**LESSON-PLAN (Session 2021-22) Even Semester**

**Name of Professor**: Dr. Sapna **Subject:** Computer

**Class:** B.Sc. 6th sem **Subject/Paper: Paper 1 & 2**

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| Sr. No. | Days | Topics to be covered | Remarks if any |
|  | 01-04-2022 to 15-04-2022 | Relational Model Concepts, Codd's Rules for Relational Model, Hierarchical Data Model–Introduction, Features, Components, Example, Network Data Model–Introduction, Features, Components, Example.  Introduction to Data Communication and Computer Networks; Uses of Computer Networks; Types of Computer Networks and their Topologies; Network Hardware Components: Connectors, Transceivers, Repeaters, Hubs, Network Interface Cards and PC Cards |  |
|  | 16-04-2022 to 30-04-2022 | Differences between Hierarchical Data Model and Network Data Model Comparison of Relational Data Model with Hierarchical Data Model and Network Data Model Relational Algebra:-Selection and Projection, Set Operation, Join and Division.  Bridges, Switches, Routers, Gateways; Network Software: Network Design issues and Protocols; Connection-Oriented and Connectionless Services; OSI Reference Model; TCP/IP Model |  |
|  | 01-05-2022 to 15-05-2022 | Relational Calculus: Tuple Relational Calculus and Domain Relational Calculus. Functional Dependencies and Normalization -- Purpose, Data Redundancy, Update Anomalies, Partial/Fully Functional Dependencies, Transitive Functional Dependencies, Characteristics of Functional Dependencies, Decomposition and Normal Forms (1NF, 2NF, 3NF & BCNF)  Analog and Digital Communications Concepts: Analog and Digital data and signals; Bandwidth and Data Rate, Capacity, Baud Rate; Guided and Wireless Transmission Media; Communication Satellites; Switching and Multiplexing; Modems and modulation techniques | Assignment 1 |
|  | 16-05-2022 to 31-05-2022 | SQL: Data Definition and data types, Create Table, Insert Data, Viewing Data, Filtering Table Data, Sorting data, Creating Table from a Table, Destroy table, Update  Data Link Layer Design issues; Error Detection and Correction methods; Sliding Window Protocols: One-bit, Go Back N and Selective Repeat; Media Access Control: ALOHA, Slotted ALOHA, CSMA, |  |
|  | 01-06-2022 to 15-06-2022 | View, Delete, Join, Concatenating data from Table Specifying Constraints in SQL; Primary Key, Foreign Key, Unique Key, Check Constraint, Using Functions  Collision free protocols; Introduction to LAN technologies: Ethernet, Switched Ethernet, Fast Ethernet, Gigabit Ethernet; Token Ring; Introduction to Wireless LANs and Bluetooth | Assignment 2 |
|  | 16-06-2022 to 30-06-2022 | PL/SQL-Introduction, Advantages of PL/SQL The Generic PL/SQL Block: PL/SQL Execution Environment; PL/SQL Character Set and Data Types,  Routing Algorithms: Flooding, Shortest Path Routing, Distance Vector Routing; Link State Routing, Hierarchical Routing; Congestion Control; Traffic shaping; Choke packets |  |
|  | 01-07-2022 to 16-07-2022 | PL/SQL-Introduction, Advantages of PL/SQL The Generic PL/SQL Block: PL/SQL Execution Environment; PL/SQL Character Set and Data Types,  Load shedding; Application Layer: Introduction to DNS, E-Mail and WWW services; Network Security Issues: Security attacks; Encryption methods; Firewalls; Digital Signatures |  |

\*Vacation as per university calendar

\*Unit test will be taken as per schedule.