays, declaration of an array, One-dimensional array & Multidimensional arrays. Functions Function definitions, arguments and parameters, category of functions, function with No arguments and no return values, function with arguments but no return value, Functions with no arguments and return values, local and global variables. Pointers, Definition, call by value and call by reference, pointer declaration, and pointer notations. Strings, declaring and initializing string variables, reading and writing strings, string handling functions.

UNIT-4

Structures And Unions, Definitions, declarations, embedded structure declarations, initialization of a Structure, array of structures, unions, definitions, declarations, accessing union Members,

and initialization. File operations, Data organization, file operations, opening a file, reading from a file, trouble in Opening a file, closing the file.

REFERENCE BOOKS:

1. TheCProgrammingLanguage,B.W.Kernighan,DennisM.Ritchie,PHI/Pearson Education
2. Computer Concepts and C Programming P.B.Kotur ,Sapna Book House
3. Programming in C, E.Balagurusamy, TataMcGrawHill
4. Let us C, Yashavant P.Kanetkar, BPB Publications
5. Computer Basics and C,V Rajaraman,TataMcGrawHill
6. Programming With C, Gottfried, Sehaums Outline Series, and TataMcGrawhill Publications.
7. Computer Science, A structured programming approach using C,B.A.Forouzan and R.F. Gilberg, Third edition, Thomson.
8. Data Structures Using C-A.S.Tanenbaum,Y.Langsam,andM.J.Augenstein, PHI/Pearson education.
9. Programming in C& Data Structures-P.Padmanabham,B.S.Publications.
10. C Programming with problem solving,J.A.Jones&K.Harrow,DreamtechPress
11. Programming in C-Stephen G.Kochan ,III Edition, Pearson Eductaion.
12. Data Structures and Program Designing C,R.Kuse,C.L.Tondo, BPLeung, Shashi M, Second Edition, Pearson Education.

ADIT-1.4: BASICS OF PC MAINTENANCE

COURSE OUTCOME:

- ✓ Understand the basic concepts of troubleshooting and general PC problems.
- ✓ Understand basic memory concepts.
- ✓ Acquire the knowledge of disk performance and characteristics
- ✓ Know about working of printer and installing printer drivers

COURSE CONTENT:

UNIT-1

Introduction to computer hardware, components of mother boards & its types-ports, slots, connectors, add on cards, Power supply units, cabinet types. Storage devices. Primary & secondary storage medium. Troubleshooting, General PC Problems: Introduction, General Troubleshooting rules, Common Problems & Solutions, Preventive Maintenance. BIOS: Typical Motherboard BIOS, BIOS Features, BIOS & Boot Sequences, BIOS Shortcoming & Compatible Issues, BIOS Troubleshooting, BIOS Upgrades. Installing & configuring ANTIVIRUS.

UNIT-2

Hard Disk: Introduction, Disk Basics, Disk Performance & Characteristics, Drive, Construction, Drive Testing & troubleshooting. Motherboard & Buses: Introduction, Motherboard Components, Expansion Slots system Bus Functions & Features. Upgrading & Troubleshooting Motherboard, General Bus Troubleshooting.

UNIT-3

Basic Memory Concepts: Introduction, Installing Memories, Upgrade Options & Strategies, Replacing Memories with Higher Capacity. Troubleshooting Memory. PC Assembling: Steps for assembling a PC-commonly used devices an overview, assembling a SMPS in a cabinet, fixing a processor in a mother board, assembling RAM in a motherboard, pinning a cooling fan in a mother board. Assembling a hard disc drive in a cabinet, assembling a CD/DVD ORM in a cabinet. Assembling a floppy drive in a cabinet, fixing motherboard in a cabinet.

UNIT-4

Printers: Printer Technology, How Printer Works, Attaching Printer, Installing Printer Drivers, Preventive Maintenance, And Common Printer Problems & Solution Error Code: Beep Code, Post Code and Post Reader Card.

REFERENCE BOOKS:

1. Upgrading&RepairingPCs:Muller–PrenticeHall–10thEdition,2000.
2. Complete PC Upgrade & Maintenance Guide : Mark Minasi–

BPB Publishers–15thEdition,2004.LearningPChardware–
Bangiaramesh khanna book Pubprivate

3. G.Dalin. M.Sc software engineering, HSI PUBLICATIONS.
4. Bigelow Stephen JP.C Toubleshooting and repair Dremtech press.
5. PC Software made simple: TaxaliR.K Tata MCGraw–Hill.
6. Operating System–Godbole Achyut Tata MCGraw–Hill.
7. Operating System Deitel Harrey.M.Pearson education Asia.

ADIT-1.5: E-COMMERCE

COURSE OUTCOME:

- ✓ Understand the fundamentals of E-commerce, types and applications.
- ✓ Evaluate the role of the major types of information systems in a business environment and their relationship to each other
- ✓ Assess the impact of internet and internet technology in a business electronic commerce and electronic business.

COURSE CONTENT:

UNIT-1

Introduction to E-commerce: Introduction, E-commerce or Electronic Commerce- An Overview, Electronic Commerce – Cutting edge, Electronic Commerce Framework. Evolution of E-commerce: Introduction, History of Electronic Commerce, Advantages and Disadvantage of E-commerce, various activities of E-commerce, Roadmap of e-commerce in India.

UNIT-2

Network Infrastructure: Introduction, Network Infrastructure- An Overview, The Internet Hierarchy, Basic Blocks of e-commerce, Networks layers & TCP/IP protocols, The Advantages of Internet, World Wide Web. Electronic Payment Systems: Electronic Payment Systems, Electronic Cash, Smart Cards and Electronic Payment Systems, Credit Card Based Electronic Payment Systems, Risks and Electronic Payment Systems.

UNIT-3

E-commerce Infrastructure: Introduction, E-commerce Infrastructure-An Overview, Hardware, Server Operating System, Software, Network Website. Managing the e-Enterprise: Introduction, e- enterprise, Managing the e-Enterprise, E-business Enterprise, Comparison between Conventional Design and E-organization, Organization of Business in an e- Enterprise.

UNIT-4

E-Commerce Process Models: Introduction, Business Models, E-business Models Based on the Relationship of Transaction Parties, e-commerce Sales Life Cycle (ESLC) Model, Risks of Insecure Systems: Introduction, An Overview of Risks Associated with Internet Transactions, Internet Associated Risks, Intranet Associated Risks, risks associated with Business Transaction Data. Transferred between Trading Partners. Management of Risk: Introduction, Introduction to Risk Management, Disaster Recovery Plans, Risk Management Paradigm.

REFERENCE BOOKS:

1. E-CommerceConcepts,Models,Strategies-:-.S.V.MurthyHimalayaPublishingHouse
2. E-Commerce:-Kamlesh K Bajaj and DebjaniNag
3. Electronic commerce:-GrayP.Schneider4.E-Commerce, Fundamentals & Applications : Chand(Wiley).

SECOND SEMESTER

ADIT-2.1: INTRODUCTION TO MULTIMEDIA

COURSE OUTCOME

- ✓ Know about hardware and software components of multimedia
- ✓ Know about web documents.
- ✓ Understand the multimedia elements and multimedia file formats

COURSE CONTENT:

UNIT-1

Multimedia System Design: An Introduction Multimedia Elements, Multimedia Applications, Features and Categories of Multimedia, Multimedia System Architecture, Evolving Technologies for Multimedia Systems, Multimedia Databases. MULTIMEDIA INPUT AND OUTPUT TECHNOLOGIES Key Technology Issues, Pen Input, Video and Image Display Systems, Print Output Technologies, Image Scanners, Digital Voice and Audio, Video Images and Animation, Full Motion Video.

UNIT-2

Compression and Decompression Techniques Types of Compression, Binary Image Compression Schemes, Color, gray scale, still-video image compression, Discrete Cosine Transform, Video Image compression, MPEG Coding methodology, Audio Compression, Data and File format standards- RTF, TIFF,RIFF, MIDI, JPEG, AVI, JPEG, TWAIN Architecture.

UNIT-3

Storage and retrieval technologies Magnetic Media Technology, RAID- Level-0 To 5, Optical Media, WORM optical drives, Hierarchical Storage Management, Cache Management for storage systems.

UNIT-4

MULTIMEDIA APPLICATION DESIGN Types of Multimedia systems - Virtual Reality Design - Components of Multimedia system - Distributed Application Design Issues - Multimedia Authoring and User Interface - Hypermedia Messaging - Distributed Multimedia Systems.

REFERENCE BOOKS:

1. Principles of Multimedia, Eighth reprint edition 2009, Ranjan Parekh, Tata McGraw-Hill Companies.
2. Introduction to Multimedia Systems, Chapter 16, Gaurav Bhatnager, Shikha Mehta, Sugata Mitra, © 2002 by ACADEMIC PRESS
3. Designing Interactive Multimedia, paper by Lori L. Scarlatos, http://www.uni-mannheim.de/acm97/papers/Scarlatos/
4. FredHalsall, "Multimedia Communications", AddisonWesley, 2000.
5. RalfSteinmetz,KlaraNahrstedt,"Multimedia,Computing,Communicatiosa nd applications", Prentice Hall,1995.
6. TayVaughan,"MultimediamakingItwork",TMH5thEdition2001.
7. Weixel,Fulton,Barksdale.Morse,"MultimediaBasics",EaswarPress2004

ADIT-2.2: BUSINESS DATA PROCESSING

COURSE OUTCOME:

- ✓ Understanding the meaning and purpose of data processing
- ✓ Know about word processing and spreadsheet.
- ✓ Know about database and SQL

COURSE CONTENT:

UNIT-1

Meaning and purpose of Data processing - Source documents data input data Manipulation - Output of information - data storage -Files and Records - file creation - File access - File manipulation and maintenance - File generation - sequential and Direct file organisation.

UNIT-2

Meaning and purpose of windows - menus - Dialog Boxes - File Management under Windows, features of word processing under Windows - Microsoft Word - File Menu - Using Letter wizard for producing business letters -Entering, selecting, inserting, viewing text - Normal view - Page view - Point view - Zooming the view - character and paragraph formatting - Printing a document.

UNIT-3

Introduction to spreadsheet - spreadsheet overview - formatting worksheet Data - Relative and absolute Referencing - working with Formula working with Functions - Creating and using Macros - Data Management through worksheets - analysis through charts/graphs - Setting print Styles - Printing worksheets and charts/Graphs. Introduction to database-concepts of relational Database Management Applications-Types of Database Models-Network Model Hierarchical Model-RDBMS-ORDBMS.

UNIT-4

Introduction to SQL - Parts of SQL-- DML, DDL, DCL and Query Language creating and manipulating tables -Inserting data into tables Restricting and validating Data Entry with Constraints -creating simple reports using oracle Plus Report Manager - Maintaining users and Database Administration - user creation - Roles and Privileges concepts of Front -end Applications - Need for data entry screens - D2k as a front -and tool. Working with D2K forms Designer - forms, Menus, Tool Bars, D2K reports for better Reporting of Data - Master detail reports.

REFERENCE BOOKS:

1. John Shelly and Roger Hunt, Computer Studies: A first course, PHI
2. Guy Hart- Davis, The ABCs of Microsoft office, BPB
3. IvonByross-DevelopingCommercialApplicationsusingDeveloper2000version2 (Forms and Reports3).

ADIT-2.3: WEB PROGRAMMING CONCEPTS

COURSE OUTCOME:

- ✓ Use an integrated development environment to write, compile, run, and test simple object- oriented Java programs.
- ✓ Read and make elementary modifications to Java programs that solve real-world problems.
- ✓ Validate input in a Java program, Identify and fix defects and common security issues in code.
- ✓ Use a version control system to track source code in a project.

COURSE CONTENT:

UNIT-1

Basics in Web Design, Brief History of Internet, World Wide Web, creating a web site, Web Browsers, Types of Browsers, Web Standards. Introduction to HTML, HTML Document, Basic structure of an HTML document, creating an HTML document, Introduction HTML elements (Tags), Document Structure, Text Formatting and Block formatting elements, Attributes, Font and Text tags.

UNIT-2

HTML – Images, Image Links, image maps, Tables, Lists, Marquee, frames and their attributes. Color-code Chart, Background images, web Forms, Forms, Input, Text Fields, Password, Reset, Submit, Checkboxes, Radio ,Select, Hidden Fields , -Upload , Text area. Special Tags, Body , Meta ,Style.

UNIT-3

Creation of animated GIF. Sizing the pictures. Multimedia Objects Adding external images, video, and sound file including device independent (DVI) files. Add marquees of scrolling text. Frames Setting and releasing frames. Using one frame to index another. Creating floating frames, borderless frames and frames with borders.

UNIT-4

CSS: CSS Introduction ,CSS Syntax ,CSS Id & Class, CSS Styling, Styling, Backgrounds, Styling Text, Styling Fonts, Styling Links ,Styling Lists ,Styling Tables, CSS Box Model ,CSS Border, CSS Outline, CSS Margin, CSS Padding ,CSS Dimension ,CSS Display, CSS Positioning, CSS Floating, CSS Navigation Bar, CSS Image Gallery, CSS Image Opacity , CSS align. Introduction to JavaScript and /VB Script.

REFERENCE BOOKS:

1. HTML & XHTML: The Complete Reference (Osborne Complete Reference Series) 4th Edition by Thomas Powell.
2. Head First HTML and CSS by Elisabeth Robson and EricFreeman.
3. HTML5 and CSS3 All-in-One For Dummies by AndyHarris.
4. JavaScript: the Complete Reference Paperback– 6 Sep2004.
5. Mastering HTML, CSS &JavaScript Web Publishing Paperback– 15 Jul2016.
6. VBScript Pocket Reference1st Edition Practical's based on: Web Programming.

ADIT 2.4: OBJECT ORIENTED PROGRAMMING WITH JAVA

COURSE OUTCOME:

- ✓Justify the philosophy of object-oriented design and the concepts of encapsulation, abstraction, inheritance, and polymorphism.
- ✓Design, implement, test, and debug simple programs in an Object-Oriented Programming language.
- ✓Describe how the class mechanism supports encapsulation and information hiding.
- ✓Compare and contrast the notions of overloading and overriding methods in an Object- Oriented language.

COURSE CONTENT:

UNIT-1

Introduction to Java and its Features, Introduction to object oriented paradigm, Concepts of Object- Oriented programming (Objects and Classes, data abstraction and data abstraction and encapsulation, inheritance, polymorphism, Dynamic binding). Basics of Java, Java history; Java features (Compiled and interpreted, Platform-independent and portable, Object - Oriented, Robust and Secure, Distributed, Simple, Small and Familiar, Multithreaded and interactive, High performance, Dynamic and extensible); How Java differs from C and C++.

UNIT-2

Classes, Objects and Methods, Introduction, Defining a class, adding variables and methods, creating objects, accessing class members, constructors, method overloading and overriding, this keyword, finalize () and garbage collection, inheritance and abstract classes. Packages - Introduction, Java API packages, using system packages, naming conventions, creating packages, accessing a package, using a package, adding a class to a package, Java script.

UNIT-3

Interfaces - Introduction, Defining interfaces Extending Interfaces, implementing interfaces, accessing interface Variables. Managing Error and Exceptions - Introduction, types of errors (Compile-time and run-time errors), Exceptions, syntax of exception Handling code, multiple catch statements, using finally statement, throwing our own exceptions.

UNIT-4

Applet Programming - Introduction, how applets differ from applications, building applet code, applet Life Cycle (initialization state, running state, idle or stopped state, dead state, Display state, Creating an executable applet, designing a web page, AWT and swings Event handling.

REFERENCEBOOKS:

1. Object-Oriented Programming with JAVA A Primer 5e,E Balagurusamy, McGrawHill, ISBN:978-93-51343-20-2,Edition:2014.
2. Object-Oriented Programming From Problem Solving to Java ,Jose M. Garrido ,ISBN : 81- 7008-625-6 , Edition : 2004 ,Pages :360
3. Keeping Ahead - Java 2 ,Benjamin Aumaiile ,ISBN : 81-7008-470-9 ,Edition : 2006 Simply Java An Introduction to Java Programming, James R. Levenick, ISBN : 97881- 318-0200-7 ,Edition :2007
4. Internet & Java Programming, Harish Kumar Taluja ,ISBN : 978-81-318-0367-7 ,Edition : First, 2008 5. Programming Engineering Computations in Java ,Dr. Raja Subramanian, ISBN : 97881-318-0209-0 ,Edition : First,2007
5. Secrets of JAVA ,Er. R. Kabilan ,ISBN : 978-81-318-0720-0, Edition : First,2009

ADIT-2.5: CYBER SECURITY

COURSE OUTCOME

- ✓ Understand about firewalls and packet filters
- ✓ Know about web application tools
- ✓ Know about cyber crime investigation

COURSE CONTENT:

UNIT-1

Systems Vulnerability Scanning Overview of vulnerability scanning, Open Port / Service Identification, Banner / Version Check, Traffic Probe, Vulnerability Probe, Vulnerability Examples, OpenVAS, Metasploit. Networks Vulnerability Scanning - Netcat, Socat, understanding Port and Services tools - Datapipe, Fpipe, WinRelay, Network Reconnaissance Nmap, THC-Amap and System tools. Network Sniffers and Injection tools Tcpdump and Windump, Wireshark, Ettercap, HpingKismet

UNIT-2

Network Defense tools Firewalls and Packet Filters: Firewall Basics, Packet Filter Vs Firewall, How a Firewall Protects a Network, Packet Characteristic to Filter, Stateless Vs Stateful Firewalls, Network Address Translation (NAT) and Port Forwarding, the basic of Virtual Private Networks, Linux Firewall, Windows Firewall, Snort: Introduction Detection System.

UNIT-3

Web Application Tools Scanning for web vulnerabilities tools: Nikto, W3af, HTTP utilities - Curl, OpenSSL and Stunnel, Application Inspection tools – Zed Attack Proxy, Sqlmap. DVWA, Webgoat, Password Cracking and Brute-Force Tools – John the Ripper, L0htcrack, Pwdump, HTC-Hydra.

UNIT-4

Introduction to Cyber Crime Investigation Firewalls and Packet Filters, password Cracking, Keyloggers and Spyware, Virus and Warms, Trojan and backdoors, Steganography, DOS and DDOS attack, SQL injection, Buffer Overflow, Attack on wireless Networks.

REFERENCE BOOKS:

1. Secrets and Lies: Digital Security in a Networked World- Book by BruceSchneier.
2. Computer Security Reference Book- Editors: Donn B. Parker,Keith M. Jackson, Jan Hruska.
3. The Cybersecurity to English Dictionary- Book by RaefMeeuwisse.
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