M.L. Dahanukar College of Commerce

Teaching Plan: 2018- 19

Department: I.T.　　**Class:M.Sc.(I.T.)**　　　　**Semester:II**

Subject: ACN

Name of the Faculty:Srushty Padte

Month	Topics to be Covered	Internal Assessment	Number of Lectures
February	TCP/IP Review, Static Routing, Dynamic Routing Protocols- Interior Gateway Protocol & Exterior Gateway Protocol OSPF Overview and Neighbour Relationships, OSPF Topology, Routes and Convergence, OSPF Route Summarization, Filtering and Default Routing OSPF Virtual Links and Frame Relay Operations Policy-Based Routing and IP Service Level Agreement Internet Connectivity and BGP		8 lectures
March	External BGP, BGP Path Control Network Address Translation, IP Multicast Routing, IP Version 6 IPv6 overview, IPv4 and IPv6 Coexistence, StaticPoint-to-Point IPv6 Tunnels, Dynamic Multipoint IPv6 Tunnels, Enterprise Campus Network Design		10 lectures
April	Developing an Optimum Design for Layer 3 Advanced WAN Services Design Considerations IPsec and SSL VPN Design Enterprise Data Center Design SAN Design Considerations PRACTICALS		10 lectures 6 lectures

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M.L.Dahanukar College of Commerce

Teaching Plan: 2018 - 19

Department: I.T.   Class:M.Sc.(I.T.)   Semester:II

Subject:Advanced Database Systems

Name of the Faculty: Larissa Pegado

Month	Topics to be Covered	Internal Assessment	Number of Lectures
February	**The Extended Entity Relationship Model and Object Model:** The ER model revisited, Motivation for complex data types, User defined abstract data types and structured types, Subclasses, Super classes, Inheritance, Specialization and Generalization, Constraints and characteristics of specialization and Generalization, Relationship types of degree higher than two.		8
March	**Object-Oriented Databases:** Overview of Object-Oriented concepts, Object identity, Object structure, and type constructors, Encapsulation of operations, Methods, and Persistence, Type hierarchies and Inheritance, Type extents and queries, Complex objects; Database schema design for OODBMS; OQL, Persistent programming languages; OODBMS architecture and storage issues; Transactions and Concurrency control, Example of ODBMS **Object Relational and Extended Relational Databases:** Database design for an ORDBMS - Nested relations and collections; Storage and access methods, Query processing and Optimization; An overview of SQL3, Implementation	Internal Test 1	16

	issues for extended type; Systems comparison of RDBMS, OODBMS, ORDBMS		
April	**Parallel and Distributed Databases and Client-Server Architecture:** Architectures for parallel databases, Parallel query evaluation; Parallelizing individual operations, Sorting, Joins; Distributed database concepts, Data fragmentation, Replication, and allocation techniques for distributed database design; Query processing in distributed databases; Concurrency control and Recovery in distributed databases. An overview of Client-Server architecture**Databases on the Web and Semi Structured Data:** Web interfaces to the Web, Overview of XML; Structure of XML data, DTD, XML Schema, XQuery, XSLT, Storage of XML data, XML applications, XML DOM, The semi structured data model, Implementation issues, Indexes for text data	Internal Test 2	16
May	**Enhanced Data Models for Advanced Applications:** Active database concepts. Temporal database concepts.; Spatial databases, Concepts and architecture; Deductive databases and Query processing; Mobile databases, Geographic information systems.		4

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M.L. Dahanukar College of Commerce

Teaching Plan: 2018 - 19

Department: I.T.   **Class: M.Sc.(I.T.) Part I**   **Semester:II**

Subject: Cloud Computing and Ubiquitous System

Name of the Faculty:Mr Dhanraj C Jadhav

Month	Topics to be Covered	Internal Assessment	Number of Lectures
February	Unit-I Distributed System Models and Enabling Technologies		12
March	Unit II: Computer Clusters for scalable parallel computing:,		18
April	Unit III: Public Cloud Platforms: GAE, AWS, and Azure: Unit IV: Programming Support of Google App Engine:		18
May	Unit V: Ubiquitous Clouds and the Internet of Things		12

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M.L. Dahanukar College of Commerce

Teaching Plan: 2018 - 19

Department: I.T.　　　**Class: M.Sc.(I.T.)**　　　**Semester: II**

Subject: Mobile computing

Name of the Faculty: Ms.Sheetal Panchal

Month	Topics to be Covered	Internal Assessment	Number of Lectures
Feb	Introduction: Applications, A short history of wireless communication Wireless Transmission: Frequency for radio transmission, Signals, Antennas, Signal propagation, Multiplexing, Modulation, Spread spectrum, Cellular systems. Medium Access Control: Motivation for a specialized MAC: Hidden and Exposed terminals. Near and Far terminals; SDMA, FDMA, TDMA: Fixed TDM, Classical Aloha, Slotted Aloha, Carrier sense multiple access, Demand assigned multiple access, PRMA packet reservation multiple access, Reservation TDMA, Multiple access with collision avoidance, Polling, Inhibit sense multiple access; CDMA: Spread Aloha multiple access.	01	07
March	Telecommunication Systems: GSM: Mobile services, System architecture, Radio interface, Protocols, Localization And Calling, Handover, Security, New data services; DECT: System architecture, Protocol architecture; TETRA, UMTS and IMT-2000: UMTS Basic architecture, UTRA FDD mode, UTRA TDD mode Satellite Systems: History, Applications, Basics: GEO, LEO, MEO; Routing, Localization, Handover, Examples	01	07
April	Broadcast Systems: Overview, Cyclic repetition of data, Digital audio broadcasting: Multimedia object transfer protocol; Digital video broadcasting Wireless LAN: Infrared vs. Radio transmission, Infrastructure and Ad hoc Networks, IEEE 802.11: System architecture, Protocol architecture, Physical layer, Medium access control layer, MAC management, Future development; HIPERLAN: Protocol architecture, Physical layer, Channel access control. Sub layer, Medium access control Sub layer, Information bases And Networking; Bluetooth: User scenarios, Physical layer, MAC layer, Networking. Security, Link management.	01	07
May	Wireless ATM: Motivation for WATM, Wireless ATM working group, WATM services, Reference model: Example configurations, Generic reference model;	01	07

	Functions: Wireless mobile terminal side, Mobility supporting network side; Radio access layer: Requirements, BRAN; Handover: Handover reference model, Handover requirements, Types of handover, Handover scenarios, Backward handover, Forward handover; Location management: Requirements for location management, Procedures and Entities; Addressing, Mobile quality of service, Access point control protocol. Mobile Network Layer: Mobile IP: Goals, assumptions and requirements, Entities and Terminology, IP packet delivery, Agent advertisement and discovery, Registration, Tunnelling and Encapsulation , Optimizations, Reverse tunnelling, Ipv6; Dynamic host configuration protocol, 10 Ad hoc networks: Routing, Destination sequence distance vector, Dynamic source routing, Hierarchical algorithms, Alternative metrics		
June	Mobile Transport Layer: Traditional TCP: Congestion control, Slow start, Fast retransmit/fast recovery, Implications on mobility; Indirect TCP, Snooping TCP, Mobile TCP, Fast retransmit/fast recovery, Transmission/time-out freezing, Selective retransmission, Transaction oriented TCP. Support for Mobility: File systems: Consistency, Examples; World Wide Web: Hypertext transfer protocol, Hypertext markup language, Some approaches that might help wireless access, System architectures; Wireless application protocol: Architecture, Wireless datagram protocol, Wireless transport layer security, Wireless transaction protocol, Wireless session protocol, Wireless application environment, Wireless mark-up language, WML script, Wireless telephony application, Examples Stacks with Wap, Mobile databases, Mobile agents	01	07

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Ms.Sheetal Panchal   **Sign of Coordinator**