**Lesson Plan (Session 2023-24 (Even Semester))**

**(January 1, 2024 to April 30, 2024)**

**Name: Dr. Sapna Nagpal**

**Department: Computer science**

**Subject: Computer Networks (**16MCS22C4)

**Class : M.Sc II Sem (Computer Science)**

|  |  |  |
| --- | --- | --- |
| **Month** | **Topics to be covered** | **Assignment/Test** |
| **January** | Introduction to Computer Network: Types of Networks, Network Topologies, OSI and TCP/IP Reference Models; Comparison of Models. Data Communications Concepts: Digital Vs. Analog communication; Parallel and Serial Communication; Synchronous, Asynchronous and Isochronous Communication; Communication modes: simplex, half duplex, full duplex; Multiplexing; Transmission media: Wired-Twisted pair, Coaxial cable, Optical Fiber, Wireless transmission: Terrestrial, Microwave, Satellite, Infra-red. |  |
| **February** | Communication Switching Techniques: Circuit Switching, Message Switching, Packet Switching. Data Link Layer Fundamentals: Framing, Basics of Error Detection, Forward Error Correction, Cyclic Redundancy Check codes for Error Detection, Flow Control. Media Access Protocols: ALOHA, Carrier Sense Multiple Access (CSMA), CSMA with Collision Detection (CSMA/CD), Token Ring, Token Bus. | Test/Assignment - 1 |
| **March** | High-Speed LAN: Standard Ethernet, Fast Ethernet, Gigabit Ethernet, 10G; Wireless LANs: IEEE 802.11, Bluetooth. Network Layer: IP Addressing and Routing, Network Layer Protocols: IPv4 (Header Format and Services), ARP, ICMP (Error Reporting and Query message); IPv6 (Header Format and Addressing). | Test/Assignment – 2 |
| **April** | Transport Layer: Process-to-Process Delivery: UDP, TCP; Connection Management by TCP; Basics of Congestion Control. Application Layer: Domain Name System (DNS); SMTP; HTTP; WWW. Network Security: Security Requirements and attacks; Cryptography: Symmetric Key (DES, AES), Public Key Cryptography (RSA); Firewall | Revision Test Oral |

**Signature:**

**Lesson Plan (Session 2023-24 (Even Semester))**

**(January 1, 2024 to April 30, 2024)**

**Name: Dr. Sapna Nagpal**

**Department: Computer Science**

**Subject: Paper: A 6.05 Computer Aided Drafting & Advanced Topics in Computer-II**

**Class : B.Com III (Vocational) Sixth Semester (Computer Application)**

|  |  |  |
| --- | --- | --- |
| **Month** | **Topics** | **Assignment/Test** |
| **January** | Computer Aided Design: Implementations of CAD,  Features of CAD, Future of CAD, Artificial Inelegancy  AI) for intelligent and manufacturing, Element of AI,  Knowledge based Expert System |  |
| **February** | Vision System, Neural Networks.  Hardware & Software requirements of Auto CAD,  Data Communication and networks; Data Encryption, | Test/Assignment - 1 |
| **March** | Industrial Report; Definition and Robot history, Features of Robots, Application of Robots in Industry, Robot Programming Methods and Robot Programming Language.  Multimedia: Definitions, Multimedia Components; Compact disk, Sounds, Image, Text, Hypertext, hypermedia,  Animation,  Morphing, Video, Virtual Reality, Virtual Reality Technology and Tools | Test/Assignment - 2 |
| **April** | Computer-Integrated  manufacturing Systems. Computer Graphic: Applications of Computer Graphics,  Display devices Basic Terms; Raster-Scan Display,  Randam Scan, Display, Direct View Storage Tube, Flat panel Display, Input Devices, Hardcopy devices | Revision Test Oral |

**Signature:**

**Lesson Plan (Session 2023-24 (Even Semester))**

**(January 1, 2024 to April 30, 2024)**

**Name: Dr. Sapna Nagpal**

**Department: Computer Science**

**Subject: Paper: A 6.06 Information Technology in Business**

**Class : B.Com III (Vocational) Sixth Semester (Computer Application)**

|  |  |  |
| --- | --- | --- |
| **Month** | **Topics** | **Assignment/Test** |
| **January** | Information Technology Basis: Introduction, Information, Information Technology(IT), Present Scenario, Role of  Information Technology, introduction to Telecommunications Computer Networks, Communication Systems, Internet  and W.W.W. , E –Mail, Introduction to Intranets & Extranets. |  |
| **February** | Emerging trends in IT: Introduction, Electronic Commerce (E-Commerce), (EDI) Electronic Data Interchange,  Mobile Communication, Bluetooth, Global positioning system, Imminent communication, Smart Card, Imminent  Technologies.  Types of Modern Data base Mgt. System,; Distributed data processing:- Introduction, Advantages and disadvantages  of Distributed Systems Introductions to Multimedia: introduction, Multimedia Systems, Multimedia Authoring Tools,  Types of Presentations, Multimedia in Marketing and educations, Introduction to virtual Reality; | Test/Assignment - 1 |
| **March** | New Technologies in Introduction Technology: Introduction to Hypermedia, Artificial Intelligence and Business  Intelligence, Knowledge Discovery in Data base ( KDD), Data wise houses and Data Marts, Data Mining and on line  Analytical Processing (OLAP), Enterprise Resource Planning (ERP); Introduction, reason for growth of ERP in Market, Benefits of ERP, Supply Chain Management (SCM): evaluation of CRM, Element of Supply Chain, Customer Relationship Management (CRM) & Retailers, Advantage of SCM, Geographic Information System (GIS). Morphing, Video, Virtual Reality, Virtual Reality Technology and ToolsComputer in Business and Industry : Accounting Inf. System (AIS): Meaning, Characteristics, its Major Sub System, | Test/Assignment - 2 |
| **April** | Management Information System: Meaning. Concept, Input & Output of MIS, Decision support System, Office Automation Systems, Executive Inf. System, Marketing Inf. System and Financial Information System.  Mobile Computing and Business on the Internet: Mobile computing, Mobile Newspaper, Tele Communicating,  Wireless Mobile Computing, Business on the Internet:- Electronic Catalogs, Web advertising, Secure transactions the Internet: - Electronic Catalogs , Web Advertising, Secure Transactions. | Revision Test Oral |

**Signature:**