FACULTY OF SCIENCE AND COMPUTER SCIENCE

Class: BCA VI Sem
Internet Technology & Security
Code: BCA601

UNIT I

Conventional encryption - Conventional encryption model, steganography, classical encryption technique, simplified DES, blockcipher principles, the data encryption standard, the strength of ES, differential and linear cryptanaysis, block cipher design principles, block cipher modes operation, conventional encryption algorithms.

UNIT II

Public key encryption and hash function public key cryptography, principles of public key cryptosystem, the RSA algorithms, key management, Difie Hellman key exchange, Elliptic curve cryptography message authentication and hash functions, message authentication codes, hash function security of hash function.

UNIT III

Hash and Mac Algorithms

UNIT IV

Authentication Application ,IP Security, Web security.

UNIT V

Intruders, Viruses and worms intruders, viruses and related threats Firewall, Firewall design principles, trusted systems.

References:

1. Information Security Risk Analysis - Thomas R. Peltier, Third Edition, Pub: Auerbach, 2012
2. Operating System Concepts, 8 th Edition by Abraham Silberschatz, Peter B. Galvin, Greg Gagne, Pub: John Wiley & sons, Inc., 2009.
3. Information security: Principles and Practice - Mark Stamp, 2 Nd Edition, Pub: John Wiley & Sons, Inc., 2011

FACULTY OF SCIENCE AND COMPUTER SCIENCE
Class: BCA VI Sem
Paper title : .Net Technology
Code: BCA602

UNIT I

What is .Net , overview of .Net framework and platform , common language routine , XML as the .NET "Meta Language ". Overview of visual studio IDE, New object capabilities in visual basic , modern language capabilities added to visual basic , fitting visual basic in to framework .

UNIT II

Overview of ASP.NET framework , understanding ASP .NET controls , application web servers, installation of IIS. Web forms, web form controls server controls , client controls , web forms , web form & HTML, adding controls to a web form , buttons, text box labels , checkbox ,radio buttons , list box etc. Running a web application , creating a multiform web project . form validation client side validation ,server side validation , validation controls : required field comparission range calendar control ,ad rotator control , internet explorer control . state management view state , session state , application state .

UNIT III

Architecture of ADO .Net ,connected and disconnected database , create connection using ADO.NET Object model, connection class , command class , data adapter class,dataset class. Display data on data bound controls and data grid .database accessing on the web application , data binding concept with web, creating data grid , binding standard web server controls . display data on web forms using data bound controls .

UNIT IV

Writing database to XML, reading data set with XML, web services : Introduction , remote method call using XML, SOAP, web service description language , building and consuming a web services , web application deployment.

UNIT V

Overview of C# , C# and .Net , similarities & difference from JAVA, Structure of C# program .Language features : type system ,boxing and unboxing , flow controls , classes , interfaces , serialization , delegates , reflection.

References:

1. **Principle of .NET Framework – Pankaj Agrawal**
2. **.NET programming BLACK BOOK , Kogent ASP.NET Unleashed**
3. **C # programming –Wrox Publication**

FACULTY OF SCIENCE AND COMPUTER SCIENCE

Class: BCA VI Sem
Paper title :JAVA
Code: BCA603

UNIT: I

Primitive data types –integer , short , byte , float, double , Unicode character set , Boolean , their range default initial values , wrapping of integer arithmetic, casing comments identifier and reserve words , local variables operators , precedence , example and exercises.

UNIT: II

Statements simple and compound , uses of control do for , while , switch, break case of label , class type data : string arrays , example and exercises.

UNIT: III

Definition &meaning conventions for the member of JAVA classes. Instances, field and methods initialization by constructors .creation object, access method. Example and exercise .

UNIT : IV

Inheritance ,super class , subclass, method overloading , interface , thread , multithreading example , synchronized ,exception (try- catch final blocks example).JAVA virtual machine concepts, java platform overview, programming examples to clarify use of objects, threads exception and packages for I/O , file string handling . examples and exercise .

UNIT: V

Local and remote applets Vsapplications, wirtting applets, applets life cycle , creating an executable applet, designing a web page, applets tag , adding applets to HTML file , running the applets, passinig parameters to applets , aligning the display , HTML tags & applets , getting input from the user.

Reference:

Java complete reference TMH
Core Java Kantarashmi Das
A simplified approach to JAVA Programming – NitinBansal ,Ajitkumar

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FACULTY OF SCIENCE AND COMPUTER SCIENCE

Class: BCA VI Sem
Paper title : XML PROGRAMMING
Code: BCA605 A

UNIT: I

HTML Basics: HTML Introduction, HTML Elements, Attributes, HTML Headings, Paragraphs, HTML Formatting, Fonts, Styles, HTML Links, Images, Tables, HTML Lists, Forms, Frames, HTML Colours, Colornames, Colorvalues, HTML Quick List.

UNIT: II

XML Programming – I: Introduction, The Need for XML, Structured Data and Formatting, Advantages of XML, SGML, XML, and HTML, World Wide Web Consortium (W3C) Specifications and Grammars, XML Applications and Tools, Creating and Viewing XML Documents, Transforming XML Documents, XML Document Syntax, Validating XML Documents with DTDs, XML Namespaces.

UNIT: III

XML Programming – II: Introduction, Transforming XML Documents with XSLT and XPath, Formatting XML Documents with XSL-FO, Purpose of XSL Formatting Objects (XSL-FO), XSL-FO Documents and XSL-FO Processors, XSL-FO Namespace, Page Format Specifiers, Page Content Specifiers,

UNIT: IV

XML applications: B2B Scenarios, e-business system involved: delivery, sales, cross company communication: replacement for EDI, the document as the application, XML and relational databases, XML and dynamic Web publishing, benefits of XML schemas to applications, XML processors enforcing structure, application access to document structure, fixed values, channels,

UNIT: V

Ajax - XML Http Request Object: XML Http Request Instantiation, XML Http Request open() Method, Asynchronous Vs Synchronous Requests, Callback Function, ready State, CSS In A Nutshell, Syntax, Units, Selectors, Positioning properties, float Property, Types of Positioning 3D, XML and Ajax, Creating a DOM Document with JavaScript, load XML, Receiving XML Responses from the Server, Passing XML to the Server 90, Different Server Side Technologies - an overview, Frameworks and Toolkits - an overview, Some Popular Frame Works - in brief

Reference:

1. Ivan Bay Ross- Web Enable Commercial Application Using HTML, DHTML, BPB Publication
2. Michel Morrison -HTML and XML for Beginners, PHI, New Delhi- 2001
3. H.M Dietal and P.J Dietal -Java How to Program, PHI, New Delhi- 2005

FACULTY OF SCIENCE AND COMPUTER SCIENCE
Class: BCA VI Sem
Paper title : PHP PROGRAMMING
Code: BCA605 B

UNIT: I

PHP Basics ▪ Introduction ▪ XAMPP & WAMPP ▪ Configure php.ini ▪ PHP Syntax ▪ Variables, Strings, Constants, Operators ▪ Echo / Print ▪ If....Else.....Elseif ▪ Switch PHP Basics ▪ Loops ▪ For, Foreach, While ▪ Functions ▪ string functions - introduction ▪ user defined functions.

UNIT: II

CSS3 ▪ Introduction ▪ Syntax ▪ Selectors ▪ External , Internal & Inline Style sheets ▪ Backgrounds, Text, Fonts, Links, Lists, Tables, Box Models, Border, Outline, Margin, Padding, Align, Positioning ▪ Class concept ▪ Rounded Corners ▪ Border, Backgrounds, Colors, Gradients, Shadows, 2D & 3D Transforms, Transitions, Animations Introduction to Bootstrap • Bootstrap Grid System • Bootstrap Grid System – Advanced.

UNIT: III

JavaScript ▪ Introduction ▪ Syntax ▪ External & Internal using ▪ Variables, Operators, Functions, Events, Comparison, Condition, Loops JavaScript – Form Validation ▪ Form Validation Introduction ▪ Regular Expressions – introduction ▪ Regular Expression – Syntax ▪ Text , Number , Space & Special character validation using Regular Expression ▪ Email Validation using Regular Expressions.

UNIT: IV

Cookies ▪ Cookies ▪ Start a PHP Cookies ▪ Cookie variables ▪ modify Cookie ▪ destroy Cookie Try….Catch ▪ Error handling ▪ try-catch-throw ▪ Exception ▪ Filters ▪ Filers Advanced.

UNIT: V

MySql ▪ Introduction ▪ database ▪ CREATE, ALTER, DELETE, DROP tables ▪ INSERT, UPDATE, DELETE table datas ▪ WHERE conditions ▪ AND, OR, IN, BETWEEN, LIKE,DISTINCT, ORDER BY, GROUP BY, UNION ▪ Sub-queries ▪ LEFT JOIN, RIGHT JOIN, INNER JOIN.

Reference:

Programming PHP. Rasmus Lerdorf, Kevin Tatroe. (O'Reilly, ISBN 1565926102).
PHP, MySQL, and JavaScript: A Step – By - Step Guide to Creating Dynamic Websites by Robin Nixon O'Reilly Media; 1 edition