Pt. S. N. S. Govt. P. G. College (Autonomous), Shahdol (M. P.)
Department of Mathematics & Computer Science
Syllabus for
Subject - Computer Science
Course Name - M.Sc.
First Semester
(Session 2012-2013)
Paper- I (101)
Discrete Mathematics

Time: 3 hours

Max. Marks. 42
Min. Marks.

UNIT – I

Mathematical Logic and Set theory:

Propositional calculus, Basic logic operations: Proposition, Disjunction, Conjunction, Negative, Conditional, Bi-conditional, Kinds of conditional, Contrapositive implication, Tautology, Contradiction, Logical equivalence, Algebra of proposition

UNIT – II

Relation & Lattices:

Relation, Binary relation, Domain and range of relation, Inverse relation, Composite relation, types of binary relation, Equivalence relation, Partial order relation, Partially ordered set, Hasse diagram, Lattice, Some properties of lattices, Sub-lattices, Different types of lattices.

UNIT – III

Semi-groups and Monoids:

Semi-groups, Monoids, homomorphism of semigroups and monoids, Subsemi-groups, Submonoids, Direct product of semigroup, Groups and their properties with simple examples, Subgroup & Homomorphism with simple examples, Fundamental theorem on Homomorphism.

UNIT – IV

Graph Theory:

Basic Concepts, Isomorphic graph, homeomorphic graph, Finite and infinite graphs, Subgraphs, Types of subgraph, Walks, paths, Circuits, Different types of graphs, Weighted graph, Directed graph, Out-degree and in-degree of a vertex, Matrix representation of graphs.

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Pt. S. N. S. Govt. P. G. College (Autonomous), Shahdol (M. P.)
Department of Mathematics & Computer Science
Syllabus for
Subject - Computer Science
Course Name - M.Sc.
First Semester
(Session 2012-2013)
Paper- II (102)
Computer System Architecture

Time: 3 hours

Max. Marks. 42
Min. Marks.

UNIT-I

Number System and Information Code: Decimal Number System, Binary Number System, Octal Number System, Hexadecimal Number System, Conversion From one System to another, Computer Arithmetic-Various Operation, Binary Code, ASCII Code, EBCDIC Code, Complement Representation of a Number, Addition in 10's Complement System, Binary Subtraction using 2's Complement, Positive and Negative Numbers, Integer and Real Numbers, Overflow and Underflow, Fixed-Point Representation of a Number, Floating-Point Representation of Numbers, Arithmetic of Floating Points, Parity Bit.

UNIT-II

Basic Logic Design: Truth Tables, Boolean Algebra, De Morgan's Law, Boolean Function, Minterms and Maxterms, SOP & POS Forms, Minimization Technique of Boolean Functions, Karnaugh-Map, Logic Gates and their Truth Tables, Simple arithmetic and Logic Circuits, Combinational Logic Design, Adders, Half-Subtractor, Binary Incrementer, Magnitude Comparator

UNIT-III

Circuit Design: Multiplexers, Demultiplexers, Decoder, Encoders, TTL Circuits, Flip-Flop: RS Flip-Flop, Clocked RS Flip-Flop, D Flip-Flop, JK Flip-Flop, T Flip-Flop JK Master-Slave Flip-Flop, Flip-Flop Design, Conversion of Flip-Flops, Latch, Edge-Triggered Flip-Flops, Racing in Flip-Flop

UNIT-IV

CPU Architecture: Addressing Mode, Types of Addressing Mode, Instruction Set Selection, Instruction Fetch and Execution Cycle, Register, Bus, Interrupt: Interrupt cycle and Interrupt Priority, I/O Architecture: Properties of Simple I/O Devices and their Controllers, Transfer of Information between I/O Devices, CPU and Memory, program Controlled and Interrupt Controlled Information Transfer, DMA Controllers, I/O Channels

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Pt. S. N. S. Govt. P. G. College (Autonomous), Shahdol (M. P.)
Department of Mathematics & Computer Science
Syllabus for
Subject - Computer Science
Course Name - M.Sc.
First Semester
(Session 2012-2013)
Paper- III (103)
Data Structure using C

Time: 3 hours

Max. Marks. 42
Min. Marks. [illegible]

UNIT-I

Data Structure: Relation between Data Structure and Algorithm, Data Structure Operations, Complexity of Algorithm for Time and Space Requirement, Arrays, Insertion and Deletion in Arrays, Matrices, Sparse Matrix.

UNIT-II

Stacks, Array Representation of Stacks, Polish Notation, Application of Stack, Queues, Representation of Queues, Circular Queue, Deques, Application of Queue, Linked List, Circular Linked List, Double Linked List, Application of linked list.

UNIT-III

Tree: Binary Trees, Traversing Binary Trees, Threaded Binary Tree, Binary Search Trees, Searching and Inserting in Binary Search Tree, Deletion in a Binary Search Tree, General Tree, Some Special Tree, Binary Tree Representation of General Tree, Application of Binary tree,

UNIT-IV

Sorting and Searching: Sorting, Complexity of Sorting Algorithms, Bubble Sort, Insertion Sort, Selection Sort, Heap Sort, Searching, Linear Search, Binary Search,

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Pt. S. N. S. Govt. P. G. College (Autonomous), Shahdol (M. P.)
Department of Mathematics & Computer Science
Syllabus for
Subject - Computer Science
Course Name - M.Sc.
First Semester
(Session 2011-2012)
Paper- IV (104)
DBMS (Database Management Systems)

Time: 3 hours

Max. Marks. 42
Min. Marks. ..

UNIT I

Basic Concept, Manual Database System, Comparison between a Manual and Computerized, Database System, Common DBMS, Relational Database Management System RDBMS, Data Protection. **Data Models:** Object-Based Logical Models, Record Based Logical Model, Physical Data Models

UNIT II

Entity-Relationship Model: Introduction, Keys, Entity-Relationship Diagram, E-R Diagram for Banking Enterprise, Network Model, The DBTG CODASYL Model, Hierarchical Model, Tree-Structure Diagram. **Relational Database Model:** Introduction, Simple Network Relationships, Complex Network Relationships, Relational Algebra, Relational Calculus, Domain Relational Calculus, Modification Anomalies, Functional Dependencies.

UNIT III

Normalization: Introduction, Normal Form, First Normal Form, Second Normal Form, Third Normal Form, Boyce Codd Normal Form, Multivalued Dependencies, Fourth Normal Form, Fifth Normal Form, Lossless Join Decomposition into BCNF, Decomposition into 3NF with a Lossless Join preservation of Dependencies

UNIT IV

Structured Query Language: Introduction, *The Anatomy of a SQL,* SELECT, INSERT, UPDATE, DELETE, CREATE TABLE, ALTER TABLE, RENAME. **Database Security**: Database Security & Integrity, Transaction Processing System, Concurrency Control, Recovery System, Storage Structure & File Organization, Distributed Database.

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Pt. S. N. S. Govt. P. G. College (Autonomous), Shahdol (M. P.)
Department of Mathematics & Computer Science
Syllabus for
Subject - Computer Science
Course Name - M.Sc.
First Semester
(Session 2012-2013)
Paper- V (105)
Numerical Methods

Time: 3 hours

Max. Marks. 42
Min. Marks.

UNIT–I

Solution of polynomial:
Introduction, properties & Evaluation of polynomial Equations, Iterative methods for roots of equations: Bisection method, False position method, Newton-Raphson method, Secent method, fixed point method and their algorithm.

UNIT–II

Solution of Linear Equations:
Solution of simultaneous equation: solution by elimination method, Gauss elimination method, Gauss Jordan method, LU Decomposition method, Cholesky Method, Jacobi iteration method, Gauss Seidel Method.

UNIT–III

Interpolation:
Introduction, Linear interpolation, polynomial interpolation, Lagrange's Interpolation, Newton Interpolation, difference Tables, Gregory-Newton Interpolation, Newton divided difference interpolation, Hermite interpolation.

UNIT–IV

Numerical Integration & Solution of Differential Equation:
Numerical Integration: Introduction, Trapezoidal rule, Simpson's 1/3 rule, Newton's three eighth rule, Gaussian Quadrature, Numerical solution of partial differential equation, parabolic partial differential equation, Elliptical partial differential equation.

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Pt. S. N. S. Govt. P. G. College (Autonomous), Shahdol (M. P.)
Department of Mathematics & Computer Science
Syllabus for
Subject - Computer Science
Course Name - M.Sc.
Second Semester
(Session 2012-2013)
Paper- I (201)
System Software

Time: 3 hours

Max. Marks. 42
Min. Marks 33

UNIT I

System software and machine architecture: The simplified instructional computer (SIC): Machine Structure (Memory, Register, Data Formats, Instruction Format, Addressing Modes, Instruction Set, Input/Output). CISC Machines: VAX Architecture,

UNIT II

Assemblers: Basic Assembler Functions, Single-pass Assembler, Multi-pass Assembler, Simple SIC Assembler, Machine-dependent Assembler Features (Instruction formats and addressing modes, Program relocation).

UNIT III

Loaders And Linkers: Basic Loader Functions, Type of Loaders: Absolute Loader, A Simple Bootstrap Loader, Machine-Dependent Loader Features, Machine-independent Loader Features, Linking Loaders, Linkage Editors.

UNIT IV

Text Editors - Overview of the Editing Process - User Interface – Editor Structure. - Interactive debugging systems - Debugging functions and capabilities – Relationship with other parts of the system – User-Interface Criteria.

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Pt. S. N. S. Govt. P. G. College (Autonomous), Shahdol (M. P.)
Department of Mathematics & Computer Science
Syllabus for
Subject - Computer Science
Course Name - M.Sc.
Second Semester
(Session 2012-2013)
Paper- II (202)
Software Engineering

Time: 3 hours

Max. Marks. 42
Min. Marks. [illegible]

UNIT–I

UNIT I
Software Product And Process
Introduction – S/W Engineering Paradigm – Verification – Validation – Life Cycle Models – System Engineering – Computer Based System – Business Process Engineering Overview – Product Engineering Overview.

UNIT II
Software Requirements
Functional and Non-Functional – Software Document – Requirement Engineering Process – Feasibility Studies – Software Prototyping – Prototyping in the Software Process – Data – Functional and Behavioral Models.

UNIT-III
Software Design
Criteria for Software design, software design & design principle; module level concepts: Coupling and Cohesion, design notation & specifications, design methodology, verification.

UNIT-IV
Coding and Testing
Standard guideline for coding, programming practice, testing fundamentals, unit testing, verification vs validation, black box & white box testing, functional testing, structural testing, object oriented program testing,

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Pt. S. N. S. Govt. P. G. College (Autonomous), Shahdol (M. P.)
Department of Mathematics & Computer Science
Syllabus for
Subject - Computer Science
Course Name - M.Sc.
Second Semester
(Session 2012-2013)
Paper- III (203)
Object Oriented Programming

Time: 3 hours

Max. Marks. 42
Min. Marks. 03

UNIT I

Introduction, Comparison of Procedural Language and OOP, Concepts of Object Oriented Programming, Data Hiding, Object, Class, Data Encapsulation, Data Abstraction, Inheritance, Abstract Class and Concrete Class, Polymorphism, Advantage of object Oriented Programming, C++ Character Set, C++ Tokens, Structure of a C++ Program, Header Files and Input/output Data Word, Use of I/O Operators <<, >>, endl() and setw().

UNIT II

Concept of Data types, Constants, Declaration/Initialization of Variables, Assignment Statement, Operators, Reference variable, Expressions, Conditional Statements, Loops, Jumps in Loops. Defining a Function, Function Prototype, Invoking/Calling a Function, Passing Arguments to Function, Specifying argument data types, Returning values from a Function,

Unit-III

Calling functions with arrays, Scope Rules of Functions and Variables, Local and Global Variables, Function Overloading, Inline Function, Friend Function, Virtual Function. Definition of a Class, Members of a Class, Private and Public Visibility Modes, Default Visibility Mode, Member Function Definition, Declaring Objects as Instance of a Class, Accessing Member from an Object.

Unit-IV

Objects as Function Arguments, Function Returning Object, Friend Function, Data Hiding and Encapsulation, Public and Private Data Members Functions. Operator Overloading and Type Conversion, Defining Operator Overloading, Overloading Unary Operator, Overloading Binary Operator using Friends, Manipulating Strings using Operators, Rules for Overloading Operators, Type Conversion.

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Pt. S. N. S. Govt. P. G. College (Autonomous), Shahdol (M. P.)
Department of Mathematics & Computer Science
Syllabus for
Subject - Computer Science
Course Name - M.Sc.
Second Semester
(Session 2012-2013)
Paper- IV (204)
Computer Network

Time: 3 hours

Max. Marks. 42
Min. Marks.

Unit - I

Introduction to Computer Networks: Need, Components, Benefits. Topology: Point-to-Point, Multipoint, Bus, Ring, Star, Mesh, Tree, Hybrid, Categories of Networks: LAN, MAN, WAN, Wireless, OSI Model, Functions of Various Layers in OSI Model.

Unit - II

Physical Layer: Design Issues, Medium, Bit Rate and Baud rate, Transmission media, Types of transmission media, Data Link Layer: Position, Design, Service provided to network layer, Medium Access Sub-Layer: Introduction, ALOHA, CSMA.

Unit - III

Network Layer: Position, Duties, Design. Transport Layer: Introduction, Duties, Services, Session Layer, Presentation Layer, Application Layer: Introduction, Domain Name System, SMTP.

Unit - IV

ATM: Introduction, ATM reference model, ATM virtual circuit, Wireless LANs, Virtual Private Networking, Network interface card, Transceivers, Repeaters, Hub, Bridges, Routers, Gateway, Switches, Cable Modem.

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Pt. S. N. S. Govt. P. G. College (Autonomous), Shahdol (M. P.)
Department of Mathematics & Computer Science
Syllabus for
Subject - Computer Science
Course Name - M.Sc.
Second Semester
(Session 2012-2013)
Paper- V (205)
Advanced Programming Language

Time: 3 hours

Max. Marks. 42
Min. Marks.

UNIT I:
Integrated Development Environment of VB, User Interface Designing, Basics of Event Driven Programming, Form, Designing, Showing, Hiding.

UNIT II:
Data Types, Variables & Constant, Arrays, Dynamic Arrays, Array as Function, Procedure, Arguments passing and Functions returns values, Control Flow Statements, Looping Statement, Exit Statement.

UNIT III:
Basic Active X Control and their uses,Image Handling in VB, Coordinate System, Graphic Methods, Text Drawing, Lines and Shape, Filling Shapes, Grid Methods. Menu Editor, Pull-Down Menu, Pop-Up Menu,

UNIT IV:
Multiple Document Interface, Parent & Child Forms & Methods,Error Handling, Types of Errors, Error Handling Methods and Functions. Database Programming with VB, DATA Control Methods, Properties, Connectivity with Database.

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Pt. S. N. S. Govt. P. G. College (Autonomous), Shahdol (M. P.)
Department of Mathematics & Computer Science
Syllabus for
Subject - Computer Science
Course Name - M.Sc.
Third Semester
(Session 2012-2013)
Paper- I (301)
Operating System

Time: 3 hours

Max. Marks. 42
Min. Marks. ..

UNIT – I

Operating System, Types, Batch Processing, Multitasking, Multi Programming, Multiprocessing, Time Sharing, Online Processing, Real-Time Processing, Major Functions of OS.

UNIT – II

Memory Hierarchy, Cache memory, The concept of process, Memory management, Process states, A two-state process model, Creation and Termination of Process, Suspended processes.

UNIT – III

Deadlock Characterization, Methods for Handling Deadlocks, Deadlock Prevention, Deadlock Avoidance, Deadlock Detection, Recovery from Deadlock.

UNIT – IV

Loading Programs, Relocation, Simple Paging, Simple Segmentation, Loading and Linking, Segmentation, Segmentation with paging, Virtual memory, Demand paging.

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Pt. S. N. S. Govt. P. G. College (Autonomous), Shahdol (M. P.)
Department of Mathematics & Computer Science
Syllabus for
Subject - Computer Science
Course Name - M.Sc.
Third Semester
(Session 2012-2013)
Paper- II (302)
Computer Graphics

Time: 3 hours

Max. Marks. 42
Min. Marks. 15

Two Dimensional:

UNIT – I

Basic Transformations: Translation, Rotation, Scaling, Matrix Representation. Composite Transformations: Translation, Rotation, Scaling. Other Transformations: Reflection, Shear

UNIT – II

The Viewing Pipeline, Viewing Coordinate Reference frame, Window-to-Viewport coordinate transformation, Two-dimensional viewing function, Clipping operations.

Three Dimensional:

UNIT – III

Basic Transformations: Translation, Rotation, Scaling. Composite Transformations, Other Transformations: Reflection, Shear

UNIT – IV

The Viewing Pipeline, Viewing Coordinate Projection, View Volume and general projection transformations, Clipping, Viewport Clipping.

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Pt. S. N. S. Govt. P. G. College (Autonomous), Shahdol (M. P.)
Department of Mathematics & Computer Science
Syllabus for
Subject - Computer Science
Course Name - M.Sc.
Third Semester
(Session 2012-2013)
Paper- III (303)
Java Programming

Time: 3 hours

Max. Marks. 42
Min. Marks.

UNIT – I

Introduction to Java, History of Java, Characteristic of Java, Object oriented programming language, Difference between Java and 'C', Difference between Java and 'C++', Necessary hardware and software for Java.

UNIT – II

Java Tokens, Java character set, Key words, Operators Literals, Java Statement, Structure of Java Program, Execution of Java Program, Constants, Declaration of constants, Data Types, Type casting.

UNIT – III

Operators, Mathematical operator, Relational operator, Logical operator, Increment and decrement operator, Assignment operator, Bitwise operator, Mathematical expression, Precedence of operators, Mathematical function.

UNIT – IV

Control statement: if statement, Decision with conditional operator, switch statement, Branching and looping, while statement, do..while statement, for loop, Jumps in loop, Labeling of loops.

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Pt. S. N. S. Govt. P. G. College (Autonomous), Shahdol (M. P.)
Department of Mathematics & Computer Science
Syllabus for
Subject - Computer Science
Course Name - M.Sc.
Third Semester
(Session 2012-2013)
Paper- IV (304)
Theory of Computation

Time: 3 hours

Max. Marks. 42
Min. Marks.

UNIT – I

Alphabet and strings, types of grammars, Finite state Automata, Non-Deterministic finite Automata, Moor machine, Mealy Machine, Procedure for transferring a mealy Machine to a Moor Machine,

UNIT – II

Finite State Machine, Equivalent Machine, Finite State Machine as language recognizers, Kleen;s Theorem, Turing Machine, Regular language: Closure property, Complements and intersections.

UNIT – III

Languages, Phrase Structure Grammars, Derivation, Language of a grammar, Types of Grammars and languages, Type-3 Grammar, Type-2 Grammar, Type-1 Grammar, Type-0 Grammar.

UNIT – IV

Context free Languages, Derivation Trees, Context free Grammars, Context free languages, Simplification of Context free Grammars, Construction of reduced Grammars.

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Pt. S. N. S. Govt. P. G. College (Autonomous), Shahdol (M. P.)
Department of Mathematics & Computer Science
Syllabus for
Subject - Computer Science
Course Name - M.Sc.
Third Semester
(Session 2012-2013)
Paper- V (305)
E-Commerce

Time: 3 hours

Max. Marks. 42
Min. Marks.

UNIT – I

Introduction to E-Commerce, Concept of E-Commerce, Advantages of E-Commerce, Disadvantages of E-Commerce, Using Technology in E-Commerce, Key Success Factors in E-Commerce, E-Commerce and Internet, Electronic Data Interchange.

UNIT – II

Types of E-Commerce, Application of E-Commerce, Different Modes of Payment in E-Commerce, Feasibility of E-Commerce, Constraints to E-Commerce, E-transition, Challenges for Indian Corporate, I.T. Act. 2000.

UNIT – III

Introduction to Electronic Payment System, Types of Electronic Payment System, Digital Cash, Online stored value payment systems, E-Marketing and Online Auction. Smart Cards and Electronic Payment System.

UNIT – IV

Online Credit Card Payment System, Digital Accumulating Balance Payment Systems, Digital Credit Card Payment Systems, Digital Checking Payment Systems, Risk and Electronic Payment Systems.

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Pt. S. N. S. Govt. P. G. College (Autonomous), Shahdol (M. P.)
Department of Mathematics & Computer Science
Syllabus for
Subject - Computer Science
Course Name - M.Sc.
Fourth Semester
(Session 2012-2013)
Paper- I (401)
Cryptography

Max. Marks. 42

Time: 3 hours

UNIT-I

Cryptography, Cryptanalysis, Cryptology, Steganography, History of Cryptography: Classical cryptography, Medieval cryptography, Cryptography from 1800 to World War II, World War II cryptography, Modern cryptography.

UNIT-II

Cryptography Definitions, Secret Code, Cryptographic functions: Hash function, secret key function, public key function. Message encryption: Using secret key encryption to provide Confidentiality and authentication, Using public key encryption to provide confidentiality.

UNIT-III

Secret Key Cryptography: Introduction, About the Key Space, Common Secret Key Algorithms, Data Encryption Standard (DES), International Data Encryption Algorithm (IDEA), Advanced Encryption Standard (AED).

UNIT-IV

Public Key Cryptography: Introduction, Key Agreement, Encryption, Digital Signature, Algorithms and Explanations, DH- Diffie-Hellman Key Agreement, RSA.

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Pt. S. N. S. Govt. P. G. College (Autonomous), Shahdol (M. P.)
Department of Mathematics & Computer Science
Syllabus for
Subject - Computer Science
Course Name - M.Sc.
Fourth Semester
(Session 2012-2013)
Paper- II (402)
Web Technology

Max. Marks. 42
Time: 3 hours Min. Marks.

UNIT – I

HTML:
History of HTML, Structure of HTML Documents, Basic Tags of HTML, Heading Tag and Attributes, Font Tag and Attributes, Different HTML Tags, Formatting Text, Background Colour, Image and Sound, Other Simple Programs. List, Ordered list, Unordered list, Different Tags and Attributes of List, Inserting Inline Images, Horizontal Rules, Hyperlinks

UNIT – II

Creating Tables, Making Row and Column, Adding a Border in a Table, Add Column Heading in a Table, Add Space and Padding, Adding the Caption, Determine the Height and Width, Add Row Heading in a Table, Aligning Cell Contents, Other Simple Programs, Frames, Creating Two or More Rows Frames, Creating Two or More Rows Frames, Forms, Form Tags

UNIT – III

VB Script:
Introduction, Adding VBScript code to HTML page, VBScript Data type, Declaring VBScript Variables, Assigning value to variables, Scalar variables and Array variables, VB Script Constants, VB Script operators.

UNIT – IV

Procedure, Sub Procedure, Calling Procedure, Events, Control statements, if..then..else, elseif, select case, do while loop, do until and do loop until, existing from a loop, for .. next loop, existing from for loop.

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Pt. S. N. S. Govt. P. G. College (Autonomous), Shahdol (M. P.)
Department of Mathematics & Computer Science
Syllabus for
Subject - Computer Science
Course Name - M.Sc.
Fourth Semester
(Session 2012-2013)
Paper- III (403)
Active Server Page

Max. Marks. 42
Time: 3 hours Min. Marks. 05

UNIT – I

Introduction, Web client server relationship, Comparing the script language, Server side script, client side scripting, Requirements to run ASP, String in VB Script, VB Script comment.

UNIT – II

Variable: creating, naming rules, assigning values, declaration. VB Script data types, constant, operators: Arithmetic, conditional, logical, string, conversion function, string manipulation function, numeric function, data and time function, arrays.

UNIT – III

Structure programming technique, if..then..endif, if..then..else..endif, if..then..elseif..then..endif, select..case..end select, loops: for..next, for each...next, do while..loop, do..loop while, do..until loop.

UNIT – IV

ASP objects, Online forms, ASP object model, The server object, Application object, Session object, Request object, Response object, Object context object ASP error object.

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Pt. S. N. S. Govt. P. G. College (Autonomous), Shahdol (M. P.)
Department of Mathematics & Computer Science
Syllabus for
Subject - Computer Science
Course Name - M.Sc.
Fourth Semester
(Session 2012-2013)
Paper- IV (404)
Network Security

Max. Marks. 42

Time: 3 hours

UNIT – I

Introduction to Network Security, The need for Security, A Model for Network Security, Security Barriers in Network Pathway, Classification of Attacks, Specific Attacks, Denial of Service, Man-in-the-middle Attack.

UNIT – II

Levels of Security, Approaches to Network Security, Security Services, Windows LAN Manager Challenge and Response, Pronounceable and other Computer Generated Passwords, Biometric.

UNIT – III

Virus & Threats, Malicious Programs, Types of viruses, Worm, Antivirus approach, Advanced antivirus techniques, Distributed Denial of Service Attacks, Constructing the Attack Network.

UNIT – IV

Firewalls, Firewall Attributes, Firewall Strengths & Weakness, Types of Firewalls: Packet Filtering Router, Application Gateway, Circuit Level Gateway, Stateful Packet-Inspection Firewall. Firewall Functions, Firewall Configurations.

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Pt. S. N. S. Govt. P. G. College (Autonomous), Shahdol (M. P.)
Department of Mathematics & Computer Science
Syllabus for
Subject - Computer Science
Course Name - M.Sc.
Fourth Semester
(Session 2012-2013)
Paper- V (405)
Wireless Communication

Max. Marks. 42

Time: 3 hours

UNIT – I

Introduction, Radio Waves, Microwaves, Infrared. Wireless LANs: IEEE 802.11: Architecture, MAC sublayer (Distributed Coordination Function, Point Coordination Function, Frame Format), Addressing Mechanism, Physical Layer.

UNIT – II

Bluetooh: Architecture, Bluetooth Layers, Radio Layer (Band, FHSS, Modulation), Baseband Layer (TDMA, Multiple secondary communication, Physical Links, Frame format), L2CAP, Other upper Layers.

UNIT – III

Cellular Telephony: Frequency-Reuse Principle, Transmitting, Receiving (Handoff, Hard Handoff, Soft Handoff), Roaming, First Generation, Second Generation, Third Generation.

UNIT – IV

Satellite Networks: Orbits, Footprint, Categories of Satellites, GEO Satellites, MEO Satellites (Global Positioning System, Trilateration, Synchronization, Applications), LEO Satellites (Iridium System, Globalstar, Teledisc).

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