

Lesson Plan
Subject- BCA-364: Internet Technologies
Class- BCA 6th Sem

Teacher- Ms. Ritu Baniwal

Week	Topics to be covered
Week 1	Unit- 1 Internet: Introduction; History; Internet Services; TCP/IP: Architecture, Layers, Protocols; TCP/IP model versus OSI Model
Week 2	Unit- 1 World Wide Web (WWW) - The Client Side, The Server Side, Creating and Searching Information on the Web, Popular Search Engines, URL, HTTP, Web Browsers, Chat & Bulletin Board, USENET & NNTP (Network News Transfer Protocol); Internet vs. Intranet Test
Week 3	Unit- 2 TCP, UDP and IP Protocols, Port Numbers; Format of TCP, UDP and IP
Week 4	Unit- 2 IPv4 addressing; The need for IPv6; IPv6 addressing and packet format; TCP Services; TCP Connection Management; Remote Procedure Call
Week 5	Unit- 2 IP Address Resolution- DNS; Domain Name Space; DNS Mapping; Recursive and Iterative Resolution; Mapping Internet Addresses to Physical Addresses: ARP, RARP, DHCP; ICMP; IGMP Test
Week 6	Unit- 3 Application Layer: Electronic Mail: Architecture; Protocols - SMTP, MIME, POP, IMAP; Web Based Mail
Week 7	Unit- 3 File Access and Transfer: FTP, Anonymous FTP, TFTP, NFS; Remote Login using TELNET;
Week 8	Unit- 3 Voice and Video over IP: RTP, RTCP, IP Telephony and Signaling, RSVP Test
Week 9	Unit- 4 Routing in Internet: RIP, OSPF, BGP; Internet Multicasting
Week 10	Unit- 4 Mobile IP; Private Network Interconnection: Network Address Translation (NAT), Virtual Private Network (VPN); Internet Management and SNMP
Week 11	Unit- 4 Internet Security: E-Mail Security; Web Security; Firewall; Introduction to IPsec and SSL
Week 12	Revision and Tests

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Lesson Plan

Subject- BCA-241: Advanced Data Structures

Class- BCA 4th Sem

Teacher- Ms. Ritu Baniwal

Week	Topics to be covered
Week 1	Unit- 1 Tree: Introduction, Definition, Representing Binary tree in memory, Traversing binary trees, Traversal algorithms using stacks
Week 2	Unit- 1 Binarysearch trees: introduction, storage, Searching, Insertion and deletion in a Binary search tree, Huffman's algorithm, General trees. Test
Week 3	Unit- 2 Graph: Introduction, Graph theory terminology, Sequential and linked representation of graphs, operations on graphs
Week 4	Unit- 2 Traversal algorithms in graphs and their implementation
Week 5	Unit- 2 Warshall's algorithm for shortest path, Dijkstra algorithm for shortest path. Test
Week 6	Unit- 3 Sorting: Internal & external sorting, Radix sort, Quick sort
Week 7	Unit- 3 Heap sort, Merge sort, Tournament sort, Comparison of various sorting
Week 8	Unit- 3 Searching algorithms on the basis of their complexity Test
Week 9	Unit- 4 Files: Introduction Attributes of a file, Classification of files, File operations, Comparison of various types of files
Week 10	Unit- 4 File organization: Sequential, Indexed-sequential, Random-access file. Hashing: Introduction, Collision resolution
Week 11	Revision and Tests
Week 12	Revision and Tests

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Lesson Plan

Subject- BCA-243: E-Commerce, Class- BCA 4thSem

Teacher- Ms. Ritu Baniwal

Week	Topics to be covered
Week 1	Unit- 1 Introduction to E-Commerce:-Business operations; E-commerce practices vs. traditionalbusiness practices; concepts of b2b, b2c,c2c,b2g,g2h,g2c; Features of E-Commerce,Types of Ecommerce Systems, Elements of E-Commerce, principles of E-Commerce,Benefits and Limitations of E-Commerce.
Week 2	Unit- 1 Management Issues relating to E-commerce. Operations of E-commerce: Credit cardtransaction; Secure Hypertext Transfer Protocol (SHTTP); Electronic payment systems:Secure electronic transaction (SET); SET's encryption; Process. Cybercash; Smart cards:Indian payment models. Test
Week 3	Unit- 2 Applications in governance: EDI in governance; E-government; E-Governance applications of Internet; concept of government-to-business, business-to-government and citizen-to-government
Week 4	Unit- 2 E-governance models; Private sector interface in E-governance.
Week 5	Unit- 2 Applications in B2C: Consumers shopping procedure on the Internet; Impacton dis-intermediation and re-intermediation; Global market; Strategy of traditionaldepartment stores. Test
Week 6	Unit- 3 Products in b2c model; success factors of e-brokers; Broker-based services on-line; Onlinetravel tourism services; Benefits and impact of e-commerce on travel industry
Week 7	Unit- 3 Dealestate market; online stock trading and its benefits; Online banking and its benefits; Onlinefinancial services and their future
Week 8	Unit- 3 E-auctions – benefits, implementation and impact
Week 9	Unit- 4 Applications in B2B: Key technologies for b2b; architectural models of b2b, characteristics of the supplier –oriented marketplace, buyer-oriented marketplace andintermediary-oriented marketplace
Week 10	Unit- 4 Just In Time delivery in b2b; Internet-based EDIfrom traditional EDI; Marketing Issues in b2b, Emerging Business models: Retail model; Media model; advisory model, made-to-ordermanufacturing model; Do-it- yourself model; Information service model
Week 11	Unit- 4 Emerginghybridmodels; Emerging models in India, Internet & E-Commerce scenario in India; Internetsecurity Issues; Legal aspects of E-commerce Test
Week 12	Revision and Tests

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Lesson Plan

Subject- CS-Computer Networks

Class- BA 6thSem

Teacher- Ms. Ritu Baniwal

Week	Topics to be covered
Week 1	Unit- 1 Introduction to Data Communication and Computer Networks; Uses of Computer Networks; Types of Computer Networks
Week 2	Unit- 1 Network Topologies; Network Hardware Components: Connectors, Transceivers, Repeaters, Hubs, Network Interface Cards and PC Cards, Bridges, Switches, Routers, Gateways
Week 3	Unit- 1 Network Software: Network Design issues and Protocols; Connection-Oriented and Connectionless Services; OSI Reference Model; TCP/IP Model Test
Week 4	Unit- 2 Analog and Digital data and signals; Bandwidth and Data Rate, Capacity, Baud Rate, Guided Transmission Media; Wireless Transmission
Week 5	Unit- 2 Communication Satellites, Switching and Multiplexing; Modems and Modulation techniques Practice Tests
Week 6	Unit- 3 Data Link Layer Design issues; Error Detection and Correction; Sliding Window Protocols: One-bit, Go Back N and Selective Repeat
Week 7	Unit- 3 Media Access Control: ALOHA, Slotted ALOHA, CSMA, Collision free protocols
Week 8	Unit- 3 Introduction to LAN technologies: Ethernet, Switched Ethernet, Fast Ethernet, Gigabit Ethernet; Token Ring
Week 9	Unit- 3 Introduction to Wireless LANs and Bluetooth Test
Week 10	Unit- 4 Routing Algorithms: Flooding, Shortest Path Routing, Distance Vector Routing; Link State Routing, Hierarchical Routing Practice Tests
Week 11	Unit- 4 Congestion Control; Traffic shaping; Choke packets; Load shedding; Application Layer: Introduction to DNS, E-mail and www services
Week 12	Unit- 4 Network Security Issues: Security attacks; Encryption methods; Digital Signatures. Revision and Test

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